WP 3 - CROSS BORDER LIVING LAB INITIATIVE

OUTPUT 3.1 - **Toolkit of Passive Solutions Design for Higher Education Buildings Retrofitting**

Deliverable

MCbLL Guidelines for the stakeholders' management
Annex I – Stakeholders'matrix **Annex II - questionnaire model**

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OUTPUT 3.1 - Toolkit of Passive Solutions Design for Higher Education Buildings Retrofitting

The Toolkit is innovative and interactive bottom up and participative (living lab) programme of training and education for technicians and students, with a list of suggestions for the management and sharing experience. A calendar of events will stimulate the stakeholder cooperation. A selection of best practice will provide useful information to apply Passive Solution Design, to reduce energy consumption, improving building envelope performance and a new environmental conscious human behaviour.

The second activity of the WP 3 was intended to identify the needs and competences necessary for the setting up of the Mediterranean Cross-border Living Lab, and to envision the collaboration opportunities for its further development.

-Defining the way stakeholders are involved (financial contributions, commitment, responsibility, influence)
-Designing the subsidy/funding policy, the definition and adjustment of the agenda, future financing: public-private-partnership, commercial
-Sharing resources/network
-Describing the way new software and different services are introduced and validated, responsibilities and liabilities
- Describing the organization and funding mechanisms of the project.
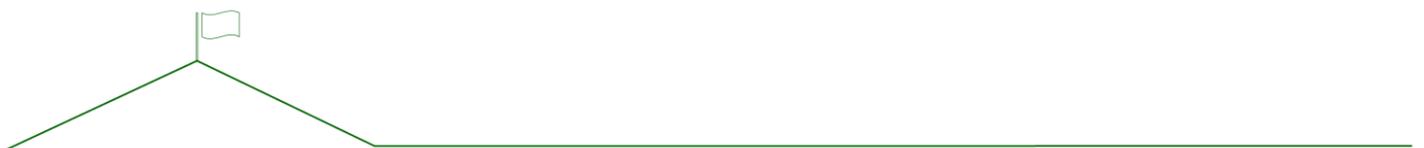
MCbLL Guidelines for the stakeholders' management

The Mediterranean Cross-border Living Lab is based on the idea that working with stakeholders can produce more effective innovative solutions. For this reason, the MCbLLinvolves different typologies of stakeholders:

- **Academia**[universities and research centres]
- **Public sector**[institutions, organizations]
- **Private sector**[companies]
- **Building Managers**[technicians, facility managers]
- **End Users**[students, professors, administrative staff, technical officers]

In the light of the Living Lab approach, the engagement of end-users is fundamental for the project's dynamics: they represent a special type of stakeholders, requiring a targeted involvement and communication. The end-users of the MCbLL are students, professors, administrative staff and technical officers who use the pilot building object of renovation. They will be engaged, mainly with interviews and questionnaires (Annex), in order to detect their perception of wellbeing and the quality of indoor comfort, both before and after the intervention

For other stakeholders, the MCbLL will adopt the following methodologies to develop a good **communication and involvement**:

- Design Thinking
- Interviews
- Visual interviews / collage
- Observation / shadowing
- Photo Journal / User diary / Guided tour / Empathy prototyping
- User persona
- How might we / other workshops create first ideas or understand the problem
- Brainstorming / other workshop to create ideas for solutions
- Service design workshop / other workshop to develop the solution together
- Usability workshop / other workshop to try out, test, and improve, validate, the solution
- Feedback workshop /other workshop to gather feedback from users
- Social media
- Video support/media support by the final users
- Prototyping
- Minimum Viable Product (MVP)
- Community Building
- Scrum / Sprint

In order to manage the stakeholders, a synthetic matrix will report the various stakeholders involved, according to their typology, with the basic information on competencies, contact, type of involvement, meetings, work, type of agreement, and post-project results valorisation.
It will be developed, and updated during the project's lifecycle, at national scale by each of the Local Living Labs, and shared with partners to enrich the international network.

