Certified smart and integrated living environments for ageing well

D4.3 – Technical Reference Framework version 1

Deliverable D4.3	
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Executive Summary

This document presents an updated version of the Technical reference framework (TRF) version 1 for the Homes4Life certification scheme (CS) based on the contributions of its validation on different demo sites carried out in T4.3_validation of the Certification Scheme. It lists all the requirements which will form the scheme in the future digital platform. It is based upon v0 delivered in M12 and constitutes a provisional version of the TRF that will be further developed in a final version in M26, once the validation phase is totally completed and contrasted through a Call for Comments on this v1 of the CS.

The main principles of a certification scheme are defined according to Certivéa's experience and knowledge about certifications schemes. Specifics for Homes4Life certification scheme are described based on the deliverable D3.4: Homes4Life Functional brief.

The document goes through different aspects that must be considered when developing a Certification scheme. It details the main characteristics of a certification scheme, its principles and structure and general recommendations for its requirements.

Afterwards it focuses in the specific characteristics of the Homes4Life certification scheme, according to the Functional Brief (D3.4). Identification of the clients of the certification scheme, explanation of the scope of the certification scheme and description of the certification process where each requirement will be specified with its description and assessment method.

Main proposed changes from v0 to v1 relate to the principles of the certification scheme, i.e. assessed building types, perimeters of the operations, life-cycle phases and evaluation process. Further changes are expected in the management and requirements but will be set down after the Call for comments to be held on November 5th, 2020 with different stakeholders (Expert Board members, Community of Interest).

Finally, it describes the quality and validation process proposed for the Homes4Life certification scheme within the project.

This deliverable will be followed by a final version of the TRF in D4.4 due month 26.

Acronyms and abbreviations

CS	Certification Scheme
CoI	Community of Interest
H4L	Homes4Life
ISIA	Innovative, Sustainable, Interactive Application
KPI	Key Performance Indicators
TRF	Technical Reference Framework

1 Introduction

1.1 Aims and objectives

The objective of this document is to define the structure and composition of the Homes4Life certification scheme (H4L CS) according to the expectations contained in the Functional brief (task 3.4). It presents all the requirements and the assessment method. A version 0 of the technical reference framework has been delivered in November 2019 (month 12). This version of the H4L CS has been developed on the ISIA digital platform and has been tested in pilot sites in a search for improvement.

This document constitutes a provisional version of the technical reference framework (v1). It presents the certification scheme used with the pilots during the test phase and the proposal resulting from the first feedbacks from the pilot sites. It will be followed by a final version in month 26 (January 2021) which will take into account complete feedbacks from the pilot sites assessment experiment and from a widespread call for comments to the CoI that will be held on November 5th, 2020.

1.2 Report structure

This document is structured in three parts.

The first part (section 2) describes the **Main aspects of a certification scheme**, its principles and structure and general recommendations to fulfil its requirements.

The second part (section 3) proposes the **Specific characteristics of the Homes4Life certification scheme**, according to the Functional Brief (D3.4) with proposed changes from a first exploitation of the test phase in the pilot sites.

The third part (section 4) describes the **Quality and validation process proposed for the Homes4Life certification scheme** within the project.

Appendices (section 5) present the evidence document for the Management phase, the complete **list of the requirements** sorted by clusters, category and sub-category, and the questionnaires of the residents' surveys.

1.3 Contributions

All partners have contributed to the proposal for the Homes4Life certification scheme, at one stage or another. Either for their experience in writing certification scheme and knowledge about other certification bodies (CER), but also with respect to their experience and knowledge of the age-friendly environment (TEC, TNO, UU, UNIVPM, R2M, AGE, EUROCARERS, ECTP). Main contributors for writing this report were CER and TEC.

Our deepest gratitude goes to the pilots that accepted to perform an assessment on their sites, in order to improve the version 0 of the Homes4Life certification scheme and to the partners that accompanied them on the process. We would like to extend here our sincere thanks to them.

2 Main aspects of a certification scheme

Certification is an activity by which a recognized organization, independent of the parties involved, gives written assurance that an organization, process, service, product or professional competence complies with requirements specified in a standard/certification scheme.

A certification scheme contains all the necessary tools (field of application, requirements, assessment process) necessary to drive a certification process.

2.1 General principles of a certification scheme

Considering the range of certified products and services, certification schemes may have very different aims and extents. This is the reason why building a certification scheme generally implies to be very specific in regards with the client, scope, phase and assessment method.

The choices set at this phase will decide of the different types of requirement and evidence needed for the certification process.

Who is the client of the certification scheme? The client refers to the entity (organization or person) applying and paying for the certification. Hence, it does not refer to the user (resident) of the certified "home". In the field of housing, could be considered as clients: private owners, social housing companies, project developers (real estate and construction companies) or investment companies, …

What is the scope of the certification scheme? The scope refers to the product, service or process to be certified. In the field of housing, several types of residential buildings could be certified (houses, multiple dwellings buildings or parts of buildings, building complex) as well as their close environment (plot, immediate surroundings) and the services associated.

When does the certification occur? The phase refers to the life cycle of the product or service. In the field of housing, situations generally considered include: in decision, on design, under construction, in use, in renovation/retrofitting.

Which is the assessment method? Assessment method refers both to the type of evaluation (mainly quantitative or qualitative criteria, with an orientation on performance or means) and the scoring method (number of evaluation scale; final and intermediate with different kinds of scaling; points, percentage, average score, range class).

For instance, in the field of housing, a quantitative indicator may refer to energy consumption, and a qualitative one to accessibility of a building.

Which is the certification process? Some certification schemes are based on audits, and others on documentary verifications. The first one is necessarily done on-site; the second one can be done off-site. The choice depends on what is to be attested: for instance, to certify that a building is compliant with the requirements, the best way is to have some

final on-site audits. Documentary verifications may include results of surveys and questionnaires, expert opinion.

The necessary guidelines to adapt these general principles to Homes4Life certification scheme have been given by the functional brief. They are presented in section 3.

2.2 Main structure of a certification scheme

The typical structure of a certification scheme is a multiple-tier pyramidal structure as illustrated in Figure 1.

The highest level of the structure is the **"Certification scheme" level**. This level is the result of the assessment, expected by the client. This level must translate all the topics that are involved in the "certification scheme" field.

The **"priority" level** concerns the main fields or aspects or dimensions that must be addressed in the certification scheme. The aim of this level is to be sure to have the list of all these priorities: if one of them is missing, we can't say that the certification scheme level covers all his field.

The **"theme" level** is the translation of all the aspects of each priority. These aspects could be categories allowing to detail the priority.

The **"sub-theme" level** is a more detailed level. It is not mandatory and must be created only if needed to fully describe the priority.

The **"requirement" level** is the most detailed level of the scheme. For each requirement, corresponds one assessment indicator. This level is described in sub-section 2.3.

The simpler the structure of a certification scheme, the better. Different levels must be used only if necessary.

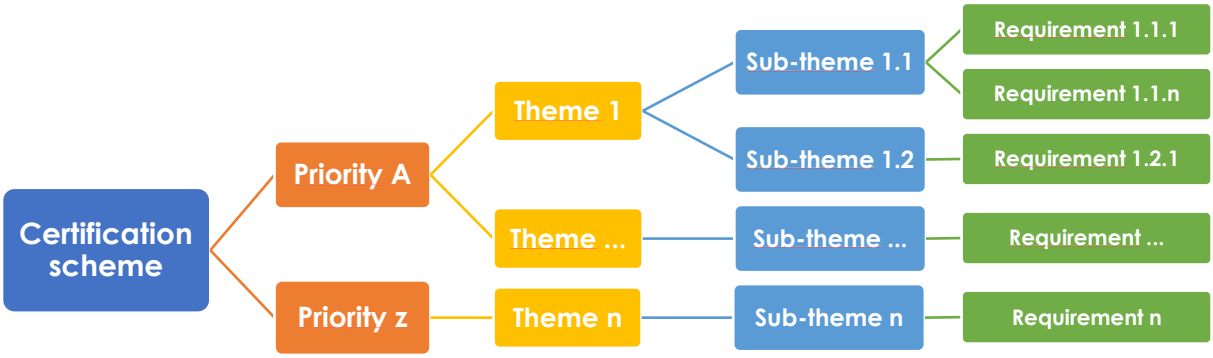

FIGURE 1 – TYPICAL STRUCTURE OF A CERTIFICATION SCHEME

2.3 Formulating a requirement

Each requirement is defined by a set of items such as in Table 1. Its structure may be simplified or complexified according to the selected principles of the CS. For instance, requirements will be adapted for each type of buildings (e.g. individual, collective housing, etc.) and according to each lifecycle phase of the buildings (design, construction, exploitation).

Each requirement must be specified so that it can be verified and proven. A formulation of all the benefits associated to each requirement will be developed, to allow a better understanding and appropriation of the reference framework.

TABLE 1 – TYPICAL FORMULATION OF A REQUIREMENT

What		How
Definition	Code	Unique identifier of the requirement. Identifies the place of the requirement in the pyramidal structure
	Title	Short text / short sentence < 240 characters
	Objective	Text explaining the objective and relevance of the requirement (unlimited)
	Description	Text describing the requirement in detail (unlimited). Explanations about the requirement, definitions, examples, bibliography, applicable regulations… Taking up the issue and specifying the definitions necessary for understanding and possible caution.
Assessment	Levels	Points, values, …
	Evaluation	Number, list of choices, yes/no, achieved/not achieved…
	Evidence	Documents, studies, measurements, … Evidence necessary to validate the achievement of the requirement

When a requirement is written, the following points must be respected.

Applicability: it is better to have requirements always applicable, whatever the type of building, its context, its situation/phase, … But some requirements may only be applicable to a particular item (type, context, situation/phase). Therefore, it is recommended to formulate the requirements so that they are always applicable or condition the requirements with a preliminary question.

Evidence: it is necessary to consider the situation (construction, renovation, existing) and the phase (decision/requirements, design, works, in-use) of each building. Indeed, evidence required will certainly be different for each situation or phase.

3 Specifics for Homes4Life certification scheme

According to the Functional brief instructions (D3.4), the following principles will apply to the Homes4Life certification scheme.

3.1 Principles

A set of items will be identified in the CS: clients, scope and certification process. They are defined below.

3.1.1 Clients of the certification scheme

Two main categories of clients will be addressed by the future Homes4Life certification scheme and should be characterized: public sector and private sector, each one of these could either be profit or non-profit organization.

Public sector generally involves social and public housing, as well as health and social care providers, whatever the territorial level (national, regional, local). Private sector generally refers to project developers, investment companies, construction firms, service providers, private health insurance companies. However, depending upon the European country, some organizations may be either public and private, profit or non-profit (for instance, social housing or service providers).

3.1.2 Scope of the certification scheme

Homes4Life certification scheme will assess residential buildings and their immediate environment, including common spaces. For immediate environment, Homes4Life would be certifying the position and location of the home not the quality of the neighbourhood or village as such. Different configurations, depending on building types and situations, may be considered.

Therefore, buildings shall be characterized three main categories defined as:

Building type:

- Individual house: a single or semi-detached house contains only one dwelling unit and is separated by open space on two sides at least from any other structure.
- Collective building (a multi-storey building: ground level apartment, other levels): housing units in a multi storey building.
- Residential complex: housing development, private estate, with one or several kinds of building types (either flat or house) in residential developments which contains private drives, roadways or streets and common facilities.

Building situation:

- New building: the building is in design phase or under construction but not in use yet. This includes design and realization of retrofitting, renovation or rehabilitation works.
- Existing: the building exists and has been officially authorized to be occupied.

Proposed changes from first exploitation of the test phase in the pilot sites[1]:

- Keep only two **Building types**: Individual house, Collective building.
- Add a new category called **Perimeter**, considering four situations: a "Single house", a "Single collective building", a "Single flat in a collective building", a "Residential complex".
- Rephrase Building situation into "**Occupancy situation**" and, similarly New to "Not in use yet" and Existing to "In use".

3.1.3 Certification process

This section describes the certification process according to the building phase that will be certified.

Phases

Two phases have been identified for H4L CS:

- Design phase: for building before works (construction, retrofitting, renovation or rehabilitation).
- Operational phase: for all delivered buildings, either after construction, retrofitting, renovation and rehabilitation, or buildings in use.

Process

The certification process and the evidence required will differ according to the building phase:

- Design phase: one assessment (documentary verification) at the end of the design process.
- Operational phase: one assessment (on site-audit) at the beginning of the operational phase, and one or more assessments will be possible, depending on the client's needs and duration of its commitment.

Depending on the considered phase, the certification process will rely on documentary

[1] The proposals will be endorsed after the forthcoming call for comments and the full exploitation of the pilot experiments

verifications only (design) or both on audits and documentary verifications (operational). The audits are necessarily done on-site and include documentary verifications; while simple documentary verifications can be done off-site.

Validity

Once delivered, the Homes4Life certification will stay valid according to the following options:

- New building (design phase): until delivery of the building (in design phase) and until next assessment or a two-year maximum period after delivery of the building (in operational phase):
- Existing building (operational phase): five years with an intermediate documentary verification or audit.

Specific conditions

For new buildings, both design and operational phases are mandatory.

In case of considerable change in the existing building, an on-site audit is mandatory within the five-year period. Considerable change can be defined as a major rehabilitation for instance.

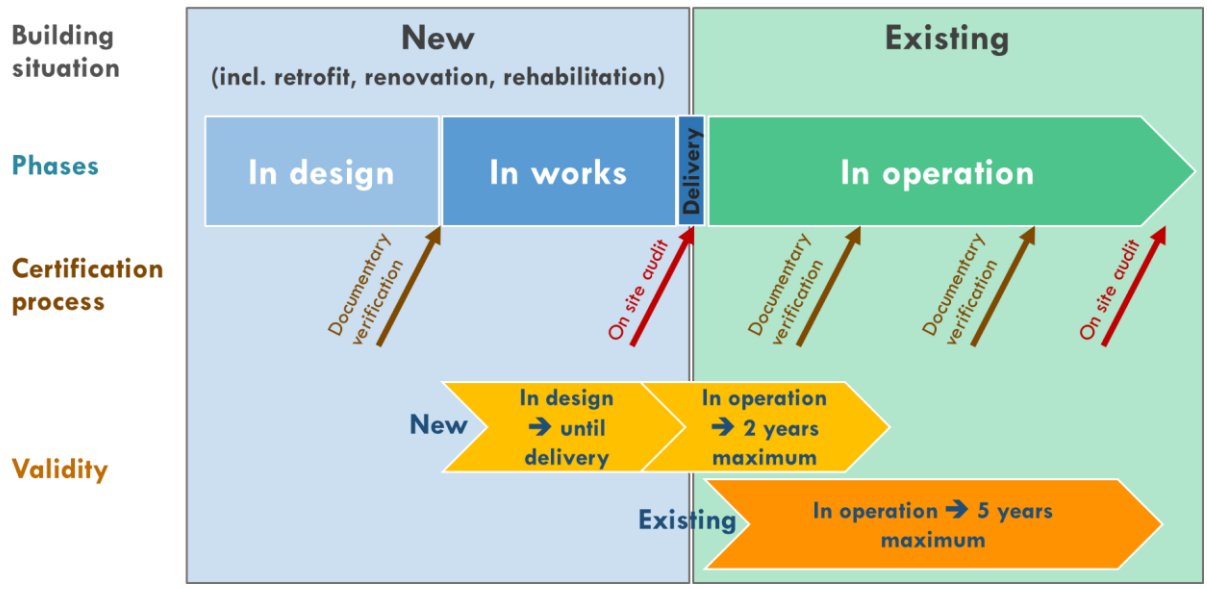

FIGURE 2 – ILLUSTRATION OF THE CERTIFICATION PROCESS TESTED IN THE PILOT SITES

Proposed changes from first exploitation of the test phase in the pilot sites[2]:

- A **new phase** is added "Under construction" for building in works (construction, retrofitting, renovation or rehabilitation).
- **Certification process**:

For "Not in use yet" buildings:

> Design phase: one assessment (documentary verification) at the end of the design process.

> Under construction phase: one assessment (on-site audit) at the end of the works.

> Option: To verify if the building operates as expected, the client may sign for a supplemental assessment (on-site audit) occurring between 12 and 18 months after the building has been officially authorized to be occupied.

For "In use" buildings:

> Initial assessment: at the beginning of the certification process (on-site audit)

> Follow-up assessment: one or more assessments (documentary verification or on-site audit) will be possible, each 18 to 24 months, depending on the client's needs and duration of its commitment

- **Validity**:

For "Not in use yet" buildings:

> Design phase: until works phase assessment (delivery of the building).

> Under construction phase: until operational phase assessment (maximum: 24 months after delivery).

> Option: in case of a supplemental assessment, the validity of the certificate (Award in Operation) will then be extended by 24 months after the assessment.

For "In use" buildings:

Duration based on contractual commitment; in case of considerable change in the existing building, as a major rehabilitation, or a change in the main responsibilities, an on-site audit must be done within 6 months unless the next follow-up audit is included in this period.

> Follow-up assessment: one or more assessments (documentary verification or on-site audit) will be possible, each 18 to 24 months, depending on the client's needs and duration of its commitment

[2] The proposals will be endorsed after the forthcoming call for comments and the full exploitation of the pilot experiments

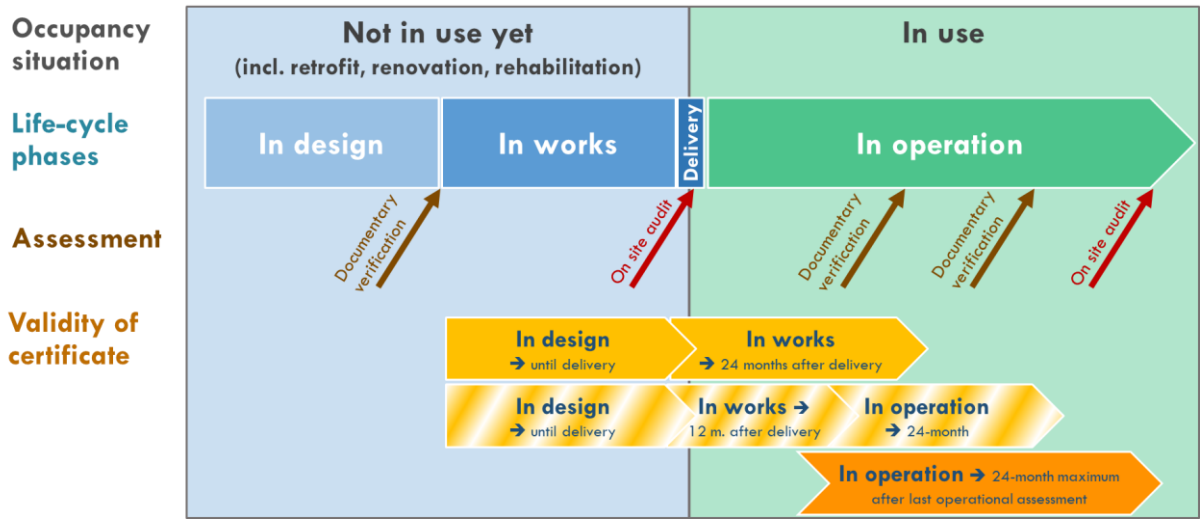

FIGURE 3 – ILLUSTRATION OF THE NEW CERTIFICATION PROCESS PROPOSED

3.2 Structure and scoring method of the Homes4Life certification scheme

3.2.1 Structure

The Homes4Life CS is composed of a management phase and five main clusters.

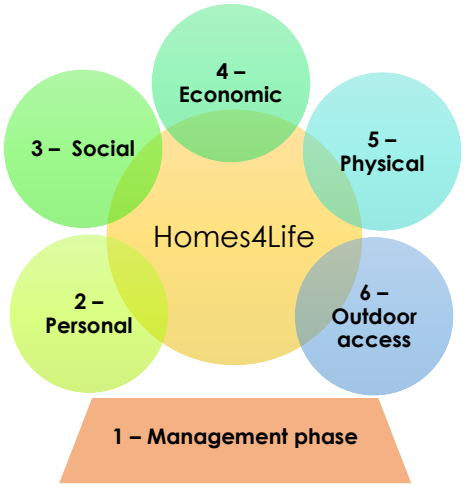

FIGURE 4 – STRUCTURE OF HOMES4LIFE CERTIFICATION SCHEME

3.2.1.1 The Management phase

Considering the extreme diversity of the European countries in matter of either geographical, cultural or regulatory contexts, and maturity in age-friendly environments, there is a need for a set of general information prior to the specific clusters. Indeed, this information allows the evaluation of buildings in countries with heterogeneous local practices or different initial performances or available means, considers good practices and highlights innovation.

The **Management phase** aims at gathering general information on the Client and on the audited building and its environment. It includes:

- A commitment letter of the client to the certification process;
- A detailed analysis of the site and on the building's layout;
- An analysis of the involvement of local stakeholders;
- A residents' survey.

Four documents – used as evidence for the auditing process – are to be produced (see Appendix).

Commitment letter

A commitment letter of the client will collect its involvement in terms of:

- Compliance with national and local regulations (**prerequisite to the admissibility of the applicant**). If no national laws or local regulations applies on certain items, H4L CS will define specific requirements to be fulfilled
- Financial capacity of the client to rule the project and site (budget costs for design, construction and management)
- Dissemination of all relevant information on the project and site to stakeholders

Analysis of the site

A detailed analysis of the site is conducted to determine how the building's layout, its configuration and its environment impact both the project (in design phase) and life on the site (for existing sites). This analysis applies to all relevant clusters. A list of items is proposed for analysis and may be adjusted to the particular context.

The analysis performs a study on the physical and human landscapes of the site necessary to understand the specific context of the evaluation:

- geographical location
- main activities (agricultural, industrial and construction works)
- amenities (services and commercial, public and private equipment)
- accessibility and mobility conditions
- local age friendly policies
- local financing conditions
- ...

Involvement of stakeholders

Involvement of local stakeholders is essential to build an integrated project in its environment. Therefore, the client will be consulted on the role of third parties in the project (design phase) or in the life of the site (existing site). A list of possible stakeholders and applicable questions is proposed according to the specificity of the project. Stakeholders, their scopes and needs and preferences are of different types. For instance:

- local authorities in the local land use plan,
- neighbourhood during the construction phase,
- associations: services offered
- residents: needs and preferences
- financing organizations
- etc.

Surveys

A set of surveys will be conducted in the context of certification to get the perception of the residents on the qualify life on site. It will be compulsory for sites in operation and optional for sites in design (only if future residents are involved in the co-designing of the site). The residents' survey will be conducted on a frequency to be defined accordingly with the client. Results will be published and disseminated among residents and to stakeholders if relevant.

Proposed changes from first exploitation of the test phase in the pilot sites[3]:

- Need to clarify objectives of items and to be more specific on the evidence to provide.
- A SWOT analysis (strengths, weaknesses, opportunities, threats) may be considered for the site analysis and the stakeholders' involvement.

3.2.1.2 The five clusters

The functional brief proposed a working taxonomy framework composed of 5 clusters, 14 categories and 59 sub-categories. According to this, the following structure is proposed for Homes4Life certification scheme (illustrated thereafter):

- Priority = Cluster
- Theme = Category
- Sub-theme = Sub-category

[3] The proposals will be endorsed after the forthcoming call for comments and the full exploitation of the pilot experiments

FIGURE 5 – STRUCTURE OF HOMES4LIFE CERTIFICATION SCHEME

The five clusters constitute the core of Homes4Life certification and encompass the main aspects of an age-friendly environment. They are called **Personal**, **Social**, **Economic** **Physical** and **Outdoor access** and are grouped in two main super clusters:

- Super cluster 1 deals with the resident's relationship to his/her home environment in terms of: Personal, Social and Economic aspects
- Super cluster 2 deals with the adaptation of home and its immediate environment to age related situations in terms of: Physical and Outdoor access requirements

Each cluster is then divided in categories and sub-categories, for which a set of **requirements** has been defined.

TABLE 2 – THE TAXONOMY FRAMEWORK

Cluster	Category	Sub-category
2. PERSONAL	2.1 Identity and emotional connectivity	2.1.1 Home
		2.1.2 Apartment building complex
		2.1.3 Neighbourhood or village
	2.2 Privacy and dignity	2.2.1 Control over social interaction
		2.5.2 Control over access
		2.2.3 Control over data collection and management
		2.2.4 Control over look and feel and furnishings
		2.2.5 Availability of private spaces and times
		2.2.6 Seclusion for health and ADL care provision
		2.2.7 Secure future prospects
		2.2.8 Self-determination of autonomy of movement
3. SOCIAL	5.1 Social activity	5.1.1 Ability to have social contacts in the home
		5.1.2 Proximity to activities and facilities
		5.1.3 Ability to find social contacts outside the home
		5.1.4 Online connectivity
	5.2 Employment	5.2.1 Suitability of the home as a place of work
		5.5.2 Connection to place of employment
4. ECONOMIC	4.1 Affordability	4.1.1 Objective affordability
		4.1.2 Willingness to pay
	4.2 Choice	4.2.1 Dwelling type
		4.5.2 Living environment type
		4.2.3 Living arrangement type
		4.2.4 Neighbours co occupants
		4.2.5 Solutions
		4.2.6 Decision making authority
		4.2.7 Choice information
5. PHYSICAL	5.1 Personal Safety	5.1.1 Accidents and calamities
		5.1.2 Safe use of amenities and facilities
		5.1.3 Safety around the home
		5.1.4 Safety from outside threats
	5.2 Comfort	5.2.1 Temperature regulation
		5.5.2 Air quality

Cluster	Category	Sub-category
		5.2.3 Lighting
		5.2.4 Acoustics
		5.2.5 Home management systems
	5.3 Accessibility and orientation	5.3.1 Getting in and out of the house
		5.3.2 Getting around the house
		5.3.3 Performing daily in-house activities
		5.3.4 Getting in and out of bed
		5.3.5 Personal hygiene
		5.3.6 Using communication and entertainment features
		5.3.7 Doing work or hobbies
		5.3.8 Controlling home functions
		5.3.9 Orientating oneself in space and time
	5.4 Health and social care	5.4.1 Proximity to services
		5.4.2 Options and facilities for eHealth and remote medicine
		5.4.3 Facilities for care provision in the home
	5.5 Smart readiness	5.5.1 Wireless and wired connectivity
		5.5.2 Network infrastructure and interoperability
		5.5.3 IT infrastructure APIs
		5.5.4 Digital security and data protection
6. OUTDOOR ACCESS	6.1 Home and building	6.1.1 Outdoor spaces
		6.1.2 Views
	6.2 Immediate environment	6.2.1 Accessibility
		6.5.2 Attractiveness
		6.2.3 Social safety
	6.3 Neighbourhood or village	6.3.1 Accessibility
		6.3.2 Attractiveness
		6.3.3 Social safety

3.2.2 Scoring

General scoring system

The scoring system allows rating of two levels: one score for each of the five clusters and one final score. This option was confirmed by the results of the survey been launched among the partners and also among the experts of the expert's board.

Note that the Management phase is not considered in the scoring system.

As much as possible, a 4-tier scoring system will be preferred. These scores will be obtained by a percentage of points from all requirements.

Proposed share of the final score for the Homes4Life certification scheme

Considerations for the scoring system is as follows:

- conceptual: the main aim of the H4L CS is to cover those home functions not well served by existing CSs
- practical: the number of KPIs in each cluster.

