



Certified smart and integrated living
environments for ageing well

D4.1 – Technical Reference Framework version 0

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Authors and institution	CHRISTOPHE GERARD (CERTIVEA), Hervé DURET (CERTIVEA)	
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Executive Summary

This document presents the Technical reference framework (TRF version 0) for the Homes4Life certification scheme. It lists all the requirements which will form the scheme in the future digital platform. It constitutes a provisional version of the TRF that will be further developed in v1 in M20 and final version in M22.

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.

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

This deliverable will be followed by two other versions of the TRF (v1 in deliverable D4.3 due month 20 and v2 in D4.4 due month 22).



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 final objective of this document is to define the structure and composition of the Homes4Life certification scheme (H4L CS) that will be developed on the ISIA digital platform. The technical reference framework will present all the requirements and the assessment method according to the expectations contained in the Functional brief (task 3.4). This last document results from previous work on the H4L vision and working taxonomy (work package 2) as well as the definition of an analytical KPI framework (task 3.1) and an analysis of existing CS concerned with age-friendly environments (task 3.2).

This document constitutes a provisional version of the technical reference framework (v0). Further versions will follow (v1 in month 20 and final version in month 22) after a series of test of the H4L CS on different demonstration sites have been conducted.

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 for its requirements.

The second part (section 3) proposes the **Specific characteristics of the Homes4Life certification scheme**, according to the Functional Brief (D3.4).

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

1.3 Contribution of partners

Other partners will contribute to the proposal for the Homes4Life certification scheme.

This report was built thanks to the contribution of all partners of the H4L consortium, 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.

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 certification. Hence, it does not refer to the user 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 flats buildings or parts of buildings, building complex) as well as their close environment (plot, immediate surroundings) and the services associated.

When the certification occurs? 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 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 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.

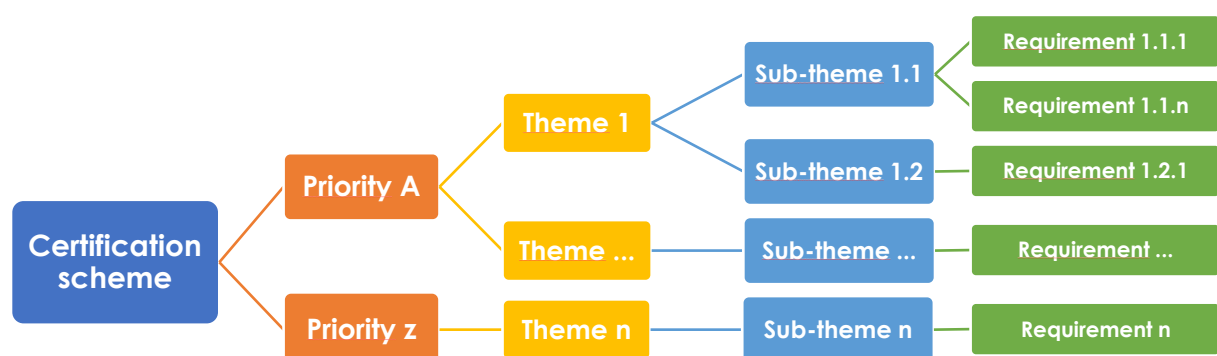


FIGURE 1 – TYPICAL STRUCTURE OF A CERTIFICATION SCHEME

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

3.1.1 Clients of the certification scheme

Two 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).

Characterization of Client:

- Item 1: Name of client
- Item 2: Economic sector (provisional options: housing, health and social care, developer, construction, investment, service, insurance)
- Item 3: Profile A (2 options: public, private)
- Item 4: Profile B (2 options: for-profit, non-for-profit)
- Item 5: Territorial level (4 options: international, national, regional, local)

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 dwelling: 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.

- Flat (in a multi-storey building: ground level apartment, other levels): housing units in a multi storey building.
- Dwelling in a residential complex: dwelling (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.

Characterization of Product certified:

- Item 1: Building type (3 options: individual, collective, complex)
- Item 2: Building delivery (2 options: new building, existing building)

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:

- 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 at the end of the design process.
- Operational phase: one assessment 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 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 certification will stay valid according to the following options (options to be validated by the Col/Experts board and partners and after tests of pilot sites):

- New building (design phase): until delivery of the building.
- New building (operational phase): until next assessment or a two-year maximum period after delivery of the building.
- 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.

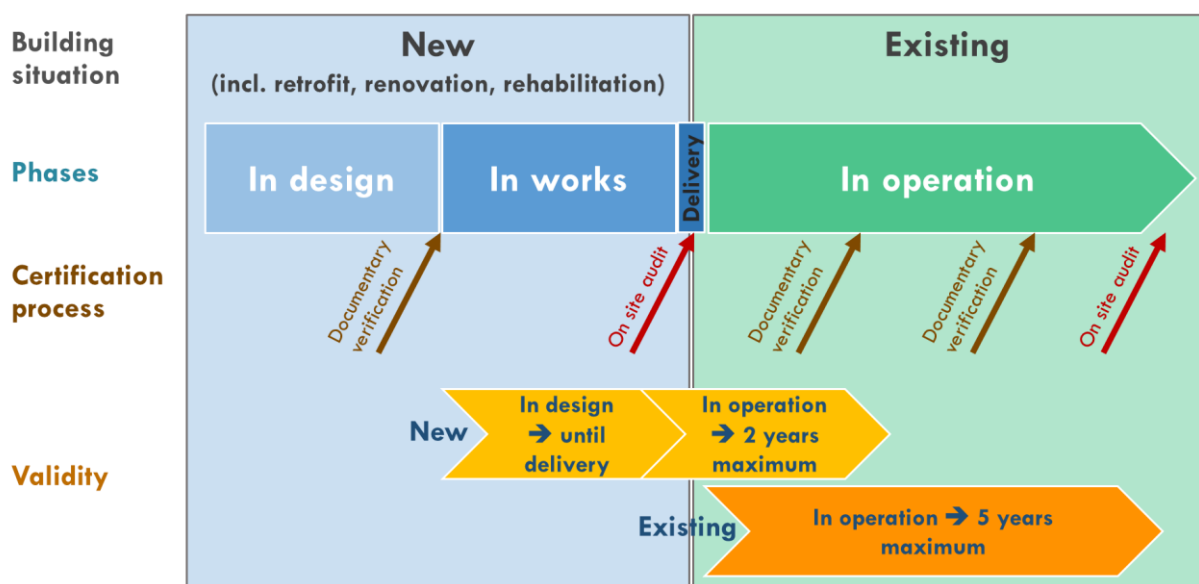


FIGURE 2 – ILLUSTRATION OF THE CERTIFICATION PROCESS

Characterization of Process:

- Item 1: Phase (3 options: in design, in works (under construction), in operation)
- Item 2: Certification process (2 options: documentary verification, on site audit)
- Item 3: Validity (duration based on contractual commitment)

3.2 Structure and scoring method of the Homes4Life certification scheme

3.2.1 Structure

3.2.1.1 A main structure composed of five clusters...

The functional brief proposes 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



FIGURE 3 – STRUCTURE OF HOMES4LIFE CERTIFICATION SCHEME

The five clusters include **Physical**, **Outdoor access**, **Personal**, **Social** and **Economic** topics, for which a set of requirements shall be defined (see next section 3.3).

TABLE 2 – THE TAXONOMY FRAMEWORK

Cluster	Category	Sub-category
2_PHYSICAL	2.1_Personal Safety	2.1.1_Accidents and calamities
		2.1.2_Safe use of amenities and facilities
		2.1.3_Safety around the home
		2.1.4_Safety from outside threats
	2.2_Comfort	2.2.1_Temperature regulation
		2.2.2_Air quality
		2.2.3_Lighting
		2.2.4_Acoustics
		2.2.5_Home management systems
	2.3_Accessibility and orientation	2.3.1_Getting in and out of the house
		2.3.2_Getting around the house
		2.3.3_Performing daily in-house activities
		2.3.4_Getting in and out of bed
		2.3.5_Personal hygiene
		2.3.6_Using communication and entertainment features
		2.3.7_Doing work or hobbies
		2.3.8_Controller home functions
		2.3.9_Orientating oneself in space and time
	2.4_Health and social care	2.4.1_Proximity to services

Cluster	Category	Sub-category
	2.5_Smart readiness	2.4.2_Options and facilities for eHealth and remote medicine
		2.4.3_Facilities for care provision in the home
		2.5.1_Wireless and wired connectivity
		2.5.2_Network infrastructure and interoperability
		2.5.3_IT infrastructure APIs
3_OUTDOOR ACCESS	3.1_Home and building	2.5.4_Digital security and data protection
		3.1.1_Outdoor spaces
	3.2_Immediate environment	3.1.2_Views
		3.2.1_Accessibility
		3.2.2_Attractiveness
		3.2.3_Social safety
	3.3_Neighbourhood or village	3.3.1_Accessibility
		3.3.2_Attractiveness
		3.3.3_Social safety
4_PERSONAL	4.1_Identity and emotional connectivity	4.1.1_Home
		4.1.2_Apartment building complex
		4.1.3_Neighbourhood or village
	4.2_Privacy and dignity	4.2.1_Control over social interaction
		4.2.2_Control over access
		4.2.3_Control over data collection and management
		4.2.4_Control over look and feel and furnishings
		4.2.5_Availability of private spaces and times
		4.2.6_Seclosure for health and ADL care provision
		4.2.7_Secure future prospects
		4.2.8_Self-determination of autonomy of movement
5_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
6_ECONOMIC	6.1_Affordability	5.2.2_Connection to place of employment
		6.1.1_Objective affordability
	6.2_Choice	6.1.2_Willingness to pay
		6.2.1_Dwelling type
		6.2.2_Living environment type
		6.2.3_Living arrangement type
		6.2.4_Neighbours_co_occupants
		6.2.5_Solutions
		6.2.6_Decision_making authority
		6.2.7_Choice information

Characterization of Structure:

- Item 1: Cluster (5 options)
- Item 2: Category (14 options)
- Item 3: Sub-category (59 options)

3.2.1.2 ... with a Management phase to gather general information

However, the extreme diversity of the European countries in matter of either geographical, cultural or regulatory contexts, and maturity in age-friendly environments, call for a set of general information prior to the specific clusters. Indeed, this information should allow evaluation of buildings in countries with heterogeneous local practices or different initial

performances or available means, as well as considering good practices and highlight innovation.

