

Method for identification and engagement of stakeholders

The development of the outputs of the KATCH-e project takes place through a number of steps. There is a progression during the period, however, as for engaging the stakeholders, some steps are linear while others are – and should be – iterative to optimize the integration of stakeholder input into the project. The overall relations between the project phases and the engagement of stakeholders are illustrated in Figure 1, and explained thereafter:

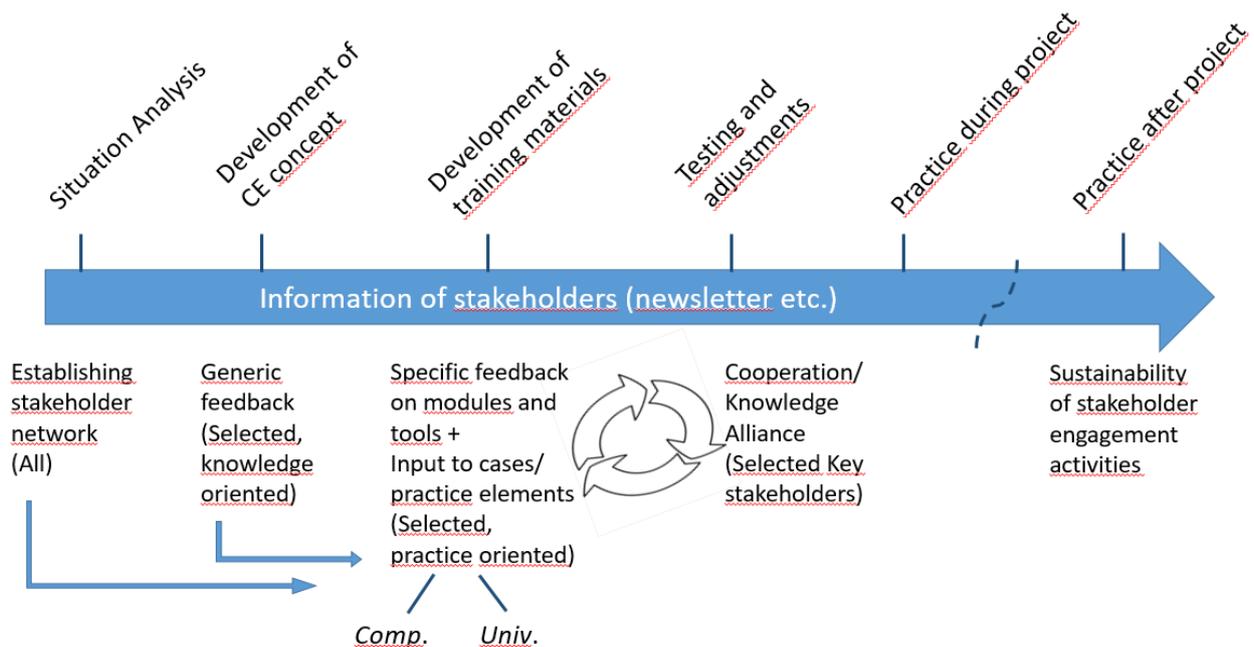


Figure 1. Overview of the project phases and related stakeholder engagement

The project steps, located above the center arrow in the figure, are:

- Step 1. Situation analysis, incl. establishing the basic stakeholder network
- Step 2. Development of the circular economy concept and focus of the training modules
- Step 3. Development of training materials
- Step 4. Testing and adjustments
- Step 5. Practice during the last part of the project period
- Step 6. Planning for practice after the project period

For each step, this document describes:

1. Overall idea and approach
2. Specific objectives
3. Actions, including examples

Identification and connecting with relevant stakeholders is an ongoing, dynamic process during the entire project period. Activities planned for in other work packages, including testing, training and development of cases, form an integrated part of the stakeholder engagement, even if these activities are not planned for through the stakeholder engagement methodology. In these cases, this method will refer to the other work package accomplishments and relate them to the stakeholder engagement activities.

Step 1. Situation analysis, incl. establishing the basic stakeholder network

1. Overall idea and approach

In this initial project phase, a situation analysis is carried out to identify e.g. existing training materials, tools, activities, etc. on CE, but also relevant needs and expectations, drivers and barriers for CE in the construction sector and the furniture sector.