This is a hypothesis for a "context neutral" weighting that is illustrated in the table below for each category, cluster and supercluster. It shall be validated upon the test phase.

TABLE 3 – TOTAL SHARE OF THE CERTIFICATION SCHEME FINAL NOTE BY CLUSTER AND CATEGORY

H4L Certification scheme	Super cluster	Cluster		Category	
100%	70%	45%	2 – PERSONAL	50%	2.1 Identity and emotional connectivity
				50%	2.2 Privacy and dignity
		35%	3 – SOCIAL	75%	3.1 Social activity
				25%	3.2 Employment
		20%	4 – ECONOMIC	75%	4.1 Affordability
				25%	4.2 Choice
	30%	80%	5 – PHYSICAL	20%	5.1 Personal Safety
				20%	5.2 Comfort
				20%	5.3 Accessibility and orientation
				20%	5.4 Health and social care
				20%	5.5 Smart readiness
		20%	6 – OUTDOOR ACCESS	33,3%	6.1 Home and building
				33,3%	6.2 Immediate environment
				33,3%	6.3 Neighbourhood or village

Scoring system

The calculation method is as follows:

- For each category, a total number of points is determined according to the building phase, situation and type.
- The sum of points obtained at the category level is weighted by its share of the cluster, and then on until the super cluster. **For each cluster, a mandatory achievement of a minimum percentage of 20% is necessary to be certified**.
- The sum of the percentages at the super cluster level gives the final score for the H4L certification scheme.

Points are allocated both to requirements and surveys.

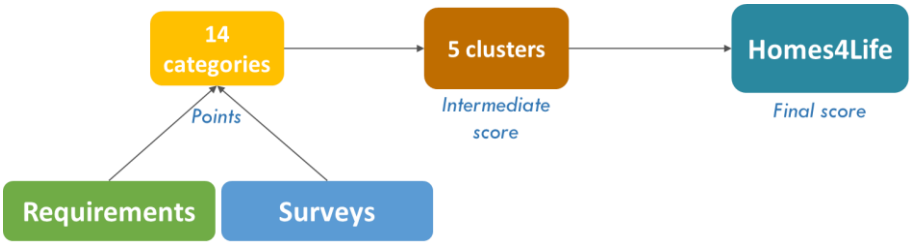

FIGURE 6 – SCORING SYSTEM

Depending on the final score obtained, awards are then given at the following thresholds:

- Platinum: 90%
- Gold: 80%
- Silver: 60%
- Bronze: 40%

The table below presents a possible result of the proposed scoring system:

TABLE 4 – FINAL RESULT OF A HYPOTHETICAL CASE

Structure	Share	Requirements		Survey		Scores
		Max. points	Points obtained	Max. points	Points obtained	
H4L CS (score and medal)	**100,0%**					**82,9% Gold**
Super cluster 1	**70,0%**					**55,9%**
2 PERSONAL	**45,0%**					**36,5%**
2.1 Identity and emotional connectivity	50,0%	86	70	50	39,9	80,8%
2.2 Privacy and dignity	50,0%	57	45	38	32,2	81,3%
3 SOCIAL	**35,0%**					**27,4%**
3.1 Social activity	75,0%	131	108	56	42,5	80,5%
3.2 Employment	25,0%	10	8	4	2,1	72,1%
4 ECONOMIC	**20,0%**					**15,9%**
4.1 Affordability	75,0%	20	18	10	8,7	89,0%
4.2 Choice	25,0%	40	19	22	13,0	51,6%
Super cluster 2	**30,0%**					**27,0%**
5 PHYSICAL	**80,0%**					**72,8%**
5.1 Personal Safety	20,0%	35	32	8	7,1	90,9%
5.2 Comfort	20,0%	67	59	2	1,9	88,3%
5.3 Accessibility and orientation	20,0%	45	40	2	2,0	89,4%
5.4 Health and social care	20,0%	10	10	2	1,6	96,7%
5.5 Smart readiness	20,0%	20	17	10	10,0	90,0%
6 OUTDOOR ACCESS	**20,0%**					**17,3%**
6.1 Home and building	33,3%	15	15	12	11,5	98,1%
6.2 Immediate environment	33,3%	10	8	8	7,7	87,2%
6.3 Neighbourhood or village	33,3%	35	25	22	17,3	74,2%

Proposed changes from first exploitation of the test phase in the pilot sites[4]:

- Consider an overall weighting for the residents' survey (between 15% to 20%)?
- Give access to Platinum level only in Operational phase (Gold being the maximum level for Design or Under construction phases)?
- In the case of a site with several buildings, possible 2-tier rating system (for the individual buildings and for the whole site)?s

3.3 Building the requirements table

3.3.1 Recommendations

The functional brief included several recommendations for the indicators. The requirements should:

- Cover at least all the categories (and, if possible, subcategories) identified in the taxonomy, and if necessary other categories (management for example)
- Be relevant for the expected certification objectives
- Where possible they are based on findings from academic research
- Be verifiable by feasible modes of proof (available documentation, self-evaluation, questionnaires and interviews, …) and at reasonable cost

Besides, three life scale levels should be considered:

- **Home**: described as the place where one lives permanently, especially as a member of a family or household.
- **Immediate environment**: direct surroundings of the building where the home is located. It can be the surroundings of the house in the case of individual dwelling or the buildings and what is directly around it in the case of a flat.
- **Neighbourhood**: area where daily life occurs (contacts with other people, shops and services, leisure, …).

For which the assessment method may be based on:

- **Design specifications** (functional and technical), mainly associated with a quantitative evaluation (measurements, performance levels, etc.).
- **Design features**, mainly associated with a qualitative evaluation (yes/no, a/b/c/d criteria).
- **Design quality**, mainly associated with an evaluative method (expert opinion, panel review, participatory methodologies).

[4] The proposals will be endorsed after the forthcoming call for comments and the full exploitation of the pilot experiments

In addition, and in consideration of the diversity of certification and heterogeneity of contexts, the number of mandatory requirements or prerequisites must be reduced or avoided.

3.3.2 Definition of Homes4Life requirements

In H4L CS, 192 requirements have been defined. They are characterized by two main groups of items: definition and assessment items as shown below. Resulting requirements from the KPIs are presented in section 5 Appendices.

TABLE 5 – DESCRIPTION OF A REQUIREMENT

Items		**Characteristics**
Definition	Code	Unique identifier of the requirement. Identifies the place of the requirement in the pyramidal structure. It relates to the cluster, category and sub-category to which it applies
	Title	Short text
	Objective	Text explaining the objective and relevance of the requirement
	Description	Text describing the requirement in detail. Explanations about the requirement, definitions, examples, bibliography, applicable regulations… Taking up the issue and specifying the definitions necessary for understanding and possible caution.
Assessment	Levels	Points, values, …
	Evaluation	Number, list of choices, yes/no, achieved/not achieved…
	Evidence	Documents, studies, measurements, … Evidence necessary to validate the achievement of the requirement
	Applicability	In terms of building phase, situation and type

TABLE 6 – DISTRIBUTION OF REQUIREMENTS PAR CLUSTER AND NUMBER OF POINTS ALLOCATED

	Requirements	
	Number.	Points
Super Cluster 1	**85**	**354**
2 – PERSONAL	33	149
3 – SOCIAL	38	145
4 – ECONOMIC	14	60
Super Cluster 2	**107**	**240**
5 – PHYSICAL	84	180
6 – OUTDOOR ACCESS	23	60
Total	***192***	***594***

4 Quality and validation process for the Homes4Life certification scheme

4.1 Quality and validation process

The quality and applicability of the certification scheme must be ensured. For this it is necessary to:

- Validate the certification scheme with experts and stakeholders involved in age friendly housing.
- Test the certification scheme on a panel of pilot buildings representing most of the different possible contexts, in terms of typologies of buildings, countries, types of owners.

The validation process is described as follows:

- A series of tests have been conducted on a set of 10 demo buildings / living environments, recruited in different EU countries, on a digital platform called ISIA (Innovative, Sustainable, Interactive Application) currently used by CER to host and centralise its whole portfolio of certification, benchmarking and evaluation services. In parallel with some of these tests on pilot buildings, this first v0 version of the certification scheme will also be presented to expert board, in order to have their feedbacks on requirements and assessment method. This feedback round will lead to a v1 and the final version of the certification scheme.
- A wide-spread call for comments on v1 of the certification scheme will then be published and disseminated to all CoI members, organizations and contact points identified during the earlier phases of the project, all Homes4Life supporting organizations and to members of relevant European associations, including those represented in the Homes4Life consortium (AGE, EUCA, ECTP). Based on received feedback, the v1of the scheme will be adapted where required before its formal endorsement and implementation in a final version. The expected feedback from stakeholders concerns all parts of the certification scheme: requirements, assessment method, scoring, auditing process, duration of the certification, etc.
- Finally, a commercial sales pitch for the certification scheme (which will include the comprehensive list of benefits for home and building owners, for investors, etc.) will be developed. The pitch will be tested again a group of relevant stakeholders from the Homes4Life CoI who will be invited to sign a memorandum of understanding/commitment to invest in Homes4Life-certified age-friendly homes. This task will deliver a professional-quality promotional toolkit consisting of an official 1-page certificate to be displayed in certified buildings / homes, a certification logo, a poster, digital material, etc. This promotional package as well as the signed MoU / commitment letters will be a part of the wider Homes4Life exploitation and supporting investment strategy.

4.2 Test phases in the pilot sites

The tests of the assessment of different pilot sites aim at validating both the contents of the Homes4Life certification scheme and the auditing process. It has been conducted in a series of pilot sites throughout different European countries. Due to the Covid-19 situation occurred from March 2020, most of the assessments were conducted via virtual meetings.

The pilot sites were selected upon the following set of criteria:

- Socio-geographical area: Northern Europe, Central Europe, Southern Europe, British Isles
- Building typology: individual, collective, complex
- Organization: social housing, other
- Phase: in design/under construction, operational

Considering the difficulty to get a fully representative set of sites according to these criteria, and the need for appropriate auditors, the search focused mainly on Belgium, the Netherlands, Ireland, France, Italy, Spain and Poland. Ten sites have been selected (an 11th one is still pending): six (seven buildings) are still in design phase and they were tested between April and July 2020, while four others already in operation are being tested.

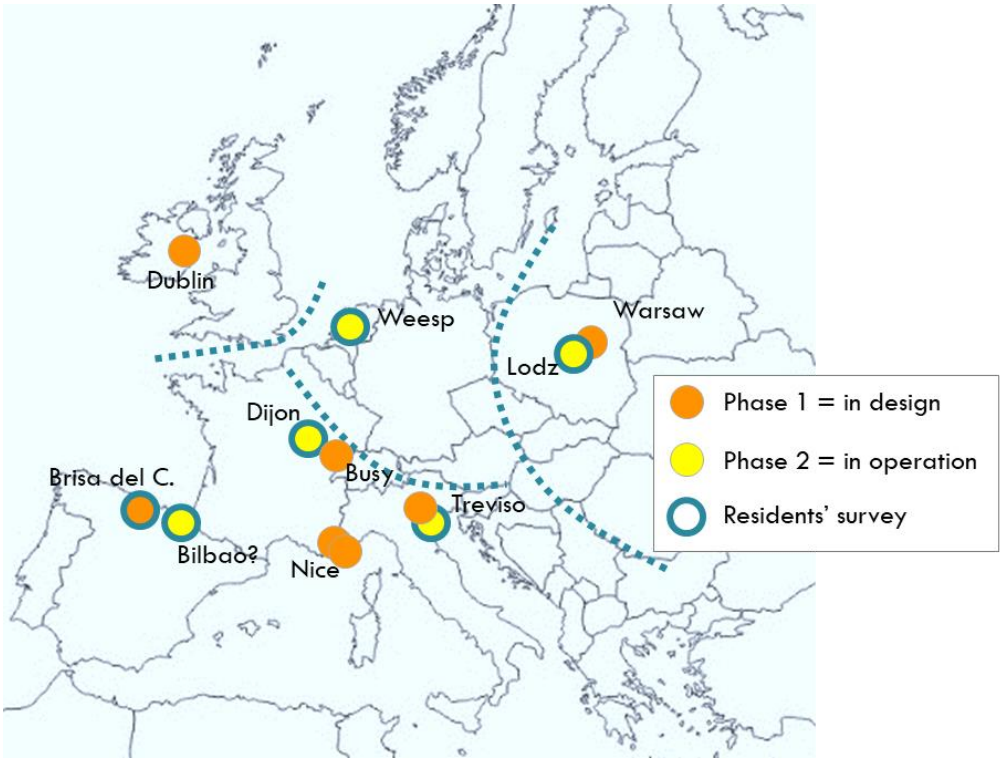

FIGURE 7 – PILOT SITES

Supportive organizations were associated in the Homes4Life certification scheme building process. A Registration and Commitment form defined mutual commitments during the test phase, from the pilot project holders and Homes4Life partners. There were mainly three phases of interactions:

- Registration: H4L members inform pilot buildings about the pilot phase, using first document in the following table; Pilot buildings register with the registration form. A presentation meeting is planned between H4L member in charge of the test and pilots.
- Data collection and test: Pilot buildings complete the pilot template and give all documents, studies or results required for tests. H4L members explain/help for data collection in some meetings if necessary. On-site data collection only possible in some cases
- Feedback: Dissemination of the results on the H4L web site. Meetings to share results with pilots. Communication event with delivery of H4L certificates to pilot buildings

TABLE 7 – INFORMATION ON PILOT SITES

Country	**Pilot site**	**Perimeter**		**Certification characteristics of the buildings**		
		Building / operation	**Client**	**Phase**	**Situation**	**Type**
France	Busy (Doubs)	Résidence Kalia	A2L Seniors	Design	New	Collective
	Dijon	Village Senior Alice et Victor	Alice et Victor	Operational	Existing	Collective
	Nice Méridia, Pôle multi-accueil	Résidence autonomie	CCAS de Nice	Design	New	Complex
		EHPAD		Design	New	Complex
Ireland	Dublin, Inchicore	St. Michael's Estate, Site 1B	CVHA	Design	New	Complex
Italy	Treviso, Borgo Mazzini SC	Casa del Chiostro	ISRAA	Design	New	Collective
		Secondo stralcio		Operational	Existing	Collective
Netherlands	Weesp	De Hogeweyk	Vivium Zorggroep	Operational	Existing	Complex
Poland	Lodz	Multigenerational House	City of Lodz	Operational	Existing	Collective
	Warsaw	At Home Despite the Age	Mimo Wieku	Design	New	Collective
Spain	Brisa del Cantabrico	Brisa del Cantabrico	Cooperativa Brisa del C.	Design	New	Complex

4.3 First feedbacks from tests in the pilot sites

4.3.1 General comments

The pilots provided feedback on the certification scheme and the assessment process.

The global approach of the Homes4Life certification scheme was very much appreciated and welcomed as a move toward age-friendly housing. Though, its complexity was stressed by many, and questions arose whether it was possible to fit a very wide range of housing situations within a sole certification scheme. Some pilots call for a simpler scheme, while others felt appropriate its level of detail.

Homes4Life project is part of an increased demand for certification in some countries and may serve as a quality mark and a way to benchmark. Thus, questions relative to the requirements and the surveys may help to stimulate innovation in the projects, and an early use of the certification scheme could have an impact on improving planned projects or projects in design. Several reasons have been put forward for participating in this experiment, and later to participate in the assessment process, like the exposure of the project and its capacity to reassure people with a standard level.Involvement of other stakeholders should be valued, especially in a social perspective.

More critics were made on the requirements themselves, some being too detailed or too technical, and overlapping of requirements in the different clusters were reported. This issue will be dealt with by the Homes4Life partners in a dedicated working group.

Only one residents' survey was conducted in the sites in design, and there is not enough feedback on this item so far. The surveys that will be conducted in the sites in operation are expected to provide a valuable feedback.

4.3.2 Proposals for improvement of the certification scheme

Comments and feedback provided so far from these pilot cases have been translated into proposals in the appropriate sections of this reference document and appear in the following frame:

Proposed changes from first exploitation of the test phase in the pilot sites:

- …

The proposals will be validated with the Expert Board members, CoI and stakeholders during the Call for Comments session, before being transposed – as proposed or modified – in the final version of the Homes4Life certification scheme.

5 Appendices

5.1 Evidence documents for the Management phase

5.1.1 Commitment letter

Entity asking for certification	Name and location	
	Name and function of signatory person	
Audited operation	Building name	
	Building location	

We, the undersigned, hereby certify that:

☐ **The audited operation complies with all relevant national and local regulations.** *This pre-requisite is compulsory to the eligibility of the Client into the certification process.*

☐ **All the necessary resources and means are implemented**, to achieve and rule the operation according its objectives and including the allocated budget.

☐ **The entire certification process will be conducted** (Management phase, Requirements in all clusters, Surveys if applicable).

Ambition level

Knowing the contents of Homes4Life certification scheme, **we aim at the following target**:

☐ Platinum (score ≥ 90%) ☐ Gold (score ≥ 80%) ☐ Silver (score ≥ 60%) ☐ Bronze (score ≥ 40%)

In the case of a change in the targeted performance, this document will be revised and reissued.

We engage in:

☐ **disseminating this Commitment letter to all stakeholders** directly involved in the operation, as listed below (see 'Involvement of stakeholders').

☐ **referring to this document in terms of overall performance** of the operation at all stages.

Date and signature:

5.1.2 Site analysis list

The following list should be adjusted to the context and to the availability of data. It should preferably be collected at local levels, neighbourhood/community, municipality.

<table>
<tr><td colspan="2">Potential items</td></tr>
<tr><td>Physical environment and site location
Description of geographical location and natural landscape
Type of environment (urban, rural)
Building orientation (thermal comfort, e.g. dominant winds in winter, sunrays in summer, lighting comfort, acoustic comfort)
Road traffic and environmental risks (for their impact on outdoor/indoor air quality and noise insulation)
Mobility
Road network: density, hierarchy and use (automotive, pedestrian), road conditions and walkability
Public transport network: lines, vehicles and stops; frequency and schedules; affordability
Private transport: supply and affordability
Bike renting service, …
Population and socio-economic characteristics
Age composition
Family composition
Ethnic background / migrant population
Education
Revenues</td><td>Shops, services and amenities
Basic shops: food and drink / bakery, pharmacy, bookstore, …
Other shopping and commercial centres
Culture, leisure and recreation: library, museum, theatre, cinema, …
Restaurants and bars
Sport areas, indoor and outdoor
Parks, gardens and green spaces
Benches in public spaces
Medical and health services
Home delivery services
Community group associations and services
…
General and age-friendly housing
Housing market
Private and public offer
Purchase and renting cost
Financing mechanisms to facilitate home ownership
Age-friendly policies
Programs for increasing accessibility, safety and adaptability of housing
Home employment
Formal carer services
Informal carer support
Emergency Preparedness Plan</td></tr>
<tr><td colspan="2">Site analysis use</td></tr>
<tr><td>Have you performed a site analysis?</td><td>☐ Yes
☐ Not yet</td></tr>
<tr><td colspan="2">If yes, name of document:</td></tr>
<tr><td>Have you disseminated the results to some stakeholders?</td><td>☐ Yes
☐ Not</td></tr>
<tr><td colspan="2">If yes, could you specify which stakeholders?
_____
_____</td></tr>
</table>

5.1.3 Needs, perspectives and involvement of stakeholders

<table>
<tr><td colspan="2">Key stakeholders (to be identified according to the context)</td></tr>
<tr><td>End users
• Future residents
• Residents

Government:
• National government
• Local or regional government

Care providers:
• Health and social care providers
• Social and public housing providers
• Informal carers

Planning and building industry:
• Project developers and investment companies
• Construction and installations</td><td>Service providers:
• Financial organizations
• Health insurance companies
• Insurance companies
• Innovative services (e.g. digital services)

Community groups and services
• Sports and entertainment
• Other activities
• Neighbourhood</td></tr>
<tr><td colspan="2">Short remind list</td></tr>
<tr><td>Have you identified the relevant stakeholders for the site?</td><td>☐ Yes
☐ Not yet</td></tr>
<tr><td>Have you consulted them?</td><td>☐ Yes
☐ Not yet</td></tr>
<tr><td>Have you formalised their needs and expectations?</td><td>☐ Yes
☐ Not yet</td></tr>
<tr><td colspan="2">If yes, name of document:
_____</td></tr>
<tr><td>Have you disseminated this information to them?</td><td>☐ Yes
☐ Not yet</td></tr>
<tr><td colspan="2">If yes, specify how:
_____
_____</td></tr>
</table>

5.1.4 Residents' surveys

Phase and building type	**Survey**	
In operation, all cases OR In design, end users as co-designers	Compulsory	☐ Please, tick here and fill in the form below.
In design, end users not associated	Not applicable	☐ Please, tick here. No further action required.

Date(s) of survey	_____
Form of survey and participants	☐ Paper questionnaire distributed to residents. Number of respondents: ☐ Interactive questionnaire addressed to residents. Number of respondents: ☐ Panel of interviewees. Please, specify below: _____
The results of the survey have been disseminated to (several options can be ticked):	☐ Residents ☐ Residents' families ☐ Personal, if any ☐ Other stakeholder(s). Please, specify below: _____ _____ ☐ No dissemination of the results
Name of document presenting the results	_____
The results of the survey have led to corrective or improvement actions	☐ Yes. Name of document presenting the actions: _____ ☐ No

5.2 List of actions of the Management phase

FIGURE 8 – STRUCTURE OF PHASE 1: MANAGEMENT

TABLE 8 – ACTIONS FOR THE MANAGEMENT PHASE

Action				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Level (pts)	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
111A	Commitment	The entity asking for certification have to commit. This commitment is formalised in a document signed by the top management of this entity.	The Commitment document is present and signed by the Client	Yes/No	0	Commitment document signed (are reviewed if necessary), evidence of dissemination of this commitment to stakeholders involved in the operation	Commitment document signed (are reviewed if necessary), evidence of dissemination of this commitment to stakeholders involved in the operation	x	x	x	x	x	x	x
121A	Site analysis	Determine the conditions of the environment of the site.	The Site analysis has been performed.	Yes/No	0	Site analysis	Site analysis	x	x	x	x	x	x	x
131A	Needs, expectations and involvement of stakeholders	Determine the strength of the territory-based presence and liveliness of the local network	The Involvement description form has been disseminated to identified stakeholders by the Client	Yes/No	0	Documents showing involvement of stakeholders with needs and expectations, minutes of meetings, …	Documents showing involvement of stakeholders with needs and expectations, minutes of meetings, …	x	x	x	x	x	x	x
141A	Residents' survey	Collect residents' feelings about life on the site on the different topics addressed by the CS	The Residents' survey has been performed.	Yes/No	0	Not applicable	Survey		x	x	x	x	x	x