Therefore, this general information will be compiled in a **Management** phase for which we identified 4 categories of actions: client's commitment, site analysis, stakeholders' involvement, users' and stakeholders' surveys.

Commitment

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.

At least, 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,
- neighborhood 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 qualify life on site (existing sites only):

- A residents' survey: before auditing, and on a frequency to be defined with the client, assessors will collect residents' feelings about life on the site on the different topics addressed by the CS. Results will be published and disseminated among residents and to stakeholders if relevant.
- A stakeholder survey: consisting of interviews on their involvement on the project or existing site, and on their observations on life in the residence.

Note that more detailed information on the Management phase will appear in the next version of the Technical reference framework.

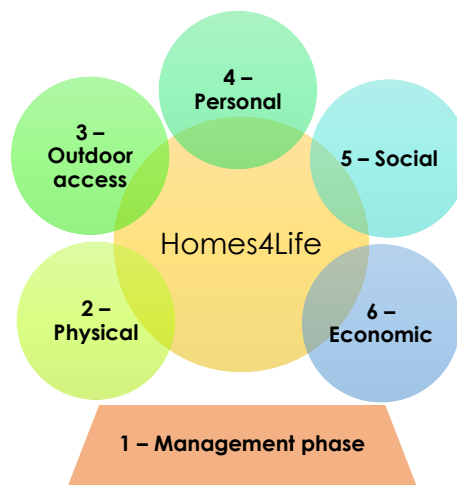


FIGURE 4 – PROPOSAL FOR THE STRUCTURE OF HOMES4LIFE CERTIFICATION SCHEME

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%	30%	80%	2_PHYSICAL	20%	2.1_Personal Safety
				20%	2.2_Comfort
				20%	2.3_Accessibility and orientation
				20%	2.4_Health and social care
				20%	2.5_Smart readiness
		20%	3_OUTDOOR ACCESS	33,3%	3.1_Home and building
				33,3%	3.2_Immediate environment
				33,3%	3.3_Neighbourhood or village
	70%	45%	4_PERSONAL	50%	4.1_Identity and emotional connectivity
				50%	4.2_Privacy and dignity
		35%	5_SOCIAL	75%	5.1_Social activity
				25%	5.2_Employment
		20%	6_ECONOMIC	75%	6.1_Affordability
				25%	6.2_Choice

Scoring system

For each category, a total number of points is determined according to the building type and situation.

The sum of points obtained at the category level is weighted by its share of the cluster, and then on until the “super cluster”.

The sum of the percentages at the “super cluster” level gives the final score for the H4L certification scheme.

A four-tier scoring system is proposed for the certification scheme and options will be presented at the cluster level. For instance, at the certification scheme level:

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

The system used to represent the compliance with the certification scheme (letters, stars, ...) will be decided in the certification scheme design process.

For each cluster, a minimum percentage is necessary to be certified. This minimum level is mandatory and proposed at 20%.

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

TABLE 4 – FINAL RESULT OF A HYPOTHETICAL CASE

Category	Share of cluster	Points obtained	Maximum points	Resulting %	Cluster	Per cluster (minimum 20%)	Share of final note	Resulting %	H4L CS final score
	(a)	(b)	(c)	(d=a*b/c)		(e=Σd)	(f)	(g=e*f)	(h=Σg)
2.1	20%	17	20	17,0%	2_PHYSICAL	89,3% (>20%)	24%	21,4%	75% Silver
2.2	20%	23	20	23,0%					
2.3	20%	38	30	25,3%					
2.4	20%	12	15	16,0%					
2.5	20%	4	10	8,0%					
3.1	33%	16	30	17,8%	3_OUTDOOR ACCESS	53,0% (>20%)	6%	3,2%	
3.2	33%	10	18	18,5%					
3.3	33%	11	22	16,7%					
4.1	50%	63	80	39,4%	4_PERSONAL	81,9% (>20%)	32%	25,8%	
4.2	50%	85	100	42,5%					
5.1	75%	81	120	50,6%	5_SOCIAL	66,9% (>20%)	25%	16,4%	
5.2	25%	13	20	16,3%					
6.1	75%	25	40	46,9%	6_ECONOMIC	56,9% (>20%)	14%	8,0%	
6.2	25%	8	20	10,0%					

Characterization of scoring:

Requirement:

- Item 1: number of points according to the scale defined for each requirement

Category:

- Item 2: percentage resulting from the sum of points obtained by the requirements

Cluster:

- Item 3a: percentage resulting from the sum of points obtained by the categories
- Item 3b: final score in the 4-tier system

Certification scheme:

- Item 4a: percentage of points
- Item 4b: final score in the 4-tier system

3.3 Building the requirements table

In parallel to the taxonomy, a set of 283 KPIs pave the way for the requirements of the H4L CS.

3.3.1 Recommendations

The functional brief includes several recommendations for the indicators.

In general, they 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).

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

The functional brief provides a list of the KPIs issued from both literature (D2.4/D3.1) and analysis of 15 certification schemes and labels (D3.2). They form the basis for defining the Homes4Life certification scheme. The number of KPIs and requirements do not necessarily match, because the process is not one to one. Sometimes, KPIs may lead to several requirements, sometimes requirements may combine as a response to several KPIs.

Requirements are characterized by two main groups of items: definition and assessment items as shown below. Resulting requirements from the KPIs are presented in section 6 Appendices. *Complete work tables will be updated in the next version of the Technical Reference Framework.*

Characterization of a requirement:

Definition items:

- Item 1: Code (unique identifier)
- Item 2: Title (labelling text)
- Item 3: Objective (text: relevance of the requirement)
- Item 4: Description (detailed text)
- Item 5: Identified KPIs in relation with the requirement

Assessment items (indicators):

- Item 5: Scale (number of performance levels for each requirement: direct values, list of choices, multiple choice, yes/no)
- Item 6: Level (number of points for each level of performance of the requirement)
- Item 7: Evidence (modes of proof necessary to show the achievement of the requirement for each phase assessed, both in design and operational phases)
- Item 8: Applicability (building type and building delivery)

3.4 Main characteristics of the digital platform

The certification scheme will only be available on digital platform. This platform (ISIA for Innovative, Sustainable, Interactive Application) is currently used by CER to host and centralise its whole portfolio of certification, benchmarking and evaluation services.

This digital platform allows to carry out assessments based on the certification scheme, to justify these assessments by linking the proofs of the achievement of the requirements, to carry out benchmarks between buildings of the same category, and to publish reports.

The platform is also used by auditors to verify that the requirements are validated and allows them to report their audit.

Further information on the ISIA Platform will be included in Deliverable 4.2.

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.

A series of tests will be conducted on a set of 10 demo buildings / living environments, recruited in different EU countries: they will be conducted all along the second year of the project and will be used as experimental buildings to test the different versions of the H4L certification scheme through the "Innovative, Sustainable, Interactive Application" ISIA platform 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 at month 20 and disseminated to all Col 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 v1 of 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 Col 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 phase

The test phase will be conducted in a series of 10 demo buildings / living environments. It will allow to validate both the contents of the Homes4Life certification scheme and the auditing process.

4.2.1 Auditing process

A proposal will be submitted for the auditing process. This proposal must deal with:

- How to audit: self-assessment, documentary verifications, on-site audits, ...
- Duration of each audit or verification
- Necessary skills of auditors

An audit (or a documentary verification) must be proposed for each phase of the certification (design and operation), in order to deliver the certification at each one of these 2 phases.

In addition of the auditing process, a training course must be defined for auditors, and in option for design teams and/or construction companies.

4.2.2 Selection of sites

A set of criteria was defined for selecting the test sites:

- 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 and Spain. *The selection process is still in progress and should be finalized before this year's end.*

Supportive organizations are fully associated in the Homes4Life certification scheme building process. A Registration and Commitment form defines mutual commitments during the test phase, from the pilot project holders and Homes4Life partners. There are 3 main 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. If necessary on-site data collection.
- 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

4.3 Provisional cost

According to the final content of the certification scheme, of the auditing process, and of the potential clients of the certification, the costs for Homes4Life certification will be proposed.

The proposal will be presented in a next version of the Technical Reference Framework.



5 Conclusion

A conclusion will be built after the test phase with the pilot sites.