Identification of stakeholders is a part of this project phase, and the identification includes finding relevant organizations and people to interview, and/or to invite to the first stakeholder workshop. This takes place on a national level, that is, in each of the four countries.

Quantitative targets per country: 10 members in the stakeholder network, and minimum 3 from each of the main stakeholder categories – Higher Education, Business, and Knowledge centers.

Each national network should be big enough to provide a minimum of 25 participants per Stakeholder Workshop (people who are not formally members of the stakeholder network can also join the workshops). The national stakeholder network may cover both construction and furniture – or primarily one of the sectors, if this is more efficient for building the Knowledge Alliance.

When building the national stakeholder network, you could take point of departure in either the business partner, in a more generic stakeholder network model, or in a combination of the two.

The **business approach** should build on a life cycle approach and identify the most important stakeholders related to the value chain. Figure 2 illustrates an example from AMORIM, Portugal.

CORK FLOWSHEET

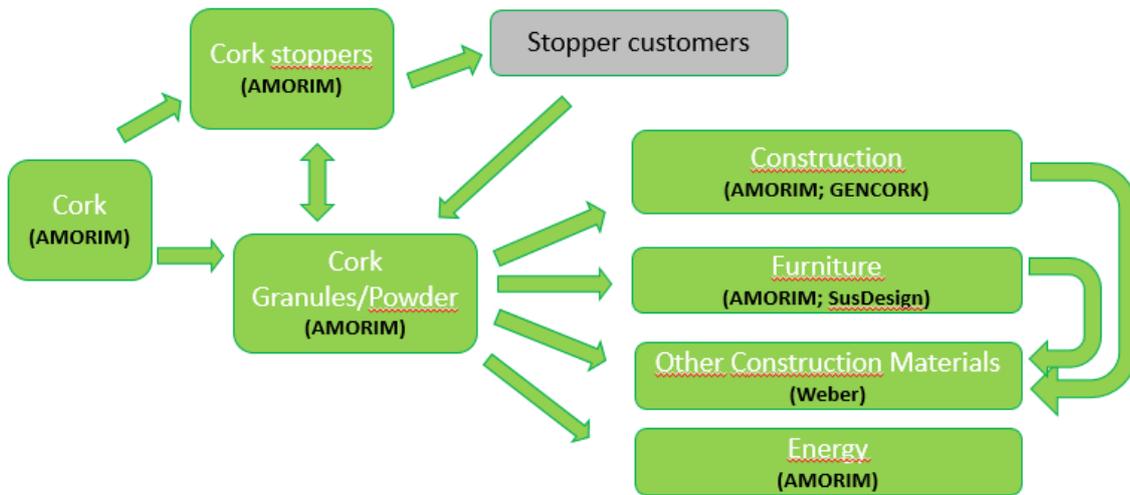


Figure 2. Mapping of AMORIMs value chain

For a more generic stakeholder approach, you could use the stakeholder network model, where stakeholders are identified from four different categories/network as shown in Figure 3:

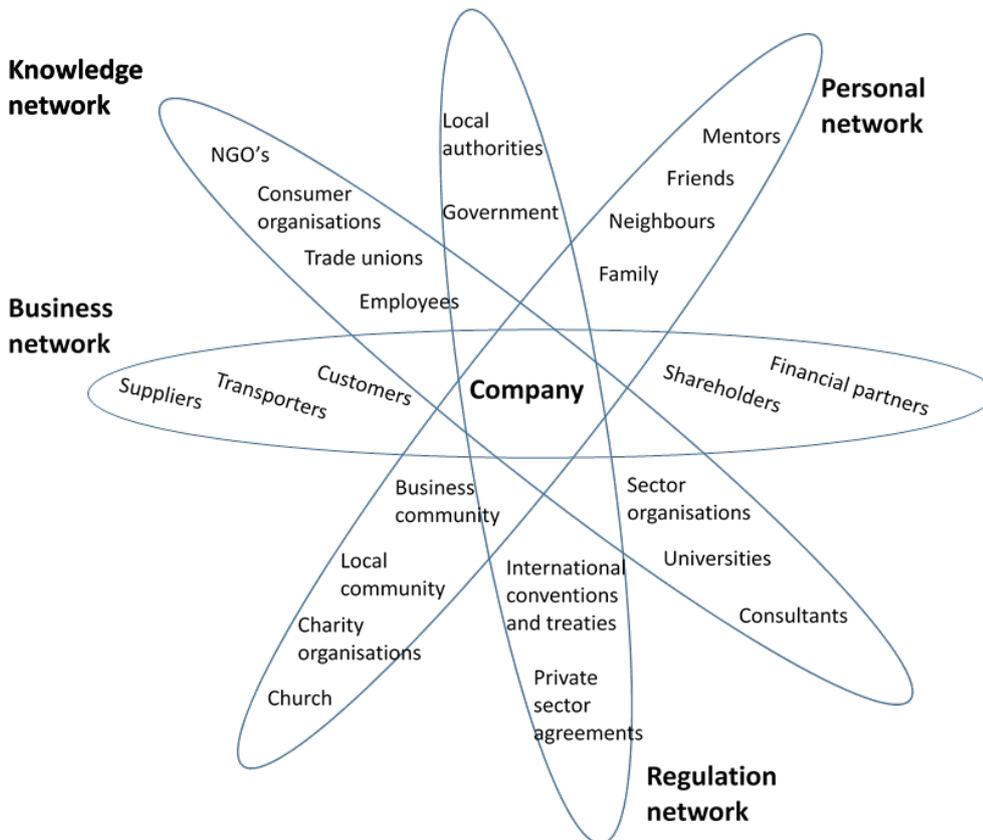


Figure 3. Stakeholder network model for identification of relevant stakeholders

Each category represents a set of values to be considered:

- Business: Economic and market values
- Regulation: Legal and regulatory values
- Knowledge: Knowledge values, like future trends, understanding of dilemmas, etc.
- Personal: Ethical values and norms

When preparing an overview of potentially relevant stakeholders, the following list may serve as guidance, but other types of stakeholders may be involved:

- Organisations who signed Letters of support
- SinnDesign network
- Other existing, relevant, networks, clusters etc.
- Business organisations related to the two sectors
- Sector "locomotives" (like IKEA in the furniture sector)
- Value chains of our participating company partners (and evt. other companies)
- Universities with relevant study programmes
- Colleagues at "own" university
- Knowledge centres
- CE- (and related topics) relevant governmental/research/market/.... initiatives
- Green start-up hubs, Resource Labs etc.
- Social entrepreneurship hubs
- Developers of new/adapted jobs (social innovation)
- Labelling or certification organizations (e.g. EcoLabel, FSC, ...)
- Transnational stakeholders, e.g. organizations working with CE, or partners in other training-for-CE projects

When listing potential stakeholders, and when defining the key stakeholders, please give priority to the following ones:

- Organizations who integrate or work with CE through design
- Organizations who employ the type of students/designers/planners, we train
- Organizations that we would like to ask to test (parts of) our materials, eg. the MOOC
- Organizations who could serve as illustrative, learning cases

- Organizations that are key actors in the CE transformation in our two sectors in your country
- Organizations or individuals who are CE trendsetters in your country. This covers legal aspects, market aspects, values/norms, new solutions,
- Organizations who can support the spreading of the knowledge and materials developed in KATCH, including universities with study programs targeted towards the two sectors
- Colleagues in your own organizations who may add valuable knowledge to the project, or have access to other relevant stakeholders
- Existing network in our two sectors where the circular agenda may be of relevance.

2. Specific objectives

The specific objective is to identify and engage relevant stakeholders for our network within our main target groups. Moreover, identification of existing network, our project can relate with to enhance the outputs and long term outcomes should also be considered.

3. Actions, including examples:

- Formally establish each national stakeholder network, incl. inviting the stakeholders to become part of the Knowledge Hub on the project website and on Linked In.
- Building up the stakeholder network database on Google Drive to keep track of the stakeholders and how they are involved as illustrated on the screenshot in Table 1.

