

Circular Innovation and Resilient City Labs in the Adrion Region

WORK PACKAGE T1

DELIVERABLE

**Report of the results from the
Community Managers' Training Program**

DRAXIS S.A.

February 2021

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1 Introduction

This section presents the main objective of this study carried out in the context of the CIRCLE project as well as the report's structure.

This study is the **Deliverable 3b “Report of the results from the Community Managers’ Training Program”** that is included in the Agreement, signed on 15th June 2020, between DRAXIS S.A. and ANATOLIKI S.A Development Agency of Eastern Thessaloniki’s Local Authorities.

The **aim of the present Deliverable** is to conduct a report regarding the organisation of the Community Managers’ Training Program which was held online with the main objective to enrich and strengthen the knowledge of Community Managers on issues that are considered necessary for the optimal development and operation of the CIRCLabs. In addition, the report will include the CIRCLabs’ operational models as developed by the project partners

The Deliverable is organized as follows:

Chapter 1 (present chapter) included the *Introduction* to the document.

Chapter 2: *Community Managers’ Training Program*. In this section all aspects regarding the organisation and results of the Training Program are presented.

Chapter 3: *Profile of the CIRCLabs in the framework of the CIRCLE Project*. In this section the CIRCLab profiles are presented. The development of the Labs is structured upon the Joint Model, which was developed in the Deliverable 1 “Design of a joint model for the development and operation of CIRCLabs”.

2 Community Managers' Training Program

2.1 Objective

The main objective of the training program was to enrich and strengthen the knowledge of Community Managers on issues that are considered necessary for the optimal development and operation of the CIRCLabs. The main topics that were included in the training program were the **circular economy framework**, the emerging **circular business models** and their application and last but not least **communication and networking skills**.

2.2 Organisation of the Training Program

The Training Program was organised **online** and was hosted by DRAXIS ENVIRONMENTAL S.A. in WEBEX platform on **Wednesday, 16. December 2020**. The duration of the program was 6 hours and participated the Community Managers of all the CIRCLabs as well as other partners' affiliates who will be involved in the development and the operation of the labs. Totally, in the training program there were 38 participants (Figure 2-1; 2-2).

The presenters/trainers were from DRAXIS S.A., as external experts collaborating with ANATOLIKI S.A Development Agency of Eastern Thessaloniki's Local Authorities, as well as guests invited by DRAXIS S.A. so as to share their expertise in the relative topics of waste management, circular economy and lab development. The presenters are recorded in the table below.

Table 2-1: Presenters' List

Name	Organisation
Vogiatzidaki Evgenia	DRAXIS ENVIRONMENTAL S.A.
Valta Katerina	DRAXIS ENVIRONMENTAL S.A.
Pekakis Pantelis	DRAXIS ENVIRONMENTAL S.A.
Panaretou	GIZ
M. Pisimisi	GIZ
N. Tsoniotis	Project Manager of the H2020 Pop Machina, Startup Coach of OKThess!
S. Bourdon	FAB Lab Barcelona

The training program was organised in four parts and more specifically in Part 1 the first topic of circular economy framework and the general circular economy concept was presented focusing on its main principles and characteristics as well as on the various approaches that currently exist (e.g. Cradle to Cradle, Biomimicry, Industrial Ecology etc.). Furthermore, in the first session the circular business models that currently evolve were presented. Through the closed loop supply chains and reversed logistics, new opportunities for organisations are created. An introduction to the basic circular business models identified by leading Organisations (e.g. OECD, MacArthur Foundation) were introduced. Part 1 included four presentations.

In Part 2 the case of CIRCLab Thessaloniki was discussed. In a presentation the development of the lab based on the Joint Model was summarised and more specifically, the determination of its goals and objectives, the stakeholders' mapping as well as the planning of the lab's activities. In addition, in the second part a presentation which focused on the enhancement of the communication and networking skills of the Community Managers' took place. The overall target was to prepare Community Managers to operate the CIRCLabs, support the labs organisationally and facilitate the dialogue between multiple stakeholders. Different methods and tools so as to achieve the active participation of the different interest groups/stakeholders were presented.

In the next part, Part 3, there was a presentation concerning *Economic instruments for waste management and circular economy in Greece* with a focus on a developed cost-accounting tool for municipalities and a proposed deposit-refund-system for the national level. The presentation was made by Mrs V.Panaretou and M. Pisimisi from GIZ¹.

In the last part, Part 4, there were two (2) presentations from representative of other European co-funded programs with special experience in the development and operation of Labs. The aim was to share with the CIRCLE partners and especially the Community Managers their expertise on the development of labs, potential difficulties that arise, success stories, ways of stakeholders' engagement etc. The projects that were presented were the H2020 programs Pop-Machina (<https://pop-machina.eu/>) and WaysTUP! (<https://waystup.eu/>) as well as the case of Fab Lab Barcelona which is an innovation centre and is a benchmark in the powerful network of over 1800 Fab Labs in over 100 countries (<https://fablabbcn.org/about>).

At the end of each part there was 10 min time for discussion and questions. The detailed Agenda which was sent to the participants is provided below (Figure 2-3).

¹ Deutsche Gesellschaft für Internationale Zusammenarbeit <https://www.giz.de/en/html/index.html>

Name	Connection time	Duration	Connection type
NO Natasa Orel	10:40 - 12:27	107 mins	Desktop app
VC Vyron Chrysovergis	13:45 - 15:20	95 mins	Desktop app
VP Vasiliki Papadopoulou	10:06 - 11:40	94 mins	Desktop app
SB Sally Bourdon Fab Lab Barcelona	13:56 - 15:20	84 mins	Web app
AD Aleksandar Dukadjin	10:46 - 11:12	27 mins	Web app
FS Franci Pečnik - CIRCLab SAŠA	10:04 - 10:31	27 mins	Desktop app
VC Vyron Chrysovergis	13:22 - 13:44	23 mins	Desktop app
AD Aleksandar Dukadjin	14:48 - 15:05	17 mins	Web app
AD Aleksandar Dukadjin	10:25 - 10:38	14 mins	Web app
DS DRAXIS ENVIRONMENTAL S.A.	09:44 - 15:20	336 mins	Desktop app
DS DRAXIS ENVIRONMENTAL S.A.	09:47 - 15:20	333 mins	Desktop app
BM Branislav Milosav	09:53 - 15:20	327 mins	Desktop app
MT Magdalena Trstenjak	09:56 - 15:20	324 mins	Web app
NT Nikolaos Tsoniotis	09:57 - 15:20	323 mins	Web app
ME Maria Efstathiou	10:10 - 15:20	310 mins	Desktop app
T Tomislav	10:13 - 15:20	308 mins	Mobile app
MA Marco Affronte	10:14 - 15:20	306 mins	Desktop app
LE LIR Evolution	10:15 - 15:20	305 mins	Desktop app

Figure 2-1: Participants' list (extracted from WEBEX)

SJ	Slaviša Jelisić	10:17 - 15:20	303 mins	Desktop app
SP	Stylios Paliouras	10:19 - 15:20	301 mins	Desktop app
FS	Franci Pečnik - CIRCLab SAŠA	10:32 - 15:20	288 mins	Desktop app
JN	Jasmina Nikic	10:36 - 15:20	284 mins	Desktop app
DS	DRAXIS ENVIRONMENTAL S.A.	09:47 - 13:56	249 mins	Desktop app
VP	Vasiliki Papadopoulou	11:41 - 15:20	219 mins	Desktop app
AD	Aleksandar Dukadjin	11:19 - 14:47	209 mins	Web app
MP	maria pisimisi	12:20 - 15:01	162 mins	Desktop app
VG	Vasiliki Panaretou GIZ	12:21 - 14:59	159 mins	Desktop app
RS	Rea Sakellariou	13:09 - 15:20	131 mins	Web app
M	Marco	10:01 - 10:13	12 mins	Desktop app
AD	Aleksandar Dukadjin	11:13 - 11:19	7 mins	Web app
SJ	Slaviša Jelisić	10:08 - 10:14	7 mins	Desktop app
AD	Aleksandar Dukadjin	10:11 - 10:16	5 mins	Web app
AD	Aleksandar Dukadjin	15:04 - 15:08	5 mins	Web app
VC	Vyron Chrysovergis	11:35 - 11:39	4 mins	Desktop app
Μ	Μαρία Παναγιωτίδου	10:03 - 10:06	4 mins	Desktop app
T	Tomislav	10:11 - 10:13	2 mins	Mobile app
DS	DRAXIS ENVIRONMENTAL S.A.	13:56 - 13:57	1 min	Desktop app
R	R.Kapedani	10:10 - 10:10	1 min	Desktop app

Figure 2-2: Participants' list (extracted from WEBEX)

Agenda

*Community Managers' training session
on waste management and circular economy topics*