5.3 List of requirements of the Personal cluster

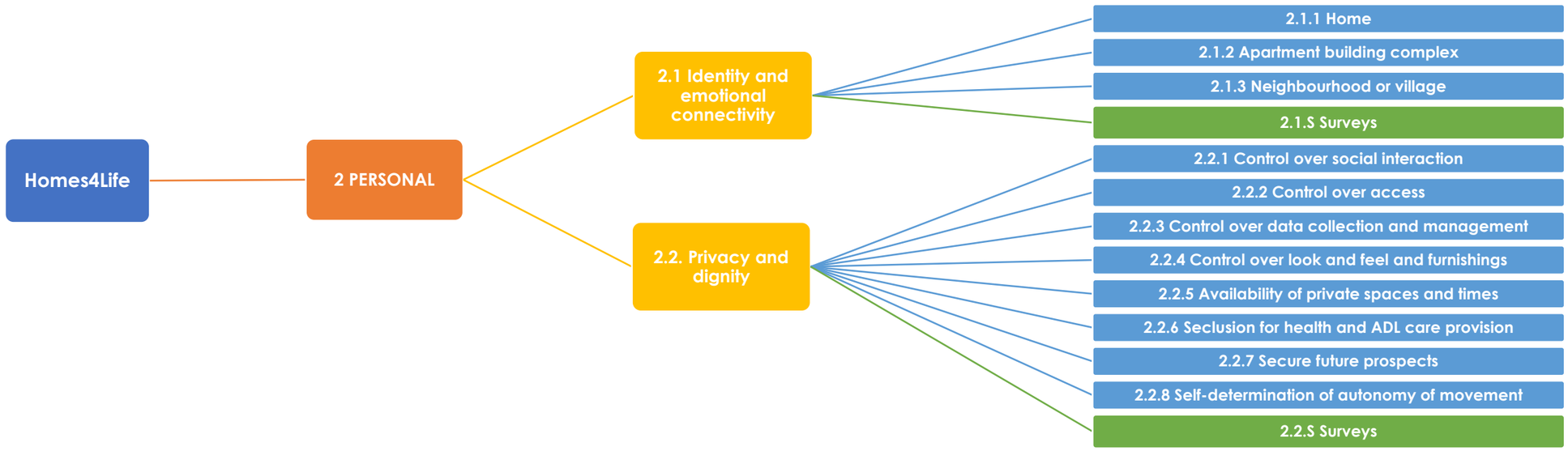

FIGURE 9 – STRUCTURE OF CLUSTER 2: PERSONAL

TABLE 9 – REQUIREMENTS FOR THE PERSONAL CLUSTER

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
211A	Home environment promotes creation of informal support networks e.g neighbours, and sense of safety and security is reassured	Home environment provides reassurance and sense of safety through existence of common and shared spaces e.g common room for meal taking, communal laundry, shared gardens and patios.	There are common and shared spaces in the neighboorhood, e.g common room for meal taking, communal laundry, shared gardens and patios. **Individual houses:** Level 1: No Level 2: Farther than 400m or 10min walk Level 3: Closer than 400m or within a 10min walk **Collective housing and complex:** Level 1: No Level 2: In the building or in the neighbourhood Level 3: Both in the building and in the neighbourhood	Level 1 Level 2 Level 3	0 2 4	Plans	On-site visit, plans	x	x	x	x	x	x	x
211B	Space for deployment of personal history objects	Home environments for people with mild cognitive impariment (MCI) or early-stage dementia must offer room for deployment of material objects that reflect personal history and/or serve as symbolic links to valued relationships. (Sixsmith, 1986) quotes what is apparently a more or less classic holistic definition of the concept of "home" : "A place of physical, personal and social experience that sustains a sense of security, safety, privacy, independence and choice."	Possibility to deploy material objects that reflect personal history and/or serve as symbolic links to valued relationships Level 1: no (no place, not allowed, …) Level 2: yes but choices must be made because of lack of space level 3: yes, no limit at first glance	Level 1 Level 2 Level 3	0 2 4	Plans	On-site visit, plans	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
211C	Availability of places and features for personalization of home environment	To contribute to Place identity (a dimension of place attachment), the home environment must provide spaces and design features that enable personalization of the home environment, reflecting the occupants' personal history, sense of self, tastes and preferences Lies et al find that design features associated with personalization are: * Individual home display spaces * Individual home front porch * Individal home back porch * Wild and raised flowers * Common house dining room Bergland et al (2015) note the importance of both personal historical continuity (the home as a place and reminder of past experience), and personal + personalized space, as well as stress and anxiety at losing these resources in the case of moving home. By inference, a new home environment that allows customization to suit personal history and preferences will help avoid loss of the sense of self and identity, as well as contributing to emotional wellbeing.	Presence of visible personalized items outside the dwelling (for instance: individual home display spaces, individual home front porch or back porch, wild and raised flowers, common house dining or living rooms, …). **Individual houses:** Level 1: no customized space visible outside dwelling Level 2: some elements, but rare (1 or 2) Level 3: several to many elements **Collective housing and complexes:** Level 1: no customized space visible outside dwellings Level 2: some apartments (less than one-fourth of the dwellings) Level 3: several to many apartments (over one-fourth of the dwellings)	Level 1 Level 2 Level 3	0 2 4		On-site visit		x	x	x	x	x	x
211D	Personalization of kitchen spaces	To preserve their function as a locus for emotional attachment and personal identity, kitchens must allow personalization of design, equipment and processes to reflect occupants' lived experience	Possibility to customize kitchen spaces and kitchen adaptations in terms of lay-out, equipment and design. Level 1: no Level 2: yes, but limited options Level 3: yes, all options (lay-out, equipment and design)	Level 1 Level 2 Level 3	0 2 4	Options offered by designers	On-site visit	x	x	x	x	x	x	x
211E	Opportunities for meaningful social activity	The home and its immediate environment should offer opportunities to engage in meaningful social activity	Existing space within the home to receive other people for social gathering (such as a living-room or lounge/activity room) without rearranging furniture **Individual or collective housing:** Level 1: none or too small to accomodate for 3 persons together Level 2: yes, for at least 3 persons together **Complex:** Level 1: none or too small to accomodate for 10 persons together Level 2: yes, for at least 10 persons together	Level 1 Level 2	0 2	Plans	On-site visit, plans	x	x	x	x	x	x	x
211F	Easy and affordable access to specific "carer" support needs	Home environment provides easy and remote access to supportive services that specifically recognise and support the work of informal carers such as respite care, psychosocial services, peer support, carer allowances	Does the home environment provide easy and affordable remote access to…? Item 1: Respite care Item 2: Psychosocial services Item 3: Peer support Item 4: Career allowance Item 5: Training information Item 6: Volunteering	No Yes for 1 to 3 Yes for 4 to 6	0 3 6	Site analysis	Site analysis	x	x	x	x	x	x	x
211G	Home offers dedicated space for pursuing activities for self-fulfilment and social engagement.	Home should offer dedicated space for pursuing activities for self-fulfilment and social engagement. Specifically, the home environment must offer adequate spatial provisions for pets, hobbies, socialing and storage. Where homes have multiple occupants, the home should be able to cater for	Existence of spatial provisions for self-fulfilment and social engagement (pets, hobbies, socializing and storage). Level 1: no space or room available Level 2: existing space, but not for all the occupants Level 3: each occupant can benefit from a personal and private space	Level 1 Level 2 Level 3	0 2 4	Plans	On-site visit, plans	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		the preferences of each occupant Research shows that the ability to pursue these activities in the home contributes to positive perception of the home environment and contributes to perceived agency in ageing healthily												
211H	Access to general/indirect "carer" needs such as home care/home support services (primary target: care recipient)	Home care services are available and affordable in the community supporting independence of care recipient whilst helping caregivers feel more competent in caring for their relatives (e.g through providing respite, maintaining a supportive relationship with caregivers, teaching them new skills, and providing help to the caregivers to navigate the healthcare system)	Existing supportive services for carers (respite care, psychosocial services, peer support, carer allowance, training program, volunteering program, ...) Level 1: No supportive service Level 2: Existing services, but not easily accessible and affordable Level 3: Existing services, accessible and affordable Level 4: Supportive community for carers	Level 1 Level 2 Level 3 Level 4	0 1 4 8	Site analysis	Site analysis	x	x	x	x	x	x	x
211I	Opportunities for social activities and networks continuity	The home's immediate environment should offer opportunities for continuation of existing social activities, networks and contexts, or at any rate the opportunity to establish/engage in contacts/activities that represent conceptual continuity within the lived experience of the occupant There is a marked difference in perceived safety between the ECH (Extra Care Housing) location with architectural and spatial design that allowed residents to continue activity and social engagement patterns from previous life phases, and the location where the architectural/spatial design required residents to reconstruct their social identities	Does the architectural and spatial design allow residents to continue activity and social engagement patterns from previous life phases and require not from them to reconstruct their social identity (i.e. conception of thresholds from the dwelling to outer spaces) ?	No Yes	0 6	Site analysis	Site analysis	x	x	x	x	x	x	x
211J	Home environment and neighhbourhood contain 'third place thresholds'	The immediate environment of the home and the neighbourhood in which it is situated must offer opportunities for engagement with others. These can take the form of so-called 'third place thresholds'.	Presence of 'third place thresholds' (hybrid, semi-public spaces that provide easy and readily available opportunities for social interaction, most commonly with neighbours). They straddle the private dwelling and public neigborhood, such as porches, patios, backyards and balconies; and, in high-rise dwellings, balconies, lobbies and elevators. All building types: Level 1: no such places at home and in its immediate environment (neighbouring dwellings) Level 2: existing places at home and in its immediate environment (neighbouring dwellings)	Level 1 Level 2	0 6	Plans, Site analysis	On-site visit, plans	x	x	x	x	x	x	x
211K	Home environment allows views of and interaction with nature	To contribute to Nature bonding (dimension of place attachment), the home environment must provide spaces and design features allowing views of nature and interaction with nature Lies et al (2017) found that the design features associated with these types of interaction found in the study are: View of nature * Large windows * Individual home back porch * Common house patio * Individual home great room Interaction with nature * Common garden * Compost area	Presence of devices which allow: * View of nature (Large windows, Individual home back porch, Common house patio, Individual home great room, Balcony or terrace) * Interaction with nature (Common garden, Compost area, Labyrinth, Nodes and sidewalk system) Individual houses: Level 1: None Level 2: View of nature or Interaction with nature Level 3: Both Dwellings in collective housing or complexes: Level 1: Less than 25% of the dwellings wih view of nature or interaction with nature	Level 1 Level 2 Level 3	0 2 6	Plans	On-site visit, plans	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		* Labyrinth * Nodes and sidewalk system	Level 2: Between 25% and 75% of the dwellings with view of nature or interaction with nature Level 3: Over 75% of the dwellings with view of nature or interaction with nature											
212A	No requirement defined	-	-	-	-									
213A	Home within range of neighbourhood 'third places'	To promote emotional connectivity, meaningful activity and social engagement, the home should be located within easy, accessible range of a variety of appropriate 'third place' destinations in the neigbhourhood. *'Third places', using a definition from Oldenburg (1989) are places "that are located outside of the home (first place) and work (second place) and share several essential features: they are on neutral ground, they act as 'levelers', conversation is the main activity, they are accessible, 'regulars' spend time in them, they are physically plain and unassuming, the mood is playful, and people feel like they are a 'home away from home'. "* Notable 'third places' identified by the subjects in the study were public parks, certain local businesses (with a strong preference for small single-purpose shops), community organisations and institutions	Presence of 'third places' (such as public parks, local businesses like small single-purpose shops, community organisations and institutions, ...) where people can feel like they are ar 'home away from home'. **All building types:** Level 1: no such places in the neighbourhood Level 2: existing places in the neighbourhood	Level 1 Level 2	0 6	Site analysis	Site analysis	x	x	x	x	x	x	x
213B	Home environment within reach of community activities and engagement	For emotional wellbeing and attachment to place, the home environment must be situated within short and accessible reach of community activities, and opportunities for social engagement, and contact with significant others	Community activities and opportunities for social engagment and contact with significant others in the neighbourhood, within short and accessible reach (a 10-min walkable or a 400m-diameter distance from home) Level 1: None Level 2: Familiar neighbourhood or long-term neighbours Level 3: Supportive neighbours or community (looking for each other)	Level 1 Level 2 Level 3	0 2 6	Site analysis	Site analysis	x	x	x	x	x	x	x
213C	Dwelling has meaningful destinations within walking distance	Meaningful destinations (social engagement and meaningful activity) within walking distance. This is important for both primary users and carers, and especially important for people with dementia Like primary users, informal carers need easy access to various services and ameneties preferably at walking distance e.g grocery stores and other shopping facilities, pharmacist and other primary care services, social connections, community services incl work)	Presence of 'meaningful destinations' (such as grocery stores and other shopping facilities, pharmacist and other primary care services, social connections, community services including work) within a walkable distance (10min or 400m). All building types: Level 1: no such destinations in the neighbourhood Level 2: existing such destinations in the neighbourhood	Level 1 Level 2	0 6	Site analysis	Site analysis	x	x	x	x	x	x	x
213D	Mobility	Easy access, and proximity to affordable public transportation from home environment supporting access for example to social activities and other facilities	Item 1: At least one public transport station within a circle of a 10min-walk or a 400m-distance from home Item 2: Cost of public transportation (round trip) no more than 3 per thousand of minimum wage Item 3: Public transport schedule at least during working hours Item 4: Public transport frequency at least every 30 min Level 1: 0 or 1 item fulfilled Level 2: 2 items fulfilled level 3: 3 or 4 items fulfilled	Level 1 Level 2 Level 3	0 2 6	Site analysis	Site analysis	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
213E	The neighbourhood around the dwelling satisfies walkability requirements	Proportion of streets in the neighbourhood that have pedestrian paths which meet locally accepted standards	Proportion of streets in the neighbourhood that have pedestrian paths which meet locally accepted standards (within a 1km-ray from home) Level 1: Less than 50% Level 2: 50% to 80% Level 3: over 80%	Level 1 Level 2 Level 3	0 2 6	Site analysis	Site analysis	x	x	x	x	x	x	x
213F	Public spaces and buildings in the home's neighbourhood satisfy accessibility criteria	Proportion of new and existing public spaces and buildings that are fully accessible by wheelchair (accessible for all people, including those who have limitations in mobility, vision or hearing).	Proportion of new and existing public spaces and buildings fully accessible by all people, including those who have limitations in mobility - wheelchair for instance, vision or hearing). Level 1: Less than 50% Level 2: 50% to 80% Level 3: over 80%	Level 1 Level 2 Level 3	0 2 6	Site analysis	Site analysis	x	x	x	x	x	x	x
210Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x
221A	Housing options for single older persons must enable occupants to live alone	To give single persons the option to choose whether they want to share or not accomodation (this applies particularly, but not only, to older women)	Is the collective housing designed to offer to single older persons the option to live alone?	No Yes	0 3	Plans	Plans, on-site visit	x	x	x	x	x	x	x
221B	Home environment has multiple 'third place thresholds'	To have places to provide easy and readily available opportunities for social interaction, most commonly with neighbors. These can be the 'thresholds', considered as the hybrid, semi-public spaces that straddle the private dwelling and public neigborhood, such as porches, patios, backyards and balconies. In high-rise dwellings, balconies, lobbies and elevators took on the role of 'thresholds'.	Is the housing designed with ´thresholds' that gives people opportunities for social interaction, most commonly with neighbours?	No Yes	0 4	Plans	Plans, on-site visit	x	x	x	x	x	x	x
222A	Secured housing, including perceived safety at home	To implement measures to improve the security in older people’s homes in order to secure the subjective perception of safety.	Are there any devices for controlling access to home?	No Yes	0 3	Characteristics of devices	Characteristics of installed devices	x	x	x	x	x	x	x
222B	Secured housing, including perceived safety at home	To implement measures to improve the security in older people’s homes in order to secure the subjective perception of safety.	Are there any local policies on security for the older inhabitants (police service, …)	No Yes	0 3	Site analysis	Site analysis	x	x	x	x	x	x	x
222C	Housing programmes and resources	Availability of a resource listing age-friendly home maintenance, support and care-giving services.	Availability of an accessible resource listing age-friendly home maintenance, support and care-giving services. Item 1: age-friendly home maintenance Item 2: age-friendly support services Item 3: age-friendly care-giving services Level 1: no available resource Level 2: available resource (on paper or internet) for at least 2 items Level 3: available resource for at least 2 items, with assistance (telephone service, help on web services)	Level 1 Level 2 Level 3	0 3 5	Plans of local activities	Plans of local activities, on-site visit	x	x	x	x	x	x	x
223A	Monitoring systems situationally adjustable according to wishes of and through actions of occupants.	To have deployed in the home environment monitoring systems that assume and accommodate active, creative agency on the part of occupants. This includes operational principles and data flows being made transparent to occupants in non-technical terms, and monitoring sensitivity being situationally adjustable according to wishes of and through actions of occupants. It takes into account informed trade-offs made by	Are the home environment monitoring systems adjustable according to wishes and through actions of occupants ?	No Yes	0 3	Characteristics of systems	Characteristics of installed systems	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		older adults between autonomy, dignity, utility and privacy.												
223B	Surveillance devices and systems in the home adjustable to occupant needs and preferences by occupants themselves	To safeguard perceived autonomy and privacy, any surveillance devices or systems deployed in the home must be adjustable to suit personal preferences for surveillance and non-surveillance, and it must possible for occupants to do this themselves. It should be transparent to occupants (in terms appropriate to their perspective and background) which information is being shared and with whom by devices and systems deployed about the house, with the occupant being enabled to make and revise decisions about which data is being shared.	In case of AAL (Active Assisting Living) technology in the home: Are the in-home surveillance systems installed with the resident's agreement? Are the residents able to disconnect their systems at any time…	No One Yes Two Yes	0 1 3	Commitment to ask for agreement, characteristics of planned systems	Presence of agreement, characteristics of installed systems (possible disconnection)	x	x	x	x	x	x	x
224A	No requirement defined	-	-	-	-									
225A	Separate extra bedroom for carer	Homes have at least a 2nd bedroom of sufficient dimensions to accommodate a single bed which can function as a guest room (for carer, visitors,…)	Minimum requirements: Level 1: no space Level 2: Home allows easy adaptation for visitors to stay Level 3: Home has at least one extra bedroom	Level 1 Level 2 Level 3	0 1 4	Plans	On-site visit, plans	x	x	x	x	x	x	x
225B	The home environment must offer adequate privacy and private spaces	To support occupants sense of identity and autonomy, home environments must offer private indoor spaces, especially in the case of older women living alone or in case of cohabitation. Where "private" is a a somewhat flexible term. It does not necessarily imply exclusivity, the requirement is also satisfied when e.g. the occupant has control over who uses the outdoor space, the outdoor space is part of a co-housing development etc	Do residents benefit from private spaces, in co-habitation situations (private bathroom, private bedroom, heating and cooling, separate kitchen, private oudoor space) Level 1: No private space Level 2: Private bedroom Level 3: Private bedroom and bathroom Level 4 : plus others (heating and cooling, separate kitchen, private outdoor space, ...)	Level 1 Level 2 Level 3 Level 4	0 2 4 6	Plans	Plans, on-site visit	x	x	x	x	x	x	x
225C	Home environment has spaces and design features that contribute to autonomy and space for transition	To contribute to Place dependence (a dimension of place attachment), the home environment must provide spaces and design features that contribute to autonomy and space for transition For instance, design features associated with these aspects may be: Autonomy: Individual home kitchen, individual home bathroom, common garden, compost area Space for transition: Common house guest rooms, individual home closets, individual home great room	The home environment benefit from spaces and design features that contribute to autonomy and space for transition. Level 1: No spaces or features Level 2: Spaces and features that contribute to autonomy (kitchen, bathroom, garden, …) Level 3: Spaces and features for transition (guest room, living room, home closets, ...) Level 4: Both spaces and features	Level 1 Level 2 Level 3 Level 4	0 2 4 6	Plans	Plans, on-site visit	x	x	x	x	x	x	x
225D	In-home technologies / systems should be equipped with privacy awareness systems tailored to the concerns and tech awareness level of users	Home ICT services adapted to home occupants' awareness level	Are the home ICT systems able to be disconnected by residents at any time?	No Yes	0 4	Characteristics of systems	Characteristics of installed systems	x	x	x	x	x	x	x
226A	Information and support needs of carers are easily accessible and understandable	Home ICT system adapted to care services so they can be provided at home	Are the home ICT systems able to access relevant web-based information (community services, information needs, support needs) and to receive primary care services in the home at any time?	No Yes	0 3	Characteristics of systems	Characteristics of installed systems	x	x	x	x	x	x	x
226B	Formal and personalised social and health services are available, accessible and affordable in the home's neighbourhood	Avaliability to receive formal (public or private) care services or assistance needs in the home's neighbourhood	The neighbourhood has availability to receive formal (public or private) care services or assistance needs Level 1: Formal private care service Level 3: Formal public care service	Level 1 Level 3	1 2	Site analysis for availability of services	Site analysis for availability of services	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
227A	Flexible home tenureship rules	Care services are allowed to be provided at home	Existing home tenureship rules allows for a carer to move into home of care-recipient	No Yes	0 2	-	Rules		x	x	x	x	x	x
227B	Affordable housing	Contribution to occupants' wellbeing by providing affordable cost on home arrangements.	Housing costs should be maintained within 30% of income (optimum performance); a 40%-threshold is considered as the minimum standard to be achieved. Housing costs include renting costs, mortgage payment, and repair and maintenance costs. Level 1: Housing costs are beyond 40% of income Level 2: Housing costs are between 30% and 40% of income Level 3: Housing costs are less or equal to 30% of income Regulations in collective housing: the overall level is assigned by the lowest rated apartment.	Level 1 Level 2 Level 3	0 1 3	Predicted housing costs	Effective housing costs	x	x	x	x	x	x	x
228A	Home environment promotes sense of autonomy and purpose for informal carers	Home environment should be a place that promotes the wellbeing of informal carers by promoting their sense of autonomy and sense of purpose.	Measures taken to enable informal carers to develop their sense of autonomy and sense of purpose (specific spaces, specific services, …)	No Yes	0 4	Plans, documents showing the access to services.	Plans, documents showing the access to services, on-site visit	x	x	x	x	x	x	x
228B	Occupants as co-creators of home environments	Occupants should be able to participate and cro-create their new homes in aging-in-place initiatives (new build and/or major refurbishment projects) to preserve people's sense of identity.	Possibility to participate or co-create homes/dwellings	No Yes	0 3	Documents showing that it is possible to participate or co-create homes or dwellings	Effective % of homes/dwellings in that situation	x	x	x	x	x	x	x
228C	Home component settings controllable by occupants	Occupants are able to control their home settings to contribute to sense of autonomy and sense of control over the environment	Are the home setting systems able to be controled by residents t at any time?	No Yes	0 4	Characteristics of systems	Characteristics of installed systems	x	x	x	x	x	x	x
220Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x