Stakeholder network - Portugal										
Stakeholder categories	Organization	Contact person	E-mail	Last updated (date)	Selected for interview	WS1	WS2	WS3	Transnat. WS	Final conference
Higher education:	ESAD	Luis Pessanha	Pessanha <luis.pessanha@ipleiria.pt>	20Nov2019						Yes
	ESAD - Caldas	Luis Pessanha	lpessanha@esad.ipleiria.pt	20Nov2019	yes	Yes				Yes
	ESAD - Caldas	Fernando Carradas	fcarradas@esad.ipleiria.pt	24Feb2017			Yes			
	ESAD - Caldas	Sérgio Gonçalves	sergio.goncalves@ipleiria.pt	20Nov2019	Yes					Yes
	Esad - Student	Ana Lisboa		18/03/2019			Yes			
	Esad - Student	Cristiana Melanda		18/03/2019			Yes			
	Esad - Student	João Ribeiro		18/03/2019			Yes			
	Esad - Student	Liliana Gouveia		18/03/2019			Yes			
	Esad - Student	Pedro Costa		18/03/2019			Yes			
	Esad - Student	Rafael Sabino		18/03/2019			Yes			
	Esad - Student	Rute Gomes		18/03/2019			Yes			
	ESAD Matosinhos	Teresa Sarmento	teresasarmento@esad.pt	18Apr2017	Yes					
	Faculdade de Economia do Porto	Inês Alves	inesevia97@gmail.com	15/03/2021			Yes			
	FBAL	Ana Thudichum	a.thudichum@belasartes.ulisboa.pt	15/03/2022			Yes			
	FBAL	João Pedro Costa	joao.costarosa@hotmail.com	15/03/2023			Yes			
	Fundecyt pctex	Carlos Cabo Dominguez		20Nov2019				Yes		Yes
	IADE	Carlos Duarte	carlos.duarte@iade.pt	24Feb2017	Yes	Yes				
	IADE - PHD student	Pedro Alegria	pedro.alegria@gmail.com	15/03/2024			Yes			
	IADE - master student	Diogo Soares	diogo.azteka@gmail.com	18/03/2019			Yes			
	Instituto politecnico de Portalegre	Rui Pulido Valente	rpval@ippportalegre.pt	20Nov2019			Yes			Yes
	Instituto Politecnico de Tomar	João Costa Rosa	joao.costarosa@hotmail.com	20Nov2019				Yes		Yes
	ISCTE-IUL	Vasco Rato	vasco.rato@iscte.iul.pt							
	ISEC	Leonardo Springer	leonardospringer@yahoo.com	20Nov2019			Yes			Yes
	ISEC	Lurdes Brandão Guerra	lfbbrandao Guerra@gmail.com	20Nov2019				Yes		Yes
	ISEL	Isabel Agostinho	lagostinho@outlook.com	20Nov2019			Yes			Yes
	ISEL	Cecilia Nelembé		20Nov2019				Yes		Yes
	ISEL	Isabel João	isabel.joao@isel.pt	20Nov2019						Yes
	Polytechnic Institute of Portalegre	Luis Loures		20Nov2019						Yes
	UA	Paulo Bago de Uva	paulo.uva@ua.pt	6Apr2017		Yes				
	UA	José Leite	joseleite@lislei.com	12May2017	done					
	Universidade Aberta	Katelin Opferkuch		20Nov2019				Yes		Yes

Table 1. Screenshot with excerpt from the stakeholder network database

- Planning and carrying out Stakeholder Workshop I
- Other non-mandatory activities, according to decisions in each country:

- People interviewed during the activities in WP2
- Personal or professional contacts
- Mapping of existing activities, projects, network, etc. on sustainability and/or circularity, preferably related to the construction and furniture sectors.

Step 2. Development of the circular economy concept and focus of the training modules

1. Overall idea and approach

During the second step, the content of the training materials is defined. As a part of the process, a stakeholder consultation process is organized as illustrated in Table 2. Input from CE experts, or people who actively work with CE related topics are particularly relevant – be it from academia, business or knowledge centers. The stakeholder inputs are afterwards assessed and incorporated in each of the modules from a relevance perspective including both content and pedagogical approaches.