6 Appendices

6.1 Actions of the Management phase (provisional)

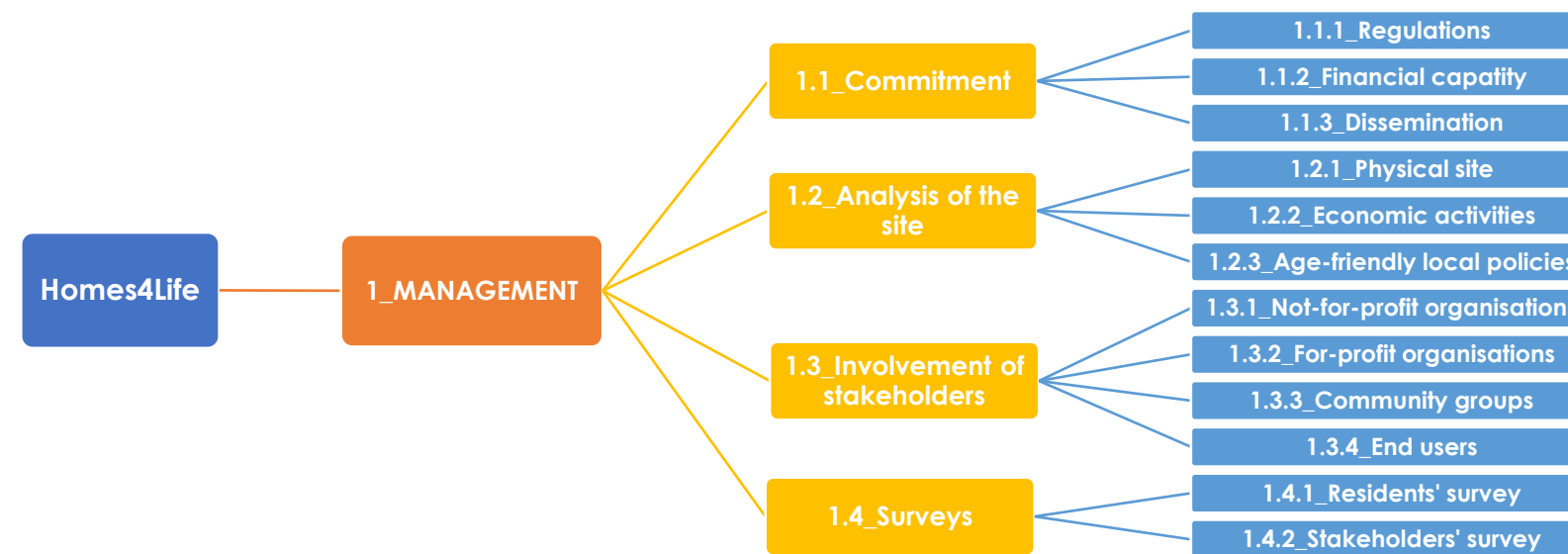


FIGURE 5 – MANAGEMENT PHASE: ITEMS

TABLE 5 –PROPOSED ACTIONS FOR THE MANAGEMENT PHASE

Actions				
Code	Title	Objective	Description	Identified KPIs (D3.1)
1.1.1.1.	Compliance with national and local regulations	Determine the client's qualification for the H4L CS	Only the "yes" option is acceptable. A "no" option would disqualify the applicant for the certification process.	none
1.1.2.1.	Financial capacity	Determine the financial maturity of the project	A "no" option needs complementary information on the business plan.	none
1.1.3.1.	Dissemination of information to stakeholders	Assess the proper dissemination of all relevant information to stakeholders	A "no" option needs to explain the reasons of not disseminating to the identified stakeholders.	none
1.2.1.1.	Geographical analysis	Determine the conditions of the environment of the site	The analysis concludes to: * a mainly favourable environment: no action required * some areas of concern: vigilance is required on these specific topics * a challenging context: actions required to cope with the situation	22-001, 22-006, 22-013, 22-020 + 24-001, 24-002, 24-003
1.2.2.1.	Main activities and risks at stake			
1.2.3.1.	Accessibility and mobility conditions			
1.2.3.2.	Financing conditions	Determine the strength of the territory based-presence and liveliness of the local network	Evaluation of the strength of the "community"/network around the project/site: * mostly all relevant stakeholders are involved in the life of the project/site: no action required * some relevant stakeholders are not involved: explain why * the client is the sole stakeholder/isolated: risk for the life of the project/site	see Needs and preferences in the taxonomy
1.3.1.1.	Involvement of local authorities			
1.3.1.2.	Involvement of health and social providers			
1.3.1.3.	Involvement of social and public housing providers			
1.3.2.1.	Involvement of project developers and investment companies			
1.3.2.2.	Involvement of construction and installations companies			
1.3.2.2.	Involvement of service providers			
1.3.2.4.	Involvement of private health insurance companies and other innovative services			
1.3.3.1.	Involvement of community groups			
1.3.4.1.	Involvement of elderly people	Collect residents' feelings about life on the site on the different topics addressed by the CS	Level 1: survey realized Level 2: survey disseminated	22-005, 22-012, 22-019, 22-024, 25-007
1.4.1.1.	Residents' survey			
1.4.2.1.	Stakeholders' survey	Collect stakeholders' opinions, through interviews mainly, on their involvement on the project or existing site, and on the results they observe/note.	Level 1: survey realized Level 2: survey disseminated	