5.4 List of requirements of the Social cluster

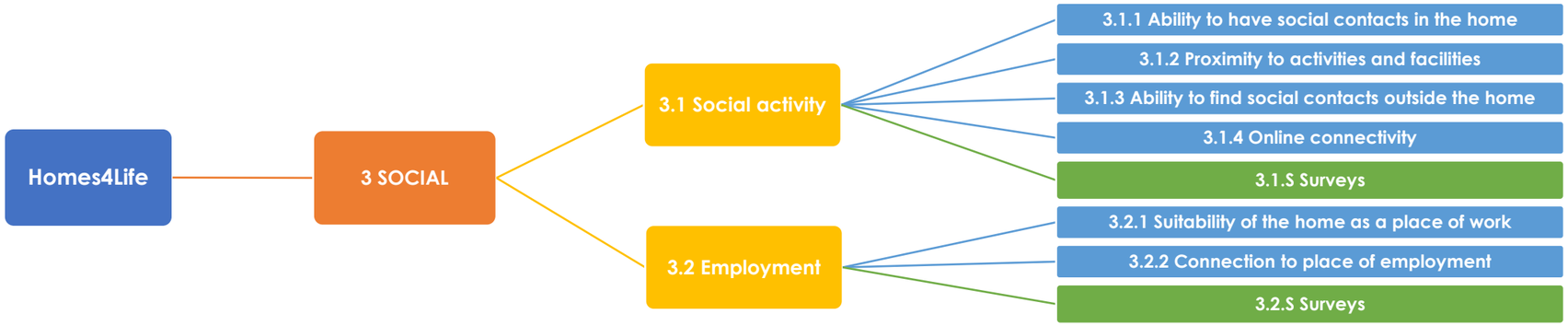

FIGURE 10 – STRUCTURE OF CLUSTER 3: SOCIAL

TABLE 10 – REQUIREMENTS FOR THE SOCIAL CLUSTER

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
311A	Social spaces offer opportunity for active engagment	The availability of social spaces facilite the social contact of the user.	Presence of social spaces in the home and immediate environment. Are considered for **houses and apartments**: - living room, garden and terrace Are considered for **residential environments (in collective building or complex)**: - common spaces: restaurants, bars, game rooms, shops, theater/cinema, gardens, etc. Level 1: None Level 2: Indoor spaces Level 3: Outdoor spaces Level 4: Indoor and outdoor spaces	Level 1 Level 2 Level 3 Level 4	0 1 3 4	Plans	Plans, on-site visit	x	x	x	x	x	x	x
311B	Availability of space in the home environment and in collective residence to receive visitors, at day time	Possibility to receive visitors at home and in collective residence, including overnight visitors, provides social contacts and limits the risk of social isolation.	The home environment is adequate to receive **visitors at day time**: **Individual house or apartment** (living room/terrace/garden/spacious kitchen) Level 1: No spaces for daily visitor Level 2: Yes, kitchen Level 3: Yes, living-room Level 4: Yes, living room/spacious kitchen and a terrace/garden	Level 1 Level 2 Level 3 Level 4	0 1 2 4	Plans	Plans, on-site visit	x	x	x	x	x	x	x
311C	Availability of space in the home environment and in collective residence to receive visitors, at day time	Possibility to receive visitors at home and in collective residence, including overnight visitors, provides social contacts and limits the risk of social isolation.	The home environment is adequate to receive **visitors at day time in common spaces**: **Residential environment** (common space/terrace/garden/common kitchen) Level 1: No, there are no spaces for visitors at day time Level 2: Yes, common indoor spaces available in the building or complex	Level 1 Level 2 Level 3	0 2 4	Plans	Plans, on-site visit	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			Level 3: Yes, common indoor and outdoor spaces available in the building or complex											
311D	Availability of space in the home environment and in collective residence to receive overnight visitors	Possibility to receive visitors at home and in collective residence, including overnight visitors, provides social contacts and limits the risk of social isolation.	The home environment is adequate to receive **overnight visitors**: **Individual house or apartment** (sofa bed/guest room, toilet) Level 1: No spaces for overnight visitors Level 2: Yes, sofabed Level 3: Yes, guest room without private bathroom Level 4: Yes, guest room with private bathroom	Level 1 Level 2 Level 3 Level 4	0 1 2 3	Plans	Plans, on-site visit	x	x	x	x	x	x	x
311E	Availability of space in the home environment and in collective residence to receive overnight visitors	Possibility to receive visitors at home and in collective residence, including overnight visitors, provides social contacts and limits the risk of social isolation.	The home environment is adequate to receive **overnight visitors in reserved spaces**: **Residential environment** (private room with bathroom) Level 1: No, there are no spaces for overnight visitors Level 2: Yes, guest room(s) without private bathroom available in the building or complex Level 3: Yes, guest room(s) with private bathroom available in the building or complex	Level 1 Level 2 Level 3	0 2 3	Plans	Plans, on-site visit	x	x	x	x		x	x
311F	The home's immediate environment has multiple 'third place thresholds'	The presence of 'third place threshold' provides emotional connectivity, meaningful activity and social engagment in older adults. 'Thresholds' "are the hybrid, semi-public spaces that straddle the private dwelling and public neigbourhood, such as porches, patios, backyards and balconies. These in-between third places provide easy and readily available opportunities for social interaction, most commonly with neighbours." For those living in high-rise dwellings, balconies, lobbies and elevators took on the role of 'thresholds'.	Are there third place thresholds in the home's immediate environment (porches, patios, backyards and balconies; lobbies and elevators in high rise buildings)? Level 1 : No Level 2: Yes, but in a limited number of dwellings (50% or less) Level 3: Yes, in a large number of dwellings (over 50%)	Level 1 Level 2 Level 3	0 2 4	Plans	Plans, on-site visit	x	x	x	x	x	x	x
311G	Home environment has spaces and design features that allow expression of family history	To contribute to **Family bonding** (a dimension of place attachment), the home environment must provide spaces and design features that allow for continuation of family past and continuation of family history Continuation of family past: * Allowance of pets * Spending time with grandchildren Continuation of family history: * Individual home display spaces	Does the home environment provide spaces and design features for continuation of family past (allowance of pets, time with grandchildren) and family history (home display spaces)? Level 1: no space or feature Level 2: one feature (family past/family history) Level 3: both feautres	Level 1 Level 2 Level 3	0 2 4	Plans	Plans, on-site visit	x	x	x	x	x	x	x
311H	Home environment offers adequate spatial provisions for pets, hobbies, socialising and storage	The home environment must offer adequate spatial provisions for pets, hobbies, socialising and storage. Where homes have multiple occupants, the home should be able to cater for the preferences of each occupant	The **home environment** has adequate spaces for pets, hobbies, socialising and storage, for eahc resident. Level 1: none Level 2: closet or basement or garage Level 3: idem + living room, kitchen Level 4: idem + spare room, common room, terrace, garden	Level 1 Level 2 Level 3 Level 4	0 2 4 5	Plans	Plans, on-site visit	x	x	x	x	x	x	x
311I	Home environment promotes informal carers' sense of autonomy and purpose	Home environment should be a place that promotes the wellbeing of informal carers by promoting their sense of autonomy and sense of purpose.	Features that facilitate and promote access to social connections and social activities in and outside the home (both virtual and actual). Level 1: none Level 2: dedicated space for the carer inside home, building or complex	Level 1 Level 2 Level 3	0 2 4	Plans	Plans, on-site visit	x	x	x	x	~~x~~	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			Level 3: dedicated space for the carer inside home, building or complex with an easy access to internet											
311J	The home and its immediate environment offer opportunities to engage in meaningful social activity	Home and its immediate environment should be a place to engage older adults in social activity	Opportunities to engage in meaningful social activity. Level 1: none Level 2: social and physical activity room (game room, hearth room, sports room, …) Level 3: community services (visiting and travel, ...)	Level 1 Level 2 Level 3	0 2 4	Plans, accessible services planed	Plans, effective accessible services	x	x	x	x	x	x	x
311K	Occupants have control over access to home	Home environment must offer access control to occupants, thus giving occupants the opportunity to regulate the flow of visitors and caregivers to the home.	The home front door (for individual housing) or the building front door (collective and complex housing) has a limited access control device Level 1: none or ring bell only Level 2: entry phone or visio system	Level 1 Level 2	0 2	Planed systems	Installed systems, on-site visit	x	x	x	x	x	x	x
311L	Spatial lay-out of the home environment allows control over level of social interaction.	The spatial lay-out of the home environment must allow occupants control over the level of social interaction they engage in while in the home. Specifically, each home should have a distinct private space to which the occupant wholly controls access	Existence of a distinct private space within the home to which the occupant wholly control access Level 1: no such space Level 2: no total control over this space Level 3: total control over a distinct private space	Level 1 Level 2 Level 3	0 1 3	Plans	Plans, on-site visit	x	x	x	x	x	x	x
312A	The home should be situated in a neighbourhood that is perceived as safe by the home's occupants	The home's occupant have to feel safe considering the neighbourhood (proximity to everyday services).	Proximity to everyday services. Level 1: >800m or over 30min-walk Level 2: 400-800m or 10-30min-walk Level 3: <400m or 10min-walk	Level 1 Level 2 Level 3	0 1 3	Plans of local services	Plans of local services, on-site visit	x	x	x	x	x	x	x
312B	The direct environment of the home offers suitable spaces for engagement in organized social and learning activities.	The 'ideal menu' of group activities emerging from the literature: * provision of 'something for everyone' in physical and hobby activities * a range of different forms of mental stimulation and physical exercise to suit various tastes * activities which will foster emotional support and informal contacts that develop into real friendship, addressing emotional loneliness * breaking the vicious circle which leads through loneliness to poorer health, and thus to reduced capacity to engage with others and make new friends (health promotion events and similar) * supporting the most frail and especially those with mobility problems to take part in community life * helping residents maintain links with the wider community, in particular links with other age groups and with healthier people * encouragement of internet use as an important gateway to the wider social environment * offering specialised help to those whoe are too frail or immobile to leave their homes, or who have become withdrawn due to bereavement or crisis leading to rupture of social networks	Accessible social spaces where people can engage in organized social and learning activities. Level 1: none Level 2: yes, but over 5min walk or 100m Level 3: yes, within 5min walk or 100m (individual housing) or in the building or complex	Level 1 Level 2 Level 3	0 2 4	Plans of local services, plans	Plans of local services, plans, on-site visit	x	x	x	x	x	x	x
312C	Home environment within short and accessible reach of shops and services	The home environment guarantees short and accessible reach of shops and services	Distance between the home environment and shops and services Level 1: >800m or over 30min-walk Level 2: 400-800m or 10-30min-walk Level 3: <400m or 10min-walk	Level 1 Level 2 Level 3	0 1 3	Plans of local shops	Plans of local shops, on-site visit	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
312D	Home environment within short and accessible reach of shops and services	The home environment guarantees short and accessible reach of shops and services	Accessibility of shops and services for people with minor disabilities Level 1: Easy for less than 25% of shops and services (walkability of sidewalks, adapted pathways) Level 2: Easy for between 25% and 50% of shops and services Level 3: Easy for between 50% and 75% of shops and services Level 4: Easy for over 75% of shops and services	Level 1 Level 2 Level 3 Level 4	0 1 3 4	Plans of local accessible shops	Plans of local accessible shops, on-site visit	x	x	x	x	x	x	x
312E	Home environment supports sense of autonomy and purpose of informal carers	Home environment should be a place that promotes the wellbeing of informal carers by promoting their sense of autonomy and sense of purpose.	Features that facilitate and promote access to social connections and social activities in the neighbourhood (both virtual and actual). Level 1: none Level 2: access to social connections, including virtual Level 3: access to social activities outside home	Level 1 Level 2 Level 3	0 2 4	Plans of local activities	Plans of local activities, on-site visit	x	x	x	x	x	x	x
312F	Meaningful destination within walking distance	Showing that the presence of meaningful destinations within walking distance improve the quality of life of informal carers > Servicies and amenities	Accessibility to various services and amenities preferably for informal carers (grocery stores and other shopping facilities, pharmacist and other primary care services, social connections, community services including work) Level 1: most services and amenities > 800m or over 30min walk Level 2: most services and amenities 400-800m or 10-30min-walk Level 3: most services and amenities <400m or 10min-walk	Level 1 Level 2 Level 3	0 1 3	Plans of local amenities	Plans of local amenities, on-site visit	x	x	x	x	x	x	x
312G	Home within easy reach of accessible and affordable public and individualizes transport services	Proportion of public transport services (incl. vehicles and stops) with designated places for older people or people who have disabilities. Proportion of housing within walking distance (500 m) to a public transportation stop. Additional indicators would be needed to take into consideration the safety and quality of the route to the transportation stop.	Accessible public transport services (including vehicles and stops) within a 400m ray or a 10min walk from home. Level 1: Few public transport services are accessible to older people or people with disabilities (25% or less) Level 2: Between 25% and 75% of public transport servcices are accessible to older people or people with disabilities Level 3: Most public transport services are accessible to older people or people with disabilities (75% or more)	Level 1 Level 2 Level 3	0 2 4	Plans of local transportation services, information about their accessibility	Plans of local transportation services, information about their accessibility, on-site visit	x	x	x	x	x	x	x
313A	The neighbourhood offers opportunities for social interaction, within range of the home and by accessible routes.	Identification of the built environment spaces that can improve social environment and quality of life. Many people consider that the social environment is the main factor contributing to people's quality of life. However, since social interactions take place within the neighbourhood-built environment, this latter can eventually affect the social environment and, finally, the quality of life. In particular, in the case of older people, the identification of spaces within the neighbourhood as important for social interaction and place attachment, is mostly driven by emotional attachment to places and the significance of certain spaces in their own life history, whereas for the professionals only the functional perspective matters.	Identify and list a number of accessible spaces important for social interaction in the neighbourhood. Accessibility is considered for these places within 800-m ray from home or less than 30min-walk Level 1: no place Level 2: 1 to 3 places Level 3: 4 to 6 places Level 4: 7 places and over	Level 1 Level 2 Level 3 Level 4	0 2 4 6	Plans with accessible places for social interactions	Plans with accessible places for social interactions, on-site visit	x	x	x	x	x	x	x
313B	Green spaces in home environment improve social interactions	Assessing to what extent green spaces can strengthen social interactions and quality of living.	Accessible green spaces within a walkable distance (400 m or 10min walk) Level 1: none Level 2: yes, but in poor conditions (maintenance, no sitting spaces, …)	Level 1 Level 2 Level 3 Level 4	0 1 3 5	Plans of local green spaces available and characteristics	Plans of local green spaces available and characteristics, on-site visit	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			Level 3: yes, good conditions of maintenance, but limited authorized uses (just walk in the alleys or sit on the benches) Level 4: yes, in good conditions of maintenance, and with a wide range of authorized uses (physical activities on grass, newspapers kiosk, kiosk with snacks, ...)											
313C	The role of informal social interaction	Assessing the role of informal social interaction in increasing older people propensity to remain in their homes	The dwelling's immediate environment offers opportunities for informal social interaction in the public spaces (e.g., crossroads, squares, places with sitting spaces, plazzas, sidewalks with trees, etc.) Level 1: no such place within a 100m-ray from home Level 2: places but not always pleasant (traffic road, no sitting space, no trees, ...) Level 3: pleasant places for informal social interaction	Level 1 Level 2 Level 3	0 2 4	Plans with places offering opportunities for informal social interactions	Plans with places offering opportunities for informal social interactions		x	x	x	x	x	x
313D	Home environment provides spaces and design features conducive to spontaneous, proposed and organized interaction	To contribute to **Friend bonding** (dimension of place attachment), the home environment must provide spaces and design features conducive to spontaneous, proposed and organized interaction. Researchers use a **five-dimensions model of place attachment** (Lies et al (2017), Raymond et al (2010)), which breaks down into: * place dependence * place identity * nature bonding * friend bonding * family bonding	Spaces and design features that contribute to friend bonding in the home environment. Design features associated with these types of interaction found in the study were: - **Spontaneous interaction** (Individual home front porch, Nodes and Sidewalk System, Clustered mailboxes, Clustered parking) - **Proposed interaction** (Common House Game Room, Common House Hearth Room) - **Organized interaction** (Common House Dining Room, Common House Patio, Individual Home Great Room) Level 1: none in the immediate home environment Level 2: spaces and features for spontaneous interaction Level 3: spaces and features for proposed and/or organized interaction Level 4: spaces and features for all kinds of interaction	Level 1 Level 2 Level 3 Level 4	0 2 4 6	Plans	Plans, on-site visit	x	x	x	x	x	x	x
313E	The social living environment of older people from migrant communities, is sensitive to their specific socio-cultural needs and preferences, and supports trust building and development of social capital	Identifying the features of social living environment that supports trust building and development of social capital of older people from migrant communities. Ageing immigrant population is and will be increasingly an issue in many EU countries. Providing social living environment which meet specific socio-cultural needs and preferences of older people from migrant communities can be conducive to support social connectivity. Nevertheless, we must be aware that simply creating ethnically homogeneous living communities is not sufficient to support social connectivity, since it can trigger an adverse effect if such living arrangements are experienced as (socially) unsafe and/or adversarial by occupants. In order to identify which could be the features of social living environment required by immigrant communities a focus group approach aimed at providing a qualitative evaluation of the (proposed) living environment by target group representatives can be used.	Opportunities for migrant communities to find social activities allowing to build trust and social capital between the different communities of the neighbourhood. Level 1: None Level 2: Few in comparison to the migrant population Level 3: Fair choice in comparison to the migrant population	Level 1 Level 2 Level 3	0 1 4	Plans with social activities for migrant community	Plans with social activities for migrant community	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
313F	Home is situated in an area that facilitates establishment of reciprocal social relationships with e.g. neighbours	Showing that easiness to establish reciprocal social relationships with e.g. neighbours contributes to a sense of safety and security and supports the emergence of a sense of social cohesion. Home environment providing reassurance and sense of safety through existence of common and shared spaces (e.g common room for meal taking, communal laundry, shared gardens and patios) contributes to a sense of safety and security and supports the emergence of a sense of social cohesion. This result can be related to the fact that these spaces offer conceptual continuity with occupants' previous lives, and with spatial/architectural characteristics like subjective safety and non-institutionalized feel being referenced.	Availability of common and shared spaces for community activities in the immediate environment. Item 1: Common room for meal taking Item 2: Communal laundry Item 3: Shared gardens and patios Item 4: Community social activities (organized by church, community or municipality) Level 1: no common and shared spaces Level 2: at least one item Level 3: yes to tow items or more	Level 1 Level 2 Level 3	0 2 4	Plans	Plans, on-site visit	x	x	x	x	x	x	x
313G	Home accommodates gendered differences in activity preferences	Showing that home must accomodate gender differences in activity preferences to increase self-fulfilment and experience positive emotions. Preferences in activities to achieve self-fulfilment and experience positive emotions differ markedly between genders: specifically feminine character of spaces and opportunities for social engagement can be a hindrance to engagement in social activity by males. These gender-related differences in the way housing is experienced translate into gender-specific housing preferences especially with regard to housing type, neighborhood type, and the larger community of which the neighborhood is part	Availability of gender activities outside the home (within the residence or at local scale). Level 1: no specific gendered activity Level 2: possibility to engage in gendered activities	Level 1 Level 2	0 2	Plans with gender activities	Plans with gender activities, on-site visit	x	x	x	x	x	x	x
313H	Availability of places with spiritual significance within accessible walking distance	Showing that availability of places with spiritual significance within accessible walking distance supports the sense of identity and emotional attachment	Availability of places with spiritual significance within walking distance (churches or religious place, but also natural space with a spiritual significance such as a park or a river or a large sight on sky, ...) Level 1: not at a walkable distance (<400m or 10min walk) Level 2: yes, at a walkable distance	Level 1 Level 2	0 4	Plans with spiritual significant places	Plans with spiritual significant places, on-site visit	x	x	x	x	x	x	x
313I	Home's neighbourhood offers variety of spaces for socializing with other community dwellers	Showing that home's neighbourhood offers a variety of spaces with possibilities to socialise. They are also known as 'third places', since they are places "that are located outside of the home (first place) and work (second place) and share several essential features: they are on neutral ground, they act as 'levellers', conversation is the main activity, they are accessible, 'regulars' spend time in them, they are physically plain and unassuming, the mood is playful, and people feel like they are a 'home away from home'. Notable 'third places' include various kinds of spaces, such as public parks, certain local businesses (with a strong preference for small single-purpose shops), restaurants, churches,	Presence and accessibility of 'third places' in the neighbourhood. Level 1: Not in a range within 800m or 30min-walk from home Level 2: Yes, in a range 400-800m or 10-30min walk Level 3: Yes, within a range <400m or 10min-walk	Level 1 Level 2 Level 3	0 2 4	Plans with third places and information about their accessibility	Plans with third places and information about their accessibility, on-site visits	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		community organisations and institutions are usually used as socializing spaces by older adults.												
313J	Home's immediate environment has sitting spaces to enable social interaction.	Showing that the presence of sitting spaces in the immediate environment of home enables social interaction.	Sitting spaces to enable social interaction in the home's immediate environment. Level 1: No sitting spaces around the home Level 2: Sitting spaces around the home Level 3: Sitting spaces scattered all over the neighbourhood (streets and pathways, parks and gardens)	Level 1 Level 2 Level 3	0 2 4	Plans with presence of sitting spaces	Plans with presence of sitting spaces, on-site visit	x	x	x	x	x	x	x
313K	Home is situated in a walkable neighbourhood with accessible public spaces and buildings	Showing that homes situated in a walkable neighbourhood with accessible public spaces and buildings improve liveability and social contacts	Walkable neighbourhood (within a 1km ray from home) Proportion of streets in the neighbourhood that have pedestrian paths which meet locally accepted standards Level 1: Less than 50% Level 2: Between 50-80% Level 3: Over 80%	Level 1 Level 2 Level 3	0 2 4	Plans with proportion of streets with pedestrian paths	Plans with proportion of streets with pedestrian paths, on-site visit	x	x	x	x	x	x	x
313L	Home is situated in a walkable neighbourhood with accessible public spaces and buildings	Showing that homes situated in a walkable neighbourhood with accessible public spaces and buildings improve liveability and social contacts	Walkable neighbourhood (within a 1km ray from home) Existence of sidewalks and bicycle lanes that are in good condition Level 1: Less than 50% Level 2: Between 50-80% Level 3: Over 80%	Level 1 Level 2 Level 3	0 2 4	Plans with proportion of streets with sidewalks and bicycle lanes	Plans with proportion of streets with sidewalks and bicycle lanes, on-site visit	x	x	x	x	x	x	x
313M	Home is situated in a walkable neighbourhood with accessible public spaces and buildings	Showing that homes situated in a walkable neighbourhood with accessible public spaces and buildings improve liveability and social contacts	Walkable neighbourhood (within a 1km ray from home) Frequent and safe pedestrian crossing as well as public seating options, median islands, etc. Level 1: Unsufficient crossings and seating options Level 2: On average, over 100m between them Level 3: On average, below 100m between two of them	Level 1 Level 2 Level 3	0 2 4	Plans with presence pedestrain crossing, seating options, median islands	Plans with presence pedestrain crossing, seating options, median islands, on-site visit	x	x	x	x	x	x	x
314A	The home environment gives occupants virtual access to those in their social group	Showing that a home environment that gives occupants virtual access to those in their social group increases their outward-focused engagement, and consequently their mental health	Availability at home of simple systems to keep in touch with kin and friends Level 1: No Level 2: Yes, but considered as complex Level 3: Yes, and friendly use	Level 1 Level 2 Level 3	0 1 3	Planed systems	Installed systems, on-site visit	x	x	x	x	x	x	x
314B	Information and support needs of carers are easily accessible and understandable, and include personalised tailored support services or tools	Showing that accessibility and understandability of information and support needs of carers as well as personalised tailored support services or tools improve carers working conditions.	Home-bound carers can access relevant web-based information (community services, information needs, support needs) and receive primary care services in the home. Level 1: No Level 2: Access to web-based information Level 3: Access to web-based information and to primary care service in the home	Level 1 Level 2 Level 3	0 2 4	Availability of web services, information	Presence of web services, information, on-site visit	x	x	x	x	x	x	x
314C	Information and support needs of carers are easily accessible and understandable, and include personalised tailored support services or tools	Showing that accessibility and understandability of information and support needs of carers as well as personalised tailored support services or tools improve carers working conditions.	Home-bound carers can access to community services that are able to provide easily accessible and tailored support through a personalised assessment of needs of the informal carers. Level 1: No Level 2: Community services available to carers Level 3: Community services available to carers with personalised assessment of needs	Level 1 Level 2 Level 3	0 2 4	Availability of communty services, information	Presence ofcommunity services, information, on-site visit	x	x	x	x	x	x	x
310Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
321A	Home employment workers can easily and legally be accessed	Showing that when home employment workers can easily and legally be accessed, illegal situation are avoided	Home environment provides visible and clear information concerning family and home employment options avoiding illegal situations Level 1: Insufficient information provided by authorities (national or local depending on legislation) Level 2: Satisfactory information provided by authorities (national or local depending on legislation)	Level 1 Level 2	0 2	Commitment to give information	Presence of information, on-site visit	x	x	x	x	x	x	x
321B	The home supports informal carers' work-life-care balance	Showing that if the home supports informal carers' work-life-care balance, their working conditions improve	Home environment allows carers to combine work with care responsibilities. Item 1: Home environment is ICT ready and carers can work from home (ICT and fast wifi connexion) Item 2: Mean duration of commuting time (one-way) for working carers is less than 30 mins Level 1: none of these conditions is fulfilled Level 2: at least, one of these conditions is fulfilled	Level 1 Level 2	0 4	ICT solutions planed, mean time	Effective ICT solutions, effective mean time, on-site visit	x	x	x	x	x	x	x
322A	Meaningful destinations within walking distance	Showing that the presence of meaningful destinations within walking distance improve the quality of life of informal carers > Services related to work	Accessibility to community services related to work for caregivers. Level 1: most community services > 800m or over 30min walk Level 2: most community services 400-800m or 10-30min-walk Level 3: most community services <400m or 10min-walk	Level 1 Level 2 Level 3	0 2 4	Plans with community services	Plans with community services, on-site visit	x	x	x	x	x	x	x
320Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x

5.5 List of requirements of the Economic cluster

FIGURE 11 – STRUCTURE OF CLUSTER 4: ECONOMIC

TABLE 11 – REQUIREMENTS FOR THE ECONOMIC CLUSTER

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
411A	Adequate maintenance must be possible within reasonable limits for housing cost expenditure	Older people need to feel in control of the maintenance and upkeep of their living environment.	Maintenance costs do not burden housing costs too heavily (housing costs should be maintained within 30% of income (optimum performance); a 40%-threshold is considered as the minimum standard to be achieved). Housing costs include renting costs, mortgage payment, and repair and maintenance costs. Level 1: Housing costs, including maintenance costs, are beyond 40% of income Level 2: Housing costs, including maintenance costs, are between 30% and 40% of income Level 3: Housing costs, including maintenance costs, are less or equal to 30% of income Regulations in collective housing: the overall level is assigned by the lowest rated apartment.	Level 1 Level 2 Level 3	0 2 4	Predicted maintenance costs	Effective maintenance costs	x	x	x	x	x	x	x
411B	Housing must be affordable for informal carers	Housing costs needs to be reasonable and affordable for informal carers (who often need to reduce working time, incl OPP): Best options to avoid housing cost overburden is to live in: - owner occupied housing with no more mortgage - have possiblity to receive housing allowances - Possibility to relocate to public rental housing in the same community e.g. with secure and affordable tenures;	Are there existing arrangements to avoid housing cost overburden to the informal carer (considering a maximum limit of 40% of their equivalised disposable income) ? Check among the three options: - owner occupied housing with no more mortgage - financial provision such as housing allowances - possibility to relocate to public rental housing in the same community e.g. with secure and affordable tenures Level 1: no option Level 2: one or more options	Level 1 Level 2	0 4	Predicted provisions	Effective provisions	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		According to EUROSTAT, The proportion of the population whose housing costs exceeded 40 % of their equivalised disposable income was highest for tenants with market price rents (26.3 %) and lowest for persons in owner-occupied dwellings with a loan or mortgage (4.7 %)												
411C	Age-friendly homes must be affordable to all.	Financial dependency is negatively associated with mental health. This is specifically so where there is financial dependency for housing arrangements. Moreover, housing precarity negatively affects residents' physical, social and emotional wellbeing.	Housing costs should be maintained within 30% of income (optimum performance); a 40%-threshold is considered as the minimum standard to be achieved. Housing costs include renting costs, mortgage payment, and repair and maintenance costs. Level 1: Housing costs are beyond 40% of income Level 2: Housing costs are between 30% and 40% of income Level 3: Housing costs are less or equal to 30% of income Regulations in collective housing: the overall level is assigned by the lowest rated apartment.	Level 1 Level 2 Level 3	0 2 4	-	Average %		x	x	x	x	x	x
411D	Occupants must have long-term security on costs of housing	To support personal sense of security and emotional wellbeing, occupants must have long-term security on costs of housing, or alternatively on the long-term availability of appropriate, affordable housing arrangements Rental arrangements need to offer long-term security on costs of housing, or alternatively on the long-term availability of appropriate, affordable housing arrangements Rented accommodation for older women living alone must offer long-term security on affordability **Tenancy contracts should offer long-term security on housing costs, and allow tenants to carry through modifications to improve the fit of the home environment to their personal preferences.**	Mechanisms that prevent eviction of the most economically fragile elderly: For tenants: - Older people are guaranteed to stay in their home place in the long-term, either because of their age (specified age threshold), nor because of rental costs (housing costs no more than 30% of household's income) - Presence of a policy in terms of the duration of rental contracts for older people For owners: - Presence of a long-term policy in terms of costs increase, knowing that households in the lowest 40 per cent of the income distribution range should not spend more than 30 per cent of the household's income on housing costs. - Presence of garantees for containing housing costs Lower than 30% of household's income.	No Yes	0 4	Contracts	Contracts	x	x	x	x	x	x	x
412A	Viable business case in terms of nursing home and other healtcare cost savings	Ageing in place is often argued to be a more affordable option than aging in a nursing home. (The question is affordable for whom, we can focus only on the user or on the public sector as well). The costs of the potential remodeling project (i.e. all age-friendly adaptations as compared to a 'normal' appartement) multiplied by the estimated years of extension should be less than the nursing home costs that the of these extensions years. For other healthcare costs, the estimated home-based healthcare costs with home adaptations (e.g. AAL smart monitoring devices, telemedicine etc) + extended home-based care costs should be lower than the estimated out-of-home (e.g. hospital based) healthcare costs that would otherwise have been incured. This can be a yes or no estimation (quantification is difficult for 'what if' situations)	Presence of a study about average amount of spendings on home adaptation during the 5 last years added to housing costs, as compared to average healthcare costs in nursing homes (applied to one month). Level 1: As expensive or more Level 2: Between 50% and 100% of average nursing home costs Level 3: Less than 50% of average nursing home costs For individual housing: Presence of informations about this = Level 3	Level 1 Level 2 Level 3	0 2 4	Study results	Study results	x	x	x	x	x	x	x
410Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
421A	Housing must be affordable for informal carers	Housing costs needs to be reasonable and affordable for informal carers (who often need to reduce working time): Best options to avoid housing cost overburden is to live in: - owner occupied housing with no more mortgage - have possiblity to receive housing allowances - Possibility to relocate to public rental housing in the same community e.g. with secure and affordable tenures; According to EUROSTAT, The proportion of the population whose housing costs exceeded 40 % of their equivalised disposable income was highest for tenants with market price rents (26.3 %) and lowest for persons in owner-occupied dwellings with a loan or mortgage (4.7 %)	Are there existing arrangements to avoid housing cost overburden to the informal carer (considering a maximum limit of 40% of their equivalised disposable income) ? Check among the three options: - owner occupied housing with no more mortgage - financial provision such as housing allowances - possibility to relocate to public rental housing in the same community e.g. with secure and affordable tenures Level 1: no option Level 2: one or more options	Level 1 Level 2	0 4	Predicted provisions	Effective provisions	x	x	x	x	x	x	x
422A	Affordable rental accommodation needs to be situated within reach of social and healthcare services	There is a tendency for affordable accommodation to shift to the periphery, away from services, as areas are redevoped and gentrified.	Distance to social and healthcare services for affordable rental accomodation (30% of average household income) Level 1: Over 15-min by public transportation (?) Level 2: 15-min by public transportation (?)	Level 1 Level 2	0 3	Plans of the neighbourhood	Plans of the neighbourhood	x	x	x	x	x	x	x
422B	The home and its environment enable economic activity for its occupants, through access to transport	Easy access, and proximity to affordable public transportation from home environment support access for example to social activities and other facilities. Proportion of public transport services (incl. vehicles and stops) with designated places for older people or people who have disabilities. It refers to the ability of people with disabilities and older people to safely ride in a public transport vehicle in order to reach their destination.	Proportion of housing within walking distance (500 m) to a public transportation stop, for people with disabilities. Level 1: Less than 50% Level 2: Over 50%	Level 1 Level 2	0 5	Plans of local transportation services, documents showing the policy of public transportation service	Plans of local transportation services, documents showing the policy of public transportation service	x	x	x	x	x	x	x
423A	Access to general/indirect "carer" needs such as home care/home support services (primary target: care recipient)	Home care services are available and affordable in the community supporting independence of care recipient whilst helping caregivers feel more competent in caring for their relatives (e.g through providing respite, maintaining a supportive relationship with caregivers, teaching them new skills, and providing help to the caregivers to navigate the healthcare system)	Availability and affordability of home care services Level 1: Very few, limited, unavailable, unaffordable Level 2: Available but still expensive or affordable but with overdemand Level 3: Available and affordable	Level 1 Level 2 Level 3	0 2 5	Plans of the neighbourhood	Plans of the neighbourhood	x	x	x	x	x	x	x
423B	Home employment workers can easily and legally be accessed	Home environment provides visible and clear information concerning family and home employment options	Clear information is given to end users on home employment options including financial arrangements or tax exemption measures Level 1: none Level 2: booklet or website Level 3: through information meetings	Level 1 Level 2 Level3	0 2 4	Available information or commitment to give information	Information given to users	x	x	x	x	x	x	x
424A	No requirement defined	-	-	-	-	-	-	-	-	-	-	-	-	-
425A	No requirement defined													
426A	Housing support awareness	Awareness of rent subsidy or other programmes among older people (e.g. home loans).	Availability of information on housing support programs for the elderly: loans, subsidies Level 1: no specific information provided Level 2: available information through leaflets, brochures	Level 1 Level 2 Level 3	0 2 4	Available information or commitment	Information given to users	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			and websites Level 3: available information given through meetings beteen staekholders and end users			to give information								
426B	Modifications to home may be undergone on the initiative of the occupant	To allow occupants to carry through modifications to improve the fit of their home environment to their personal preferences, without acceptance of anyone (owner, site manager, …)	Are occupants allowed to make modifications to their home on their own initiative? Level 1: No modification without anyone's acceptance + all costs supported by occupant Level 2: No modification without anyone's acceptance + some costs supported by occupant Level 3: Some modifications without anyone's acceptance + all costs supported by occupant Level 4: Some modifications without anyone's acceptance + some costs supported by t occupant	Level 1 Level 2 Level 3 Level 4	0 1 2 5	Contracts (tenants), co-ownership regulations	Contracts (tenants), co-ownership regulations	x	x	x	x	x	x	x
427A	Availability of information about home adaptation options	Availability of local sources providing information about possibilities (services and funds) to retrofit/adapt one's home.	Availability of information about possibilities (services and funds) to retrofit/adapt one's home. Level 1: none Level 2: yes, booklet or website Level 3: yes, through information meetings	Level 1 Level 2 Level 3	0 3 5	Available information or commitment to give information	Information given to users	x	x	x	x	x	x	x
427B	Housing programmes and resources must be widely available	Availability of a resource listing age-friendly home maintenance, support and care-giving services.	Availability of a resource listing age-friendly home maintenance, support and care-giving services (either from the municipality, housing organisations, associations…) Level 1: none Level 2: yes, booklet or website Level 3: yes, through information meetings	Level 1 Level 2 Level 3	0 3 5	Available information or commitment to give information	Information given to users	x	x	x	x	x	x	x
420Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x