Date: **16th December 2020**

Time: **9.00 – 14.30 (CET)**

Part 1

<i>Subject</i>	<i>Presenter</i>	<i>Time</i>
Log – in and welcome		9.00 - 9.20
Introduction to the training program - Expected outcomes	<i>E.Vogiatzidaki-DRAXIS</i>	9.20 - 9.30
Circular Economy an Introduction	<i>E.Vogiatzidaki-DRAXIS</i>	9.30 - 9.45
Circular Economy in Cities	<i>E.Vogiatzidaki-DRAXIS</i>	9.45 – 10.00
Questions – Discussion		10.00 – 10.10
5 min break 10.10 -10.15		
Circular Economy Business Models	<i>K.Valta-DRAXIS</i>	10.15 – 10.45
Questions – Discussion		10.45 – 10.55
5 min break 10.55 – 11.00		

Part 2

<i>Subject</i>	<i>Presenter</i>	<i>Time</i>
The case of CIRCLE Lab in Thessaloniki	<i>DRAXIS - ANATOLIKI</i>	11.00 – 11.15
	<i>S.A</i>	

<i>Communication and Networking</i>	<i>P.Pekakis -DRAXIS</i>	11.15 - 11.35
Questions – Discussion		11.35 - 11.45
10 min break 11.45-11.55		
Part 3		
<i>Subject</i>	<i>Presenter</i>	<i>Time</i>
<i>Enhancing economic instruments for waste management and circular economy in Greece</i>	<i>Panaretou, GIZ, - M. Pisimisi, GIZ</i>	11.55 – 12.25
Questions – Discussion		12.25 - 12.35
40 min lunch break 12.35 – 13.15		
Part 4		
<i>Subject</i>	<i>Presenter</i>	<i>Time</i>
<i>Pop-Machina H2020 & Making in Thessaloniki</i>	<i>N.Tsoniotis</i>	13.15 - 13.30
<i>The case of Fab Lab Barcelona</i>	<i>S.Bourdon</i>	13.30 - 13.45
Questions – Discussion		13.45 - 13.55
5 min break 13.55 – 14.00		
<i>The H2020 projects on circular economy</i>	<i>DRAXIS</i>	14.00 - 14.15
Final Discussion		14.15 – 14.30

Figure 2-3: Agenda of the Training Program

3 Profile of the CIRCLabs in the framework of the CIRCLE Project

3.1 Implementation of the Joint Model for the development of the CIRCLabs

The development of each Lab is structured upon the three main phases of the Joint Model, which was developed in the Deliverable 1 “Design of a joint model for the development and operation of CIRCLabs”. More specifically, in the following figure the cycle of the CIRCLab development process is illustrated:

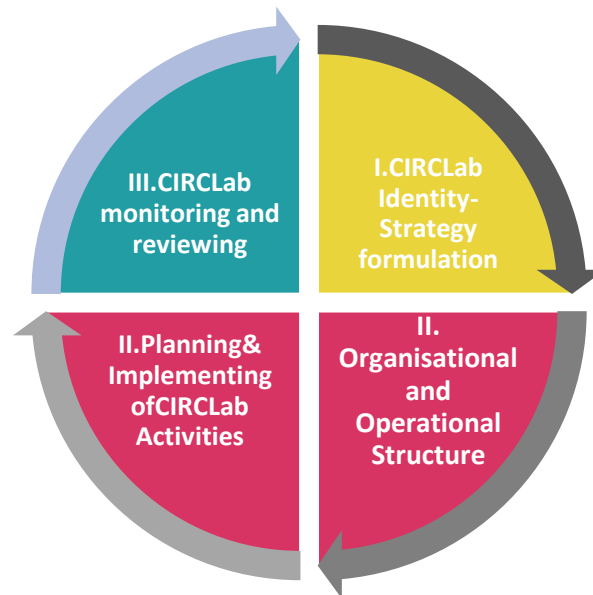


Figure 3-1: Cycle of the CIRCLab Development Process

Moreover, the CIRCLab Joint Model is further analysed in the following table which includes the three phases and sub-phases and more specific implementation steps for each phase.

Table 3-1: CIRCLab Joint Model

I. CIRCLab Identity – Strategy formulation	II. CIRCLab Planning & Implementing Activities		III. CIRCLab Monitoring and reviewing
	A.Organisational and Operational Structure	B.Planning and Implementing of CIRCLab Activities	
Step 1: Vision, mission and objectives	Step 1: Workplace and equipment	Step 4: City / Region characteristics and needs	Step 1: Monitoring
Step 2: Stakeholder mapping	Step 2: Roles & responsibilities	Step 5: Actions & responsibilities planning	Step 2: Review
Step 3: Circular Model Canvas	Step 3: Financing	Step 6: Time plan	Step 3: Adapt

In the following sections the profile of the CIRCLabs which were developed in the framework of the project is described. It should be noted that not necessarily all the steps were implemented in the initial development of the CIRCLabs. However, the Joint Model provides with the possibility to repeat the cycle constantly and adapt to additional requirements and needs and finally to promote the feasibility and the continuous improvement of the CIRCLab's operation.

3.2 Profile of the CIRCLab Thessaloniki

3.2.1 Organisational Structure

In the following section the profile of the **CIRCLab in Thessaloniki** is presented. The recommended positions and their main role and interrelations are described below and are illustrated in the figure that follows. In brief the proposed positions include:

- ☐ The Innovation Manager (IM)
- ☐ The Technical & Scientific Committee (TSC)
- ☐ The Community Manager (CM)
- ☐ The Secretary (*optional*)
- ☐ The CIRCLab Host
- ☐ The CIRCLab Members

Moreover, *Stakeholders* could be Businesses, Organisations or the public that have a stake or are interested in the CIRCLab's activities, while the *target group* is any group impacted by the CIRCLab's activities and more specifically any group of individuals, professionals, businesses, organisations that are targeted by the CIRCLab in order to raise their awareness, transfer them knowledge and/or information, involve them in the lab's activities etc..

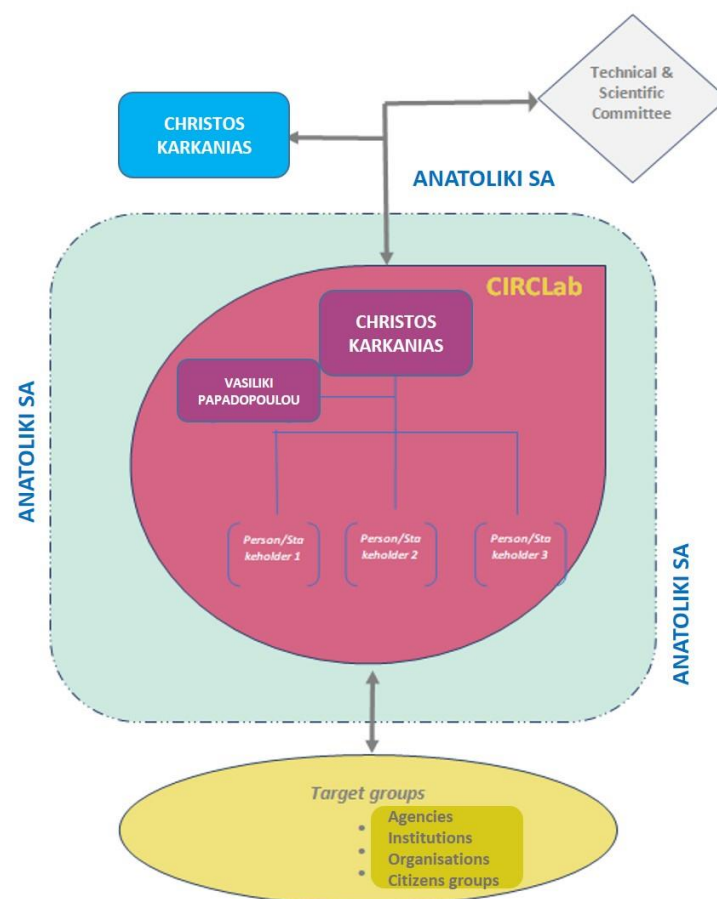


Figure 3-2: Organisational Structure of the CIRCLab in Thessaloniki

3.2.2 Phase I: CIRCLab Identity –Strategy formulation

The first phase focuses on the identification of the main goal of the CIRCLab in Thessaloniki and the formulation of its objectives (step 1). Furthermore, during this phase the stakeholder identification is conducted (step 2).

The **main goal of the CIRCLab in Thessaloniki** is to design and test circular models focused on 4 thematic fields, which will form the objectives of the CIRCLab in Thessaloniki, i.e. industrial symbiosis, organic waste, WEEE and CDW, and transfer and exchange knowledge about circular principles.

The operational area of the CIRCLab in Thessaloniki will be the Regional Unit of Thessaloniki with a main focus in the four Municipalities of Eastern Thessaloniki, Thermi, Kalamaria, Thermaikos and Pylaia-Hortiatis. The main thematic issue of the CIRCLab in Thessaloniki is industrial symbiosis which is the core thematic pilot area to be developed in Greece. Along with industrial symbiosis the other three thematic areas will be discussed and analysed within CIRCLab, more specifically organic waste, Waste of Electrical and Electronic Equipment (WEEE) and Construction and Demolition Waste (CDW).

The concept of CIRCLab operation is to build up knowledge of stakeholders on the aforementioned thematic areas, to test circular models focused on these fields and finally to design new models based on the specific characteristics and needs of each of the selected municipalities. The CIRCLab in Thessaloniki will be a place where the involved stakeholders will put together and compare their ideas to solve problems related to sustainable waste management. This living lab will highly promote innovation and collaboration activities where users are considered to be active participants.