6.2 Table of requirements Physical cluster (provisional)

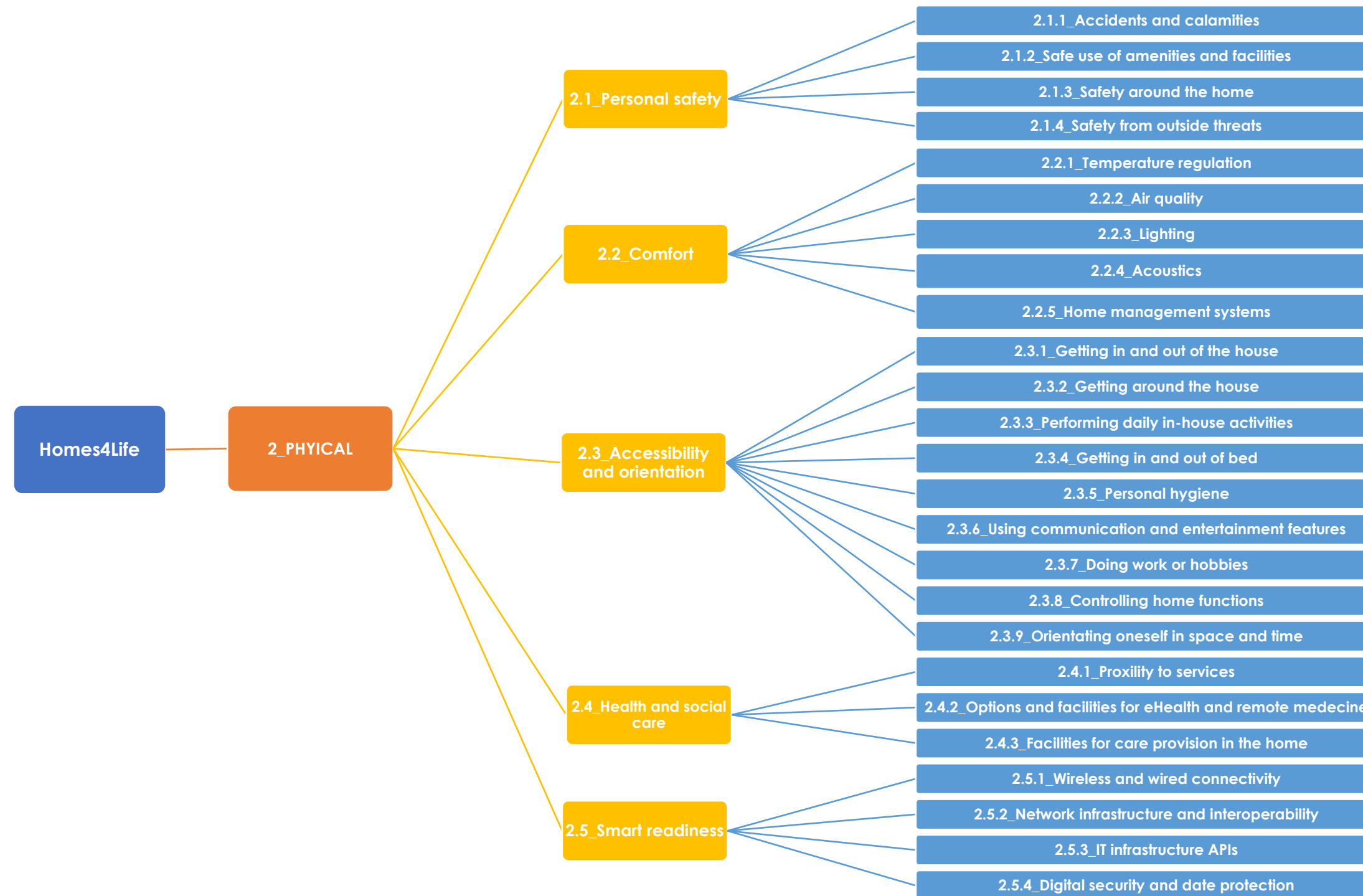


FIGURE 6 – STRUCTURE OF CLUSTER 2: PHYSICAL

TABLE 6 –PROPOSED REQUIREMENTS FOR THE PHYSICAL CLUSTER

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
2.1.1.1.	Design of staircases and circulations	Staircases are the origin of many accidents. Almost all accidents occur in the descent. Therefore, specific characteristics are expected to avoid these risks. Circulations are also unsafe spaces, especially in terms of slippery, incline, potential obstructions.	<p>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:</p> <ul style="list-style-type: none"> - 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 <p>- 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.</p> <p>- Non-slip coverings (slipperiness coefficient) The covering of the stairways serving the housing labelled is non-slip: its coefficient of slipperiness is at least equivalent to R9 (DIN51130) (measured in feet shod).</p> <p>- Marks on stair noses, with the following requirements:</p> <ul style="list-style-type: none"> - Be of contrasting colour compared to the rest of the staircase - Be non-slippery - Present an overhang less than 10 millimetres from the riser <p>- Signalisation of beginning and end of stairs.</p> <ul style="list-style-type: none"> - 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 <p>Circulations must comply with national regulation or following characteristics:</p> <ul style="list-style-type: none"> - 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. - 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. 	<p>From 21-001 and 21-002</p> <p>To be confirmed and validated</p>	Staircases	4	Plans, characteristics of coverings, handrails, marks, signalisation	On-site visit, characteristics of installed coverings, handrails, marks, signalisation	x	x		x	x
2.1.1.2.	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, especially on wet rooms, and indoor-outdoor spaces such as halls...	<p>The need to ensure the safety of people have led to the improvement of regulations regarding the design and requirements of pavements, especially on wet rooms, indoor-outdoor spaces such as halls...</p> <p>Minimum slipping coefficients must be achieved for these spaces, according to local regulations:</p>	<p>From 21-004 + WK-NL 4.1.1</p> <p>Check and validate</p>	Yes/No	3	Characteristics of coverings	Characteristics of installed coverings	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>- 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)</p> <p>- Bathrooms: slip coefficient is at least equivalent to A according to DIN 51097 or with CEN/TS 16165 method A (grad A)</p> <p>- Kitchens</p> <p>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)</p>										
2.1.1.3.	Design of the bathrooms	A lot of incidents occur in bathrooms. Therefore, bathrooms must have minimum provisions in place.	<p>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:</p> <p>- Dimensions of shower basin: 90x90 cm or 80X120 cm minimum with a non-slip bottom.</p> <p>- Height of the edge (rail included) between shower basin and ground: 18 cm maximum</p> <p>- Location of taps: between 90 cm and 130 cm from the ground, accessible from the entrance of the shower if possible</p> <p>- 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.</p>	From 21-005	Yes/No	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
2.1.1.4.	Adapted lighting	Lack of adequate lighting can decrease visual efficiency and cause accidents.	<p>Lack of adequate lighting can decrease 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 dazzle.</p> <p>The lighting of the passage areas of the staircase serving the labelled 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.</p> <p><i>The luminous intensity is evaluated at a height of 150 cm from the ground.</i></p>	From 21-003	Yes/No	1	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x		x	x
2.1.1.5.	Lighting controls	In order to provide when necessary the good level of light, lighting controls have to be implemented.	<p>The following provisions are in place:</p> <p>A presence detection lighting system is preferred. Otherwise, the lighting controls are easily accessible and visible. They are located:</p> <p>- At the entrance of the hall</p> <p>- Near the lifts and stairs</p> <p>- At a height between 90 cm and 130 cm (from the ground to the base).</p> <p>These lighting controls are identified (light integrated in the lighting control, pictogram ...).</p> <p>The presence detection lighting system must cover the entire space concerned and when two detection zones succeed one another, they overlap.</p> <p>The half-levels are equipped with a detector.</p> <p>There must be no shadow zones, or direct dazzle of users on the area or reflection on the signage.</p>	From 21-003	Yes/No	2	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x		x	x
2.1.1.6.	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.	<p>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:</p> <p>- Presence of fire alarm facilities.</p> <p>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).</p> <p>Fire detectors in place in transport area of apartment buildings.</p> <p>- Requirements for separate fire sub-section components.</p> <p>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.</p>	From 21-006 <i>Check and validate</i>	Yes/No	2	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x		x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>The requirements in terms of fire resistance classes of precast construction units (walls, ceilings) are met and comply with current regulations for new buildings.</p> <p>The requirements in terms of fire resistance classes of partition walls are met and comply with current regulations for new buildings.</p> <ul style="list-style-type: none"> - 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. 										
2.1.2.1.	Providing safety informations	The information and safety information panels located in the lobby of the collective buildings are accessible and legible.	<p>The information and safety information panels located in the lobby of the collective buildings are accessible and legible:</p> <ul style="list-style-type: none"> - 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. 	From CN 1.2.3	Yes/No	1	Characteristics of the information panels	On-site visit, characteristics of the information panels	x	x		x	x
2.1.2.2.	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.	<p>The lobby of the collective buildings is sufficiently lit and bright for good accessibility and visibility by seniors. The following characteristics have to be in place:</p> <ul style="list-style-type: none"> - 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 favoured. <p>The luminous intensity is evaluated at a height of 150 cm from the ground.</p>	Not in CN 1.2.4	Yes/No	2	Plans, characteristics of systems	On-site visit, characteristics of systems	x	x		x	x
2.1.2.3.	Design and equipment of bathrooms and toilets	In order to enjoy maximum comfort without risk or injuries, wet rooms (bathrooms and toilets) have to comply with minimum characteristics	<p>In order to enjoy maximum comfort without risk or injuries, wet rooms have to comply with following characteristics for:</p> <p>- Bathroom:</p> <ul style="list-style-type: none"> - A thermostatic mixing valve is installed in the shower. In case of individual gas heating without accumulation, the thermostatic mixing valve is not 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. <p>- Toilet:</p> <ul style="list-style-type: none"> - 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. <p>- Both (toilet and bathroom): If the doors of the bathrooms and toilets are swinging, they open on the outside.</p> <p>All tiles in toilets and bathrooms (including shower areas) must be non-slip in accordance with CEN/TS 16165.</p> <p>For toilets: method A (grad A), method B (R10) or method C (0.30-0.80).</p> <p>For bathrooms: method A (grade B) or method C (0.45-0.80).</p>	From 21-007, 21-008, 21-009 and 21-010 + WK-NL 53.3 for bathrooms?	Bathroom Toilet	3 2	Plans and characteristics of bathroom, toilets, equipment, taps, basins, sinks, bars, tiles, ...	On-site visit, plans and characteristics of bathroom, toilets, equipment, taps, basins, sinks, bars, ...	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
2.1.2.4.	Safe use of car parks	Underground car parks must be safe, according that they are used daily. Specific threat in these spaces is an inappropriate 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 signalling if the acceptable thresholds are exceeded.	Not in SE.2.2.5	Yes/No	2	Characteristics of the detection system	On-site visit, characteristics of the detection system	x	x	x	x	x
2.1.3.1.	Secure lighting around home	Proper lighting around the home referring to the entrances so that these spaces have the right intensity as well as presence detection system covering the entire space.	Proper lighting around the home referring to the entrances so that these spaces have the right intensity as well as presence detection system covering the entire space.	From 21-011	Yes/No	1	Characteristics of lighting systems	On-site visit, characteristics of lighting systems	x	x	x	x	x
2.1.3.2.	Design of outdoor circulations	Outdoor circulations (accessible paths, stairs, terraces, etc) are non-freezing and non-slippery in accordance to national regulations	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).	From 21-012	Yes/No	2	Characteristics of outdoor circulations	On-site visit, characteristics of installed outdoor circulations	x	x	x	x	x
2.1.4.1.	Burglary protection: construction design and systems	Construction design and security systems installation against burglary include alarms as well as other basic devices such as videophone, door eye or peephole, which are placed at the right heights	<p>Construction design and security systems installation against burglary include alarms as well as other basic devices such as videophone, door eye or peephole, which are placed at the right heights. Construction design: at least 3 of the following characteristics</p> <p>- 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:</p> <ul style="list-style-type: none">• 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 <p>• 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;</p> <ul style="list-style-type: none">• Single vertical bar in accordance with local standard or: NF P01-012 <p>• Smooth internal face;</p> <ul style="list-style-type: none">• 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). <p>- 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.</p> <p>- 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 centimetres. Swinging and tilting systems are accepted.</p> <p>- 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.</p> <p>Systems: at least one of the following systems</p> <p>- 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.</p> <p>- 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.</p> <p>- Burglar alarm or BUS- connected security system.</p>	From 21-013	Construction design	3	Plans, characteristics of systems	On-site visit, characteristics of installed systems	x	x	x	x	x
				See table on French standards? (Height depending on thickness)									
2.1.4.2.	Direct sightline from inside to the street	The location of the front door should provide a direct sight so that the occupant is able to see the visitor.	<p>The location of the front door should provide a direct sight so that the occupant is able to see the visitor.</p> <p>Technical specifications to consider:</p> <ul style="list-style-type: none">- Front door should be directly visible from street.- If an alcove is present, its maximum depth is:- Individual: 600 mm	From 21-014	Yes/No	2	Plans, characteristics of systems	On-site visit, characteristics of installed systems	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<ul style="list-style-type: none"> - 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). 										
2.1.4.3.	Safety requirements for access doors	Some provisions have to be in place to ensure safety of access doors.	Some provisions must be in place (at least 2): <ul style="list-style-type: none"> - 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. 	From 21015	Yes/No	2	Characteristics of doors	Characteristics of installed doors	x	x	x	x	x
2.1.4.4.	Safety requirements for specific spaces	Some provisions must be in place for at least parking places, storage areas and back passages.	Some provisions have to be in place for at least parking places, storage areas and back passages: Parking places: <ul style="list-style-type: none"> - 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 bicycles/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. Storage areas or back passages: Where centralized storage facilities or back passages are realized, they should be safe, especially for use by vulnerable occupants.	From 21-015, 21-013 From CER	Parking places Storage areas or back passages	3 2	Plans, characteristics of locking systems, doors, windows, etc.	On-site visit, characteristics of installed locking systems, doors, windows, etc.	x	x		x	x
2.2.1.1.	Proper layout to ensure satisfactory thermal comfort conditions for tenants	The building orientation (i.e., dominant winds in winter, sunrays in summer, ...) impacts on thermal comfort inside the building. OR PUT ONLY IN MANAGEMENT PHASE	Presence of an analysis of the site (see 0.2) concerning all items about thermal conditions of the site (dominant winds, sunrays, rain, ...).	From 22-001: analysis of site	Yes/No	1	Analysis of the site	On-site visit, analysis of the site	x	x	x	x	x
2.2.1.2.	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	Passive design for summer and winter comfort: <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> - Insulation thickness, proof of thermal bridges - Maximum increase of the mean U-value of the building shell. - Level of Air tightness of building - Solar factors of windows, walls - Solar protections, shutters - ... Presence of passive systems/architectural solutions such as: <ul style="list-style-type: none"> - free cooling (natural night ventilation) - air blowers - Canadian or Provençal well - shaded areas (pergolas, blankets,...) 	From 22-002	Yes/No	5	Local energy regulation attestation (if concerned), plans, characteristics of materials, passive systems	On-site visit, local energy regulation attestation (if concerned), plans, characteristics of installed materials, passive systems	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>~ ...</p> <p>Vegetation</p> <ul style="list-style-type: none"> - Near the building - On facades and roofs <p>...</p> <p>If concerned, compliance with local regulation.</p> <p><i>Reminder: Passive house allows lower energy consumption in terms of heat.</i></p>										
2.2.1.3.	Presence of HVAC systems	Relevant and performing HVAC systems (heating, ventilation and air conditioning) must be installed according to climatic conditions.	<p>Performance requirements heating / cooling installations:</p> <p>Installations must be designed to achieve the following minimum temperatures under locally applicable norms/regulation for winter temperatures and wind speeds:</p> <ul style="list-style-type: none"> - Living room and kitchen: 22 C - Bathroom: 24 C - Bedroom / other rooms: 20 C <p>Specific characteristics:</p> <ul style="list-style-type: none"> - 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. <p>If concerned, compliance with local regulation.</p>	From 22-003	Yes/No	3	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
2.2.1.4.	Operability and control of heating and air conditioning systems	Control of heating and air conditioning systems in the dwelling	<p>Controls</p> <p>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:</p> <ul style="list-style-type: none"> - 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. <p>Automation</p> <p>A building automation concept is in place, and all comfort parameters can be influenced by occupants.</p> <p>Examples of automation:</p> <ul style="list-style-type: none"> - 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. <p>Information</p> <p>Moreover, ease of use must be addressed for senior occupants: user's manual, explanation of systems:</p> <ul style="list-style-type: none"> - 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). <p>For example:</p> <ul style="list-style-type: none"> - Advanced control of heating: Enhanced controls for heating systems (e.g. Climate, 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 	From 22-003	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