5.6 List of requirements Physical cluster

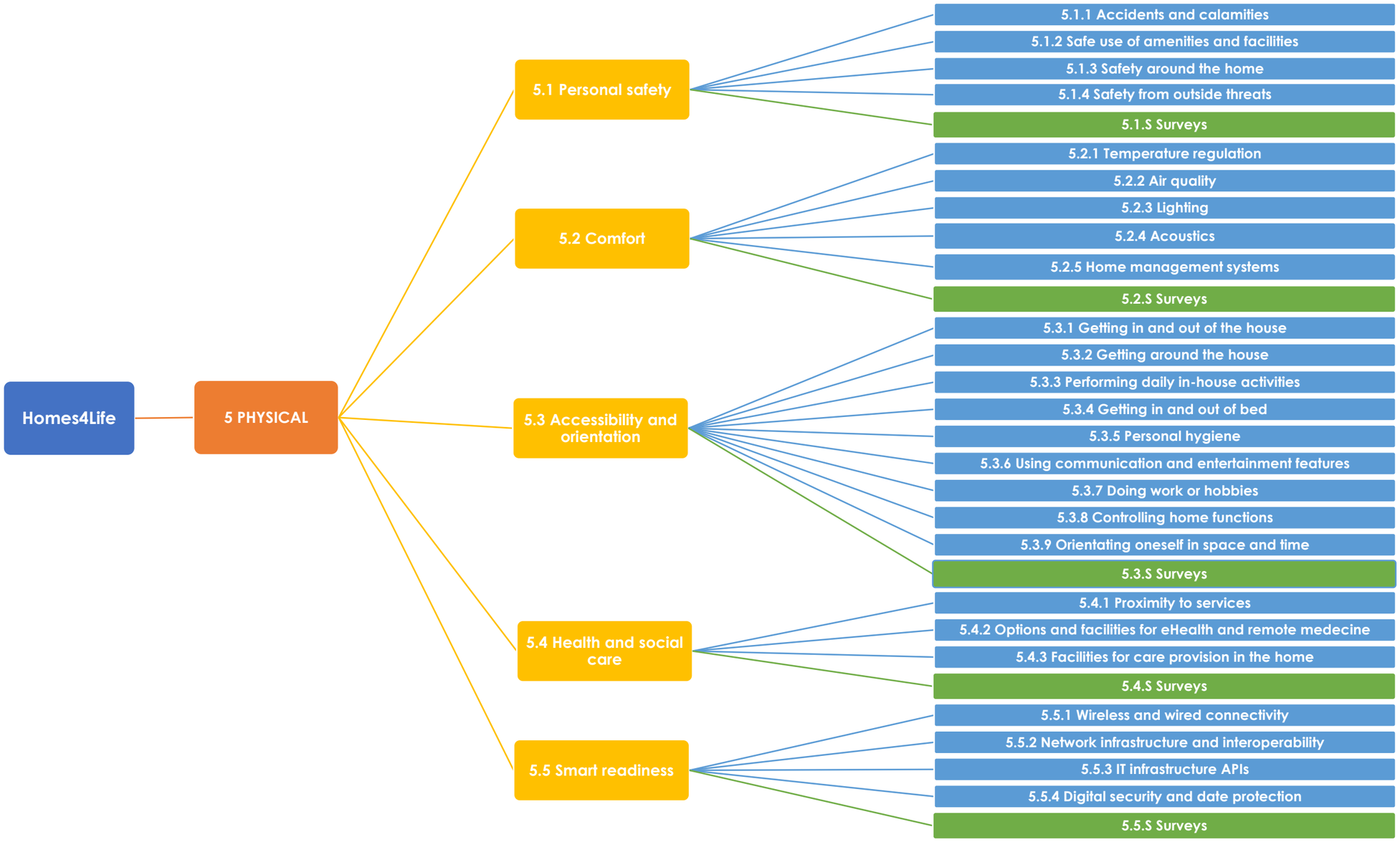

FIGURE 12 – STRUCTURE OF CLUSTER 5: PHYSICAL

TABLE 12 – REQUIREMENTS FOR THE PHYSICAL CLUSTER

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
511A	Design of staircases	Staircases are the origin of a large number of accidents. Almost all accidents occur in the descent. Therefore, specific characteristics are expected to avoid these risks.	**Staircases** are the origin of a large number of accidents. Almost all accidents occur in the descent. National regulation or following characteristics must be complied: - Dimensions Width equal/greater than 900 mm. Shape: straight, max 2 quarter turns, no spiral staircase. Stairs with closed risers Minimum free floor space at top and bottom 900 by 1100 mm. At top, no door turning circles to cross this free floor area, at bottom of stairs this is only allowed for entrance, storage and fuse box doors - Installation of handrails for all stairs, complying with minimum dimensions and positions. In the staircase, which serves the housing labelled, a handrail is installed on both sides of the stairs, at a height between 80 cm and 100 cm. The handrail is a diameter between 3 to 5 cm and is easily grippable. The axis of the handrail is located at a minimum distance of 5 cm from the wall. It extends on both sides of the staircase for a length of 30 cm. It is easily visible and has a visual contrast with the wall. A handrail can be installed on one side, if the staircase is helical. For straight stairs, and stairs with one quarter turn, handrails on both sides are required. For stairs with two quarter turns, one handrail is required. - Non-slip coverings (slipperiness coefficient) The covering of the stairways serving the housing labeled is non-slip: its coefficient of slipperiness is at least equivalent to R9 (DIN51130) (measured in feet shod). - Marks on stair noses, with the following requirements: - Be of contrasting color compared to the rest of the staircase - Be non-slippery - Present an overhang less than 10 millimeters from the riser - Signalisation of beginning and end of stairs. - By a warning band located at the top of each flight of stairs 50 cm from the first step. This band must be a tactile mark and be visually contrasted - By a riser of a minimum height of 10 cm, on the first and last steps of the staircase, visually contrasted with the walk Evidence in design: Plans, characteristics of coverings, handrails, marks, signalisation Evidence in operation: On-site visit, characteristics of installed coverings, handrails, marks, signalisation	No Yes	0 2	Plans, characteristics of coverings, handrails, marks, signalisation	On-site visit, characteristics of installed coverings, handrails, marks, signalisation	x	x	x	x		x	x
511B	Design of circulations	Circulations are unsafe spaces, especially in terms of slippery, incline, potential obstructions.	**Circulations** must comply with national regulation or following characteristics: - Minimum dimensions: minimum width is 120 cm - Maximum incline 250 mm. If the incline is more than 250 mm, in addition to a banister, handrails must be mounted on both sides between 800 and 1000 mm above surface level. Handrails must be easily grippable. - Free of abrupt height differentials. - Handrails if they are inclined.	No Yes	0 2	Plans, characteristics of coverings, signalisation	On-site visit, characteristics of installed coverings, signalisation	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			- Anti-slip properties in accordance with DIN 51130 (R9) or CEN/TS 16165 method B (R10) or method C (0.30-0.80) - The floor is unobstructed: if laying carpets or grid, they are of the same level and have holes or slots whose width or diameter are less than or equal to 2 cm.											
511C	Non-slip flooring	The need to ensure the safety of people have led to the improvement of regulations regarding the design and requirements of pavements, specially on wet rooms, and indoor-outdoor spaces such as halls…	The need to ensure the safety of people have led to the improvement of regulations regarding the design and requirements of pavements, specially on wet rooms, indoor-outdoor spaces such as halls… Minimum slipping coefficients must be achieved for these spaces, according to local regulations: - Halls of collective buildings: slip coefficient is at least equivalent to R9 (DIN 51130)), or in accordance with CEN/TS 16165 method B (R11) or method C (0.45-0.80) - Bathrooms: slip coefficient is at least equivalent to A according to DIN 51097 or with CEN/TS 16165 method A (grad A) - Kitchens In the kitchen or kitchen area, the floor coverings are anti-slip R10 (DIN 51130)), or in accordance with CEN/TS 16165 method B (R11) or method C (0.45-0.80)	No Yes	0 2	Characteristics of coverings	Characteristics of installed coverings	x	x	x	x	x	x	x
511D	Design of the bathrooms	A lot of incidents occur in bathrooms. Therefore, bathrooms must have minimum provisions in place.	Entering and leaving a bathtub is a considerable inconvenience for people with reduced mobility. Due to its safety and distribution of space showers are much more functional than tubs. Bathrooms must have minimum provisions in place: - Dimensions of shower basin: 90x90 cm or 80X120 cm minimum with a non-slip bottom. - Height of the edge (rail included) between shower basin and ground: 18 cm maximum - Location of taps: between 90 cm and 130 cm from the ground, accessible from the entrance of the shower if possible - Installation of rail(s) in the bathroom, to facilitate entry and exit of shower: a bar is located inside the shower and, in the absence of a stable hold, another bar is located outside the shower. The holding bars are located on a load-bearing or consolidated wall in order to withstand considerable traction.	No Yes	0 2	Plans, characteristics of basins, taps, handrails and bars	On-site visit, characteristics installed of basins, taps, handrails and bars	x	x	x	x	x	x	x
511E	Adapted lighting	Lack of adequate lighting can decreased visual efficiency and cause accidents.	Lack of adequate lighting can decreased visual efficiency and cause accidents. Visual comfort depends on a large number of variables. In relation to the amount of light it can produce either glaze (too much light) or dark spaces. Lighting intensity will be evaluated, avoiding shadows and dazzel. The lighting of the passage areas of the staircase serving the labeled dwellings has, on average, on the path, the same intensity: 80 lux. There should be no shadows, no direct dazzle of users on the area or no reflection on the signage. *The luminous intensity is evaluated at a height of 150 cm from the ground.*	No Yes	0 1	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x	x	x		x	x
511F	Lighting controls	In order to provide when necessary the good level of light, lighting controls have to be implemented.	The following provisions are in place: A presence detection lighting system is preferred. Otherwise, the lighting controls are easily accessible and visible. They are located: - At the entrance of the hall - Near the lifts and stairs - At a height between 90 cm and 130 cm (from the ground to the base). These lighting controls are identified (light integrated in the lighting control, pictogram ...). The presence detection lighting system must cover the entire space	No Yes	0 1	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			concerned and when two detection zones succeed one another, they overlap. The half-levels are equipped with a detector. There must be no shadow zones, or direct dazzle of users on the area or reflection on the signage.											
511G	Fire protection	In order to prevent fires in homes and minimize major catastrophes, providing fire protection devices such as fire alarm, special fire extinguisher system, or constructive provisions.	In order to prevent fires in homes and minimize major catastrophes, providing fire protection devices such as fire alarm, special fire extinguisher system, or constructive provisions: - Presence of fire alarm facilities. There is a home detector at least in the main area of every apartment (multi-family building) or on every floor of the house (single family house, detached house). Fire detectors in place in transport area of apartment buildings. - Requirements for separate fire sub-section components. The requirements of bearing units, ceilings, balcony panels and sloping roofs (with a less than 60 degree compared to horizontal view) in terms of fire resistance classes are met and comply with current regulations for new buildings. The requirements in terms of fire resistance classes of precast construction units (walls, ceilings) are met and comply with current regulations for new buildings. The requirements in terms of fire resistance classes of partition walls are met and comply with current regulations for new buildings. - Special fire extinguisher. Extended automatic fire-fighting equipment or sprinkler in place - Access doors must offer free route of escape in case of fires: it must be possible to open them without a key from the inside.	No Yes	0 2	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x	x	x	x	x	x
512A	Providing safety informations	The information and safety information panels located in the lobby of the collective buildings are accessible and legible.	The information and safety information panels located in the lobby of the collective buildings are accessible and legible: - The bottom of the panel is at a height between 120 cm and 140 cm from the floor - The panel has a higher contrast at 70% between the lettering and the background - The background is plain and mat - The font used is simple and sans serif.	No Yes	0 1	Characteristics of the information panels	On-site visit, characteristics of the information panels	x	x	x	x		x	x
512B	Safe use of main entrances of the building	The lobby of the collective buildings is sufficiently lit and bright for good accessibility and visibility by seniors.	The lobby of the collective buildings is sufficiently lit and bright for good accessibility and visibility by seniors. The following characteristiques have to be in place: - In passage areas, the lighting is at least 80 lux. - There are no shadow areas near the mailboxes, lobby entrance door and entrance doors to the dwellings. - In case of presence detection lighting system, this must cover the entire space concerned. - In case of temporary lighting system, the extinction is progressive. Any direct dazzling effect of the users on the area or reflection on the signage should be avoided. - Indirect or semi-direct lighting are favored. *The luminous intensity is evaluated at a height of 150 cm from the ground.*	No Yes	0 2	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x	x	x		x	x
512C	Design and equipment of bathrooms	In order to enjoy maximum comfort without risk or injuries, bathrooms have to	In order to enjoy maximum comfort without risk or injuries, bathrooms have to comply with following characteristics: - A thermostatic mixing valve is installed in the shower. In case of individual gas heating without accumulation, the thermostatic mixing valve is not	No Yes	0 2	Plans and characteristics of bathroom, equipment, taps,	On-site visit, plans and characteristics of bathroom, equipment, taps,	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		comply with minimum characteristics	mandatory. - A mixer tap is installed on the basin/sink. - Equipment: washbasin with tap: possibility for placing toilet (sufficient space, ducts in place) shower head on gliding pole. Pole should be positioned between 1200 and 2100 mm above floor level. Shower head should be placed at least 550 mm from inner corner thermostatic mixer tap, at least 550 mm away from inner corner Possibility for placement of shower stool at least 500 x 500 mm - Support bar is installed inside the shower or bathtub. - If the doors of the bathrooms and toilets are swinging, they open on the outside. All tiles in toilets and bathrooms (including shower areas) must be non-slip in accordance with CEN/TS 16165. For toilets: method A (grad A), method B (R10) or method C (0.30-0.80). For bathrooms: method A (grade B) or method C (0.45-0.80).			basins, sinks, bars, tiles, …	basins, sinks, bars, …							
512D	Design and equipment of toilets	In order to enjoy maximum comfort without risk or injuries, toilets have to comply with minimum characteristics	In order to enjoy maximum comfort without risk or injuries, toilets have to comply with following characteristics: - Installation of a handrail on the wall at a height between 75 cm and 90 cm from the floor - Privilege rails of 30 cm oblique - Reinforcement of the wall in case of light partition. It is also possible to install a rail attached to the floor. - Support bar located near the bowl. - Raised toilet: Laying a toilet block. The seating surface of the bowl shall be at a height of between 45 cm and 50 cm from the floor, including the flap; or install a booster seat that can be removed to reach a bowl height of between 45 cm and 50 cm. - If the doors of the bathrooms and toilets are swinging, they open on the outside. All tiles in toilets and bathrooms (including shower areas) must be non-slip in accordance with CEN/TS 16165. For toilets: method A (grad A), method B (R10) or method C (0.30-0.80). For bathrooms: method A (grade B) or method C (0.45-0.80).	No Yes	0 2	Plans and characteristics of toilets, equipements, bars, tiles, …	On-site visit, plans and characteristics of toilets, equipements, bars, …	x	x	x	x	x	x	x
512E	Safe use of car paks	Underground car parks have to be safe, according that they are used daily. Specific threat in these spaces is an unappropriate indoor air quality due to cars.	Underground car parks are equipped with a detection system for carbon monoxide and nitrogen oxides. This system allows control of the ventilation system of the car park as well as emergency signaling if the acceptable thresholds are exceeded.	No Yes	0 2	Characteristics of the detection system	On-site visite, characteristics of the detection system	x	x	x	x		x	x
513A	Secure lighting around home	Propers lighting around the home refering to the entrances so that these spaces have the right intensity as well as presence detection system covering the entired space.	Propers lighting around the home refering to the entrances so that these spaces have the right intensity as well as presence detection system covering the entired space.	No Yes	0 1	Characteristics of lighting systems	On-site visite, characteristics of lighting systems	x	x	x	x	x	x	x
513B	Design of outdoor circulations	Outdoor ciculations (accesible paths, stairs, terraces, etc) are non-freezing and non-slippery	The floor coverings of common outdoor circulations (accessible paths, stairs, terraces, etc.) are non-freezing and non-slippery in accordance level R9 (DIN 51130)), or in accordance with CEN/TS 16165 method B (R11) or method C (0.45-0.80).	No Yes	0 2	Characteristics of outdoor circulations	On-site visit, characteristics of installed outdoor circulations	x	x	x	x	x	x	x

<table>
<tr><th colspan="4">Requirement</th><th colspan="2">Scoring</th><th colspan="2">Evidence</th><th colspan="7">Applicability</th></tr>
<tr><th>Code</th><th>Title</th><th>Objective</th><th>Description</th><th>Scale</th><th>Points</th><th>Design</th><th>Operational</th><th>Design</th><th>Operation</th><th>New</th><th>Existing</th><th>Individual</th><th>Collective</th><th>Complex</th></tr>
<tr><td></td><td></td><td>in accordance to national regulations</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>514A</td><td>Burglary protection: construction design</td><td>Construction design against burglary</td><td>Construction design and security systems instalation againts burglary include alarms as well as other basic devices such as videphone, door eye or peephole, which are placed at the right heights.

At least 3 of the following characteristics
- The guardrails of the dwellings are the subject of at least one provision making it possible to reduce the risk of escalation, to choose from the following list:
• Height of the guardrails of dwellings (including lighters) at least 0.10 m higher than the height required by the current local standard or: NF P01-012

• Windows and patio doors in dwellings equipped with an opening blocking system (for example a door stop) preventing their complete opening by a child or are of the tilt-and-turn type;
• Single vertical bar in accordance with local standard or: NF P01-012
<table><tr><td></td><td>Garde-corps minces</td><td colspan="8">Garde-corps épais</td></tr><tr><td>Épaisseur E</td><td>≤ 0,20</td><td>0,25</td><td>0,30</td><td>0,35</td><td>0,40</td><td>0,45</td><td>0,50</td><td>0,55</td><td>≥ 0,60</td></tr><tr><td>Hauteur H</td><td>1,00</td><td>0,975</td><td>0,95</td><td>0,925</td><td>0,90</td><td>0,85</td><td>0,80</td><td>0,75[12]</td><td>0,70[1]</td></tr></table>• Internal side with a strong grid pattern (no soft mesh), a frame width <5 cm or a frame height <3 cm;
• Anti-crossing device at the head of the protection, designed to oppose accidental tipping over the railing after climbing. To be effective, this device must be set back supports usable for climbing a distance greater than 15 cm. It may consist of a continuous rail attached to the interior of the railing, a continuous support of balconies, etc .;
• Another device whose efficiency is demonstrated by the Client (eg: inclination of the railing inwards).
- Burglar-resistant doors and windows and/or shutters (according to ÖN B 5338 or ENV 1627). All doors and windows accessible to burglars should be burglary resistant to an entry delay of at least three minutes.
- A locking device on the windows and doors of the housing accessible from the outside (ground floor and first floor, if any) is installed to limit the opening of the window to a few centimeters. Swinging and tilting systems are accepted.
- A guard, rigid or in the form of a chain, is installed on the entrance door at a height of the ground between 90 cm and 150 cm.</td><td>No
Yes</td><td>0
2</td><td>Plans</td><td>On-site visit</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td></tr>
<tr><td>514B</td><td>Burglary protection: systems</td><td>Security systems instalation againts burglary include alarms as well as other basic devices such as videphone, door eye or peephole, which are placed at the right heights</td><td>Construction design and security systems instalation againts burglary include alarms as well as other basic devices such as videphone, door eye or peephole, which are placed at the right heights.

At least one of the following systems
- A system of intercom or videophone at the entrance of the public building, on the street or in the hall, is installed. The equipment is accessible and does not require complex or fast manipulation sequences. The control base of the intercom or videophone system is located at a height between 110 cm and 130 cm.
- A door eye (peephole or bull's eye) is placed on the entrance door of the dwelling at a height between 120 cm and 150 cm from the ground.
- Burglar alarm or BUS- connected security system.</td><td>No
Yes</td><td>0
2</td><td>Plans, characteristics of systems</td><td>On-site visit, characteristics of installed systems</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td></tr>
<tr><td>514C</td><td>Direct sightline from inside to the street</td><td>The location of the front door should provide a direct sight so that the</td><td>The location of the front door should provide a direct sight so that the occupant is able to see the visitor.
Technical specifications to consider:
- Front door should be directly visible from street.</td><td>No
Yes</td><td>0
2</td><td>Plans, characteristics of systems</td><td>On-site visit, characteristics of installed systems</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td></tr>
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Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		occupant is able to see the visitor.	- If an alcove is present, its maximum depth is: - Individual: 600 mm. - Complex: 1000 mm Requirement for complex above also applies to all other doors to the complex) - Viewing apertures at appropriate heights (see previous requirement for heights to consider).											
514D	Safety requirements for access doors	Some provisions have to be in place to ensure safety of access doors.	**Some provisions have to be in place (at least 2):** - Access doors should be fitted with a device allowing them to be automatically blocked open at a 90° angle if necessary. - Self-locking, key-only operation from outside. - Access to the complex is managed: all doors to complex require physical or electronic key to open. - No glass allowed in doors.	No Yes	0 2	Characteristices of doors	Characteristics of installed doors	x	x	x	x		x	x
514E	Safety requirements for parkings	Some provisions have to be in place for parkings.	Some provisions have to be in place for parkings: - Parking facility lay-out must be transparent. - Route to entry hall of complex must be immediately obvious from parking space - Direct line of sight to parking garage floor from lift/stairwell - Parking facilities should be directly visible from at least 2 homes and be small scale. - Multi-storey parking must not be freely accessible from outside. Locked door to domestic area of complex. - In-complex parking facilities must be locked and accessible only to occupants and other specifically authorized persons. If applicable, for bicycle access parking facilities should have separate access by walk-through door with good line of sight. Access doors communal bicycle/mobility scooter parking: self-locking, 3 minute burglary delay; glass pane in or next to door with minimum width 400 mm, lower edge maximum 1000 mm above floor level, upper edge minimum 1800 mm above floor level, glass must satisfy burglary-delay requirement - Doors, windows and ventilation openings for bicyles/mobility scooters should delay burglary attempts by at least 3 minutes. This applies to all openings with both width and height minimum 1500. The requirement also applies to light wells and skylights.	No Yes	0 2	Plans, characteristics of locking systems, doors, etc.	On-site visit, characteristics of installed locking systems, doors, etc.	x	x	x	x		x	x
514F	Safety requirements for storage areas and back passages	Some provisions have to be in place for storage areas and back passages.	Some provisions have to be in place for storage areas and back passages: Where centralized storage facilities or back passages are realized, they should be safe, especially for use by vulnerable occupants.	No Yes	0 1	Plans, characteristics of locking systems, doors, windows, etc.	On-site visit, characteristics of installed locking systems, doors, windows, etc.	x	x	x	x		x	x
510Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x
521A	Design conditions related to thermal comfort, both in summer and winter	Homes are passively designed to ensure good thermal comfort conditions in summer and winter	Passiv design for summer and winter comfort: • ensure that homes are designed to avoid a risk of overheating in summer months • ensure that homes are resilient to temperature extremes due to climate change over their lifetime • ensure that homes are designed for comfort in winter by avoiding radiant asymmetry from extensive areas of cold surfaces, and ensure that heating systems can work effectively and efficiently. Examples of provisions: **Building envelop** - Insulation thickness, proof of thermal bridges - Maximum increase of the mean U-value of the building shell. - Level of Air tightness of building	No Yes	0 4	Local energy regulation attestation (if concerned), plans, characteristics of materials, passiv systems	On-site visit, local energy regulation attestation (if concerned), plans, characteristics of installed materials, passiv systems	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			- Solar factors of windows, walls - Solar protections, shutters - ... **Presence of passiv systems/architectural solutions such as:** - free cooling (natural nigth ventilation) - air blowers - Canadian or provençal well - shaded areas (pergolas, blankets,...) - ... **Vegetation** - Near the building - On facades and roofs **...** If concerned, compliance with local regulation. *Reminder: Passive house allows lower energy consumption in terms of heat.*												
521B	Presence of HVAC systems	Relevant and performing HVAC systems (heating, ventilation and air conditioning) must be installed according to climatic conditions.	Performance requirements heating / cooling installations: Installations must be designed to achieve the following minimum temperatures under locally applicable norms/regulation for winter temperatures and wind speeds: - Living room and kitchen: 22 C - Bathroom: 24 C - Bedroom / other rooms: 20 C Specific characteristics: - If presence of a cooling system, when the windows are opened, this system is interrupted (presence of bay rebate contact). - Shoulder season: In the presence of underfloor heating, a loop by room with electrothermal head is set up for a better management of heating in shoulder season. If concerned, compliance with local regulation.	No Yes	0 2	Local energy regulation attestation (if concerned, plans, characteristics of HVAC systems	On-site visit, local energy regulation attestation (if concerned, plans, characteristics of installed HVAC systems	x	x	x	x	x	x	x
521C	Assessment on thermal comfort	Assessment of thermal comfort conditions to verify a maximum range of discomfort.	If not automated systems in place, a dynamic simulation is performed, to show the % of time out of a comfort range defined by temperature, air speed and relative humidity. The average number of hours of discomfort outside the comfort zone of Givoni is: - Less than or equal to 70 hours in noisy zone; - Less than or equal to 50 hours in non-noisy zone.	No Yes	0 3	Dynamic simulation report	Dynamic simulation report	x	x	x	x		x	x
522A	Identification and treatment of pollution sources on the site	Services areas concerned: parking lot or attached garage, common kitchen, activity rooms, ...	**At least the following spaces are concerned (if existing):** **Parking lot or garage** - In the case of an attached garage communicating with the dwelling, it is provided at least: - the presence of an automatic closing door; - or specific treatment of the housing / garage partition (additional sealing at the wall or door); - or an airlock between the housing and the garage. - In the case of an attached garage communicating with the accommodation, the garage is provided with permanent ventilation directly on the outside. **Kitchen (in presence of a common kitchen) (individual housing not concerned)** An exhaust air duct for an extractor hood (independent of that provided for the mechanical ventilation) is present in the kitchen.	No Yes	0 2	Plans, chraracteristics of systems, treatments	On-site visit, characteristics of installed systems and treatments	x	x	x	x	x	x	x
522B	Construction materials	Compliance of the materials with regulations	Ensure good indoor air quality and avoid negative impact on occupant health from Volatile Organic Compounds (VOCs) or Formaldehyde contained in	No Yes	0 2	Plans, characteristics of	On-site visit, plans,	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		or labels in terms of pollutants emission	construction materials and finishes. **All construction products and materials in contact to interior air** (wall and floor coverings, paints, coatings, varnishes, ...) **have been tested or are labeled** (VOC and Formaldehyde emissions at least). Examples: - All decorative paints and varnishes have been tested in accordance with UNE EN 11890-2: 20131 and comply with the limit values of phase II of maximum VOC content established in Annex II of Directive 2004 / 42 / CE2 on Decorative Painting. - Textile floor coverings have the "European Ecolabel" label or equivalent (GUT type). - The laying products (for example: glues, patching, etc.) have the EMICODE EC1 + label. - Compliance with local regulations (A+ or A label for example in France). - ... All decorative paints and varnishes should also be resistant to fungi and algae in humid environments.			construction materials in contact with indoor air	characteristics of installed construction materials in contact with indoor air							
522C	Ventilation	Ensure good indoor air quality throughout the house: consistent supply of fresh air, controlled ventilation, limitation of moisture (mould growth and condensation) and of the concentration of harmful pollutants in the air within the house	**Buildings without ventilation systems** All rooms where occupants stay for extended periods of time (living area, bedrooms, offices/hobby rooms etc) must have at least one window (surface not less than 1/8 of the useful surface of the room) that can be opened by occupant with limited physical strength. **Buildings with ventilation systems** A ventilation system is in place, according to local regulation and: - Minimum air flow complies with local regulation. - At least a simple flow controlled ventilation is in place: - mechanical ventilation system is installed (simple individual humidity controlled flow). - Interior doors are at least 1cm undercutted. If the kitchen is accessible by a single door, it is 2cm undercutted. If a bathroom equipped with a gas appliance is accessible via a single door, it is 2cm undercutted. - In case of double flow ventilation - filters and dirt detectors are present in the blowing chamber, the change of the filters is carried out at the end of the works and before the occupation of the dwellings (allowing in particular the elimination of the dust related to the building site), - the owner undertakes to implement the monitoring of the system (frequency of visits, verified points), - the plant is installed in the living space and / or the ducts are insulated and the efficiency of the exchanger / central monobloc must be greater than 80% - the dismantling of the ventilation and recovery boxes is feasible without requiring the disconnection of the ventilation network, in order to carry out the routine maintenance and maintenance operations. - All air intakes are positioned at more than 8 meters: - areas where the vehicles are; - a place that gives off odors (place of storage of household waste, factory, etc.); - exhaust air vents; - outlets of flue products and flue gases.	No Yes	0 2	Plans, characteristics of ventilation system	On-site visit, plans, characteristics of installed ventilation system	x	x	x	x	x	x	x
522D	Assessment on Indoor Air Quality	Ensure that pollution rates respect minimum values for selected IAQ pollutants	Measurements of the indoor air quality are carried out upon reception of the dwellings and before delivery of the keys: > Based on a official national/local protocol. > The following health reference values for pollutants are respected: - Radon 100 Bq / m3 (WHO ref.) - in case of identified radon risk (mapping of	No Yes	0 3	Measurement report	Measurement report	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			the radon zones in analysis of the site); - Nitrogen dioxide: 20 µg / m3 (ANSES); - Carbon monoxide: 10 µg / m3 for 8 h (ANSES) - if combustion source; - Benzene: 2 µg / m3 (HCSP / benchmark value); - Formaldehyde: 10 µg / m3 (HCSP); - Particles $PM_{2.5}$: 10 µg / m3 (HCSP); - Particles PM_{10}: 20 µg / m3 (ANSES - WHO) - TVOC: 300 µg / m3 (Indoor Air Hygiene Commission - German Federal Agency for the Environment). French and German authorities...											
523A	Daylighting and access to natural light, especially in winter	Improve quality of life and mental wellbeing by providing visual delight and daylighting in living spaces, bedroom, bathroom and kitchen	Promote good daylighting and thereby reduce the need for energy to light the home. **For all types of buildings:** - General condition: The total area of the housing windows, measured in a table is greater than or equal to 1/5 of the living space. - Living-room and bedroom (or at least one room per dwelling for small ones): The Opening Index (OI = surface of window / usable surface of the room) stays (including open kitchen) is greater than or equal to 15%. - Closed kitchens OI is greater than or equal to 10%.	No Yes	0 2	Plans, characteristics of paintings in circulations of collective buildings and complexe	On-site visit, plans, characteristics of installed paintings in circulations of collective buildings and complexe	x	x	x	x	x	x	x
523B	Daylighting and access to natural light, especially in winter	Improve quality of life and mental wellbeing by providing visual delight and daylighting in living spaces, bedroom, bathroom and kitchen	Promote good daylighting and thereby reduce the need for energy to light the home. **For collective and complexe:** - The value of OI minus a maximum of 20% is tolerated (i.e. 12% for living-rooms and bedrooms or 8% for closed kitchens) for 20% of the housing units of the building or 20% of housing units. - For 50% at least of the dwellings: - Direct sunlight during winter in living-rooms (Min. 1.5 sunny hours on Dec 21) - Main bathroom has a glazed and translucent surface giving on the outside, superior or equal to 1/6 the floor space of the premises (skylights are accepted). - The reflection factor of each wall (ceiling, wall and floor) of the horizontal circulations and the stairwells serving the dwellings is: - 70% for the ceiling; - 50% for the wall; - 20% for the floor.	No Yes	0 3	Plans, characteristics of paintings in circulations of collective buildings and complexe	On-site visit, plans, characteristics of installed paintings in circulations of collective buildings and complexe	x	x	x	x		x	x
523C	Glare control	To ensure that there is no risk of glare in the house/dwelling, some provisions should be in place	The risks of glare in the dwellings are reduced by means of special provisions while ensuring to maintain an external view: • Identifiy the rooms sensitive to glare (bedroom / living room / kitchen) as well as the glare conditions thereof (identification of potential sources of glare, reflection of the sun on neighboring buildings ,. ..). • Set up provisions to protect these spaces from solar radiation in order to limit glare (mobile solar protection, canopy, vegetation, etc.). When the sun protectors are used, a position of the latter allows a view on the outside. Presence of means/systems (**shutters and blinds, solar protection**) to allow users to control their natural lighting environment: - The windows and French windows of the main living rooms (main bedroom, living room, kitchen) are equipped with shutters. - If applicable, the windows of the rooms upstairs can only be equipped with motorized blinds. - If presence, types and characteristics of solar protections.	No Yes	0 2	Plans, characteristics of shutters	On-site visit, plans, characteristics of installed shutters	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
523D	Presence of artificial lighting systems	Presence of lighting points (type, quantity, position) and sockets	Presence of means/systems to allow users to control their artificial lighting environment **Artificial light:** **Presence of lighting points in private areas (dwellings or houses - grouped or not):** - A lighting point is provided on the ceiling or wall-mounted in the entrance, hallways, living room, bedrooms, kitchen (open and closed), shower rooms and toilets while respecting local standards. - In closed kitchens or in open kitchens whose surface is greater than or equal to 4m², a second lighting point is provided. - In the main bathroom, a second lighting point is provided. - Outside front door (houses) and lighting connection point at all other outer doors or outside storage facility (unless a lighting connection point is already available within 7,50 meters). **Technical specifications of lighting points** - The color rendering index (Ra) of low consumption lamps, fluorescent tubes, discharge lamps and halogens is greater than or equal to 80. - All fluorescents and compact fluorescent lamps are equipped with high frequency ballasts **Sockets in dwellings** Wall sockets and connection points should be provided in all areas of the dwelling. They are positioned for easy operation: - All wall sockets must be positioned at least 350 mm away from inner corners. In all residential areas except kitchens, all wall sockets should be placed at least 350 mm above floor level, with at least one wall socket positioned at 1050 mm above floor level. - In circulation areas, at least one wall socket should be placed at 1050 mm above floor level.	No Yes	0 2	Plans, characteristics of lighting points and sockets	On-site visit, plans, characteristics of installed lighting points and sockets	x	x	x	x	x	x	x
523E	Presence of artificial lighting systems - Common areas	Presence of lighting points (type, quantity, position) and sockets	Presence of means/systems to allow users to control their artificial lighting environment **Artificial light:** **Presence of lighting points in common areas** Inside collective building or complex - In entrance hall (min 40 Lux) and circulation areas (min 20 Lux) - In lift halls (min 50 Lux) and stairwells (min 20 Lux) - In circulation areas of storage facilities (min 20 Lux) - In communal cycle/mobiity scooter parking facilities (min 20 Lux) - In in-complex multi-storey parking facilities (min 15 Lux) Outside collective building or complex: - Parking facility (if run by the complex owner) (min 3 Lux) - All access routes (min 3 Lux) - Outside all entrances; within 2 m of door; minimum 2 lighting fixtures at main entrance (min 15 Lux) - At garbage disposal facility (min 20 Lux)	No Yes	0 2	Plans, characteristics of lighting points and sockets	On-site visit, plans, characteristics of installed lighting points and sockets	x	x	x	x		x	x
523F	Assessment on lighting conditions	The average daylight factor is calculated	The average daylight factor (Flj) is calculated, with the following default values: • the height of the work plan considered is 0.70m, • the reflection factors are equal to: 70% for ceilings, 50% for walls, 20% for floors. **Northern Climate: (Northern Europe countries*)** • Living room / open kitchen: Flj avg / Flj 2,5%;	No Yes	0 3	Simulation	Simulation	x	x	x	x		x	x