Regarding the **stakeholders' identification**, the stakeholders which will be invited to participate in the CIRCLab activities are listed in the following table according to the thematic field they fit in.

Table 3-2: CIRCLab thematic fields and Stakeholders involved

Thematic Field A	Thematic Field B	Thematic Field C	Thematic Field D
Industrial Symbiosis	Organics	CDW	WEEE
<input type="checkbox"/> Municipality of Thermi <input type="checkbox"/> Municipality of Kalamaria <input type="checkbox"/> Municipality of Pilea-Hortiatis <input type="checkbox"/> Municipality of Thermaikos <input type="checkbox"/> Region of Central Macedonia	<input type="checkbox"/> Biogas Lagada SA (Livestock wastewater Treatment) <input type="checkbox"/> ELDIA SA (Solid Waste Management & Recycling) <input type="checkbox"/> Central Market of Thessaloniki <input type="checkbox"/> Bioscoop Social Consumer Cooperative <input type="checkbox"/> Compost Laboratories <input type="checkbox"/> Biosolids <input type="checkbox"/> Kafsimo <input type="checkbox"/> Staramaki <input type="checkbox"/> Domaine Agrovision Winery <input type="checkbox"/> Green Oil <input type="checkbox"/> Oikotechnia Gropalis <input type="checkbox"/> American Farm School	<input type="checkbox"/> ANABE SA (Construction & Demolition Waste Management) <input type="checkbox"/> ANAKEM SA (Construction & Demolition Waste Management)	<input type="checkbox"/> Ανακύκλωση Συσκευών ΑΕ (ΣΣΔΑ) <input type="checkbox"/> Konstantinidis Bros SA (Packaging & Metal Scrap Recycling)

3.2.3 Phase II: CIRCLab Planning and Implementing Activities

The second phase focuses on the development and operationalization of the CIRCLab in Thessaloniki. This phase constitutes of the planning and implementation phase, where the activities of the lab will be defined as well as other details such as where, who, when etc.

Regarding the **organizational and operational structure of the CIRCLab in Thessaloniki** (step 1 & 2) ANATOLIKI SA (project partner) will be responsible for organising and implementing the activities of the CIRCLab. Furthermore, all CIRCLab activities (meetings/workshops) will be held at the premises of ANATOLIKI SA, while when needed (e.g. COVID 19) online meetings will take place using online platforms (e.g. Zoom). Furthermore, ANATOLIKI SA will provide all the necessary technical and technological equipment for the meetings conduction (e.g. monitors, microphones, etc.).

The next step refers to the **planning of certain activities** for the CIRCLab in Thessaloniki (step 4, 5 and 6). In particular, the CIRCLab in Thessaloniki will focus on the following **types of actions**:

- Knowledge transfer between different stakeholders
- Raising awareness on CE issues
- Formation of new partnerships (e.g. between public-private sector, industrial sectors etc.)

The **specific activities** under the above types of actions, include **the organization of events** (e.g. workshops, meetings, information campaigns) in order to initiate discussion and collaborations between the different stakeholders.

ANATOLIKI (project partner) will be responsible for organising the events and implement the necessary activities within this task, such as the stakeholders' identification, the selected theme presentation, the networking and the contact with the local authorities each time. In particular, the Community Manager appointed by ANATOLIKI will be the initiator and moderator of the CIRCLab. The community manager will be an expert being also trained by DRAXIS (external expert) on circular economy principles and practices. DRAXIS is also responsible for conducting the sustainability plan of the CIRCLab.

At least four (4) meetings/workshops of the CIRCLab will take place until the end of the project (July 2022). Each meeting will be dedicated to one of the thematic fields (industrial symbiosis, organic waste, WEEE and CDW) and mainly on industrial symbiosis, framed by other subjects proposed by the local authorities, as well as in accordance with the priorities of the project CIRCLE. In particular, **in 2021 three (3) meetings/workshops are planned**. Based on the thematic field the appropriate actors of the lab would be invited to participate. All CIRCLab meetings will end up with a set of proposals concerning the four thematic areas. The events are planned to be held as follows:

- ✓ 1st event: March 2021
- ✓ 2nd event: July 2021
- ✓ 3rd event: November 2021

Through the organisation of the events the CIRCLab of Thessaloniki intends to **promote the development of at least one new partnership** between different stakeholders and enhance the creation of a new value chain regarding the utilisation of waste as secondary raw materials.

Moreover, another activity that is planned is **the development of a promotion website** by DRAXIS which will be used by the stakeholders in order to be registered in the CIRCLab. The aim of the website is to enhance the engagement of the stakeholders and promote the communication between them. The stakeholders may include public-private-people partnerships (4Ps) of companies, public agencies, academic institutions, organisations and citizens groups.

Finally, at the end of the project (July 2022), a **Transnational Final Conference will be organised** by ANATOLIKI SA. In the Final Conference all CIRCLabs will participate and the results of the 8 CIRCLabs on four fields of activity will be presented.

The time plan for the activities planned for the operation of the first year of the CIRCLab in Thessaloniki is presented below. The first month (M1) of the operation is considered October 2020.

Time Plan

						2020					2021									
	Name	Responsible Person	Start	End	Dur	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15
Action 1	Creation of the first stakeholders list																			
Subtask 1	Identification of possible stakeholders																			
Action 2	Organisation of the 1 st event																			
Subtask 1	Creation of stakeholders list and invitation																			
Subtask 2	Agenda of the 1st CIRCLAB meeting																			
Subtask 3	Actual event																			
Action 3	Organisation of the 2 nd event																			
Subtask 1	Creation of stakeholders list and invitation																			
Subtask 2	Agenda of the 1st CIRCLAB meeting																			
Subtask 3	Actual event																			
Action 4	Organisation of the 3 rd event																			
Subtask 1	Creation of stakeholders list and invitation																			
Subtask 2	Agenda of the 1st CIRCLAB meeting																			
Subtask 3	Actual event																			
Action 5	Website preparation																			

3.2.4 Phase III CIRCLab Monitoring and reviewing

In this phase the aim is to monitor the progress of the implemented actions. The following **indicators and target values** for the monitoring of the CIRCLab operation are set:

Table 3-3: Monitoring Indicators and target values

Indicator	Target value
Number of stakeholders invited in each event	20
Number of events (e.g. meetings/workshops) organised until the end of the project	4
Number of stakeholders participating in each event	10
Number of CE actions proposed under each objective	3

The monitoring of the indicators will be performed at the end of each year, starting from 2021, where 3 events are planned to take place.

3.3 Profile of the CIRCLab Zrenjanin

3.3.1 Organisational Structure

The CIRCLab Zrenjanin will be placed in online space and communication will be by use of virtual applications. The general co-hosts of the Circlab Zrenjanin will be RCR Banat and FUTURA. Roles and responsibilities in the CIRCLab Zrenjanin are defined as follows:

- Innovation manager – CIRCLE Project WP Leader, Anatoliki
- Technical and scientific committee (Community managers of CIRCLE project)
- Community manager (Branislav Milosav) + Deputy
- CIRCLab Co-Hosts: RCR Banat and FUTURA
- CIRCLab members: Public waste utility company 'Čistoća i zelenilo' Zrenjanin, private WEEE management companies, RS Ministry of Environmental Protection, Center for Cleaner Production of Serbia, Environmental Protection Agency of Serbia (SEPA), Association of Serbian Waste Utility Companies, Serbian Solid Waste Association, City of Zrenjanin authorities.