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
2.2.1.5.	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.	From 22-004	Yes/No	3	Dynamic simulation report	Dynamic simulation report	x	x		x	x
2.2.1.6.	Occupant's perception and satisfaction on thermal comfort	Survey on thermal conditions and results; may allow to pinpoint specific attention to senior occupants OR ONLY IN MANAGEMENT PHASE	The survey asked in Management cluster 0.4. deals with thermal comfort conditions for residents.	From 22-005: survey	Yes/No	1	Survey results	Survey results	x	x		x	x
2.2.2.1.	Outdoor air quality of the environment around the building	Outdoor air quality has a major impact on indoor air quality. OR PUT ONLY IN MANAGEMENT PHASE	Presence of an analysis of the site (see 0.2) concerning all items about air quality conditions of the site soils (depollution of brownfield), air pollution (major equipment nearby: industries, road traffic, airport, etc.).	From 22-006: analysis of site	Yes/No	1	Analysis of the site	On-site visit, analysis of the site	x	x	x	x	x
2.2.2.2.	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) An exhaust air duct for an extractor hood (independent of that provided for the mechanical ventilation) is present in the kitchen.	From 22-007	Yes/No	2	Plans, characteristics of systems, treatments	On-site visit, characteristics of installed systems and treatments	x	x	x	x	x
2.2.2.3.	Construction materials	Compliance of the materials with regulations or labels in terms of pollutants emission	Ensure good indoor air quality and avoid negative impact on occupant health from Volatile Organic Compounds (VOCs) or Formaldehyde contained in 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 labelled (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.	From 22-008	Yes/No	2	Plans, characteristics of construction materials in contact with indoor air	On-site visit, plans, characteristics of installed construction materials in contact with indoor air	x	x	x	x	x
2.2.2.4.	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 undercut. If the kitchen is accessible by a single door, it is 2cm undercut. If a bathroom equipped with a gas appliance is accessible via a single door, it is 2cm undercut.	From 22-009	Yes/No	2	Plans, characteristics of ventilation system	On-site visit, plans, characteristics of installed ventilation system	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - areas where the vehicles are; - a place that gives off odours (place of storage of household waste, factory, etc.); - exhaust air vents; - outlets of flue products and flue gases. 										
2.2.2.5.	Operability and control of ventilation systems	Control of the ventilation systems in the dwelling OR IN SUB-CATEGORY 2.2.5	<p>Controls</p> <p>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:</p> <ul style="list-style-type: none"> - 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. <p>Automation</p> <p>A building automation concept is in place, and all comfort parameters can be influenced by occupants.</p> <p>Information</p> <p>Moreover, ease of use must be addressed for senior occupants: user's manual, explanation of systems:</p> <ul style="list-style-type: none"> - Provide occupants with easy-to-understand information on their ventilation system. - Advanced control: Enhanced controls for ventilation systems. 	From 22-010	Controls	1	Characteristics of control system, automation device, and information	Characteristics of installed control system, automation device, and information	x	x	x	x	x
					Automation	1							
					Information	1							
2.2.2.6.	Assessment on Indoor Air Quality	Ensure that pollution rates respect minimum values for selected IAQ pollutants	<p>Measurements of the indoor air quality are carried out upon reception of the dwellings and before delivery of the keys:</p> <ul style="list-style-type: none"> > Based on a official national/local protocol. > The following health reference values for pollutants are respected: <ul style="list-style-type: none"> - Radon 100 Bq / m3 (WHO ref.) - in case of identified radon risk (mapping of 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 PM2.5: 10 µg / m3 (HCSP); - Particles PM10: 20 µg / m3 (ANSES - WHO) - TVOC: 300 µg / m3 (Indoor Air Hygiene Commission - German Federal Agency for the Environment). French and German authorities... 	From 22-011	Yes/No	3	Measurement report	Measurement report	x	x		x	x
2.2.2.7.	Occupant's perception and satisfaction on IAQ	Survey on air quality (perception of stuffy atmosphere, ...) OR PUT ONLY IN MANAGEMENT PHASE	The survey asked in Management cluster 0.4. deals with thermal comfort conditions for residents.	From 22-012: survey	Yes/No	1	Survey results	Survey results	x	x		x	x
2.2.3.1.	Proper layout to ensure satisfactory lighting conditions for tenants	Positionning of the building according to its environment. OR PUT ONLY IN MANAGEMENT PHASE	Presence of an analysis of the site (see 0.2) concerning all items about lighting conditions of the site.	From 22-013: analysis of site	Yes/No	1	Analysis of the site	On-site visit, analysis of the site	x	x	x	x	x
2.2.3.2.	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:	From 22-014	Yes/No	3	Plans, characteristics of paintings in circulations of collective buildings and complexes	On-site visit, plans, characteristics of installed paintings in circulations of	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>- 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.</p> <p>- 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%.</p> <p>- Closed kitchens OI is greater than or equal to 10%.</p> <p>For collective and complexes:</p> <p>- 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.</p> <p>- For 50% at least of the dwellings:</p> <p>- Direct sunlight during winter in living-rooms (Min. 1.5 sunny hours on Dec 21)</p> <p>- 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).</p> <p>- The reflection factor of each wall (ceiling, wall and floor) of the horizontal circulations and the stairwells serving the dwellings is:</p> <p>- 70% for the ceiling;</p> <p>- 50% for the wall;</p> <p>- 20% for the floor.</p>					collective buildings and complexes					
2.2.3.3.	Glare control	To ensure that there is no risk of glare in the house/dwelling, some provisions should be in place	<p>The risks of glare in the dwellings are reduced by means of special provisions while ensuring to maintain an external view:</p> <ul style="list-style-type: none"> • Identify 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 neighbouring 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. <p>Presence of means/systems (shutters and blinds, solar protection) to allow users to control their natural lighting environment:</p> <ul style="list-style-type: none"> - 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. 	From 22-015	Yes/No	2	Plans, characteristics of shutters	On-site visit, plans, characteristics of installed shutters	x	x	x	x	x
2.2.3.4.	Presence of artificial lighting systems	Presence of lighting points (type, quantity, position) and sockets	<p>Presence of means/systems to allow users to control their artificial lighting environment</p> <p>Artificial light:</p> <p>Presence of lighting points in private areas (dwellings):</p> <ul style="list-style-type: none"> - 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). <p>Presence of lighting points in common areas</p> <p>Inside collective building or complex</p> <ul style="list-style-type: none"> - 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/mobility scooter parking facilities (min 20 Lux) - In in-complex multi-storey parking facilities (min 15 Lux) <p>Outside collective building or complex:</p> <ul style="list-style-type: none"> - 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) 	From 22-016	Yes/No	2	Plans, characteristics of lighting points and sockets	On-site visit, plans, characteristics of installed lighting points and sockets	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			Technical specifications of lighting points - The colour 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.										
2.2.3.5.	Operability and control of natural and artificial lighting systems	Adapted lighting control (automated sunlight control, brightness control or presence-controlled lighting solutions), high frequency ballast, switches; opening and closing switch, control of automation by occupant on shutters and blinds OR IN SUB-CATEGORY 2.2.5	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. 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	From 22-017	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
2.2.3.6.	Assessment on lighting conditions	The average daylight factor is calculated	The average daylight factor (Fij) 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: (EU Northern Europe countries*) • Living room / open kitchen: Fij avg / Fij 2,5%; • Bedroom: Fij avg / Fij 2%; • Closed kitchen: Fij avg / Fij 1,5%. Central climate: (EU Central Europe countries**) • Living room / open kitchen: Fij avg / Fij 2%;	From 22-018	Yes/No	3	Simulation	Simulation	x	x		x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<ul style="list-style-type: none"> Room: Flj avg / Flj 1.5%; Closed kitchen: Flj avg / Flj 1%. Mediterranean climate: (EU Mediterranean countries***) <ul style="list-style-type: none"> 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. <p>*EU Northern Europe countries: Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden, United-Kingdom.</p> <p>**EU Central Europe countries: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Luxembourg, Netherlands, Poland, Romania, Slovakia.</p> <p>***EU Mediterranean countries: Croatia, Cyprus, Spain, Greece, Italy, Malta, Portugal, Slovenia.</p>										
2.2.3.7.	Occupant's perception and satisfaction on lighting comfort	Survey on lighting conditions and control OR PUT ONLY IN MANAGEMENT PHASE	The survey asked in Management cluster 0.4. deals with lighting conditions for residents.	From 22-019: survey	Yes/No	1	Survey results	Survey results		x			
2.2.4.1.	Proper layout to ensure satisfactory acoustic conditions for tenants	Positioning of the building according to its acoustic environment and insulation from the outside of the building. OR PUT ONLY IN MANAGEMENT PHASE	Presence of an analysis of the site (see 0.2) concerning all items about acoustic conditions (fair protection from noises outside the building) of the site.	From 22-020: analysis of site	Yes/No	1	Analysis of the site	On-site visit, analysis of the site	x	x			
2.2.4.2.	Insulation between dwellings and with common spaces	Maximise acoustic comfort and provide privacy between dwellings/homes, considering fair protection from noises of neighbouring apartments and from common spaces in multiple dwelling buildings: halls, staircases, lifts in common spaces; systems and equipment of neighbouring dwellings.	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" <p>The following design provisions should be in place:</p> Collective buildings or complexes: <ul style="list-style-type: none"> - 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 staircases 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 <p>Grouped houses</p> <ul style="list-style-type: none"> - 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). - Walls with plumbing installations are not adjacent to bedrooms. Level 1: At least 2 conditions Level 2: The 3 conditions <p>Individual houses</p> This type of building is awarded the highest ratings by default (Level 2: 5 points)	From 22-021	Level 1 Level 2 Level 3 Level 4 Level 5 Level 6	0 2 4 7 9 12	Submission plans	On-site visit, plans for execution (outlines, sections)	x	x			
2.2.4.3.	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") <p>Following design provisions should be in place:</p> <ul style="list-style-type: none"> - The interior doors of the main rooms, kitchens and bathrooms are solid and have joints on 3 sides, and are undercut 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. 	From 22-022	Level 1 Level 2 Level 3 Level 4 Level 5 Level 6	0 2 4 7 9 12	Submission plans, technology plans	On-site visit, plans for execution (outlines, sections), technology plans	x	x			