Stakeholders consultation						
Module 1 - Introduction to the circular economy						
	Most important aspects for students to learn	Gaps	Unnecessary contents	Why	Examples or case studies	Dilemmas found
Stakeholder 1 - insert name						
Stakeholder 2 - insert name						
Stakeholder 3 - insert name						
Stakeholder 4 - insert name						
Stakeholder 5 - insert name						
Stakeholder 6 - insert name						
Stakeholder 7 - insert name						
Stakeholder 8 - insert name						
Stakeholder 9 - insert name						
Stakeholder 10 - insert name						
Stakeholder 11 - insert name						
Stakeholder 12 - insert name						
Module 2 - Life cycle perspective						
	Most important aspects for students to learn	Gaps	Unnecessary contents	Why	Examples or case studies	Dilemmas found

Table 2. Systematic stakeholder consultations organized per intended training module

2. Specific objectives

Assuring relevance of the content in the training materials.

3. Actions, including examples

- Conduct the transnational workshop on ERSCP conference 2018
- Involve experts within the fields of sustainability and circularity in a consultation process. Experts can be within academia, or people with experience from practical application. Input are registered in Table 2.

Step 3. Development of training materials

1. Overall idea and approach

The following three steps – development of training materials, testing and practical application are closely related and should be developed in an iterative process, where key stakeholders are involved throughout, not only in a testing *after* the training materials are developed by the KATCH-e project partners.

To ensure the relevance for our two sectors, the training materials should – according to the outcomes of stakeholder WS I - contain many examples and help understanding the essential challenges and potential solutions in the construction and furniture sectors for the transition towards circular economy.

2. Specific objectives

Including relevant stakeholder input in the developed training material and assuring sector relevance through practical examples and cases.

3. Actions, including examples

a. Systematically consider the recommendations provided by the stakeholders during the previous phases and integrate the relevant and achievable ones in the training materials. For specific topics and challenges, experts from e.g. architecture, sustainable building, construction products certification and design have been addressed for giving their feedback on selected chapters of various modules.

b. Actively relate with stakeholders and other relevant people and organizations to develop examples and cases from the construction sector and the furniture sector.

Examples on stakeholder activities supporting action b:

- Every year a furniture fair called Trends & Transitions takes place in Copenhagen. By visiting companies at the fair, we get interesting examples, grow the stakeholder network and disseminate the KATCH-e project. After the fair, we follow up on the contacts.

- In the construction sector, a project called Circle House is going on in Denmark. Several seminars were organized throughout the country during 2018, focusing on different aspects. We joined two of the seminars where we had very interesting materials, including the Circle House book, and input for the training materials – and we had new contacts for the national stakeholder network. Later, we had a follow up meeting with the project manager of the Circle House project where we had the chance to discuss more in detail about KATCH-e. We asked for an English version of the Circle House book, which is now available.

- In Portugal, there is a yearly congress of Innovation on Sustainable Construction and the 2018 edition included a specific session on solutions for a circular economy. We joined the event as rapporteur and with a poster presentation and this gave us the opportunity of networking with the participants, getting inspiration and interesting examples. The main organizer is the

Portuguese Centro Habitat Cluster and respective association, to which LNEG belongs. Here again we have an interesting networking activity that contributed to KATCH-e.

- We have a close contact to Circular Economy Portugal, an NGO engaged in circular economy and with which we have exchanged experiences and gathered know-how related to furniture upcycling.

- Since the beginning of KATCH-e, a cooperation with public authorities related to the National Plan on Circular Economy has been developed. The Portuguese Ministry of Environment keeps a portal (eco.nomia.pt) with several examples and news that have fed into KATCH-e.

Examples on stakeholder activities supporting action a:

- In Austria, the exchange with practitioners in architecture and sustainable construction has been fostered via establishing contacts lecturers at the Vienna University of Technology (VUT) who have not been actively participating in the KATCH-e project. Team members from Austrian Institute of Ecology held guest lectures for students of architecture in the line of their semester project “Design Studio Bachelor and Master: rebeauty - design for disassembly and reuse” in summer semester 2018 and got in exchange with the visiting professor Søren Nielsen from Vandkunsten/DK . One of the lecturers from the Institute of Architecture and Design at VUT actively participated in the focus group for architects organized by AIE and SHWS 3 hosted by VUT, Institute for Engineering Design, research group Ecodesign (team member).