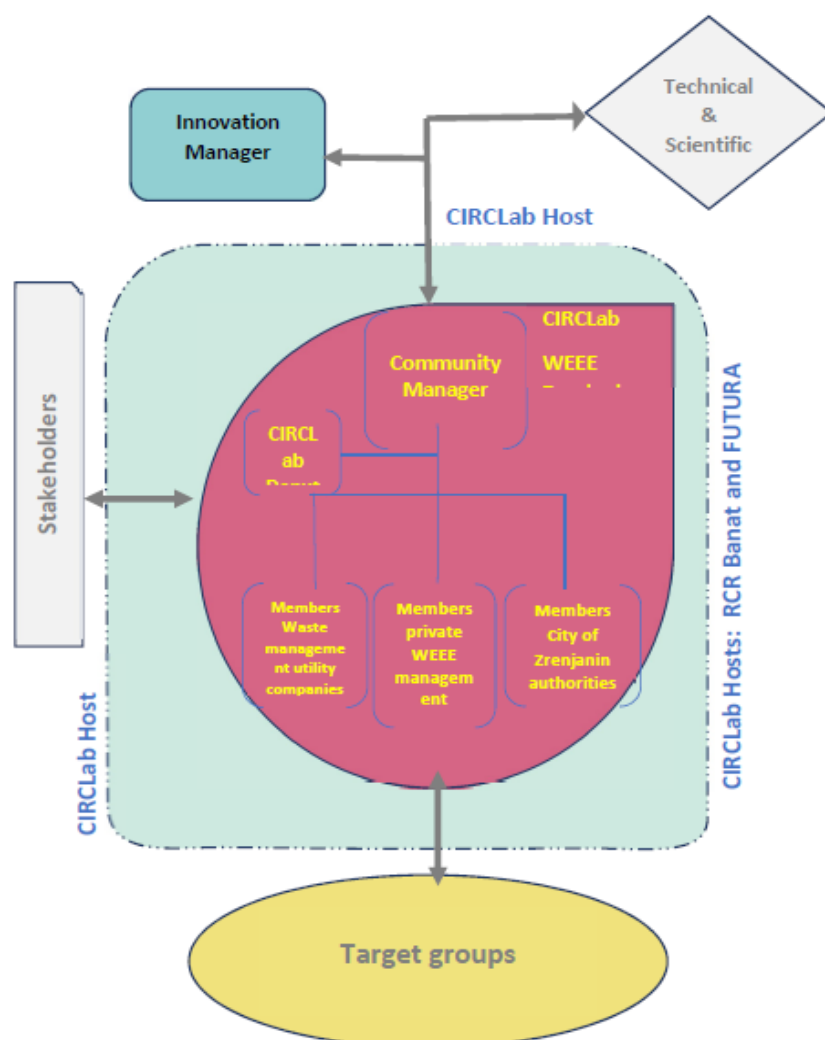


Figure 3-3: Organisational Structure of the Circlab Zrenjanin

3.3.2 Phase I: CIRCLab Identity –Strategy formulation

The first phase focuses on the identification of the main vision and mission of the CIRCLab in Zrenjanin (Serbia) and the formulation of its objectives (step 1). Furthermore, during this phase the stakeholder identification is conducted (step 2).

Vision

Organized sustainable waste management process for waste of electronic and electrical equipment (WEEE) and related industrial waste, based on circular economy principles: reduce, repair, reuse and recycle.

Mission

Increase knowledge, awareness and engagement of waste management companies, organisations and authorities on industrial symbiosis possibilities, management of specific waste streams for electronic and electrical waste in implementation of circular economy models.

The **objectives** of the CIRCLab Zrenjanin are: 1) To identify and involve relevant stakeholders for the participation in the CIRCLab Zrenjanin; 2) To increase awareness and applying of knowledge on circular economy principles for improvement of waste and electrical and electronic equipment management, reduction of waste generation, increase of waste reuse and waste recycling; 3) To actively engage stakeholders in design and implementation of waste management models; 4) to design and implement CIRCLE pilot action for WEEE in City of Zrenjanin. The model of CIRCLab Zrenjanin foresees the CIRCLab sourcing phase, Re-condition phase, Access phase and Resource recovery phase. These phases of the circular economy business model are further elaborated as part of the CIRCLab Urban Model.

Regarding the **stakeholders' mapping**, the following stakeholders are identified as relevant to be involved and informed about the CIRCLab Zrenjanin and its activities.

Table 3-4: CIRCLab objectives and Stakeholders involved

A/A	Objective 1. To identify and involve relevant stakeholders for the participation in the CircLab Zrenjanin	Objective 2. To increase an awareness and applying of knowledge on circular economy principles for improvement of waste of electrical and electronic equipment management, reduction of waste generation, increase of waste reuse and waste recycling.	Objective 3. To actively engage stakeholders in design and implementation of waste management models and	Objective 4. To design and implement CIRCLE pilot action for WEEE in City of Zrenjanin
1	RS Ministry of Environmental Protection	RS Ministry of Environmental Protection		
2	Center for Cleaner Production of Serbia	Center for Cleaner Production of Serbia	Center for Cleaner Production of Serbia	Center for Cleaner Production of Serbia

3	Environmental Protection Agency of Serbia (SEPA)	Environmental Protection Agency of Serbia (SEPA)		
4	Association of Serbian Waste Utility Companies	Association of Serbian Waste Utility Companies	Association of Serbian Waste Utility Companies	Association of Serbian Waste Utility Companies
5	Serbian Solid Waste Association	Serbian Solid Waste Association	Serbian Solid Waste Association	Serbian Solid Waste Association
6	City of Zrenjanin	City of Zrenjanin	City of Zrenjanin	City of Zrenjanin
7	public and private waste management companies	public and private waste management companies	public and private waste management companies	public and private waste management companies
8	Public waste utility company 'Čistoća i zelenilo' Zrenjanin	Public waste utility company 'Čistoća i zelenilo' Zrenjanin	Public waste utility company 'Čistoća i zelenilo' Zrenjanin	Public waste utility company 'Čistoća i zelenilo' Zrenjanin
9	E-reciklaža	E-reciklaža	E-reciklaža	
10	Božić i sinovi	Božić i sinovi	Božić i sinovi	
11	REC-EE-O	REC-EE-O	REC-EE-O	
12	Metalprom	Metalprom	Metalprom	
13	Maksi Co	Maksi Co	Maksi Co	

3.3.3 Phase II: CIRCLab Planning and Implementing Activities

The second phase focuses on the development and operationalization of the CIRCLab in Zrenjanin. This phase constitutes of the planning and implementation phase, where the activities of the lab will be defined as well as other details such as where, who, when etc.

Regarding the **organizational and operational structure of the CIRCLab Zrenjanin** (step 1 & 2), it is formed by the CIRCLE project partners from Serbia, PP11 Futura and PP 12 RDA Banat and they will explore industrial symbiosis possibilities and management of electronic and electrical equipment waste (WEEE). The CIRCLab Zrenjanin will be placed in online space and communication will be by use of virtual applications. This is due to current COVID-19 pandemic situation and relevant required measures. The City of Zrenjanin will provide meeting space as needed and the practical equipment and space will be provided by Zrenjanin Waste Utility Company ('Čistoća i zelenilo').

Regarding the **activities planned** (step 4, 5 and 6), they are presented in relation to the objectives of the lab and more specifically:

- *Objective 1: To identify and involve relevant stakeholders for the participation in the Circlab Zrenjanin*

Activity 1: Identification and involvement of stakeholders.

Activity 2: Definition of the Circlab's members roles and interests in participation

- *Objective 2: To increase an awareness and applying of knowledge on circular economy principles for improvement of waste of electrical and electronic equipment management, reduction of waste generation, increase of waste reuse and waste recycling*

Activity 3: Organisation of four meetings of CIRCLab Members

Activity 4: Increasing awareness, dissemination of information and communication with public

Action 5: Trainings and capacity building on sustainable management of WEEE and circular economy

- *Objective 3: To actively engage stakeholders in design and implementation of waste management models*

Activity 6: Analyse of the WEEE stream, identification of WEEE categories and definition of the WEEE sourcing pathways

Activity 7: Identification and promotion of reuse and repair products, co-products, resource recovery process and possibilities for improvement of efficiency of resource use (access and performance).

- *Objective 4: To design and implement CIRCLE pilot action for WEEE in City of Zrenjanin*

Activity 8: Identification of the pilot action, definition and procurement of equipment for the pilot action on WEEE in Zrenjanin

Time plan for defined activities is provided below.

						Time Plan																				
						2020			2021											2022						
	Name	Responsible Person	Start	End	Dur	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
Activity 1	Identification and involvement of stakeholders	Community Manager	M10	M14	5 months																					
Activity 2	Definition of the Circlab's members roles and interests in participation	Community Manager	M10	M18	9 months																					
Activity 3	Organisation of four meetings of CIRCLab Members	Community Manager	M14	M30	17 months																					
Activity 4	Increasing awareness, dissemination of information and communication with public	Community Manager	M12	M30	19 months																					
Activity 5	Trainings and capacity building on sustainable management of WEEE and circular economy	Technical & scientific committee	M18	M22	5 months																					
Activity 6	Analyse of the WEEE stream, identification of WEEE categories and definition of the WEEE sourcing pathways	Technical & scientific committee	M13	M16	12 months																					
Activity 7	Identification and promotion of reuse and repair products, co-products, resource recovery process and possibilities for improvement of efficiency of resource use (access and performance)	Technical & scientific committee	M12	M18	7 months																					
Activity 8	Identification of the pilot action, definition and procurement of equipment for the pilot action on WEEE in Zrenjanin	Local Project Manager	M14	M30	17 months																					

3.3.4 Phase III CIRCLab Monitoring and reviewing

In this phase the aim is to **monitor and review the progress of the implemented actions**. The monitoring will be based on definition of relevant indicators. Community Manager will be able to provide evidence on implemented actions and outcomes to CIRCLab Members, stakeholders and other interested groups including dissemination to the public.

Furthermore, a review process is foreseen. The proposed review should be conducted every six months and it will be based on the specific needs of the CIRCLab Zrenjanin. Moreover, a review report will be completed.