<table>
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<tr><td></td><td></td><td></td><td>• Bedroom: Flj avg / Flj 2%;
• Closed kitchen: Flj avg / Flj 1,5%.
Central climate: (Central Europe countries**)
• Living room / open kitchen: Flj avg / Flj 2%;
• Room: Flj avg / Flj 1.5%;
• Closed kitchen: Flj avg / Flj 1%.
Mediteranean climate: (Mediteranean countries***)
• Living room / open kitchen: Flj avg / Flj 1,5%;
• Bedroom: Flj avg / Flj 1.2%;
• Closed kitchen: Flj avg / Flj 0.7%.
A technical study will be carried out by typology of housing, on the basis of the most unfavorable dwellings on the ground floor and 1st floor.

*Northern Europe countries: Danmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden, United-Kingdom.
**Central Europe countries: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Luxembourg, Netherlands, Poland, Romania, Slovakia.
***Mediteranean countries: Croatia, Cyprus, Spain, Greece, Italy, Malta, Portugal, Slovenia.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>524A</td><td>Insulation between dwellings and with common spaces</td><td>Maximise acoustic comfort and provide privacy between dwellings/homes, considering fair protection from noises of neighbouring appartments and from common spaces in multiple dwelling buildings: halls, staircases, lifts in common spaces; systems and equipement of neighbouring dwellings.</td><td>Collective buildings or complexes and grouped houses:
Respect of following DnT,w (according to ISO 717-1) of partition walls and ceilings: see table 1 on sheet "Acoustic"
<table><tr><th colspan="2">Table 1</th><th>Insulation / Local regulation</th><th>Collective buildings / Complexes</th><th>Individual houses (when grouped)</th><th>Points</th></tr><tr><td rowspan="6">Partition walls</td><td>Level 1</td><td>DnT,w ≤ Local regulation</td><td>DnT,w < 55 dB</td><td>DnT,w < 60 dB</td><td>0</td></tr><tr><td>Level 2</td><td>Local regulation ≤ DnT,w < Local regulation +1dB</td><td>55 ≤ DnT,w < 56 dB</td><td>60 ≤ DnT,w < 61 dB</td><td>2</td></tr><tr><td>Level 3</td><td>Local regulation +1dB ≤ DnT,w < Local regulation +3dB</td><td>56 ≤ DnT,w < 58 dB</td><td>61 ≤ DnT,w < 63 dB</td><td>4</td></tr><tr><td>Level 4</td><td>Local regulation +3dB ≤ DnT,w < Local regulation +6dB</td><td>58 ≤ DnT,w < 61 dB</td><td>63 ≤ DnT,w < 66 dB</td><td>7</td></tr><tr><td>Level 5</td><td>Local regulation +6dB ≤ DnT,w < Local regulation +9dB</td><td>61 ≤ DnT,w < 64 dB</td><td>66 ≤ DnT,w < 69 dB</td><td>9</td></tr><tr><td>Level 6</td><td>DnT,w ≥ Local regulation + 9dB</td><td>DnT,w ≥ 64 dB</td><td>DnT,w ≥ 69 dB</td><td>12</td></tr><tr><td rowspan="6">Partition ceilings</td><td>Level 1</td><td>DnT,w ≤ Local regulation</td><td>DnT,w < 55 dB</td><td rowspan="6">No building physical rooted partition ceilings. The building is awarded the highest ratings by default for noise protection of ceilings = 12.</td><td>0</td></tr><tr><td>Level 2</td><td>Local regulation ≤ DnT,w < Local regulation +1dB</td><td>55 ≤ DnT,w < 56 dB</td><td>2</td></tr><tr><td>Level 3</td><td>Local regulation +1dB ≤ DnT,w < Local regulation +3dB</td><td>56 ≤ DnT,w < 58 dB</td><td>4</td></tr><tr><td>Level 4</td><td>Local regulation +3dB ≤ DnT,w < Local regulation +6dB</td><td>58 ≤ DnT,w < 61 dB</td><td>7</td></tr><tr><td>Level 5</td><td>Local regulation +6dB ≤ DnT,w < Local regulation +9dB</td><td>61 ≤ DnT,w < 64 dB</td><td>9</td></tr><tr><td>Level 6</td><td>DnT,w ≥ Local regulation + 9dB</td><td>DnT,w ≥ 64 dB</td><td>12</td></tr></table></td><td></td><td>0
1
2
3
4
6</td><td>Submission plans</td><td>On-site visit, plans for execution (outlines, sections)</td><td>x</td><td>x</td><td>x</td><td>x</td><td></td><td>x</td><td>x</td></tr>
<tr><td>524B</td><td>Insulation between dwellings and with common spaces - Collective and complexe</td><td>Maximise acoustic comfort and provide privacy between dwellings/homes, considering fair protection from noises of neighbouring appartments and from common spaces in multiple dwelling buildings: halls, staircases, lifts in common spaces; systems and equipement of neighbouring dwellings.</td><td>The following design provisions should be in place:
Collective buildings or complexes:
- Staircase or elevator are not adjacent to bedrooms
- Noisy rooms (such as business, heating, other house technology rooms, rooms for garbage) are not adjacent to bedrooms.
- Entrance doors do not lead from starecases or hallways directly to living rooms (no acoustically enclosed entrance halls).
- On both sides of partition walls there are rooms which are used for same purposes (kitchen/kitchen, bedroom/bedroom).
- Walls with plumbing installations are not adjacent to bedrooms
Level 1: All conditions for > 80% of dwellings
Level 2: All conditions for > 95% of dwellings</td><td>Level 1
Level 2</td><td>1
3</td><td>Submission plans</td><td>On-site visit, plans for execution (outlines, sections)</td><td>x</td><td>x</td><td>x</td><td>x</td><td></td><td>x</td><td>x</td></tr>
<tr><td>524C</td><td>Insulation between dwellings and with common spaces - Houses</td><td>Maximise acoustic comfort and provide privacy between dwellings/homes, considering fair protection from noises of</td><td>The following design provisions should be in place:
Grouped houses
- Noisy rooms (such as kitchen, garage, heating, other house technology rooms, rooms for garbage) are not adjacent to bedrooms.
- On both sides of partition walls between houses there are rooms which are used for same purposes (kitchen/kitchen, bedroom/bedroom).</td><td>Level 1
Level 2</td><td>1
3</td><td>Submission plans</td><td>On-site visit, plans for execution (outlines, sections)</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td></td><td></td></tr>
</table>