- For the national Stakeholder Workshop 2 in Graz, Austria, a cooperation with the Circular Futures Plattform Kreislaufwirtschaft Österreich (<https://www.circularfutures.at/ueber-uns/english-language-summary/>) could have been established. The WS has been very successful and the representative of the platform and a team member from AIE have been invited by the University of Applied Sciences Fachhochschule Salzburg, Campus Kuchl for giving input to the Circular Society Experiments event (<https://circular-society.at/>) in March 2020. Circular Design is one of the research areas in Design and Product Management (bachelor and master level) at FH Kuchl and mutual exchange have been exercised for the situation analysis in a previous phase (step 1) and giving feedback during testing phase (step 4). Circular Futures and Fachhochschule Salzburg, Campus Kuchl became both members of the core national stakeholder network.

- During the development phase of the training materials the contact to one of the largest window manufacturers in Europe was established. This contact resulted in many interesting follow-up activities. For one, in a cooperation for a master thesis, which looked at the potential of CE-inspired windows, by improving their longevity, upgradability, modularity, etc. Apart from the master thesis the contact also resulted in a follow up research project, where many of the principles addressed in the master thesis are being tested and implemented.

- A partner from TUV presented the methodology of the CE Analyst within the Life Cycle Management conference at the university of Leoben and published a paper within the conference proceedings. The presentation and discussion about it, resulted in relevant new contacts from departments working in similar fields.

- In Spain, the presentation of KATCH-e at the biannual international conference BEM (Basque Ecodesign Meeting) organized by the public authorities, brought new contacts for the national stakeholder network and new inputs for the training materials.

- In addition, by presenting the project at conferences held in Spain, new contacts have been established with potential stakeholders interested in using KATCH-e materials for higher education training.

Step 4. Testing and adjustments

1. Overall idea and approach

The drafted training materials (modules and tools) are tested during two semesters at the partner universities and with other organizations. When planning for the testing activities, consider which stakeholders could be involved. For example through:

- Joining workshops as presenters or participants
- Providing cases or questions for student assignments
- Guest lecturing
- Student visits on site in relevant organizations
- Internships with students working on circular economy cases

It is recommended to build personal relations with key stakeholders to strengthen their engagement. For example by attending and contributing to circular economy workshops, seminars, meetings etc. organized by the key stakeholders. This is also an opportunity to disseminate the KATCH-e outputs.

A defined activity is the Stakeholder Workshop II in each country. The aim of the workshop is to have the stakeholder's inputs to further improvements of the training materials and how to use them, and to support the students' learning process on engaging with stakeholders and their different types of interest. Cooperation with other network, business associations, etc. when developing the workshops is recommended since we can then reach out to a larger number of organizations.

2. Specific objectives

Involving stakeholders in testing the training materials and have their feedback on relevance and functionality of the materials. This will also raise awareness on the existence of the KATCH-e training materials under development.

3. Actions, including examples

- a. Plan and carry out Stakeholder Workshop II in each country
- b. Involve stakeholders in testing activities (work package 6 and 7)

- Due to the development of KATCH-e, LNEG established a protocol with the governmental Innovation and Competitiveness Institute IAPMEI, and carried out 9 training workshops targeting

SME's, sectoral associations and other organizations. In total more than 120 participants were in this way exposed to KATCH-e modules and tools and gave feedback according to the evaluation procedure defined in WP7.

- Selected stakeholders from academia, research organizations and industry have been addressed for their specific feedback to the developed materials and tools. This has been exchanged via face to face meetings, via phone or by email.

- The Austrian partners invited lecturers from other Austrian colleges and universities of applied sciences, which work in related fields. The half-day workshop resulted in relevant new contacts and interest in the materials developed. Furthermore, the participants gave very relevant feedback.

- The CE Analyst methodology was also presented within a 5 min Poster Pitch at the PLATE Conference 2019 taking place in Berlin. About 50 people were listening and with many of them giving interesting feedback to the method developed.

- Spain organized 4 dedicated testing sessions with national stakeholders to specifically test the training materials and collect feedback. The sessions were conducted separately with staff of the stakeholder organizations: 2 training providers, one research center and one construction company.

Step 5. Practice during the last part of the project period

1. Overall idea and approach

At this stage of the project, we have specific outcomes to show and to be used by stakeholders, other network, etc.

The overall idea is to involve stakeholders in active use of the project materials with the aim of obtaining a good understanding of, how the materials work in practice, and eventually adjust it. During the active involvement of the stakeholders, we build a foundation for continued activities after the project period, which is also supported by the third national stakeholder workshops and the transnational workshops on selected conferences.