3.4 Profile of the CIRCLab Organic in Bosnia and Herzegovina

3.4.1 Organisational Structure

In the following section the profile of the **CIRCLab Organic in Bosnia and Herzegovina** is presented. The recommended positions and their main role and interrelations are described below and are illustrated in the figure that follows. In brief the proposed positions include:

- ☐ Innovation manager – CIRCLE Project WP Leader, Anatoliki
- ☐ Technical and scientific committee (Community managers)
- ☐ Community manager + Deputy
- ☐ CIRCLab Host: Opština Laktaši, EKO Fond
- ☐ CIRCLab members: 8 Waste management Utility Companies (Banja Luka, Gradiška, Laktaši, Čelinac, Kneževo, Kotor Varoš, Srbac and Prnjavor) , DEP-OT, Livač, EKO Fond

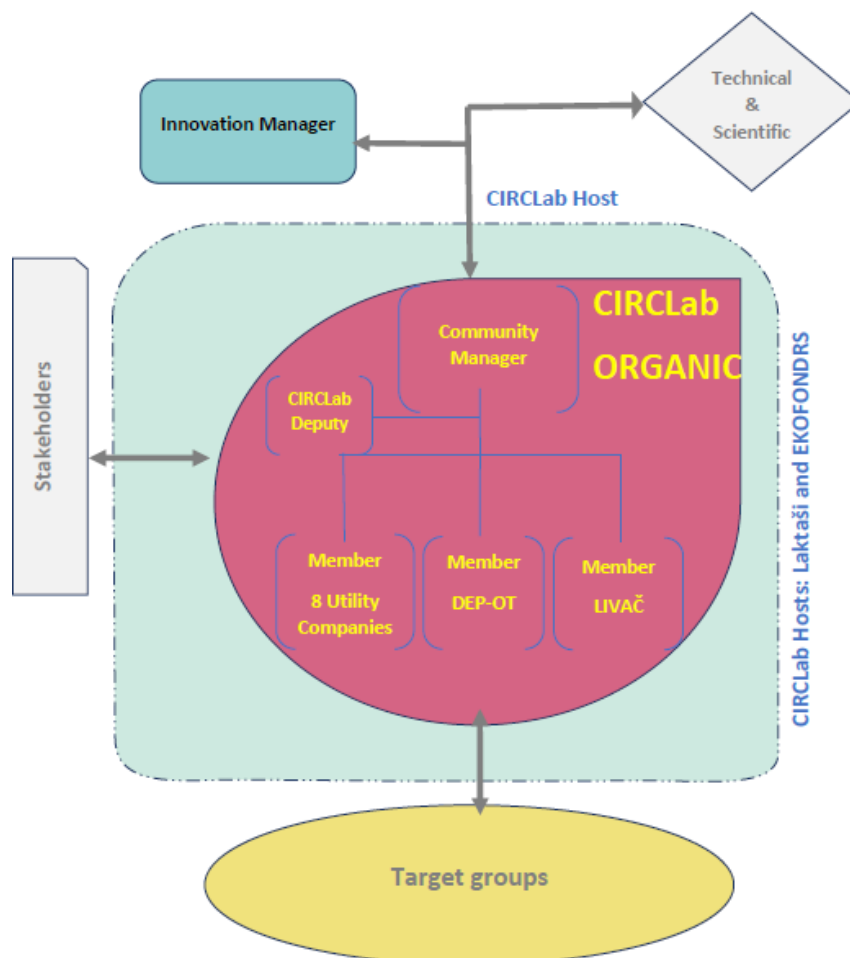


Figure 3-4: Organisational Structure of the CIRCLab Organic in Bosnia and Herzegovina

3.4.2 Phase I: CIRCLab Identity –Strategy formulation

The first phase focuses on the identification of the main goal of the CIRCLab Organic in Bosnia and Herzegovina and the formulation of its objectives (step 1). Furthermore, during this phase the stakeholder identification is conducted (step 2).

Vision, mission and objectives

The CircleLab Organic in Bosnia and Herzegovina (Banja Luka Region) is described as interactive space and structure where circular business model in the field of organic waste (biowaste) stream management is implemented by involvement and collaboration of relevant stakeholders, in particular municipality authorities, municipal waste utility companies and private companies (waste generators and treatment).

Vision

Sustainable waste management based on circular economy principles is applied in all territories, waste streams and waste utility companies' operations in Banja Luka region.

Mission

To engage all relevant stakeholders on target territory in design and implementation of actions for improvement of circular economy and to improve organic waste stream management in target territory and development of organic waste circular economy model.

Objectives

The overall objective of the Organic CIRCLab is to develop and improve organic waste management business model in Banja Luka region based on circular economy principles. Specific objectives of the Organic CIRCLab are: to identify and engage relevant stakeholders in elaboration of organic waste sourcing, access and resource recovery; to raise awareness on circular economy and sustainable organic waste management; to design and implement CIRCLE pilot action for organic waste stream in Municipality of Laktaši.

Regarding the **stakeholders' mapping**, the following stakeholders are identified as relevant to be involved and informed about the Organic CIRCLab and its activities.

Table 3-5: CIRCLab objectives and Stakeholders involved

A/A	Objective 1 - To identify and engage relevant stakeholders in elaboration of organic waste sourcing	Objective 2 - To raise awareness on circular economy and sustainable organic waste management	Objective 3 - To design and implement CIRCLE pilot action for organic waste stream in Municipality of Laktaši
1	Komunalno preduzeće "Komunalac" ad Laktaši	Ministry of Spatial Planning, Construction and Ecology	Department for Housing and Communal Affairs in Municipality of Laktaši
2	K.P. „KOMUNALAC“ a.d. Srbac	Department for Housing and Communal Affairs in Municipality of Laktaši	Komunalno preduzeće "Komunalac" ad Laktaši
3	Komunalno preduzeće "BOBAS" a.d. Kotor Varoš	Komunalno preduzeće "Komunalac" ad Laktaši	Eko Fond RS - Department for project management and international cooperation
4	KP „GRADSKA ČISTOĆA“ Gradiška	Department of space planning, housing affairs and communal services in Municipality of Srbac	Agriculture cooperative Livač

5	Komunalno preduzeće "CVRCKA" ad Kneževo	K.P. „KOMUNALAC“ a.d. Srbac	Marbo d.o.o. Laktaši
6	Čistoća i Zelenilo a.d. Čelinac	Department of space planning, housing affairs and communal services in Municipality of Kotor Varoš	
7	KP „Park“ a.d. Prnjavor	Komunalno preduzeće "BOBAS" a.d. Kotor Varoš	
8	"FSH Sita" d.o.o. Gradiška	Department of communal services and housing affairs in City of Gradiška	
9	"FITOFARM" d.o.o. Laktaši	KP „GRADSKA ČISTOĆA“ Gradiška	
10	"SLAVNIĆ" d.o.o. Banja Luka	Department of space planning, housing affairs and communal services in Municipality of Kneževo	
11	"TERRACOM" d.o.o. Banja Luka	Komunalno preduzeće "CVRCKA" ad Kneževo	
12	"SET-KOMERC" d.o.o. Kriškovci-Laktaši	Department of space planning, housing affairs and communal services in Municipality of Čelinac	
13	D.O.O. "ŽIVANIĆ DS" Smrtići - Prnjavor	Čistoća i Zelenilo a.d. Čelinac	
14	"Milovanović" d.o.o. Laktaši	Department of Public Services and Utilities in City of Banja Luka	
15	"SUPER PREMIX" d.o.o. Banja Luka	Čistoća ad Banja Luka	
16	"ERVIKS" d.o.o. Gradiška	Department of housing affairs, communal services and investments in Municipality of Prnjavor	
17	"034 NNM" d.o.o. Banja Luka	KP „Park“ a.d. Prnjavor	
18	"D.D. KOMERC" d.o.o. Prnjavor	DEP-OT Regijonalna deponija Banja Luka	
19	"ECO ROYALE" d.o.o. Banjaluka	Eko Fond RS - Department for project management and international cooperation	
20	"EKOMONDO" d.o.o. Srbac	Agriculture cooperative Livač	
21	"GEO. PELLET" d.o.o. Srbac	Agriculture institute of Republic of Srpska	
22	"MILKAN-TRADE" d.o.o. Čelinac	"FSH Sita" d.o.o. Gradiška	

23	"PRIZMA COMERC" d.o.o. Banja Luka	"FITOFARM" d.o.o. Laktaši	
24	"SEKUNDARAC" d.o.o. Gradiška	"SLAVNIĆ" d.o.o. Banja Luka	
25	"Swisscor" d.o.o. Srbac	"TERRACOM" d.o.o. Banja Luka	
26	"NOVA SIROVINA" A.D. Banja Luka	"SET-KOMERC" d.o.o. Kriškovci-Laktaši	
27	"PET4PET" d.o.o. Banja Luka	D.O.O. "ŽIVANIĆ DS" Smrtići - Prnjavor	
28	"2B INVEST" d.o.o. Banja Luka	"Milovanović" d.o.o. Laktaši	
29	"EKO-METALIKA" d.o.o. Laktaši	"SUPER PREMIX" d.o.o. Banja Luka	
30	"ALPA PLAST" d.o.o.	"ERVIKS" d.o.o. Gradiška	
31	"Eko svijest" d.o.o. Banja Luka		
32	"EKO-EURO TIM" d.o.o. Banja Luka		
33	"EURO BETA" d.o.o. Banja Luka		
34	"PETARS ECOLOGY" d.o.o. Banja Luka		
35	"TOPMETAL" d.o.o. Laktaši		
36	"EKO-CENTAR BOČAC JEZERO" d.o.o. Banja Luka		
37	"Eko RS" d.o.o. Banja Luka		
38	EBK d.o.o. Srbac		
39	EKO-PIRAMIDA d.o.o. Banja Luka		
40	"ECO-TIM" d.o.o. Gradiška		
41	Marbo d.o.o. Laktaši		
42	Tamaris Company d.o.o.		