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			Level 1: At least 2 conditions Level 2: At least 3 conditions		Level 1 Level 2	3 5							
2.2.4.4.	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	From 22-023	level 1 level 2 level 3 level 4 level 5	0 3 6 9 12	Measurement report	Measurement report	x	x			
2.2.4.5.	Occupant's perception and satisfaction on acoustic comfort	Surveys on occupant's perception and satisfaction may allow to pinpoint specific attention to senior occupants. OR PUT ONLY IN MANAGEMENT PHASE	The survey asked in Management cluster 0.4. deals with acoustic conditions for residents.	From 22-024: survey	Yes/No	1	Survey results	Survey results	x	x			
2.2.5.0.	Requirements dispatched in other subcategories of Comfort	We may group here the 3 requirements about systems management (heating/cooling, ventilation, lighting), and automation and information Or put in this sub-category the 3 requirements below	Controls for: - heating/cooling - ventilation - lighting Automation - heating/cooling - ventilation - lighting Information - heating/cooling - ventilation - lighting		Controls H/C V L Automation H/C V L Information H/C V L	3 1 1 1 1 1 1 1 1 1	Characteristics of control system, automation device, and information	Characteristics of installed control system, automation device, and information	x	x		x	x
2.2.5.1.	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 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. Climate, 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	From 22-003	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

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
2.2.5.2.	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.	From 22-010	Controls	1	Characteristics of control system, automation device, and information	Characteristics of installed control system, automation device, and information	x	x	x	x	x
2.2.5.3.	Operability and control of natural and artificial lighting systems	Adapted lighting control (automated sunlight control, brightness control or presence-controlled lighting solutions), high frequency 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. 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	From 22-017	Controls	1	Characteristics of control system, automation device, and information	Characteristics of installed control system, automation device, and information	x	x	x	x	x
2.3.1.1.	Accessibility of outdoor circulations (signage around the building, ramps, coatings, lighting, ...).	The home must be accessible.	Exterior paths The building where 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	From 23-001, 23-002, 23-012 + CN 1.1.3? + CN/IN 1.1.4?	Exterior paths	2	Plans, characteristics of soil coatings, ramps, lighting, signage	Plans, characteristics of installed soil coatings, ramps, lighting, signage	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>120 x 140 cm) and in the event of a change of direction greater than 45° (allowing a 150 cm rotation space))</p> <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - 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. <p>Vicinity signage Existence of enough signage 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 signage has to be compliant with the requirement of the accessibility 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: <ul style="list-style-type: none"> - It presents characters with a height of 7 cm minimum - A contrast of 70% minimum between the lettering and the bottom is 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. </p>										
2.3.1.2.	Accessibility to main entrances (including lighting)	Main accesses are designed to avoid any kind of discrimination, and to be used by all and useful for all.	<p>Access level - Minimum requirements: The building is preferably on the ground floor. If several steps are present, the cumulative conditions below are fulfilled: <ul style="list-style-type: none"> - 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 different places (entrance hall, rubbish areas, other common areas) is less than or equal to 2 cm. </p> <p>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 possibilities: <ul style="list-style-type: none"> - 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. </p>	From 23-003, 23-004, 23-013, 23-014	Access level Access doors Lighting	2 2 1	Plans, characteristics of doors, lighting systems	On-site visit, plans, characteristics of installed doors, lighting systems	x	x		x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>- When the surface of the door is entirely glazed, contrasting elements are arranged on / in the glazing at a height of between 110 cm and 160 cm.</p> <p>Access doors - Minimum requirements to guarantee accessibility for people with (light) mobility impairments: all access doors must comply with a set of minimum requirements.</p> <p>- Free width at least 850 mm.</p> <p>- Electric, automatic or operable by persons with limited physical strength.</p> <p>- Maximum threshold height 20 mm.</p> <p>- 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</p> <p>- 70% contrast with their immediate environment for doors with a threshold greater than 5 mm.</p> <p>Lighting: 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 colour contrast with the wall and by a backlight or phosphorescence (night marking). Corridor lighting: The lighting of the corridors serving the labelled 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 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.</p>										
2.3.1.3.	Accessibility of indoor circulations	Interior circulations must guarantee accessibility and security.	<p>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. <i>For disabled persons, all horizontal circulations serving apartments have handrails on both sides, with no protruding angle and 85 cm (+/- 5 cm) from the finished floor.</i></p> <p>In the common spaces inside the building the horizontal and vertical circulations are free of obstacles.</p> <p>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).</p>	<i>From 23-007, 23-008 + part of 23-009</i>	Yes/No	2	Plans, characteristics of handrails, doors	On-site visit, plans, characteristics of installed handrails, doors	x	x		x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
2.3.1.4.	Accessibility of indoor stairs	Morphology of the stairs facilitating their use and guaranteeing security.	<p>Characteristics of stairs comply with local regulation or following ones:</p> <p>All stairs within the building (but outside individual dwellings) must satisfy the local regulation or following requirements:</p> <ul style="list-style-type: none"> - 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 <p>Presence of safety devices like handrails and other in the case of the existence of risk of falling.</p>	From 23-009, 23-010	Yes/No	3	Plans	On-site visit, plans	x	x		x	x
2.3.1.5.	Accessibility to all levels with lifts	All usable levels of the building must be accessible with a lift.	<p>Levels of service served by elevator, including mezzanine levels:</p> <p>Servicing of all levels of current use by each lift.</p> <p>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.</p> <p>Design specifications of lifts (excluding goods lifts) in complexes:</p> <ul style="list-style-type: none"> - 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 - Lift door electric or automatic - Call buttons outside lift door, at least 500 mm from interior corners <p>For use by people with mobility impairments, lifts in complexes need to comply with requirements regarding dimensions, equipment and operation</p> <p>Dimensions:</p> <ul style="list-style-type: none"> * Inside dimensions at least 1200 x 2100 mm * Free door width at least 900 mm <p>Equipment:</p> <ul style="list-style-type: none"> * 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 <p>Operation</p> <ul style="list-style-type: none"> * 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 	From 23-005, 23-006	Levels served Dimensions	1 2	Plans, characteristics of lifts	On-site visit, plans, characteristics of installed lifts	x	x		x	x
2.3.1.6.	Accessibility to parking spaces	Specific requirements to ensure accessibility to parking spaces.	<p>Accessibility</p> <p>Parking spaces are easily accessible, close and directly connected to main entrance. When the garage is attached to the lease, the door is motorized.</p> <p>Presence of parking spaces for people with specific needs, mobility impairments.</p> <p>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.</p> <p>Characteristics according to local regulation or following:</p> <ul style="list-style-type: none"> - 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 	From 23-011, 23-015	Accessibility Adapted parks Drop-off area Electric	1 2 1 2	Plans, characteristics of equipment	On-site visit, characteristics of installed equipment	x	x		x	x

Requirement				Scoring		Evidence		Applicability					
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>path. This parking spaces are assigned priority to people with disabilities and/or specific needs</p> <p>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 labelled housing. When parking places labelled housing are located near the lobby of the building, it is not necessary to set up a drop-off area.</p> <p>Electric vehicles parking spaces 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 houses, the following 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.</p>										
2.3.2.1.	Entry of the home	The threshold and the door to access home is accessible.	<p>Landing door - Manoeuvrability 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 different 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).</p> <p>For collective and complexes The majority number of apartments or housing units are barrier-free designed (with above characteristics).</p>	From 23-017	Yes/No	3	Plans	On-site visit, plans	x	x	x	x	x
2.3.2.2.	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.	<p>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.</p> <p>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.</p> <p>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</p>	From 23-016, 23-018	Yes/No	2	Plans	On-site visit, plans	x	x	x	x	x