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		neighbouring appartments and from common spaces in multiple dwelling buildings: halls, staircases, lifts in common spaces; systems and equipement of neighbouring dwellings.	- Walls with plumbing installations are not adjacent to bedrooms. Level 1: At least 2 conditions Level 2: The 3 conditions **Individual houses** This type of building is awarded the highest ratings by default (Level 2: 5 points)											
524D	Insulation inside dwelling	Reduce noise transfer (ceilings, walls, floors, doors, systems and equipment) inside houses/dwelling	Respect of following DnT,w (according to ISO 717-1) of noise between living-room, kitchen, bedroom AND bedroom (see Table 2 in sheet "Acoustic") Table 2 / Insulation / Local regulation / Living-room or kitchen or bedroom / Bedroom / Points Insulation / bedrooms: Level 1 — DnT,w ≤ Local regulation — DnT,w < 35 dB — 0 Level 2 — Local regulation ≤ DnT,w < Local regulation +1dB — 35 ≤ DnT,w < 36 dB — 2 Level 3 — Local regulation +1dB ≤ DnT,w < Local regulation +3dB — 36 ≤ DnT,w < 38 dB — 4 Level 4 — Local regulation +3dB ≤ DnT,w < Local regulation +6dB — 38 ≤ DnT,w < 41 dB — 7 Level 5 — Local regulation +6dB ≤ DnT,w < Local regulation +9dB — 41 ≤ DnT,w < 44 dB — 9 Level 6 — DnT,w ≥ Local regulation + 9dB — DnT,w ≥ 44 dB — 12	Level 1 Level 2 [illegible] [illegible] [illegible]	0 1 2 3 4 6	Submission plans, technology plans	On-site visit, plans for execution (outlines, sections), technology plans	x	x	x	x		x	x
524E	Insulation inside dwelling - Design provisions	Reduce noise transfer (ceilings, walls, floors, doors, systems and equipment) inside houses/dwelling	**F** - The interior doors of the main rooms, kitchens and bathrooms are solid and have joints on 3 sides, and are undercutted 1 cm for the main rooms and 2 cm for kitchens and bathrooms. - The equivalent absorption area of the internal circulation to the housing is greater than or equal to 50% of the floor area. - Floating screeds do not run between pieces. - Suspended ceilings and façade cladding are not running between rooms. Level 1: At least 2 conditions Level 2: At least 3 conditions	Level 1 Level 2	1 3	Submission plans, technology plans	On-site visit, plans for execution (outlines, sections), technology plans	x	x	x	x	x	x	x
524F	Assessment on acoustics performance	Ensure that in each room the noise level will allow the planned activities / uses to be carried out in good comfort conditions	Measurement of A-weighted enery long-term average sound level: night / day level 1: LA,eq ≥ 60 dB / LA,eq ≥ 70 dB level 1: 55 ≤ LA,eq < 60 dB / 65 ≤ LA,eq < 70 dB level 1: 50 ≤ LA,eq < 55 dB / 60 ≤ LA,eq < 65 dB level 1: 45 ≤ LA,eq < 50 dB / 55 ≤ LA,eq < 60 dB level 1: LA,eq < 45 dB / LA,eq < 55 dB	level 1 level 2 level 3 level 4 level 5	0 1 2 4 6	Measurement report	Measurement report	x	x	x	x		x	x
525A	Operability and control of heating and air conditioning systems	Control of heating and air conditioning systems in the dwelling,	**Controls** The heating / cooling **control system** allows the independent temperature adjustment and control of each of the main rooms of the house depending of the use. It should be possible to manage heating and cooling systems from a single point in the dwelling: - Central operating panel for all heating in living room. Panel mounted at maximum height of 1500 mm above floor level. - Operating interfaces in each room (knobs, dials, twiddles), situated at a height between 400 mm and 1400 mm above floor level and at least 350 mm away from inner corner. **Automation** A building automation concept is in place, and all comfort parameters can be influenced by occupants. Examples of automation: - Weekly programming of the temperature of the rooms ensuring comfort, eco, frost, off. The command can be monozone or multizone. - Either by centralized control in environment ensuring the control of the modes comfort, eco, frost, stop, of the manual type allowing adjustable timings. **Information** **Moreover, ease of use must be addressed for senior occupants: user's**	Controls Automation Information	3 1 1	Characteristics of control system, automation device, and information	Characteristics of installed control system, automation device, and information	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			manual, explanation of systems: - Provide occupants with easy-to-understand information on their energy and water use, and to pinpoint where heavy energy or water use is occurring : - Allow occupants to use electricity when it is most cost-effective in the future (dependent on the introduction of smart energy tariffs). For example: - Advanced control of heating: Enhanced controls for heating systems (e.g. Climote, Nest) - Electricity monitoring: Smart electricity meter that provides cost information on daily, weekly and monthly rates, different cost tariffs, etc. - Heat and hot water: Information on costs and energy use in kWh for gas, oil and electrical (for hot water and heating) usages - Monitoring of water use: Water monitor - Integrated dashboard: All of the above information is integrated onto one platform											
525B	Operability and control of ventilation systems	Control of the ventilation systems in the dwelling,	**Controls** The ventilation control system allows adjustment and control of each of the main rooms of the house depending of the use. It should be possible to manage ventilation systems from a single point in the dwelling: - Central operating panel in living room. Panel mounted at maximum height of 1500 mm above floor level. - Operating interfaces in each room (knobs, dials, twiddles), situated at a height between 400 mm and 1400 mm above floor level and at least 350 mm away from inner corner. **Automation** A building automation concept is in place, and all comfort parameters can be influenced by occupants. **Information** Moreover, ease of use must be addressed for senior occupants: user's manual, explanation of systems: - Provide occupants with easy-to-understand information on their ventilation system. - Advanced control: Enhanced controls for ventilation systems.	Controls Automation Information	1 1 1	Characteristics of control system, automation device, and information	Characteristics of installed control system, automation device, and information	x	x	x	x	x	x	x
525C	Operability and control of natural and artificial lighting systems	Adapted lighting control (automated sunlight control, brightness control or presence-controlled lighting solutions), high frequancy ballast, switches; opening and closing switch, control of automation by occupant on shutters and blinds	**Controls** Shutters The shutters of the exterior joinery are motorized and each have an opening and closing switch (remote control or a push button (simple command)). The base of the push button is located between 90 cm and 130 cm from the ground. Lighting points - When the living room serves several rooms, the lighting system is equipped with switches of type back-and-forth or a remote control switch. - In the main bedroom, a lighting with a back-and-forth installation is installed. It allows to turn on or off the room from the entrance to the room and the headboard. **Automation** In some areas automatic switch off or dimming of lighting is permitted: - circulation areas storage facilities - communal cycle/mobility scooter parking facilities - emergency stair wells All areas should be fitted with automatic presence detection; at detection lights must come fully on and remain so for at least 10 minutes.	Controls Automation Information	1 1 1	Characteristics of control system, automation device, and information	Characteristics of installed control system, automation device, and information	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			For in-complex parking facilities only automatic dimming (with automatic switch on as described) is permitted. **Information** Moreover, ease of use must be addressed for senior occupants: user's manual, explanation of systems: - Provide occupants with easy-to-understand information on their lighting system. - Allow occupants to use electricity when it is most cost-effective in the future (dependent on the introduction of smart energy tariffs). - Electricity monitoring: Smart electricity meter that provides cost information on daily, weekly and monthly rates, different cost tariffs, etc. - Integrated dashboard: All of the above information is integrated onto one platform												
520Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x
531A	Accessibility of outdoor circulations (ramps, coatings, lighting, ...).	The home must be accessible.	**Exterior paths characteristics** The building were the home is must be accessible, the exterior circulations should be flat and in those cases where it is no possible it can be solved with ramps. Access route to the home from the road is suitable for use by people with mobility impairment: - **Flat exterior circulation** (eight difference equal/lower than 250 mm), or with limited ramps if site constraints (maximum incline 4%, rest stops at the top and bottom of the ramp, every 7 m (dimensions 120 x 140 cm) and in the event of a change of direction greater than 45° (allowing a 150 cm rotation space)) - The **exterior soil coatings** must facilitate the movement of people, they have to guarantee to be adequate, not loose, non-slippery, with adequate lighting day and night. - For the paths leading to the entrance of the building and the collective premises, the cumulative conditions below are fulfilled: - The grounds are not loose - The coatings of the paths are non-slippery (slipperiness in foot shod equivalent to R9 (DIN 51130)), or in accordance with CEN/TS 16165 method B (R11) or method C (0.45-0.80) - The minimum width of the paths is 120 cm. **- The level of illumination** on the ground is at least 20 lux: by the break of sensors of presence, crepuscular probes or permanent lighting at night.	No Yes	0 2	Plans, characteristics of soil coatings, ramps, lighting	Plans, characteristics of installed soil coatings, ramps, lighting	x	x	x	x	x	x	x
531B	Accessibility of outdoor circulations (signage around the building).	The home must be accessible.	**Vicinity signace** **Existence of enough signace around the building and clear identification of the building**. The path around the building - property of the landlord - is **clearly identified** to facilitate identification by seniors. Several options are possible: differentiated floor tint, differentiated floor covering appearance, visual limits, color coded marking. Signage identifies the various buildings and paths at least at the entrance of the site, at the level of the parking lot and whenever a choice of route is given to the user. Where there are several accesses, accessible paths are the object of a suitable signage. The **signace** has to be compliant with the requirement of the accesibility local regulations regarding position and characteristics, or the following ones: **In the vicinity of the building -** property of the landlord - the signage of orientation is easily readable: - It presents characters with a height of 7 cm minimum - A contrast of 70% minimum between the lettering and the bottom is	No Yes	0 1	Plans, characteristics of signace	Plans, characteristics of signace	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			required - background is plain and matte. The font used is simple and without wheelbase - If no obstacle obstructs the visibility of the signage - it is cleared - and the bottom of the writing medium is between 130 cm and 160 cm from the ground - If the signage obstructed, the writing support is located at a height greater than 160 cm.											
531C	Accessibility to main entrances - Access level	Main accesses are designed to avoid any kind of discrimination, and to be used by all and useful for all.	**Acces level - Minimum requirements:** The building is preferably on the ground floor. If several steps are present, the cumulative conditions below are fulfilled: - The installation of an access ramp according to the local standards or regulations (maximum incline 5%) - A staircase with 17 cm steps maximum height, 28 cm deep and 120 cm minimum width - A handrail on each side of the steps of the staircase - The flooring of the steps is non-slip, its slip coefficient is at least equivalent to R9 (DIN 51130)), or in accordance with CEN/TS 16165 method B (R11) or method C (0.45-0.80). - The threshold to access to differents places (entrance hall, rubbish areas, other common areas) is less than or equal to 2 cm.	No Yes	0 2	Plans, characteristics of access level	On-site visit, plans, characteristics of access level	x	x	x	x		x	x
531D	Accessibility to main entrances - Doors	Main accesses are designed to avoid any kind of discrimination, and to be used by all and useful for all.	**Access doors - Main entrances usable by all:** - Easy door operation and limiting the risk of shocks. The effort required to open the entrance door of the building is less than 50 newtons. Several possiblities: - The door is automatic: swinging or sliding - The door is manual opening. In this case, the pressure is checked each semester using a pressure gauge. - When the surface of the door is entirely glazed, contrasting elements are arranged on / in the glazings at a height of between 110 cm and 160 cm. **Access doors - Minimum requirements to guarantee accessibility for people with (light) mobility impairments:** all access doors must comply with a set of minimum requirements. - Free width at least 850 mm. - Electric, automatic or operable by persons with limited physical strength. - Maximum threshold height 20 mm. - Glass pane in or beside door: minimum width 400 mm, lower edge maximum 1000 mm above floor level, upper edge minimum 1800 mm above floor level - 70% contrast with their immediate environment for doors with a threshold greater than 5 mm.	No Yes	0 2	Plans, characteristics of doors	On-site visit, plans, characteristics of installed doors,	x	x	x	x	x	x	x
531E	Accessibility to main entrances Lighting	Main accesses are designed to avoid any kind of discrimination, and to be used by all and useful for all.	**Lighting:** The lighting controls of each space - including the corridors - are easily accessible from the threshold of each entrance door. Either the lighting controls are direct (switch, push button ...), or are switch-controlled sockets. The base of each lighting and electrical control is located at a height between 90 cm and 130 cm from the ground. The lighting and electrical controls of the housing are easily recognizable by a color contrast with the wall and by a backlight or phosphorescence (night marking). **Corridor lighting (for collective and complexe):** The lighting of the corridors serving the labeled housing and the common premises presents on average, on the path, the same intensity: 80 lux. There should be no shadows, no direct glare from the users on the area or no	No Yes	0 1	Plans, characteristics of lighting systems	On-site visit, plans, characteristics of lighting systems	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			reflection on the signage. The lighting control base is at a maximum height of 130 cm from the ground and at a distance 50 cm lifts and stairs. 3 solutions may be chosen to prevent a situation without any lighting: - Lighting system by presence detection (preferred solution). The detection must cover the entire space concerned. The mid-bearings are equipped with detector. - Permanent lighting of 40 Lux, except time of voluntary lighting. - Timer higher than 2 minutes. Dimmer at the end of the timer. The luminous intensity is evaluated at a height of 150 cm from the ground.											
531F	Accessibility of indoor circulations	Interior circulations must guarantee accessibility and security.	**Characteristics of indoor circulations (but outside individual dwellings), to guarantee accessibility and security.** For accessibility reasons, elevation differences in circulation areas should be avoided whenever possible. If unavoidable, elevation differences should be no more than 100 mm and be bridged with ramps with an incline of 5% or lower. Thresholds at doors to outdoor circulation areas must be maximum 20 mm in height. The ramps have a handrail (or guardrail) on each side, at a height of 85 cm (+/- 5 cm) from the finished floor. *For desabled persons, all horizontal circulations serving apartments have handrails on both sides, with no protruding angle and 85 cm (+/- 5 cm) from the finished floor.* In the common spaces inside the building the horizontal and vertical **circulations are free of obstacles**. **Doors in circulation areas:** For accessibility reasons, doors in complex circulation areas must satisfy certain requirements: Doors should be electric, automatic, or operable by persons with limited physical strength. Minimum manoeuvring area 1500 x 1500 mm on each side of door. There should be at least 500 mm width to the side of the door on the lock side on the opening side of the door and 350 mm on the other side (does not apply for automatic doors).	No Yes	0 2	Plans, characteristics of handrails, doors	On-site visit, plans, characteristics of installed handrails, doors	x	x	x	x		x	x
531G	Accessibility of indoor stairs	Morphology of the stairs facilitating their use and guaranteeing security.	Characteristics of stairs comply with local regulation or following ones: All stairs within the building (but outside individual dwellings) must satisfy the local regulation or following requirements: - Straight stairs with closed steps - Minimum width 1200 mm - Landing provided for every 1800 mm of ascent. Minimum dimensions of landing 1200 x 1200 mm. - Maximum step height 210 mm, minimum step depth 185 mm Presence of safety devices like handrails and other in the case of the existence of risk of falling.	No Yes	0 2	Plans	On-site visit, plans	x	x	x	x		x	x
531H	Accessibility to all levels with lifts - Levels served	All usable levels of the building must be accessible with a lift.	**Levels of service served by elevator, including mezzanine levels:** Servicing of all levels of current use by each lift. A lift is present in collective building of more than one level, when the number of housing for the same cage is greater than or equal to 15. All dwellings at an elevation of more than 500 mm above street level must have lift access. Design specifations of lifts (excluding goods lifts) in complexes: - Interior dimensions minimum (1100 x 2100 mm) - Manoeuvring area outside every stop at least 2100 x 2100 mm - Minimum width of lift doors 900 mm	No Yes	0 1	Plans	On-site visit, plans	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			- Lift door electric or automatic - Call buttons outside lift door, at least 500 mm from interior corners											
531I	Accessibility to all levels with lifts - Dimensions	All usable levels of the building must be accessible with a lift.	**For use by people with mobility impairments, lifts in complexes need to comply with requirements regarding dimensions, equipment and operation** Dimensions: * Inside dimensions at least 1200 x 2100 mm * Free door width at least 900 mm Equipment: * Banister along at least one side, mounted between 800 and 1000 mm above floor level * If more than three stops, seating (fold-up seat) must be provided * Mirror on back wall running at least from 1000 to 1900 mm above floor level (mirror to be positioned on side wall in case of walk-through lift) * Pane indicating house numbers and storeys Operation * Automatic doors * Call buttons outside lift mounted between 900 and 1200 mm above floor level, at least 350 mm away from inner corners; in contrasting colour with background. Identical requirements apply to operating buttons inside lift	No Yes	0 1	Plans, characteristics of lifts	On-site visit, plans, characteristics of installed lifts	x	x	x	x		x	x
531J	Accessibility to parkings	Specific requirements to ensure accessibility to parking spaces.	**Accessibility** Parking spaces are easily accessible, close and directly connected to main entrance. When the garage is attached to the lease, the door is motorized.	No Yes	0 1	Plans	On-site visit	x	x	x	x		x	x
531K	Accessibility to parkings - Specific parks	Specific requirements to ensure accessibility to parking spaces.	**Presence of parking spaces for people with specific needs, mobility impairments.** Presence of parking spaces with specific characteristics, located closer to access roads and the entrance of the building or elevator. In the common-entry residences, these places are connected to the entrance of the building or elevator by an accessible path. Characteristics according to local regulation or following: - Number of adapted spaces according to local regulations or: - for parking facilities with 20-50 spaces: at least 1 handicapped space - for parking facilities with more than 50 spaces: 2% of total, rounded - Locations must be marked and marked on the ground. - Minimum length of 500 cm. - Minimum width of 330 cm (250 cm + 80 cm of passage). - Minimum height of passage of 215 cm (at the appropriate parking space if covered parking). - Maximum distance to main entrance 50 m. - Horizontal position within 2% and connected without threshold to the path. This parking spaces are assigned priority to people with disabilities and/or specific needs	No Yes	0 2	Plans, characteristics of equipments	On-site visit, characteristics of installed equipments	x	x	x	x		x	x
531L	Accessibility to parkings - Drop-off area	Specific requirements to ensure accessibility to parking spaces.	**Drop-off area** A parking space is identified as a drop-off place. This location is located in the immediate vicinity of the path leading to the hall entrance of the building and is reserved for residents of labeled housing. When parking places labeled housing are located near the lobby of the building, it is not necessary to set up a drop-off area.	No Yes	0 1	Plans	On-site visit	x	x	x	x		x	x
531M	Accessibility to parkings - Electric vehicules parkings	Specific requirements to ensure accessibility to parking spaces.	**Electric vehicles parkings** **For all car parks** arrangements are made (excluding cabling) to accommodate terminals and an individual metering for the normal charging of electric vehicles or hybrids, for at least: • 50% of spaces for motor vehicles with a minimum of one place, when the capacity of the car park is less than or equal to 40 places. • 75% of spaces for motor vehicles, when the capacity of the parking lot is greater than 40 places. In the case of **individual garages in grouped individual house**s, the following	No Yes	0 2	Plans, characteristics of equipments	On-site visit, characteristics of installed equipments	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			requirements are met: > Arrangements are made (excluding cabling) to accommodate later and safely a terminal for normal charging of electric or hybrid vehicles. > The garage is equipped with wiring sized to accept all car manufacturers' cars.											
532A	Entry of the home	The threshold and the door to access home is accessible.	**Landing door - Maneuverability and threshold maximum height:** The landing door of the dwelling has a width of 90 cm and requires little effort to be opened or closed. It does not include: - Handle knob - Tubular lock It is equipped with a lock three points (a single barrel). The threshold height of the landing door of the housing is less than 2 cm. In the presence of a chamfer, this threshold can be increased up to 4 cm. The threshold to access to differents places (entrance hall, rubbish areas, other common areas) is less than or equal to 2 cm. - In case of jump, it is less than or equal to 2 cm with rounded edges or equal to 4 cm with a one-third chamfer - If there is a hole or slot at ground level, its diameter or width is less than or equal to 2 cm. Sufficient manoeuvring space outside front door for people using walkers and/or wheelchair bound (1500 x 1500 mm or 1850 x 1350 mm, with at least 350 mm to side of front door at lock side). **+ For collective and complexes** The majority number of appartments or housing units are barrier-free designed (with above characteristics).	No Yes	0 2	Plans	On-site visit, plans	x	x	x	x	x	x	x
532B	Physical accessibility inside the home	The living room, the kitchen, a bedroom, the toilet and the bathroom are at the same level of access as the entrance door of the apartment, without any physical obstacle .	The living room, the kitchen, a bedroom, the toilet and the bathroom are at the **same level of access** as the entrance door of the apartment, without any physical obstacle such as steps or stairs. All required room types are either situated at **same construction layer**, or access between rooms is possible by stairlift. - Living room and kitchen need to be on the same layer. - Main bedroom and main bathroom need to be on same layer. Same layer means no height differences between room floors of more than 20mm. If there is a hole or slot at ground level, its diameter or width is less than or equal to 2 cm. **All inner doors** to dwelling areas, bathrooms and toilets must be accessible to people with light mobility impairments and limited physical strength - Width equal/greater 850 mm - Manoeuvring area each side of door minimum 900 x 900 mm (exception; in toilet) - No thresholds in doors to dwelling areas - Thresholds other inner doors equal/lower 20 mm - Operable with limited physical strength (equal/less than 40 N) - Maneuver of doors and comfortable circulations in the toilets (see 2.3.5.1).	No Yes	0 2	Plans	On-site visit, plans	x	x	x	x	x	x	x
532C	Minimum dimensions of the different home rooms	The different areas in the homes must satisfy certain spacial standards to allow easy use.	Living room master bedroom, kitchen, bathroom and private outdoor area are classified as required room types; that is to say they are essential to the home function and need to be suitable for use by an occupant with impairments. These room types need to satisfy certain minimum dimensions: - Living room: minimum 20 m2, with mininum width of 3,40. Sitting area: minimum width (parallel to main window side) 3400 mm, minimum depth 3000 mm Dining area: minimum 2500 by 2500 mm. This includes a circulation zone with a minimum width of 900 mm.	No Yes	0 2	Plans	On-site visit, plans	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			- Master bedroom: minimum 12 m2, with mininum width of 3,00 m. - Kitchen: minimum 6 m2, with minimum width of 2,10 m. - Bathroom: no minimum area, minimum width 1,90 m. - Private outdoor area: minimum 4 m2, with minimum width 1,50 m. A number of room types are considered optional (not essential to the home function). When present, these rooms need to satisfy certain minimum spacial standards. It should be noted that all room types under this code are considered non-required: they need not be suitable for use by people with impairments. - Second bedroom: minimum 8 m2, with minimum width of 2,40 m. - Extra bedrooms: no minimum area, minimum width 2,10 m. Visitor bedroom: no minimum area, minimum width 2,10 m. - Office or hobby room: no minimum area, minimum width 2,10 m. - Corridors: Minimum width is 1,10 mm											
532D	Accessibility and visibility of controls	The controls (lighting and other) of each room - including the corridors - are easily accessible from the threshold of each entrance door and are easily recognizable with the wall.	The lighting controls of each room - including the corridors - are easily accessible from the threshold of each entrance door. Either the lighting controls are direct (switch, push button ...), or are switch-controlled sockets. The base of each lighting and electrical control is located at a height between 90 cm and 130 cm from the ground. The lighting and electrical controls of the housing are easily recognizable by a color contrast with the wall and by a backlight or phosphorescence (night marking).	No Yes	0 1	Plans, characterictics of systems	On-site visit, characteristics of installed systems	x	x	x	x	x	x	x
533A	Spatial requirements for bathroom for use by occupants with mobility impairments	Some specific spaces have to be adaptable to make it suitable for use by occupants with (more serious) mobility impairments (wheelchair dependency, need of assistance in ADL activities)	Main bathroom must satisfy certain spatial requirements. These also include requirements for toilets where these are combined with the main bathroom. - Positioning area shower at least 1100 by 900 mm. Floor flush with rest of bathroom. - Minimum distance between faucet and wall and/or other equipment is 550 mm. - Minimum positioning area washbasin 1100 x 1600 mm. Minimum distance between faucet and wall and/or other equipment is 550 mm. - If toilet included: positioning area at least 1100 x 1900, with minimum distance to wall or other equipment of 550 mm *If bathroom (and potential included toilet) have to be adapted:* *- Main bathroom must be situated at entrance level, or at level that can be made accessible with a stairlift* *- 1500 mm turning circle (may overlap with current shower)* *- manoeuvring area on one side of toilet of at least 900 by 1200 mm (may overlap with current shower)* *- Manoeuvring area to one side of positioning area for shower seat of at least 900 mm by 1200 mm (may overlap with current amenities if these can be removed without major construction works* *- Walls near shower, washbasin, toilet suitable for mounting various aids (handgrips, shower seats)* *- Adaptations may not require major construction and installations work.*	No Yes	0 1	Plans	On-site visit, plans	x	x	x	x	x	x	x
533B	Spatial requirements for kitchen for use by occupants with mobility impairments	Some specific spaces have to be adaptable to make it suitable for use by occupants with (more serious) mobility impairments (wheelchair dependency, need of	- Total positioning area for worktop + sink + cooker equal/greater than 2700 by 600 mm. - Positioning area fridge at least 600 by 600 mm - Positioning area dishwasher at least 600 by 600 mm. - Manoeuvring zone along entire length at least 1200 mm. - A floor area of at least 0.3 m2 is provided in the kitchen or storeroom or any other proposal put in place by the client, for sorting and intermediate storage	No Yes	0 1	Plans	On-site visit, plans	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		assistance in ADL activities)	of household waste. (This space can be located under the sink, with the provision of specific equipment.)											
533C	Spatial requirements for storage facilities for use by occupants with mobility impairments	Some specific spaces have to be adaptable to make it suitable for use by occupants with (more serious) mobility impairments (wheelchair dependency, need of assistance in ADL activities)	Maximum distance from dwelling entrance 75 m. Accessible for people with (light) mobility impairments both from public areas and from other areas of the complex (with cross-references to various other requirements).	No Yes	0 1	Plans	On-site visit, plans	x	x	x	x		x	x
533D	Maneuverability of doors, including closets doors	The aim is to ensure that the use of doors is easy for all.	**Maneuverability of the annex room door** If there is a closed additional room (garbage, bicycle, pushchair, storage facilities, etc.): the door of the room can open under the effect of a pressure lower than 50 Newtons. The pressure is checked each semester using a pressure gauge. And / or: In case of garbage bin or external container - property of the landlord - this is at a distance less than or equal to 75 m from the building. **Sliding doors on closets** If it´s possible, sliding doors are installed to avoid space loose. If the cabinet is wider than 120 cm, sliding doors are installed.	No Yes	0 1	Plans, characteristics of doors	On-site visit, characteristics of installed doors	x	x	x	x		x	x
533E	Accessibility of mailboxes	Mailboxes are easily accessible and comply with minimum requirements.	Mailboxes, located in the lobby of collective buildings, are easily accessible and those assigned to people with specific needs will comply with the requirements of the national/regional/local regulations or at least at a height of between 90 cm and 130 cm .	No Yes	0 1	Plans	On-site visit, plans	x	x	x	x	x	x	x
533F	Easy use of systems (lighting in kitchen, power outlets)	To facilitate daily use of spaces, ligthing and power outlets have to comply with some minimum requirements.	**Lighting in the kitchen** Installation of a suitable lighting: point of light, above the worktop and / or sink. Ignition control by accessible zipper or by accessible switch. There must be no direct dazzle of the users. **Height of power outlets** In each of the main-use living rooms (main bedroom, living room, kitchen), at least one power outlet is installed at a height that facilitates accessibility. They have to comply with the requirements of the national/regional/local accesibility regulations or they are at least at a height of between 40 cm and 130 cm from the floor.	No Yes	0 1	Plans	On-site visit, plans	x	x	x	x	x	x	x
534A	Spatial requirements master/second bedroom	The master/second bedroom must be of sufficient dimensions to accommodate a single or a double bed and allow sufficient manoeuvring room	**Double bed room (considered as the "master" bedroom if many bedrooms)** Minimum surface 12m² if at least 2 bedrooms in the home. Positioning area bed at least 1800 by 2100 mm. Manoeuvring zone with minimum width of 900 mm on three sides of the bed. Positioning area for closet at least 1600 by 600 mm. Manoeuvring zone between bed and closet with width equal/greater than 900 mm. Space for 1500 mm turning circle within furnished room. **Single bed room (considered as the "second" bedroom if many bedrooms)** Positioning area bed at least 900 by 2100 mm. Manoeuvring zone of at least 900 mm width along length of bed. Positioning area closet at least 800 by 600 mm. Positioning area table/desk at least 1200 by 600 mm. Manoeuvring zone along bed, closet and table/desk with minimum width of 900 mm. Space for 1500 mm turning circle within furnished room.	Double Single	1 1	Plans	On-site visit, plans	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			Note for "extra bedrooms": *As second bedroom, with the exception of the 1500 mm turning circle*											
535A	Minimum requirements for bathrooms and toilets to ensure personnal hygiene for disabled people	Disabled people have special needs to use easily bathrooms and toilets for their personal hygiene.	**There must be a minimal equipment adapted for disabled people.** This minimum will be defined by the national/regional/local regualtions. If not, the sanitary facilities of the dwellings are at least the following: the handle is with crutch and located at a height between 90 cm and 130 cm of the soil. The minimum useful width is 80 cm. **Bathroom:** Washbasin, shower with shower screen (the shower screen can be a shower curtain with rod and operating rod). The support bar is installed inside the shower or bathtub. At least 2 elements to choose from: glazed shower screen; extractable spout on washbasin; supply of domestic hot water to the washing machine or dish washer; washbasin adjustable in height. **Toilets:** - Wall-hung toilet with built-in tank, or suspended toilet with flush tank, - and in option WC seat adjustable in height; shower for WC. - The support bar is located near the bowl. **Both bathroom and toilets:** The door of the bathroom/toilet is on a sliding rail or opens on the outside of the room.	No Yes	0 2	Plans, characteristics of equipments (washbasins, toilets, …).	On-site visit, plans, and installed characteristics of equipments	x	x	x	x	x	x	x
536A	Communication and access control devices usable by all	Communication and access control devices have to comply with specific requirements.	Intercom / videophone system (private entrance). One or another of the following possibilities is in place: - An intercom or videophone connecting the housing to the entrance of the building is installed. In this case, the installation of the device in the housing is performed between 90 cm and 130 cm from the ground to the bottom of the device. - The intercom is connected to the phone of the tenant. The sound level is set on demand.	No Yes	0 1	Characteristics of the device.	On-site visit, characteristics of the installed device or demonstration of phone app	x	x	x	x	x	x	x
537A	Possibility to have an office activity at home	Some elderly people continue to carry out a professional or associative activity. They therefore need a work space at their home. This space must offer minimal requirements.	The home office must comply with the following (depending on the type of building): **In homes with one or two bedrooms or in studios,** the space will be enabled in any suitable area of the home with sufficient space. **In dwellings with three or more bedrooms,** the space will be enabled in a suitable area of the home different from the main rooms and with sufficient space. **Collective and complex:** **- Workspace in the building:** an office space has been enabled for every 20 homes within the building or development available to all users. This space will have a minimum area of 14m2 and will contain, at least, two work stations. **OR** **- "Coworking":** there must be a shared resources office within 1,000 meters of the house.	No Yes	0 2	Plans, justification of presence of an accessible coworking place in immediate surroundings	On-site visit, plans, justification of presence of an accessible coworking place in immediate surroundings	x	x	x	x	x	x	x
538A	No requirement defined													
539A	Orientation in space and time in common spaces - Stairs	Presence of signace inside the building, to help orienting in space and time.	For stairs, some provisions are in place: Presence of a tactile and/or visual device of each flight of descending stairs: It is requested that a tactile and visual device be positioned upstream of each downward flight on all bearings including the intermediate bearings. This	No Yes	0 1	Plans, characteristics of visual devices, paintings,	On-site visit, plans, characteristics of installed visual devices, paintings,	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			device must verify the following characteristics: - Minimum width: 40 cm. - Implantation: in a closed staircase, the device starts at 1 lap of the nose of the first step (or 50 cm for the new one); in an open staircase, the device starts at 50 cm from the nose of the first step. - Positioning: the tactile device must always be parallel to the danger and away from the bearings or other horizontal circulations (awakenings with 90 ° return are prohibited). The touch device must also cover the entire width of the stairs. - Nose of stairs with visual contrast and non-slippery (cf. 2.1.1.1.).			signace, markers, …	signace, markers, …							
539B	Orientation in space and time in common spaces - Lifts	Presence of signace inside the building, to help orienting in space and time.	For lifts, some provisions are in place: A device, located outside the lift and on all floors, allows the display of the lift level / position.	No Yes	0 1	Plans, characteristics of visual devices	On-site visit, plans, characteristics of installed visual device	x	x	x	x		x	x
539C	Orientation in space and time in common spaces - Corridors	Presence of signace inside the building, to help orienting in space and time.	For the corridors, some provisions are in place: > In the corridors of the floor of the labeled housing and common premises of the building, the differentiation by color is marked: - the doors of the housing in relation to the service doors - the floors in relation to the walls - the plates of the dwellings , where available > Signage is easily readable: - All signage elements are made with 70% color and luminance contrasts between the text and the medium. The bottom is united. - The floor numbers are indicated, they have a minimum height of 6 cm - The other information related to the orientation have characters of 1.5 cm minimum height. - The accommodations are indicated by an encrypted or alphabetical numbering of at least 6 cm in height.	No Yes	0 2	Plans, characteristics of paintings, signace, markers, …	On-site visit, plans, characteristics of installed paintings, signace, markers, …	x	x	x	x		x	x
539D	Orientation in space and time in common spaces - Halls	Presence of signace inside the building, to help orienting in space and time.	For halls, some provisions are in place: - Presence of markers or remarkable elements punctuating the course and facilitating an intuitive orientation: These arrangements can be: the configuration of the space, the choice of coatings (visual and tactile contrast), decorative elements, or elements of signage. They must allow visitors and users circulating in the building to identify themselves intuitively, to make legible the different spaces and functions hosted, and to avoid the feeling of disorientation created by uniform environments. The elements to be minimally treated are the stairs and elevators, the entrance areas, and the intersections of the circulations. As examples, the following elements can be valued: opening on the outside, overhangs in the corridors, space of conviviality, work of art, element of decoration, use of a color code giving a rhythm, contrast of coating visual and tactile at the level of the stairs giving access to the stairs, totems signage, opening of the stairs on the circulations ... - Optical, auditory and haptic orientation support in halls and other open spaces: The points are obtained when a tactile, auditory and visual contrast underlines the circulations. These contrasts can be obtained by different solutions. As examples, let us quote some principles: engraved guide, contrast of flooring operating on different registers: roughness, resonance of the materials, visual contrast, soft slope ...	No Yes	0 1	Plans, characteristics of visual devices, paintings, signace, markers, …	On-site visit, plans, characteristics of installed visual devices, paintings, signace, markers, …	x	x	x	x		x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
530Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x
541A	Access to health facilities and medical care	Promote communal life by quantifying the number of and distance to services of medical care in relation to the assessed home.	Reward community connectivity, assist in reducing transport-related emissions and traffic congestion, and promote communal life, and quantify the number of and distance to key amenities in relation to the assessed home: - Medical practitioners: doctors, dentists, physiotherapists, pharmacist, ... - Nursing homes, hospitals, and rehabilitation clinics, ... *Medical care facilities within the development are also taken into account.*	1 < 1000m 1 < 500m or 2 < 1000m 2 < 500m or 3 < 1000m	1 2 5	Plans of local facilities	Plans of local facilities	x	x	x	x	x	x	x
541B	Access to physical activity spaces and equipment	Access and quality of Physical Activity Spaces and Fitness Equipment suitable for all	Quantify the number of and distance to key amenities in relation to the assessed home: - Cardiorespiratory exercise, muscle-strengthening exercie equipment, - Fitness or sport facilities, external exercise spaces.	1 < 1000 m 1 < 500 m	1 3	Plans of local facilities	Plans of local facilities	x	x	x	x	x	x	x
542A	Availability of information on health and wellness	Health and Wellness awareness when it has been designed .	Providing residents options and facilities for e-Health and remote medicine. Documentation on health/wellness, and facilities for e-Health and remote medicine.	No Yes	0 2	Documentation	Documentation	x	x	x	x	x	x	x
543A	No requirement defined													
540Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x
551A	Predisposition of cabling of the building and common spaces	The building is prepared to receive the cabling or network equipments	**Pre cabling of the building** Predisposition of the building for being linked to any external wired connection: - The building must be able to be linked to external operators networks, in order to allow the distribution of all kinds of connections: Linking capacity to at least 2 telecommunications operators. - The building is equiped with online high-speed fiber-optic electronic communications. - Adaptability of the cabling distribution: The cabling of the building enable to easily add/remove/modify the density or location of connection points of the communicating equipments. - extension capacity (min. 30%) enabling the addition of future ICT plugs. - distribution of the terminals and plugs using predetermined extension cables/sockets (enabling easy redistribution of plugs in the building)	No Yes	0 4	Characteristics of equipment, plans	On-site visit, plans, characteristics of installed equipments	x	x	x	x	x	x	x
551B	Predisposition of cabling of private spaces	The building is prepared to receive the cabling or network equipments, which gather the connections of private communicating systems of the private spaces	**Predisposition of cabling of the private spaces of the building** The building is prepared to receive the cabling or network equipments, which gather the connections of private communicating systems of the private surfaces. Cabling of the Smart Network. Installation of: - the sheathing/pipes/structure that will convey the cabling, - the cabling, or a modular pre-cabling (removable, modular and upgradable cabling in private spaces).	No Yes	0 2	Characteristics of equipment, plans	On-site visit, plans, characteristics of installed equipments	x	x	x	x	x	x	x
551C	Predisposition of cabling of the dwelling	The dwellings benefit from different pre-equipped networks.	**Presence of minimal infrastructure required:** The indoor installation includes the termination and patching devices required for telephone access, audiovisual communication services (terrestrial television, satellite and cable networks) and digital data (internet). The brewing devices are placed in the communication board of the housing. The indoor installation includes star-type wiring for the provision and connection of terminal sockets in a minimum number of rooms: - living-room, - at least one of the bedrooms (master bedroom). The indoor facility also accommodates and supplies equipment for electronic communications operators and accessories installed by the occupant when connecting to the high-speed or high-speed fiber-optic network.	No Yes	0 2	Smart network plans and characteristics, sockets	Installed smart-netwok characteristics, sockets	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			Networks are based on the international standard Ethernet-IP.											
551D	Minimal connected devices	Presence of a central home management system interface for comfort devices: heating, ventilation, shutters and blinds. The ICT systems of the building's general services and users are connected to a unified Ethernet-IP network (= Smart Network).	**Presence of a Smart-network for building functions** Presence of an IP (Internet Protocol) network, dedicated to the building and serving common areas and the housing either Ethernet, Wifi or other wired or radio link protocol. The different building functions and uses are identified by the client (heating, ventilation, shutters, blinds, ...). This network dedicated to the general services systems, constitutes the unified information transport network for the communicating systems of the building. It connects the equipments of general services communicating systems, being accessible via Internet or Intranet. The network securely manages the routing function (esp. inter-VLAN). Network equipments are shared by all communicating systems of the general services.	No Yes	0 2	Smart network plans and characteristics	Installed smart-netwok characteristics	x	x	x	x		x	x
552A	Interoperability of equipment	Interoperability of devices for the building functions	All smart and connected devices that need to communicate (for the buildings functions) are supported by the building's IP (Internet Protocol) network infrastructure, either natively, either via a gateway.	No Yes	0 2	Smart network plans and characteristics	Installed smart-netwok characteristics	x	x	x	x		x	x
553A	Interoperability - Interfaces	The IT interfaces should be based on standards (if available)	Smart and connected devices have open API, accessible in IP (Internet Protocol).	No Yes	0 2	Characteristics of APIs	Characteristics of installed APIs	x	x	x	x		x	x
554A	Digital Security and protection of personal data	Confidentiality and protection of personal data	The installed equipment and systems (for building functions: heating, cooling,...) comply with the provisions of the new European protection of individuals with regard to personal data and the free movement of such data (General Data Protection Regulation).	No Yes	0 2	Smart network plans and characteristics	Installed smart-netwok characteristics	x	x	x	x		x	x
554B	Digital Security in case of cyber attack or hacking	In the presence of intelligent and connected equipment, the digital security of building services / functions and of residents should be ensured.	In the presence of intelligent and connected equipment, foresee the establishment of a system of protection and access against piracy (security of access to the network, mechanism of identification / protection of access to data by password , protection of access to services provided by the connected building, dynamic IP addressing, secure web services offered ...). In the event of a computer malfunction on the various connected devices, the basic functions of the dwelling are provided in degraded mode for the users of the building and the dwellings. Establishment of an Information Security Management System (ISMS) meeting at least the requirements of ISO / IEC 27001. The written documents for contractor companies will refer to the ISMS.	Protection Degraded mode ISMS	2 1 1	Smart network plans and characteristics	Installed smart-netwok characteristics	x	x	x	x		x	x
550Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x