Moreover, by involving stakeholders in testing the first edition of the MOOC and more elaborated versions of the KATCH_e tools, we reach out to people who would like to have access to vocational training on circular economy.

2. Specific objectives

Obtaining feedback on the developed tools based on real life application. This will also deliver cases to the project (work package 6).

Awareness raising through the use of the training materials on workshops, seminars, conferences, publication of articles, participation at sector related fairs, etc.

Building relations with other network to support the long term project outcomes

3. Actions, including examples

- a. Plan and carry out stakeholder workshop III in all countries, eventually co-organized with other network or organizations
- b. Invite stakeholders to test the MOOC
- c. Dialogue and eventually training activities for key stakeholders to demonstrate and facilitate their adoption of the KATCH-e training materials.

Examples:

- Half day meeting and discussions on the KATCH-e training materials took place with teachers related to the building construction study program at Copenhagen School of Design and Technology.
- In Portugal, discussions on the KATCH-e training materials took place with teachers from University of Porto/Faculty of Engineering, NOVA University/Faculty of Science and Technology, Leiria Polytechnic Institute/Arts and Design College, University of Lisbon/Faculty of Fine Arts, Department of Architecture and Urbanism of ISTAR-Information Sciences, Technologies and Architecture Research Center, etc.
- Within an Ecodesign lecture at the university of applied sciences Wiener Neustadt taking place in Dec 2019/Jan 2020, a partner from VUT introduced the MOOC. Each of the students was invited to test individual modules of it, and give feedback. About 25 students took part in the classes.
- In Spain, the national stakeholder network was encouraged by email to participate in the testing of the MOOC and the other training materials available in the Knowledge Platform. Furthermore, specific face-to-face meetings were held with IK Ingenieria and LKS Kreaan to demonstrate the available resources during the last part of the project period.

Step 6. Planning for practice after the project period

1. Overall idea and approach

As a part of the project, a contingency plan for reaching long term outcomes is developed, and the plan includes stakeholder engagement activities.

Moreover, transnational workshops are included in the project to exchange knowledge and discuss with stakeholders and potential users of the KATCH-e materials outside the four participating countries.

2. Specific objectives

Establishing relationships with network and organizations, that could or will use the training materials after the project period, and to clarify how and what. This may furthermore contribute to the continual development of the circular approaches and methods. The partner organizations in KATCH-e have an interest to continue working within the field, and to use KATCH-e outcomes

and experiences in that process.

3. Actions, including examples

a. Plan and conduct transnational workshops on the ERSCP 2019 conference and on the SEFI 2019 conference

b. Conduct additional activities with selected stakeholders

In Austria a so-called focus group with architects from academia have been organized to discuss the content and applicability of our training materials and inquire the willingness to test and apply the training materials. This has been a smaller workshop than the national stakeholder workshops. One University of Applied Sciences, FH Campus Wien, is planning to establish a focus on circular economy within the Architecture - Green Building study program and was very much interested in our results.

c. Define activities in the national contingency plans that will involve relevant stakeholders

Examples:

- Aalborg University has a formalized cooperation with the Network for Sustainable Business in Northern Jutland. The concept of “Circular region” will be implemented during the next 3 years, and KATCH-e approaches will be integrated on business as on higher education levels.

- A teacher from VAMK University of applied science in Vaasa, Finland, joined the KATCH-e workshop at the SEFI conference where the participants were invited to play the KATCH Up! board game. After the conference, she downloaded the game and brought it to an event in Skt. Petersburg with Finnish and Russian students.

- The modules developed within KATCH-e gave rise to the idea of a joint interdisciplinary doctoral programme for 10 PhD students. Different university departments and faculties are going to join this effort. The overarching theme of the programme is “Circular Economy in the built environment” which brings together Design students, Structural engineers, material scientists, architects, spatial planners and others. The application process will start in Spring 2020.

- In Spain, we will participate in the Basque Ecodesign Meeting organized by Ihobe, the Environmental Agency and one of our stakeholders. The KATCH-e outputs will be presented and demonstrated in an exclusive workshop offered to training and higher education providers on the 28th of February 2020.