3.4.3 Phase II: CIRCLab Planning and Implementing Activities

The second phase focuses on the development and operationalization of the CIRCLab Organic in Bosnia and Herzegovina. This phase constitutes of the planning and implementation phase, where the activities of the lab will be defined as well as other details such as where, who, when etc.

Regarding the **organizational and operational structure of the CIRCLab Organic in Bosnia and Herzegovina** (step 1 & 2), the CIRCLab Organic will be placed in online space and communication will be by use of virtual applications. However, the Municipality of Laktasi and Fund for environment and energy efficiency (EKO Fond) will co-host possible meetings. The next step refers to the **planning of certain activities** for the CIRCLab Organic in Bosnia and Herzegovina (step 4, 5 and 6). In particular, they are presented in relation to the objectives of the lab and more specifically:

- *Objective 1: To identify and engage relevant stakeholders in elaboration of organic waste sourcing, access and resource recovery.*

Actions 1: Identification and involvement of stakeholders.

Actions 2: Analyse of the organic waste stream, identification of organic circular materials and definition of the sourcing.

Action 3: Identification and development of co-products, resource recovery process and possibilities for improvement of efficiency of resource use (access and performance).

- *To raise awareness on circular economy and sustainable organic waste management.*

Action 4: Organisation of four meetings of CIRCLab Members

Action 5: Raising awareness

Action 6: Trainings and capacity building

- *To design and implement CIRCLE pilot action for organic waste stream in Municipality of Laktaši*

Action 7: Identification of the pilot action, definition and procurement of equipment for the pilot action

Time plan for defined activities is provided below.

Time Plan																								
						2021												2022						
	Name	Responsible Person	Start	End	Dur	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	
Action 1	Identification and involvement of stakeholders	Community Manager	M13	M14	2 months																			
Action 2	Analyse of the organic waste stream, identification of organic circular materials and definition of the sourcing	Technical & scientific committee	M14	M17	4 months																			
Action 3	Identification and development of co-products, resource recovery process and possibilities for improvement of efficiency of resource use (access and performance).	Technical & scientific committee	M17	M21	5 months																			
Action 4	Organisation of four meetings of CIRCLab Members	Community Manager	M15	M30	16 months																			
Action 5	Raising awareness	Community Manager	M13	M30	18 months																			
Action 6	Trainings and capacity building	Community Manager	M18	M28	11 months																			
Action 7	Identification of the pilot action, definition and procurement of equipment for the pilot action	Project Manager	M14	M26	15 months																			

3.4.4 Phase III CIRCLab Monitoring and reviewing

In this phase the aim is to **monitor and review the progress of the implemented actions**. The monitoring will be based on definition of relevant indicators. Community Manager will be able to provide evidence on implemented actions and outcomes to CIRCLab Members, stakeholders and other interested groups including dissemination to the public.

Furthermore, a review process is foreseen. The proposed review should be conducted every six months and it will be based on the specific needs of the CIRCLab Organic in Bosnia and Herzegovina. Moreover, a review report will be completed.

3.5 Profile of the CIRCLab Donji Miholjac in Croatia

3.5.1 Organisational Structure

In the following section the profile of the **CIRCLab Donji Miholjac in Croatia** is presented. The recommended positions and their main role and interrelations are described below and are illustrated in the figure that follows. In brief the proposed positions include:

Roles and responsibilities in the CIRCLab are defined as follows:

- ☐ Innovation manager – CIRCLE Project WP Leader, Anatoliki
- ☐ Technical and scientific committee (Community managers)
- ☐ Community manager Tomislav Šnidaršić; Deputy – Domagoj Vidaković
- ☐ CIRCLab Host: EnergoData
- ☐ CIRCLab members: Stakeholders identified

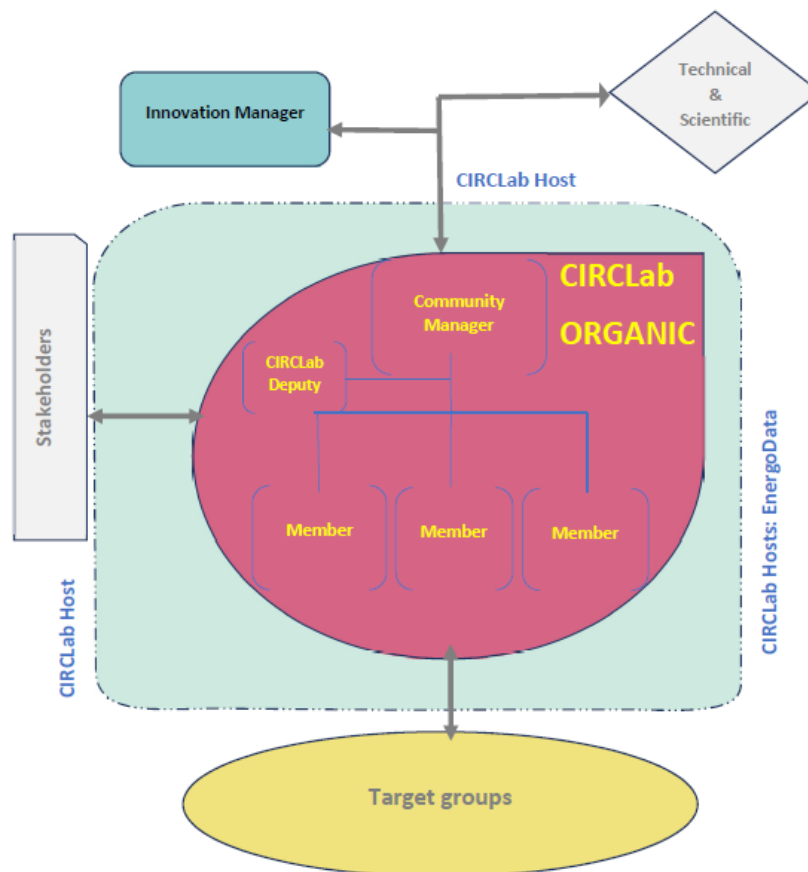


Figure 3-5: Organisational Structure of the CIRCLab Organic in Croatia

3.5.2 Phase I: CIRCLab Identity –Strategy formulation

The first phase focuses on the identification of the main vision and mission of the CIRCLab Donji Miholjac in Croatia and the formulation of its objectives (step 1). Furthermore, during this phase the stakeholder identification is conducted (step 2).

Vision

Circular economy development for organic waste stream is applied in territory of Donji Miholjac.

Mission

Mission of the CIRCLab Donji Miholjac is to engage and strengthen cooperation among relevant stakeholders in defining, designing and improving proper waste management practice, by implementing circular economy model of organic waste.

Objectives

The main objective of Organic CIRCLab is to improve management of organic waste based on circular economy principles, in City Donji Miholjac. EnergoData already collaborates with local authorities and waste utility companies, as well as with users – citizens. All relevant stakeholders are already contacted and will be contacted in order to jointly implement the practice of proper waste management of organic waste based on model of circular economy. Joint implementation will lead to efficient and sustainable management of organic waste stream. This will lead to reduced quantities of waste disposed on landfill, improvement and application of circular economy model, implementation of actions based on Waste Management plan of the Republic of Croatia 2017-2022, creation of values from organic waste, improvement life quality of citizens and overall environmental protection.

Specific objectives of the CIRCLab of Donji Miholjac are:

1. To improve circular economy business model for organic waste stream
2. To network and engage relevant stakeholders in establishment of a CIRCLab
3. To network and exchange experiences with other CIRCLE partners

Regarding the **stakeholders' mapping**, the following stakeholders are identified as relevant to be involved and informed about the Organic CIRCLab and its activities.