5.7 List of requirements Outdoor Access cluster

FIGURE 13 – STRUCTURE OF CLUSTER 6: OUTDOOR ACCESS

TABLE 13 – REQUIREMENTS FOR THE OUTDOOR ACCESS CLUSTER

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
611A	Access to outdoor areas	Conditions for entering and moving around outdoor spaces must meet requirement in terms of universal design*, accessibility and usability. * Universal design principles: integrated into the neighbourhood; easy to approach, enter and move about in; easy to understand, use and manage; and flexible, cost-effective and adaptable over time.	The width of the door opening is 80 cm minimum. The height of the access threshold to the outside - balcony, terrace, garden - is: - Either less than or equal to 2 cm in the presence of a chamfer (recommended) - Either higher than the recommended heights, in this case it is necessary to add: • an access step that meets the following conditions: . Non-slip coating (R9 (DIN 51130)), or in accordance with CEN/TS 16165 method B (R11) or method C (0.45-0.80) . Free space in front of the step of 90 cm minimum on the balcony / terrace / garden . Step of 28 cm of depth and a width identical to that of the opening. And / or: • a bar of support, when the wall is located at least 50 cm of the threshold. In case of technical impossibility, for example, it is also possible to install a support bar fixed to the ground.	No Yes	0 2	Plans, characteristics of coatings and equipments (bar)	On-site visit: dimensions, characteristics of coatings	x	x	x	x	x	x	x
611B	Characteristics of outdoor spaces - Size	Conditions of outdoor spaces must meet specifications in terms of size (universal design*) * Universal design principles: integrated into the neighbourhood; easy to approach, enter and move about in; easy to understand, use and	The outdoor space (private or semi-private) must have a sufficient size that allows all occupants to sit outside. **Appartement buildings: / Town house complexes/one-/two-family houses:** Share of housing units with a directly allocated open space of more than 4 m² / Private garden: Share of housing / units with a private garden / of more than 100 m²	Size: > 80 % 60 to 80% 40 to 60% 20 to 40% 10 to 20%	1 2 3 4 5	Plans, technical specifications	On-site visit: dimensions, characteristics of installations	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
		manage; and flexible, cost-effective and adaptable over time.												
611C	Characteristics of outdoor spaces - Accessibility	Conditions of outdoor spaces must meet specifications in terms accessibility (universal design*) . * Universal design principles: integrated into the neighbourhood; easy to approach, enter and move about in; easy to understand, use and manage; and flexible, cost-effective and adaptable over time.	The outdoor space (private or semi-private) must accessible (**at least 1 characteristic below**) - The outdoor spaces must be adjacent or be very close to the house or housing. - Allow easy access to all occupants, including users with reduced mobility. - Be accessible only to the occupants of the designated dwellings. *For individual houses:* *- At least one outdoor area must be accessible* *- At least one outdoor area must be directly accessible from the living room*	No Yes	0 3	Plans, technical specifications	On-site visit: dimensions, characteristics of installations	x	x	x	x	x	x	x
611D	Characteristics of outdoor spaces - Technical requirements	Conditions of outdoor spaces must meet technical requirements for usability. * Universal design principles: integrated into the neighbourhood; easy to approach, enter and move about in; easy to understand, use and manage; and flexible, cost-effective and adaptable over time.	The outdoor space (private or semi-private) must meet **technical requirements for usability (at least 3 characteristics below)** - Provide lighting to illuminate the door, the home number and location of the entry system, separate to a P.I.R. light or general external light - Provide porches or shelters at front doors for improved weather protection at the door - Provide different colours to front doors for visual contrast and wayfinding - Provide different colours to exteriors – wayfinding and breakup of uniformity - Plant at front door with scents and sounds to help guidance to door - Provide wider doors, both external and internal - Provide an entrance door with a clear width of between 800mm and 850mm - Entrance and hallway in the home: provide space for storing outdoor wear, coats, shoes and bags - Entrance and hallway in the home: provide additional storage space for a buggy and/or shopping trolley - Entrance and hallway in the home: provide opening (slabbed over) in first floor for future installation of platform lift	No Yes	0 3	Plans, technical specifications	On-site visit: dimensions, characteristics of installations	x	x	x	x	x	x	x
612A	View quality	View quality from the inside to the outside should make it possible to see the sky, the soil and the landscape.	Requirements to ensure view quality (from inside to outside): Outer windows adjoining the sitting area of the living room must satisfy certain minimum requirements pertaining to size - Minimum width 1500 mm. - Lower glass edge equal/lower 750 mm above floor - Higher glass edge equal/higher 1900 mm above floor - No horizontal, view-obstructing discontinue in glass area	No Yes	0 2	Plans, technical specifications	On-site visit: dimensions, characteristics of installations	x	x	x	x	x	x	x
610Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x
621A	Easy accessibility for reduced mobility occupants	Reduced mobility occupants may be able to access in an dout of the building and dwelling.	**Allow easy access to all occupants, including users with reduced mobility: at least 1 of the following characteristics** - Provide accessible car parking and good set down points / communal parking close to the home - Provide a dropped kerb for ease of access onto the pavement - Provide ease of access to home's front door – ensure that paving within the property boundary is firm, non-slip and non-reflective	No Yes	0 2	Plans, technical specifications of pavements	On-site visit: dimensions, characteristics of installations	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
622A	Presence of vegetation	Presence of vegetation in the project is an attractive characteristic for the majority of elderly people.	**Presence of:** > Green spaces (in the ground, on slab, roof, wall, plants in bins integrated into the architectural project, ...). **OR** > At least 30% of the area of the plot in open green spaces (ie without construction below). In the case of an urban site not presenting on the plot of open-ground possibilities, the minimum thickness of the substrate must be 1.5m. Characteristics of planted species: Planted species are complementary to each other, non-invasive, well adapted to the climate and terrain. They rely on diverse plant strata and participate in the diversity of habitats (ponds, hedges, groves, gravel, ...). In case of use of substrate (example of green roofs), it is adapted to the desired type of vegetation and according to the climate and the conditions of exposure of the site (sun, wind). Invasive or invasive species are proscribed. The introduction of allergenic species is minimized (70% to 80% of species planted with a low risk class, for example), especially allergens classified at risk 4 to 5 (such as: cypress, birch, grasses, alder, olive, sagebrush). In the case of landscaping [1], the maintenance program is provided to the managers. For green spaces, the document presents at least the following topics: • reasoned management of plants for each typology encountered (massif, hedge, banks, spontaneous flora ...); • the preventive measures put in place; • management of plant health status (biological control); • how to use watering. [1] Improvements on the architecture of the building (facade, green roof, ...) or on the plot (water point, green spaces, ...)	No Yes	0 3	Plans, characteristics of species, maintenance program	On-site visit, characteristics of installed species, maintenance contract	x	x	x	x	x	x	x
623A	Neighbourhood quality	The neighbourhood quality can be measured by the number of vacant housing.	Percentage of vacant housing units: measured at the neighbourhood scale	<10% <25% <40%	1 3 5	Calculation at neigbourhood scale, from local authorities	Calculation at neigbourhood scale, from local authorities	x	x	x	x	x	x	x
620Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x
631A	Proximity to public transports	The location of the home should be close to existing transport in an effective distance.	**Options for transportation:** The location of the home should be close to existing transport in an effective distance. • encourage the location of development close to existing transport • define the effective shortest distance in metres from the assessed home to local public means of transportation **Proximity of public transport:** In the analysis of the site, an inventory of the main transport stations (bus, tram, train, ...) near the operation is carried out. It specifies the types of transport, their distance to the entrance of the site. **Number of transport lines accessible within 800m or 400m**	1 line <800m 2 lines <800m or 1 line<400m 3 lines or more <800m or 2 lines or more <400m	1 2 3	Plans of local transport facilities	Plans of local transport facilities	x	x	x	x	x	x	x
631B	Frequency of public transports	The location of the home should be close to frequent existing transport in an effective distance.	**Options for transportation:** The location of the home should be close to existing transport in an effective distance. • encourage the location of development close to existing transport • define the effective shortest distance in metres from the assessed home to local public means of transportation **Frequency of public transport:** In the analysis of the site, an inventory of the main transport stations (bus, tram, train, ...) near the operation is carried out.	<20min <10min	1 2	Frequencies of local transport facilities	Frequencies of local transport facilities	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
			It specifies the frequencies of passages. **Frequency of transport lines for at least 1 line**											
631C	Proximity to roads	The location of the home should be close to existing roads in an effective distance.	**Options for transportation:** The location of the home should be close to existing transport in an effective distance. • encourage the location of development close to existing transport • define the effective shortest distance in metres from the assessed home to local public means of transportation **Access to main roads depending on the context (urban / rural areas)** Level 1: One express road or highway <5km / One express road or highway <20km Level 2: One express road or highway <1km / One express road or highway <10km Level 3: Boulevard or avenue or main street <250m / Structuring local road < 5km Level 4: Boulevard or avenue or main street direct connexion / Structuring local road < 1km	Level 1 Level 2 Level 3 Level 4	1 2 3 4	Plans of local roads infrastructures	Plans of local roads infrastructures	x	x	x	x	x	x	x
631D	Proximity to pedestrian routes	Pedestrian routes need to be safe for people	This requirement encourage the location close to safe pedestrian routes. Immediate proximity with a developed and secure network of walkways	No Yes	0 2	Plans of local infrastructures	Plans of local infrastructures	x	x	x	x	x	x	x
631E	Proximity to alternative transports	Alternative transports offer should be present.	This requirement encourage the location close to alternative transportation modes (actual or in new development). Recognize the provision of adequate facilities on the site that allow building users to use alternative modes of transportation to get to and back the building. Proximity with a developped and secure cycling network.	<800m <400m	1 2	Plans of local transport facilities	Plans of local transport facilities	x	x	x	x	x	x	x
631F	Proximity to free bikes or vehicules stations	Alternative transports offer should be present.	This requirement encourage the location close **to free bikes (electric or not) and electric vehicles stations**	>200m <=200m	0 1	Plans of local transport facilities	Plans of local transport facilities	x	x	x	x	x	x	x
632A	Proximity to public transportation services	The location of the home should be close to existing transport.	This requirement encourage the location of development close to existing transport, as a attractiveness factor. The assessment is the same as above about proximity to public transport. **Proximity of public transport:** In the analysis of the site, an inventory of the main transport stations (bus, tram, train, ...) near the operation is carried out. It specifies the types of transport, their distance to the entrance of the site, as well as the frequencies of passages. **Number of transport lines accessible within 800m or 400m**	1 line <800m 2 lines <800m or 1 line<400m 3 lines or more <800m or 2 lines or more <400m	1 2 3	Plans of local transport facilities and roads infrastructures	Plans of local transport facilities and roads infrastructures	x	x	x	x	x	x	x
632B	Frequency of public transportation services	The location of the home should be close to frequent existing transport.	This requirement encourage the location of development close to existing transport, as a attractiveness factor. The assessment is the same as above about proximity to public transport. **Frequency of public transport:** In the analysis of the site, an inventory of the main transport stations (bus, tram, train, ...) near the operation is carried out. It specifies the types of transport, their distance to the entrance of the site, as well as the frequencies of passages. **Frequency of transport lines for at least 1 line**	<20min <10min	1 3	Plans of local transport facilities and roads infrastructures	Plans of local transport facilities and roads infrastructures	x	x	x	x	x	x	x
632C	Proximity to parks and recreational facilities	Access to parks and open spaces promote communal living.	Short distance to be able to walk to such spaces promote communal life. Are considered: Public parks, gardens, recreation green spaces, lakes and rivers, etc. Parks and open spaces within the development are also taken into account.	1 <1000m 1 <500m or 2 <1000m 1 in plain sight or 2 <500m	1 2 3	Plans of local facilities	Plans of local facilities	x	x	x	x	x	x	x

Requirement				Scoring		Evidence		Applicability						
Code	Title	Objective	Description	Scale	Points	Design	Operational	Design	Operation	New	Existing	Individual	Collective	Complex
632D	Proximity to services / amenities	Shooping for daily needs in a short walking or bike distance from home promotes communal living and and socialization oportunity. Providing basic services such as medical care, schools, sport or cultural facilities in a short walking or bike distance from home promotes communal living and and socialization oportunity.	Following services/amenities and considered: - Shopping for daily needs (examples: bakery, supermarket, market, ...) - Restaurants, café, bars - Basic services (examples: town hall, post office, bank, ...) - Care facilities (examples: general practitioner, pharmacy, hospital, ...) - Educational facilities (examples: Primary / secondary school, Kindergarten , ...) - Sport facilities (examples: fitness, swimming pool, ...) - Cultural facilities (examples: museums, cinema, theaters, ...) Distances considered for each: ≤ 1000 m (1 point) / ≤ 500 m (2 points)	Shopping & Restaurants ≤ 1000m ≤ 500m Basic services ≤ 1000m ≤ 500m Care ≤ 1000m ≤ 500m Education ≤ 1000m ≤ 500m Sport ≤ 1000m ≤ 500m Culture ≤ 1000m ≤ 500m	 1 2 1 2 1 2 1 2 1 2 1 2	Plans of local facilities	Plans of local facilities	x	x	x	x	x	x	x
633A	No requirement defined													
630Q	Points obtained in survey	Consider the results of the survey	Consider the results of the survey for this category				Survey results		x	x	x	x	x	x

5.8 List of questions for the Residents' Surveys

For each question, there are four possible answers:

- Yes = 2 points
- No = 0 point
- Do not know = 0 point
- Do not wish to answer = 0 point

TABLE 14 – QUESTIONS FOR THE RESIDENTS' SURVEY FOR SITES IN DESIGN

Questions		Scoring: results are distributed in requirements														Applicability						
Code	Text	210Q	220Q	310Q	320Q	410Q	420Q	510Q	520Q	530Q	540Q	550Q	610Q	620Q	630Q	Design	Operation	New	Existing	Individual	Collective	Complex
D010	Here, you can easily imagine you could live independently.	✓											✓	✓	✓	x		x	x	x	x	x
D020	You will be able to access basic shops (groceries, pharmacies, etc.) and services within a short walking distance.	✓		✓											✓	x		x	x	x	x	x
D030	Do you think that your building and home will be easily accessible, from a physical point of view?							✓		✓			✓		✓	x		x	x	x	x	x
D040	Do you think your future home is located in a pleasant environment?												✓	✓	✓	x		x	x	x	x	x
D050	Do you have the feeling that everything is planned for comfort, as much as it is possible, in your future home (layout, light, temperature, etc.)?	✓							✓							x		x	x	x	x	x
D060	Do you think that your future home environment will allow you to keep in touch with people you care about (family, friends, neighbours, etc.)?			✓												x		x	x	x	x	x
D070	Will your future home environment be adequate to receive visitors during the daytime?			✓												x		x	x	x	x	x
D080	Will your future home environment adequate for visitors staying overnight?			✓												x		x	x	x	x	x
D090	Do you think you will have control over who can access to your home?		✓	✓									✓	✓		x		x	x	x	x	x
D100	Do you think you will have the option to personalise (arrange and decorate) your future home according to your taste and preferences?	✓	✓													x		x	x	x	x	x
D110	Is your future home designed so it can be adapted overtime in case your needs change?	✓	✓	✓												x		x	x	x	x	x
D120	Is your future home designed so it can be temporarily arranged to engage in activities of your choice (having pets, performing hobbies, receiving visitors, storing your own things)?	✓	✓													x		x	x	x	x	x
D130	Are you confident that maintenance and repair costs in your future home will be manageable for you (electricity, water, heating, etc.)?	✓				✓										x		x	x	x	x	x
D140	Are you confident that direct housing costs (rent/mortgage) will be a manageable part of your overall household budget?		✓			✓										x		x	x	x	x	x
D150	In your future home, are you confident that you will be able to manage your housing costs also in the longer term (in the next 5-10 years)?		✓			✓										x		x	x	x	x	x
D160	Do you feel that you are well informed about existing financial benefits (grants, subsidies) that exist to adapt your future home when needed?						✓									x		x	x	x	x	x
D180	Will your future home offer the conditions for accessing digital technologies?					✓						✓				x		x	x	x	x	x
D190	Do you consider that you will be able to control your future home systems (access control, thermal control, shutters, etc.) to your needs and preferences?	✓	✓									✓				x		x	x	x	x	x

Questions		Scoring: results are distributed in requirements													Applicability						
Code	Text	210Q	220Q	310Q	320Q	410Q	420Q	510Q	520Q	530Q	540Q	550Q	610Q	620Q	630Q	Design	Operation	New	Existing	Individual	Collective	Complex
D200	Does your future home offer the conditions for digital communications with your family and friends?			✓								✓				x		x	x	x	x	x
D210	Does your future home offer the conditions for the install and operation of assistive and monitoring solutions if you wish so?			✓								✓				x		x	x	x	x	x
D220	Do you consider that remote systems (mobile devices, Internet, etc.) will be affordable for your budget?			✓		✓						✓				x		x	x	x	x	x
D230	In case you receive support or would need support in the future from family, relatives or friends, do you think that they will find in your future home the needed conditions to make it compatible with a working and social life (easy and fast access to internet, bearable commuting time)?		✓	✓	✓											x		x	x	x	x	x
D240	Are you aware of existing or future services e.g. home (care) services available in future home?				✓		✓									x		x	x	x	x	x
D250	Can you easily find information, or get assistance, on age-friendly home services?		✓	✓			✓									x		x	x	x	x	x
D260	Are home (care) services easy to access remotely from your future home?			✓			✓									x		x	x	x	x	x
D270	Is your future home sufficiently connected to green areas (e.g. parks, walking paths, countryside, etc.)?	✓		✓									✓		✓	x		x	x	x	x	x
D280	Do you know if there are places within accessible walking distance to your future home with spiritual significance for you (e.g. cult places, natural places)?	✓		✓												x		x	x	x	x	x
D290	Does this project give you the opportunity to choose an environment suitable to your needs and preferences?		✓	✓			✓									x		x	x	x	x	x
D300	Do you think you can feel part of a community when living here?						✓									x		x	x	x	x	x
D310	Do you think you will be able to benefit from your own space in your future home?	✓	✓	✓												x		x	x	x	x	x
D320	Is your future home part of a project where you can have a say on who to live with?		✓	✓			✓									x		x	x	x	x	x
D330	When living in your future home, will you have access to outdoor spaces where you feel comfortable, safe, and well?	✓	✓											✓	✓	x		x	x	x	x	x
D340	The surroundings of your future home feel safe and have the potential to become familiar.	✓	✓	✓				✓								x		x	x	x	x	x
D350	Do you consider the neighbourhood of your future home pleasant, accessible, and safe for pedestrians?	✓	✓	✓				✓							✓	x		x	x	x	x	x
D360	Do you think you will feel safe in your future home?	✓	✓	✓				✓								x		x	x	x	x	x
D370	Do you already feel attached to this place?	✓					✓									x		x	x	x	x	x
D380	Does the surroundings of your future home offer opportunities to participate in social activities (volunteering, culture, training, workout, etc.)?	✓	✓	✓							✓				✓	x		x	x	x	x	x
D390	Can you easily imagine that you will feel at home in this future project?	✓	✓	✓			✓									x		x	x	x	x	x
D410	Will you easily find areas to rest in the surroundings of your future home (e.g. benches, bus stops, etc.)?	✓		✓												x		x	x	x	x	x
D420	Here you already know people with whom you feel close	✓		✓												x		x	x	x	x	x
D430	Here you already know people you can count on in case of necessity or an emergency.	✓		✓												x		x	x	x	x	x
D440	Are there places planned, around your future home, suitable for informal chats or gatherings with neighbours (like a porch, a patio, a backyard, a balcony, a lobby or an elevator)?	✓	✓	✓											✓	x		x	x	x	x	x
D450	Do you think that there will be pleasant views from the dwellings in your future home?	✓											✓			x		x	x	x	x	x
D460	Do you think your future home is located in a place with a good public transportation service offer?	✓		✓			✓								✓	x		x	x	x	x	x
D470	Do you feel that the public transportation services around your future home are adapted to older people or someone with disabilities?	✓		✓			✓								✓	x		x	x	x	x	x

TABLE 15 – QUESTIONS FOR THE RESIDENTS' SURVEY FOR SITES IN OPERATION

Questions		Scoring: results are distributed in requirements														Applicability						
Code	Text	210Q	220Q	310Q	320Q	410Q	420Q	510Q	520Q	530Q	540Q	550Q	610Q	620Q	630Q	Design	Operation	New	Existing	Individual	Collective	Complex
Q010	Here, you feel that you can live independently.	✓											✓	✓	✓		x	x	x	x	x	x
Q020	You can access basic shops (groceries, pharmacies, etc.) and services within a short walking distance.	✓		✓											✓		x	x	x	x	x	x
Q030	Do you think that your building and home are easily accessible, from a physical point of view?							✓		✓			✓		✓		x	x	x	x	x	x
Q040	Do you think your home is in a pleasant environment?												✓	✓	✓		x	x	x	x	x	x
Q050	Do you consider that your home is comfortable (layout, light, temperature, etc.)?	✓							✓								x	x	x	x	x	x
Q060	Can you, from your home environment, keep in touch with people you care about (family, friends, neighbours, etc.)?			✓													x	x	x	x	x	x
Q070	Is your home environment adequate to receive visitors during the daytime?			✓													x	x	x	x	x	x
Q080	Is your home environment adequate for visitors staying overnight?			✓													x	x	x	x	x	x
Q090	Can you easily control who has access to your home?		✓	✓									✓	✓			x	x	x	x	x	x
Q100	Do you have the option to personalise (arrange and decorate) your home according to your taste and preferences?	✓	✓														x	x	x	x	x	x
Q110	Is your home designed so it can be adapted overtime in case your needs change?	✓	✓	✓													x	x	x	x	x	x
Q120	In your home, do you have the possibility to arrange your space to engage in activities of your choice (having pets, performing hobbies, receiving visitors, storing your own things)?	✓	✓														x	x	x	x	x	x
Q130	Do you consider maintenance and repair costs in your home manageable for you (electricity, water, heating, etc.)?	✓				✓											x	x	x	x	x	x
Q140	Are your direct housing costs (rent/mortgage) a manageable part of your overall household budget?		✓			✓											x	x	x	x	x	x
Q150	In your current home, do you think you are able to manage your housing costs in the longer term (in the next 5-10 years)?		✓			✓											x	x	x	x	x	x
Q160	Do you feel that you are well informed about existing financial benefits (grants, subsidies) that exist to adapt your home when needed?						✓										x	x	x	x	x	x
Q170	Here, you know you can rely on people that can help you out on repair in your home.		✓	✓													x	x	x	x	x	x
Q180	Does your current home offer the conditions for accessing digital technologies?					✓						✓					x	x	x	x	x	x
Q190	Do you feel that you are able to control your home systems (access control, thermal control, shutters, etc.) to your needs and preferences?	✓	✓									✓					x	x	x	x	x	x
Q200	Do you consider important to have access to remote systems (mobile devices, Internet, etc.) that allow you to stay in touch with family and friends?			✓								✓					x	x	x	x	x	x
Q210	Do you consider that your home has the infrastructure to deploy assistive devices and monitoring systems to help you in your daily life?			✓								✓					x	x	x	x	x	x
Q220	Do you consider that remote systems (mobile devices, Internet, etc.) are affordable for your budget?			✓		✓						✓					x	x	x	x	x	x
Q230	In case you receive support or would need support in the future from family, relatives or friends, do you think that they can find in your current home the needed conditions to make it compatible with a working and social life (easy and fast access to internet, bearable commuting time)?		✓	✓	✓												x	x	x	x	x	x
Q240	Are you aware of existing services e.g. home (care) services available to you?				✓		✓										x	x	x	x	x	x
Q250	Can you easily find information, or get assistance, on age-friendly home services?		✓	✓			✓										x	x	x	x	x	x
Q260	Are home (care) services easy to access remotely from your home?			✓			✓										x	x	x	x	x	x

Questions		Scoring: results are distributed in requirements													Applicability						
Code	Text	210Q	220Q	310Q	320Q	410Q	420Q	510Q	520Q	530Q	540Q	550Q	610Q	620Q	630Q	Design	Operation	New	Existing	Individual	Collective	Complex
Q270	Is your home sufficiently connected to green areas (e.g. parks, walking paths, countryside, etc.)?	✓		✓									✓		✓		x	x	x	x	x	x
Q280	There are places within accessible walking distance to your home with spiritual significance for you (e.g. religious places, natural places)?	✓		✓													x	x	x	x	x	x
Q290	Would you say you were free to choose to live here?		✓	✓			✓										x	x	x	x	x	x
Q300	Do you feel you are part of a community when living here?						✓										x	x	x	x	x	x
Q310	Do you benefit from your own space in your home?	✓	✓	✓													x	x	x	x	x	x
Q320	Can you have a say on who to live with in your home?		✓	✓			✓										x	x	x	x	x	x
Q330	Do you have access to outdoor spaces where you feel comfortable, safe and well?	✓	✓											✓	✓		x	x	x	x	x	x
Q340	The surroundings of your home feel familiar and safe.	✓	✓	✓				✓									x	x	x	x	x	x
Q350	Do you consider the neighbourhood pleasant, accessible and safe for pedestrians?	✓	✓	✓				✓							✓		x	x	x	x	x	x
Q360	Do you feel safe at home?	✓	✓	✓				✓									x	x	x	x	x	x
Q370	Do you feel like you would like to stay in your current home?	✓					✓										x	x	x	x	x	x
Q380	Does the surroundings of your home offer opportunities to participate in social activities (volunteering, culture, training, workout, etc.)?	✓	✓	✓							✓				✓		x	x	x	x	x	x
Q390	This is a place where you can feel at home.	✓	✓	✓			✓										x	x	x	x	x	x
Q400	Do you find it easy to set limits to potential intrusive relationships in the surroundings of your home?		✓	✓													x	x	x	x	x	x
Q410	Can you easily find areas to rest in the surroundings of your home (e.g. benches, bus stops, etc.)?	✓		✓													x	x	x	x	x	x
Q420	Here you know people with whom you feel close	✓		✓													x	x	x	x	x	x
Q430	Here you know people you can count on in case of necessity or an emergency.	✓		✓													x	x	x	x	x	x
Q440	Are there places around your home suitable for informal chats or gatherings with neighbours (like a porch, a patio, a backyard, a balcony, a lobby or an elevator)?	✓	✓	✓											✓		x	x	x	x	x	x
Q450	Do you find pleasant the views from your home?	✓											✓				x	x	x	x	x	x
Q460	Do you think your house is in a place with a good public transportation service offer?	✓		✓			✓								✓		x	x	x	x	x	x
Q470	Do you feel that the public transportation services around your home are adapted to older people or someone with disabilities?	✓		✓			✓								✓		x	x	x	x	x	x

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