Public

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>- Total positioning area for worktop + sink + cooker equal/greater than 2700 by 600 mm.</p> <p>- Positioning area fridge at least 600 by 600 mm</p> <p>- Positioning area dishwasher at least 600 by 600 mm.</p> <p>- Manoeuvring zone along entire length at least 1200 mm.</p> <p>- 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 of household waste. (This space can be located under the sink, with the provision of specific equipment.)</p> <p>Storage facilities: Accessibility requirements in-complex storage facilities</p> <p>Maximum distance from dwelling entrance 75 m.</p> <p>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).</p>										
2.3.3.2.	Manoeuvrability of doors, including closets doors	The aim is to ensure that the use of doors is easy for all.	<p>Manoeuvrability of the annex room door</p> <p>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.</p> <p>And / or:</p> <p>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.</p> <p>Sliding doors on closets</p> <p>If it's possible, sliding doors are installed to avoid space loose.</p> <p>If the cabinet is wider than 120 cm, sliding doors are installed.</p>	From 23-022, 23-026 + WK-NL B.7.2?	Yes/No	2	Plans, characteristics of doors	On-site visit, characteristics of installed doors	x	x	?	x	x
2.3.3.3.	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.	From 23-023	Yes/No	1	Plans	On-site visit, plans	x	x	?	x	x
2.3.3.4.	Easy use of systems (lighting in kitchen, power outlets)	To facilitate daily use of spaces, lighting and power outlets have to comply with some minimum requirements.	<p>Lighting in the kitchen</p> <p>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.</p> <p>Height of power outlets</p> <p>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.</p> <p>They have to comply with the requirements of the national/regional/local accessibility regulations or they are at least at a height of between 40 cm and 130 cm from the floor.</p>	From 23-024, 23-025	Yes/No	1	Plans	On-site visit, plans	x	x	x	x	x
2.3.4.1.	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	<p>Double bed room (considered as the "master" bedroom if many bedrooms)</p> <p>Minimum surface 12m² if at least 2 bedrooms in the home.</p> <p>Positioning area bed at least 1800 by 2100 mm.</p> <p>Manoeuvring zone with minimum width of 900 mm on three sides of the bed.</p> <p>Positioning area for closet at least 1600 by 600 mm.</p> <p>Manoeuvring zone between bed and closet with width equal/greater than 900 mm.</p> <p>Space for 1500 mm turning circle within furnished room.</p> <p>Single bed room (considered as the "second" bedroom if many bedrooms)</p> <p>Positioning area bed at least 900 by 2100 mm.</p> <p>Manoeuvring zone of at least 900 mm width along length of bed.</p> <p>Positioning area closet at least 800 by 600 mm.</p> <p>Positioning area table/desk at least 1200 by 600 mm.</p> <p>Manoeuvring zone along bed, closet and table/desk with minimum width of 900 mm.</p> <p>Space for 1500 mm turning circle within furnished room.</p> <p>Note for "extra bedrooms": As second bedroom, with the exception of the 1500 mm turning circle</p>	From 23-028	Double Single	1 1	Plans	On-site visit, plans	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
2.3.5.1.	Minimum requirements for bathrooms and toilets to ensure personal hygiene for disabled people	Disabled people have special needs to use easily bathrooms and toilets for their personal hygiene.	<p>There must be a minimal equipment adapted for disabled people. This minimum will be defined by the national/regional/local regulations. 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.</p> <p>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.</p> <p>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.</p> <p>Both bathroom and toilets: The door of the bathroom/toilet is on a sliding rail or opens on the outside of the room.</p>	From 23-029, 23-030, 23-026	Bathroom Toilet	1 1	Plans, characteristics of equipment (washbasins, toilets, ...).	On-site visit, plans, and installed characteristics of equipment	x	x	x	x	x
2.3.6.1.	Communication and access control devices usable by all	Communication and access control devices have to comply with specific requirements.	<p>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.</p>	From 23-031, 23-032	Yes/No	1	Characteristics of the device.	On-site visit, characteristics of the installed device or demonstration of phone app	x	x	x	x	x
2.3.7.1.	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.	<p>The home office must comply with the following (depending on the type of building):</p> <p>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.</p> <p>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.</p>	From 23-033	Yes/No	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
2.3.9.1.	Orientation in space and time in common spaces	Presence of signage inside the building, to help orienting in space and time.	<p>For the following spaces, some provisions are in place:</p> <p>Descending stairs 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 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.).</p> <p>Lifts A device, located outside the lift and on all floors, allows the display of</p>	From 23-034, 23-013	Stairs Lift Corridors Halls Markers Optical...	1 1 2 1 1	Plans, characteristics of visual devices, paintings, signage, markers, ...	On-site visit, plans, characteristics of installed visual devices, paintings, signage, markers, ...	x	x	?	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>the lift level / position.</p> <p>Corridors</p> <p>> In the corridors of the floor of the labelled housing and common premises of the building, the differentiation by colour is marked:</p> <ul style="list-style-type: none"> - 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 <p>> Signage is easily readable:</p> <ul style="list-style-type: none"> - All signage elements are made with 70% colour 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. <p>Halls</p> <ul style="list-style-type: none"> - Presence of markers or remarkable elements punctuating the course and facilitating an intuitive orientation: <p>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.</p> <p>The elements to be minimally treated are the stairs and elevators, the entrance areas, and the intersections of the circulations.</p> <p>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 ...</p> <ul style="list-style-type: none"> - Optical, auditory and haptic orientation support in halls and other open spaces: <p>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 ...</p>										
2.4.1.1.	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.	<p>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:</p> <ul style="list-style-type: none"> - Medical practitioners: doctors, dentists, physiotherapists, pharmacist, ... - Nursing homes, hospitals, and rehabilitation clinics, ... <p><i>Medical care facilities within the development are also taken into account.</i></p>	From 24-001	<p>1 < 1000m</p> <p>1 < 500m or 2 < 1000m</p> <p>2 < 500m or 3 < 1000m</p>	<p>1</p> <p>2</p> <p>3</p>	Plans of local facilities	Plans of local facilities	x	x	x	x	x
2.4.1.2.	Access to physical activity spaces and equipment	Access and quality of Physical Activity Spaces and Fitness Equipment suitable for all	<p>Quantify the number of and distance to key amenities in relation to the assessed home:</p> <ul style="list-style-type: none"> - Cardiorespiratory exercise, muscle-strengthening exercise equipment, - Fitness or sport facilities, external exercise spaces. 	From 24-002 (merged with 24-003)	<p>1 < 1000 m</p> <p>1 < 500 m</p>	<p>1</p> <p>2</p>	Plans of local facilities	Plans of local facilities	x	x	x	x	x
2.4.2.1.	Availability of information on health and wellness	Health and Wellness awareness when it has been designed.	<p>Providing residents options and facilities for e-Health and remote medicine.</p> <p>Documentation on health/wellness, and facilities for e-Health and remote medicine.</p>	From 24-004	Yes/No	1	Documentation	Documentation	x	x	x	x	x
2.5.1.1.	Predisposition of cabling of the building and common spaces	The building is prepared to receive the cabling or network equipment, which gather the connections of private communicating systems of the private spaces	<p>Pre cabling of the building</p> <p>Predisposition of the building for being linked to any external wired connection:</p> <ul style="list-style-type: none"> - 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 equipped with online high-speed fibre-optic electronic 	From 25-001	<p>Pre-cabling of the building</p> <p>Pre-cabling of private spaces</p>	<p>3</p> <p>2</p>	Characteristics of equipment, plans	On-site visit, plans, characteristics of installed equipment	x	x		x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>communications.</p> <ul style="list-style-type: none"> - 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 equipment. - 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) <p>Predisposition of cabling of the common spaces of the building The building is prepared to receive the cabling or network equipment, which gather the connections of private communicating systems of the private surfaces. Cabling of the Smart Network. Installation of:</p> <ul style="list-style-type: none"> - the sheathing/pipes/structure that will convey the cabling, - the cabling, or a modular pre-cabling (removable, modular and upgradable cabling in private spaces). 										
2.5.1.2.	Predisposition of cabling of the dwelling	The dwellings benefit from different pre-equipped networks.	<p>Presence of minimal infrastructure required: The indoor installation includes the termination and patching devices required for telephone access, audio-visual 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:</p> <ul style="list-style-type: none"> - living-room, - at least one of the bedrooms (master bedroom). <p>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.</p> <p>Networks are based on the international standard Ethernet-IP.</p>	From 25-002	Yes/No	2	Smart network plans and characteristics, sockets	Installed smart-network characteristics, sockets	x	x	x	x	x
2.5.1.3.	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).	<p>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, Wi-Fi or other wired or radio link protocol. The different building functions and uses are identified by the client (heating, ventilation, shutters, blinds, ...).</p> <p>This network dedicated to the general services systems, constitutes the unified information transport network for the communicating systems of the building. It connects the equipment of general services communicating systems, being accessible via Internet or Intranet. The network securely manages the routing function (esp. inter-VLAN). Network equipment are shared by all communicating systems of the general services.</p>	From 25-003	Yes/No	2	Smart network plans and characteristics	Installed smart-network characteristics	x	x		x	x
2.5.2.1.	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.	From 25-004	Yes/No	1	Smart network plans and characteristics	Installed smart-network characteristics	x	x		x	x
2.5.3.1.	Interoperability - Interfaces	The IT interfaces should be based on standards (if available)	Smart and connected devices have open API, accessible in IP (Internet Protocol).	From 25-004 > see subcategory 2.3.8_Controlling home functions	Yes/No	1	Characteristics of APIs	Characteristics of installed APIs	x	x		x	x
2.5.4.1.	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 regarding personal data and the free movement of such data (General Data Protection Regulation).	From 25-005	Yes/No	1	Smart network plans and characteristics	Installed smart-network characteristics	x	x		x	x
2.5.4.2.	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 ...).	From 25-006	Protection Degraded mode ISMS	2 1 1	Smart network plans and characteristics	Installed smart-network characteristics	x	x		x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			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.										