Table 3-6: CIRCLab objectives and Stakeholders involved

A/A	Objective 1	Objective 2	Objective 3
1	Grad Donji Miholjac	Grad Donji Miholjac	Općina Laktaši
2	KANAAN d.o.o. Donji Miholjac	KANAAN d.o.o. Donji Miholjac	EKOFOUNDERS
3	VDM Energija d.o.o. Donji Miholjac	VDM Energija d.o.o. Donji Miholjac	Općina Ulcinj
4	Poduzetnički inkubator OSVIT - zadruga, Donji Miholjac	MANNA d.o.o. Donji Miholjac	
5	PP Orahovica d.o.o. Ribnjak, Donji Miholjac	Poduzetnički inkubator OSVIT - zadruga, Donji Miholjac	
6	Žito d.o.o. - Tvornica stočne hrane Vitalka, Donji Miholjac	PP Orahovica d.o.o. Ribnjak, Donji Miholjac	
7	FUNGUS PANONIA d.o.o. Donji Miholjac	Miholjački vodovod d.o.o. Donji Miholjac	

8	Doroslov d.o.o. Donji Miholjac	Žito d.o.o. - Tvornica stočne hrane Vitalka, Donji Miholjac
9	Enna-Fruit d.o.o. Donji Miholjac	Protect Pharma d.o.o. Rakitovica
10		FUNGUS PANONIA d.o.o. Donji Miholjac
11		Enna-Fruit d.o.o. Donji Miholjac
12		Doroslov d.o.o. Donji Miholjac
13		Srednja škola Donji Miholjac
14		Osnovna škola Augusta Harambašića D. Miholjac
15		Osnovna škola Ante Starčević, Viljevo
16		Osnovna škola Matije Gupca, Magadenovac
17		NVO za zaštitu životinja-Boby DM
18		Udruženje obrtnika D.Miholjac
19		Unikom d.o.o.
20		Grad Osijek
21		Grad Belišće
22		Kombel d.o.o.
23		Urbanizam d.o.o. Valpovo
24		Radio Donji Miholjac
25		Miholjština Info - informativni portal

The **model of CircleLab Organic** foresees Circular sourcing phase and Resource recovery, treatment and production phase. The Circular sourcing phase in this model means that the organic waste is separated at the source (households, companies) and collected by waste utility companies. This action is obviously precondition for any other phase of circularity. Resource recovery, treatment and production is focused on utilisation of organic waste, separated at the source during the previous phase – Circular sourcing. This is the final phase of the CIRCLab Organic circular business model and it will result in production of either compost or biogas (and its by-products), depending on the technology used for treatment of organic waste.

3.5.3 Phase II: CIRCLab Planning and Implementing Activities

The second phase focuses on the development and operationalization of the CIRCLab in Croatia. This phase constitutes of the planning and implementation phase, where the activities of the lab will be defined as well as other details such as where, who, when etc.

Regarding the **organizational and operational structure of the CIRCLab in Croatia** (step 1 & 2), it is formed by CIRCLE project partner 6 - EnergoData. EnergoData will work in the area of

the City of Donji Miholjac by setting up CIRCLab for organic stream of waste – biowaste. The CIRCLab will be organized as structure where stakeholders are involved and collaborate in order to deal with circular business model of organic waste (biowaste). Stakeholders involved are city authorities, waste utility companies and private companies dealing with waste generation and treatment. Consequently, stakeholders and as well users in practice are citizens implementing provided solutions.

The next step refers to the **planning of certain activities** for the CIRCLab Donji Miholjac in Croatia (step 4, 5 and 6). In particular, 6 actions are planned:

Actions 1: Identification and engagement of stakeholders to implement the practice of proper waste management of organic waste based on model of circular economy.

Actions 2: Analyse of the organic waste stream, identification of organic circular materials and definition of the sourcing.

Action 3: Identification and development of co-products, resource recovery process and possibilities for improvement of efficiency of resource use.

Action 4: Organisation of four meetings of CIRCLab Members.

Action 5: Raising awareness on circular economy and sustainable waste management practice.

Action 6: Trainings and capacity building on sustainable waste management of organic waste.

Time plan for defined activities is provided below.

Vremenski plan																							
						2021												2022					
	Naziv	Odgovorna osoba	Početak	Kraj	Trajanje	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
Akcija 1	Prepoznavanje i uključivanje dionika	Upravitelj zajednice	M13	M14	2 mjeseca																		
Akcija 2	Analiza tijeka organskog otpada, utvrđivanje kružnih organskih materijala i određivanje izvora	Tehnički i znanstveni odbor	M15	M20	6 mjeseci																		
Akcija 3	Utvrdjivanje i razvoj nusprpoizvoda, postupak obnavljanja resursa i mogućnosti za poboljšanje učinkovitosti uporabe resursa (pristup i izvedba).	Tehnički i znanstveni odbor	M15	M24	10 mjeseci																		
Akcija 4	Organizacija četiriju sastanaka članova CIRCLab-a	Upravitelj zajednice	M16	M30	15 mjeseci																		
Akcija 5	Podizanje svijesti	Upravitelj zajednice	M13	M30	18 mjeseci																		
Akcija 6	Obuka i izgradnja kapaciteta	Upravitelj zajednice	M21	M26	6 mjeseci																		

3.5.4 Phase III CIRCLab Monitoring and reviewing

In this phase the aim is to **monitor and review the progress of the implemented actions**. The monitoring will be based on definition of relevant indicators. Community Manager will be able to provide evidence on implemented actions and outcomes to CIRCLab Members, stakeholders and other interested groups including dissemination to the public.

Furthermore, a review process is foreseen. The proposed review should be conducted every six months and it will be based on the specific needs of the CIRCLab Donji Miholjac in Croatia. Moreover, a review report will be completed.

3.6 Profile of the CIRCLab Patra

3.6.1 Organisational Structure

In the following section the profile of the **CIRCLab Patra** is presented. The recommended positions and their main role and interrelations are described below. In brief the proposed positions include:

- The Innovation Manager (IM);
- The Technical & Scientific Committee (TSC);
- The Community Manager (CM);
- The Secretary (optional);
- The CIRCLab Host;
- The CIRCLab Members.

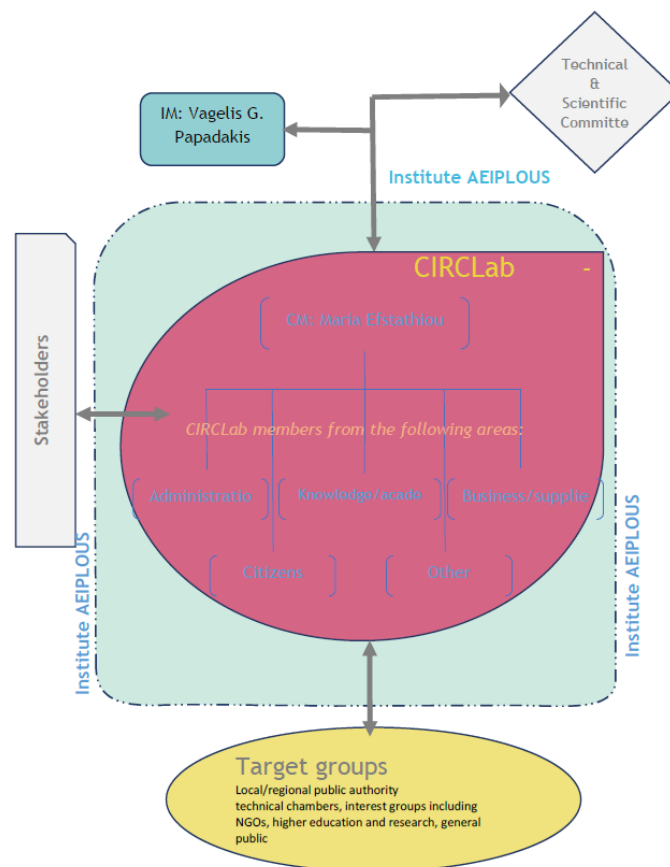


Figure 3-6: Organisational Structure of the CIRCLab in Patra

3.6.2 Phase I: CIRCLab Identity –Strategy formulation

The first phase focuses on the identification of the main vision and mission of the CIRCLab Patra and the formulation of its objectives (step 1). Furthermore, during this phase the stakeholder identification is conducted (step 2).

Concerning the vision and mission statement and the determination of the objectives, these are summarised in the following table.

Table 3-7: Vision, Mission and objectives of CIRCLab Patra

CIRCLab Patra	Vision	Mission
	A well preserved and protected environment supports the wellbeing of all citizens	Promote Circular Economy principles for waste management in RWG with the active participation of key actors
<p>Specific Objectives:</p> <ol style="list-style-type: none"> 1. Establish cooperation and problem solving between stakeholders 2. Support for creating sustainable networks 3. Transfer knowledge and technologies from academic and research institutions to enterprises and industry 4. Apply circular practices in particular wastes management 5. Create a local/regional market for secondary raw materials 6. Increase waste prevention, reuse and recycling 7. Use of ongoing funding resources and EU programs 8. Establish a communication platform on waste management issues and experiences 9. Raise awareness on circular economy and foster a culture of collaboration 10. Share and promote outputs to other communities 		

Within the frames of the operation of CIRCLab-Patra the potential stakeholders have been identified and are categorized according the relevant objectives as shown below.