Annex: Questionnaires

Med-EcoSuRe

Annex - Questionnaire on the indoor comfort of the pilot-building

Individuation of the room	
In which room are you compiling this questionnaire?	
Room 1	
Room 2	
Room 3	
General Information	
Who is filling this questionnaire?	
Gender	
Nationality	
Age	

Clothing	
Choose the better option to describe your clothing ensemble.	
Trousers, short-sleeve shirt	
Trousers, long-sleeve shirt	
Trousers, long-sleeve shirt plus suit jacket	
Trousers, long-sleeve shirt plus suit jacket, vest, T-shirt	
Trousers, long-sleeve shirt plus sleeve sweater, T-shirt	
Trousers, long-sleeve shirt plus sleeve sweater, T-shirt plus suit jacket, long underwear bottoms	
Knee-length skirt, short sleeve-shirt (sandals)	
Knee-length skirt, long sleeve-shirt, full slip	
Knee-length skirt, long sleeve-shirt, half-slip, long-sleeve sweater	
Angle-length skirt, long sleeve shirt, suit jacket	
Walking shorts, short sleeve shirt	
Long-sleeve coveralls, T-shirt	
Overalls, long-sleeve shirt, T-shirt	
Insulated coveralls, long-sleeve thermal underwear tops and bottoms	
Sweat pants, sweat shirt	

General Characteristics				
Describe your overall perception of the environment				
	Insufficient	Average	Sufficient	Good
Illumination				
Temperature				
Silence				
Condition of the building				
Quality of spaces and furniture				
Available space per person				
Rest Room (toilets, dressing				

rooms, etc.)				
Cleaning and Maintenance				

Thermic Comfort

Do you feel cold during the wintertime?	No	Little	Very much	
Do you feel hot at summertime?	No	Little	Very much	
During the wintertime the room is too hot and some of the users are in t-shirt	No one	Some of them	A lot of them	
In winter the windows are opened because it is too hot	Never	Sometimes	Always	
In winter and in summer the shutters/curtains of the windows are closed	Never	Sometimes	Always	

Visual Comfort

In the room you need to turn on the lights even if there is sunshine outside	Never	Sometimes	Always	
Is there an automatic system of artificial lighting?	Yes	No		
The natural light arriving in your desk is	Blinding	Not sufficient	Create shadows	It is ok
The lights are turned on	Always at the beginning of the day	Only if needed		
The lights are turned off	Always at the end of the day	By users at the end of the activities	Always, if not needed	Don't know who is turning them of
Personal devices (pc, phone, tablet)	Are regularly turned off	Are used sometimes	Are regularly turned on	

Acoustic Comfort

Can you hear noises that comes from the outside?	Never	Sometimes	Always	
If yes, the noises are	Very loud	Loud	Not really noisy	
Can you hear noises coming from the inside of the building?	Never	Sometimes	Always	
If yes, the noises are	Very loud	Loud	Not really noisy	
Inside of the classroom the voice of the teacher can be heard	Not very well at all	Quite good	Good	
If you can't hear the teacher very well, it is because	The voice doesn't arrive	There is resound	It is covered by other noises	

Air Quality

How do you perceive the indoor air quality in summer?	Very used	Used	Fresh	Very fresh
Is the indoor quality acceptable in summer?	Clearly acceptable	Just acceptable	Just not acceptable	Clearly not acceptable
How do you perceive the indoor air quality in winter?	Very used	Used	Fresh	Very fresh
Is the indoor quality acceptable in winter?	Clearly acceptable	Just acceptable	Just not acceptable	Clearly not acceptable

Security

How do you consider the level of security/stress factors inside the building concerning these arguments?

	Insufficient	Average	Sufficient	Good
Electricity				
Illumination				
Noise				
Temperature				
Dust				
Pc and video				
Non smoking				

Psychophysical wellness

In the last two months did the following happened to you?

	Always	Very often	Sometimes	Never
Headache and difficulties in concentration				
Nausea				
Visual difficulties due to tired eyes				
Breathing problems, asthma				
Frequent colds				
Allover comfort	Insufficient	Average	Sufficient	Good

Suggestion

What are the most urgent issues to solve the indoor comfort problems?

Heating system to improve indoor comfort in wintertime				
Cooling system to improve the indoor quality in summertime				
Windows and shutter systems against glare/overheating				
Illumination system in order to improve visual quality				
Quality of air (Summer/winter)				

Security				
Other suggestions				
Users' behaviour				
Are you aware of the building energy consumption?				
Would you like more information on the building behaviour (temperature, energy consumption, etc.)?				
If yes, in which format? (app, monitor, etc.)				
Would you like to personalise the indoor conditions?				
How willing you are to change your behaviours(such as clothing) to reduce energy consumption?				