Table 1 - Acoustic assessment for 2.2.4.2

Table 1		Insulation / Local regulation	Collective buildings / Complexes	Individual houses (when grouped)	Points
Partition walls	Level 1	DnT,w ≤ Local regulation	DnT,w < 55 dB	DnT,w < 60 dB	0
	Level 2	Local regulation ≤ DnT,w < Local regulation +1dB	55 ≤ DnT,w < 56 dB	60 ≤ DnT,w < 61 dB	2
	Level 3	Local regulation +1dB ≤ DnT,w < Local regulation +3dB	56 ≤ DnT,w < 58 dB	61 ≤ DnT,w < 63 dB	4
	Level 4	Local regulation +3dB ≤ DnT,w < Local regulation +6dB	58 ≤ DnT,w < 61 dB	63 ≤ DnT,w < 66 dB	7
	Level 5	Local regulation +6dB ≤ DnT,w < Local regulation +9dB	61 ≤ DnT,w < 64 dB	66 ≤ DnT,w < 69 dB	9
	Level 6	DnT,w ≥ Local regulation + 9dB	DnT,w ≥ 64 dB	DnT,w ≥ 69 dB	12
Partition ceilings	Level 1	DnT,w ≤ Local regulation	DnT,w < 55 dB	No building physical rooted partition ceilings. The building is awarded the highest ratings by default for noise protection of ceilings = 12.	0
	Level 2	Local regulation ≤ DnT,w < Local regulation +1dB	55 ≤ DnT,w < 56 dB		2
	Level 3	Local regulation +1dB ≤ DnT,w < Local regulation +3dB	56 ≤ DnT,w < 58 dB		4
	Level 4	Local regulation +3dB ≤ DnT,w < Local regulation +6dB	58 ≤ DnT,w < 61 dB		7
	Level 5	Local regulation +6dB ≤ DnT,w < Local regulation +9dB	61 ≤ DnT,w < 64 dB		9
	Level 6	DnT,w ≥ Local regulation + 9dB	DnT,w ≥ 64 dB		12

Table 2 – Acoustic assessment for 2.2.4.3

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

6.3 Table of requirements Outdoor Access cluster (provisional)

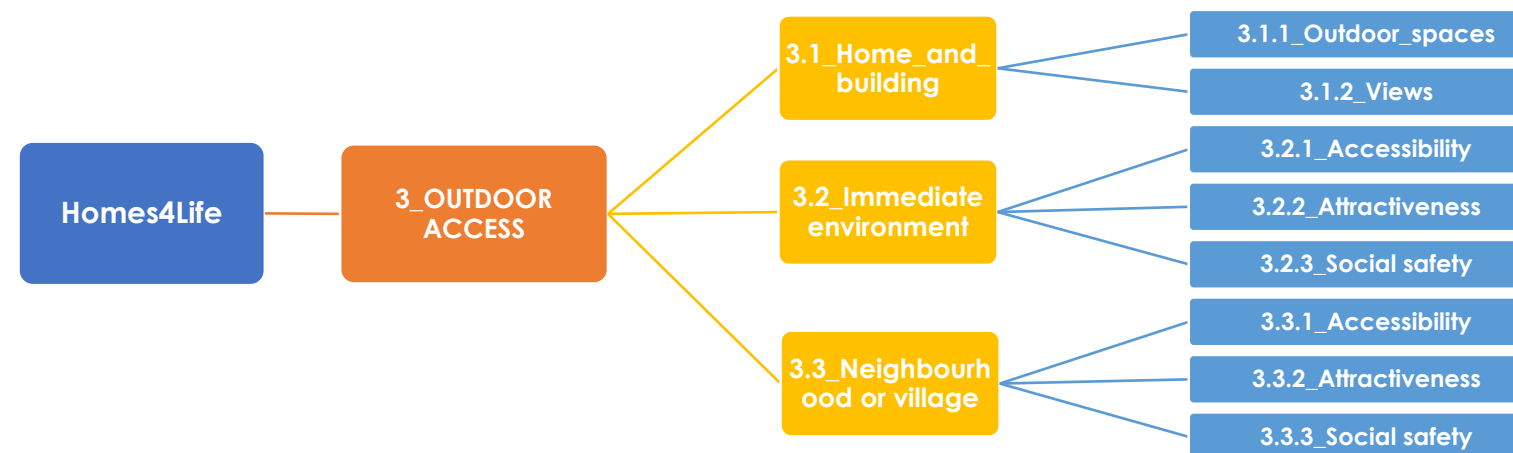


FIGURE 7 – STRUCTURE OF CLUSTER 3: OUTDOOR ACCESS

TABLE 7 –PROPOSED REQUIREMENTS FOR THE OUTDOOR ACCESS CLUSTER

Code	Title	Objective	Requirement		Scoring		Evidence		Applicability				
			Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
3.1.1.1.	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.	From 31-001	Yes/No (mandatory?)	3	Plans, characteristics of coatings and equipment (bar)	On-site visit: dimensions, characteristics of coatings	x	x	x	x	x
3.1.1.2.	Characteristics of outdoor spaces	Conditions of outdoor spaces must meet specifications in terms of size, 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 outdoor space (private or semi-private) must meet the following specifications: - 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 / Private garden: Share of housing directly allocated open space / units with a private garden of more than 4 m² / of more than 100 m² - Accessibility: 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 - Technical requirements: 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	From 31-002	Size: > 80 % 60 to 80% 40 to 60% 20 to 40% 10 to 20% Accessibility Technical requirements	5 4 3 2 1 5 5	Plans, technical specifications	On-site visit: dimensions, characteristics of installations	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<ul style="list-style-type: none"> - 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 										
3.1.1.3.	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 <ul style="list-style-type: none"> - 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 discontinuity in glass area 	From 31-003	Yes/No	2	Plans, technical specifications	On-site visit: dimensions, characteristics of installations	x	x	x	x	x
3.2.1.1.	Easy accessibility for reduced mobility occupants	Reduced mobility occupants may be able to access in and out of the building and dwelling.	Allow easy access to all occupants, including users with reduced mobility: at least 1 of the following characteristics <ul style="list-style-type: none"> - 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 	From 32-004	Yes/No	2	Plans, technical specifications of pavements	On-site visit: dimensions, characteristics of installations	x	x	x	x	x
3.2.2.1.	Presence of vegetation	Presence of vegetation in the project is an attractive characteristic for most 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, ...)	From BDV.4.1 + BIOD1.2.1???	Yes/No	3	Plans, characteristics of species, maintenance program	On-site visit, characteristics of installed species, maintenance contract	x	x	x	x	x
3.2.3.1.	Neighbourhood quality	The neighbourhood quality can be measured by the number of vacant housing.	Percentage of vacant housing units: measured at the neighbourhood scale	From 32-005?	<10% <25% <40%	5 3 1	Calculation at neighbourhood scale, from local authorities	Calculation at neighbourhood scale, from local authorities	x	x	x	x	x
3.3.1.1.	Proximity to public transports and options for transportation	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 Frequency and proximity of public transport: In the analysis of the site, an inventory of the main transport stations (bus, tram, train, ...) near the operation is	From 33-006, 33-007	Proximity 1 line <800m 2 lines <800m or 1 line<400m 3 lines or more <800m or 2 lines or more <400m Frequency <20min <10min	1 2 3 1 3	Plans of local transport facilities and roads infrastructures	Plans of local transport facilities and roads infrastructures	x	x	x	x	x

Requirement					Scoring		Evidence		Applicability				
Code	Title	Objective	Description	Identified KPIs (D3.1)	Scale	Level (pts)	Design	Operational	New building	Existing building	Individual	Collective building	Complex
			<p>carried out. It specifies the types of transport, their distance to the entrance of the site, as well as the frequencies of passages.</p> <p>Number of transport lines accessible within 800m or 400m</p> <p>Frequency of transport lines for at least 1 line</p> <p>Access to main roads depending on the context (urban / rural areas)</p> <p>Level 1: One express road or highway <5km / One express road or highway <20km</p> <p>Level 2: One express road or highway <1km / One express road or highway <10km</p> <p>Level 3: Boulevard or avenue or main street <250m / Structuring local road < 5km</p> <p>Level 4: Boulevard or avenue or main street direct connexion / Structuring local road < 1km</p>		<p>Roads</p> <p>Level 1</p> <p>Level 2</p> <p>Level 3</p> <p>Level 4</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>							
3.3.1.2.	Proximity to alternative transports and pedestrian routes	Pedestrian routes need to be safe for people, and an alternative transports offer should be present.	<p>This requirement encourage the location close to alternative transportation modes in new development, and close to safe pedestrian routes.</p> <p>Pedestrian routes / walkways</p> <p>Immediate proximity with a developed and secure network of walkways</p> <p>Alternative ways of transport (bikes, electric vehicles)</p> <p>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.</p> <p>Secure access to a developed cycling network</p> <p>Accessibility to free bikes and electric vehicles stations</p> <p>Free bike station</p> <p>Electric car station</p>	From 33-008, 33-009	<p>Walkways Yes/No</p> <p>Secure cycling network <800m</p> <p>Bike stations <200m</p> <p>Electric vehicles <200m</p>	<p>2</p> <p>1</p> <p>2</p> <p>1</p> <p>1</p>	Plans of local transport facilities and roads infrastructures	Plans of local transport facilities and roads infrastructures	x	x	x	x	x
3.3.2.1.	Location near existing transportation services	The location of the home should be close to existing transport.	<p>This requirement encourages the location of development close to existing transport, as a attractiveness factor. The assessment is the same as above about proximity to public transport.</p> <p>Frequency and 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.</p> <p>Number of transport lines accessible within 800m or 400m</p> <p>Frequency of transport lines for at least 1 line</p>	From SL 1.0 SAME AS ABOVE FOR PROXIMITY	<p>Proximity</p> <p>1 line <800m</p> <p>2 lines <800m or 1 line<400m</p> <p>3 lines or more <800m or 2 lines or more <400m</p> <p>Frequency <20min</p> <p><10min</p>	<p>1</p> <p>2</p> <p>3</p> <p>1</p> <p>3</p>	Plans of local transport facilities and roads infrastructures	Plans of local transport facilities and roads infrastructures	x	x	x	x	x
3.3.2.2.	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.	From 33-010	<p>1 <1000m</p> <p>1 <750m or 2 <1000m</p> <p>1 <500m or 2 <750m</p> <p>1 in plain sight or 2 <500m</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>	Plans of local facilities	Plans of local facilities	x	x	x	x	x
3.3.2.3.	Proximity to services / amenities	Shopping for daily needs in a short walking or bike distance from home promotes communal living and socialization opportunity. 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 socialization opportunity.	<p>Following services/amenities and considered:</p> <ul style="list-style-type: none"> - 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, theatres, ...) <p>Distances considered for each: ≤ 1000 m / ≤ 500 m</p>	From 33-011, 33-012	<p>Shopping</p> <p>Restaurants</p> <p>Basic services</p> <p>Care</p> <p>Education</p> <p>Sport</p> <p>Culture</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>	Plans of local facilities	Plans of local facilities	x	x	x	x	x



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