<i>Cluster of Objectives 1 & 2</i>	<i>Objective 3</i>	<i>Cluster of objectives 4, 5 & 6</i>
<ul style="list-style-type: none"> - 'Establish cooperation and problem solving between stakeholders', - 'Support for creating sustainable networks' 	<ul style="list-style-type: none"> - 'Transfer knowledge and technologies from academic and research institutions to enterprises and industry' 	<ul style="list-style-type: none"> - 'Apply circular practices in particular wastes management' - 'Create a local/regional market for secondary raw materials' - 'Increase waste prevention, reuse and recycling'
<ul style="list-style-type: none"> • RWG • UoM or region WG • MoP • MoA • APD-DEPIN • PASEVIPE • AXONAS • BIOGYPS • TITAN • INTERBETON • OINIKI • Saint Gobain • Ergologic • Geoplant • PROTO • SIRMET 	<ul style="list-style-type: none"> • UoP-ChemEng • UoP-EnvEng • UoI-CTI • PASEVIPE • AXONAS • BIOGYPS • TITAN • INTERBETON • OINIKI • Saint Gobain • Ergologic • Geoplant • PROTO • SIRMET 	<ul style="list-style-type: none"> • PASEVIPE • AXONAS • BIOGYPS • TITAN • INTERBETON • OINIKI • Saint Gobain • Ergologic • Geoplant • PROTO • SIRMET

<i>Objective 7</i>	<i>Cluster of Objectives 8, 9 & 10</i>
<i>‘Use of ongoing funding resources and EU program’</i>	<i>Establish a communication platform on waste management issues and experiences’</i> <i>‘Raise awareness on circular economy and foster a culture of collaboration’</i> <i>‘Share and promote outputs to other communities’</i>
<ul style="list-style-type: none"> • RWG • RWG-RFD • AXONAS • BIOGYPS • TITAN • INTERBETON • OINIKI • Saint Gobain • Ergologic • Geoplant • PROTO • SIRMET 	<ul style="list-style-type: none"> • PASEVIPE • AXONAS • BIOGYPS • TITAN • INTERBETON • OINIKI • Saint Gobain • Ergologic • Geoplant • PROTO • SIRMET • AEIPLOUS • Citizens

Figure 3-7: Stakeholders’ identification in CIRCLab Patra

3.6.3 Phase II: CIRCLab Planning and Implementing Activities

The second phase focuses on the development and operationalization of the CIRCLab in Međimurje County. This phase constitutes of the planning and implementation phase, where the activities of the lab will be defined as well as other details such as where, who, when etc.

The workplace where the CIRCLab of Patra will operate is at the premises of Patra’s Science Park (PSP) where the host – AEIPLOUS is located. PSP supports the growth of innovative, technology-based companies across several sectors such as ICT, biotechnology, clean energy and other industrial technologies. PSP offers a number of facilities, among which is PSP’s conference room which is ideal for the CIRCLab’s meetings whenever required. More specifically, the conference room can accommodate up to 100 people (theatre arrangement: 100 people, class arrangement: 50 people, U layout: 30 people).

Due to the Covid-19 pandemic, physical meetings of the members of CIRCLab of Patra might be required to be avoided. Therefore, online meetings may be held with the use of electronic platforms for teleconferences (i.e. Zoom).

Regarding the actions planned, CIRCLab of Patra has identified 5 (five) actions, which are:

Action 1 ‘Development of action plan(s)’: The aim of this action is to develop action plan(s) in order to address the regional characteristics and needs identified regarding CE issues in waste management. CIRCLab members will hold meetings in order to elaborate on the current needs and set goals to accomplish. Concrete steps, possible partnerships, resources will be defined and outlined in order to produce actual action plan(s).

Action 2 ‘Technical aspects’: Review and identification of relevant technologies will be identified to be applied in the specified needs. Stakeholders from the academic/research

institutions and business sector will exchange experiences, knowledge in order to define new technologies and methodologies to apply CE principles in waste management.

Action 3 ‘Capacity building and training’: New skills & new methodologies will be introduced in companies aiming to the increase of waste prevention, reuse and recycling as well as to create a market for secondary products. Within this frame, involved parties will also be trained.

Action 4 ‘Raise public awareness’: In Greece, it wasn’t until recently (2018) that CE principles were introduced. Events and various communication methods will be used in order to raise public awareness in the region. Moreover, events for more specific audience will also be organised, such as concrete, aggregate and mortar producers, energy producers, environmental companies, farmers, etc.

Action 5 ‘Implementation actions’: Stakeholders will be able to establish pilot plant(s) by applying the developed action plan(s).

An Time plan for defined activities is provided below.

Time Plan																		
							2021											
	Responsible need 1&2	Start	End	Responsible need 3	Start	End	1	2	3	4	5	6	7	8	9	10	11	12
							2022											
							1	2	3	4	5	6	7	8	9	10	11	12
Action 1																		
Subtask 1	Efstathiou	M12	M12	Efstathiou	M1	M1												
Subtask 2	Papadakis	M12	M13	Papadakis	M1	M2												
Subtask 3	Efstathiou	M13	M14	Efstathiou	M2	M3												
Subtask 4	Papadakis	M14	M14	Papadakis	M3	M3												
Action 2																		
Subtask 1	Koutelieris	M14	M17	Paraskeva	M3	M6												
Subtask 2	Papadakis	M16	M17	Papadakis	M5	M6												
Action 3																		
Subtask 1	Fatsikostas	M17	M20	Paraskeva	M6	M9												
Subtask 2	Fatsikostas	M17	M20	Paraskeva	M6	M9												
Action 4																		
Subtask 1	Fatsikostas	M20	M23	Paraskeva	M9	M13												
Subtask 2	Antonopoulos	M20	M23	Antonopoulos	M9	M13												
Action 5																		
Subtask 1	Papadakis	M25	M30	Papadakis	M27	M32												
Subtask 2	Fatsikostas	M25	M30															

3.6.4 Phase III CIRCLab Monitoring and reviewing

In this phase the aim is to **monitor and review the progress of the implemented actions**. The monitoring will be based on definition of relevant indicators. Community Manager will be able to provide evidence on implemented actions and outcomes to CIRCLab Members, stakeholders and other interested groups including dissemination to the public.

CIRCLab Patras has identified the following monitoring indicators:

Table 3-8: Monitoring indicators for CIRCLab Patra

Type of action	Indicators
Development of action plan by stakeholders	<ul style="list-style-type: none">• No of action plans developed• No of new partnerships (e.g. between public-private sector, industrial sectors etc.)• New clusters formed
Technical aspects	<ul style="list-style-type: none">• New technologies identified• No of methodologies identified (existing/new)
Capacity building and training	<ul style="list-style-type: none">• No of companies involved• No of individual professional trained• No of new partnerships
Raise public awareness on CE issues	<ul style="list-style-type: none">• No of technical seminars/workshops organised• No of conferences• No of press releases/articles• Presence in Social Media (Twitter, Facebook etc.)
Implementation actions	<ul style="list-style-type: none">• No of waste containers• tn of plasterboards• tn of organic waste• tn of aggregates

Furthermore, a review process is foreseen. Review will be conducted every six months from the start of the CIRCLab operation.

3.7 Profile of the CIRCLab for Međimurje County

3.7.1 Organisational Structure

In the following section the profile of the **CIRCLab in Međimurje County** is presented. The recommended positions and their main role and interrelations are described below. In brief the proposed positions include:

- The Innovation Manager (IM);
- The Technical & Scientific Committee (TSC);
- The Community Manager (CM);
- The Secretary (optional);
- The CIRCLab Host;
- The CIRCLab Members.

3.7.2 Phase I: CIRCLab Identity –Strategy formulation

The first phase focuses on the identification of the main vision and mission of the CIRCLab Međimurje County and the formulation of its objectives (step 1). Furthermore, during this phase the stakeholder identification is conducted (step 2).

Vision

CIRCLab Međimurje's vision is a county without waste. The generated waste that is designed during manufacturing, in order to use it again, or can be easily repaired, remanufactured, upgraded or turned into new materials, i.e. CIRCLab promotes materials' stay in the economy. A county where communication and cooperation are an essential tool in delivering quality waste management system and outcomes for people and the environment.

Mission

CIRCLab Međimurje's mission is to become the county leader in Croatia, in connecting various stakeholders, to innovate, create and developing new solutions to manage waste sustainably, in order to reduce its amounts and the negative impact it has on the human health and the environment.

Specific objectives

Following the mission and vision statement of CIRCLab Međimurje, the specific objectives are related to promoting the circular economy concept in the county. The concept of Living Labs is concentrated around communication, cooperation and investigation of new concepts within sustainable waste management and circular economy. Considering this, the long-term objective of the CIRCLab is the development of a sustainable environment ("face-to-face" and online), where various stakeholders can communicate and exchange ideas, develop new projects and exchange new knowledge.

Additionally, the recommended **circular business models** for Međimurje are the following:

- Recovery and Recycling
- Product Life-Extension

Regarding **stakeholders' mapping**, key stakeholders of CIRCLab in Međimurje County were identified and classified. They have been identified in accordance to the four pilot fields in which the project focuses, i.e. Industrial symbiosis; Organic waste; Waste electrical and electronic equipment (WEEE); and Construction and demolition waste (CDW). Identified stakeholders are related to at least one of the pilot fields, whether they produce, collect, recycle, or recover waste and/or have an interest in CIRCLab's activities. The names of the Stakeholders are presented in the following table.

Table 3-9: Identified Stakeholders for CIRCLab in Međimurje County

a/a	Stakeholder Name	a/a	Stakeholder Name
1	GPK PRE-KOM D.O.O.	13	ZEO NOBILIS
2	GPK ČAKOM D.O.O.	14	PERUTNINA PTUJ-PIPO D.O.O. ČAKOVEC
3	MURS-EKOM D.O.O.	15	EKO MEĐIMURJE D.D.
4	ŽUPANIJSKA KOMORA ČAKOVEC	16	CENTROMETAL D.O.O.
5	RAZVOJNO-EDUKACIJSKI CENTAR ZA METALSKU INDUSTRIJU – METALSKA JEZGRA ČAKOVEC	17	VAJDA – PIVAC GRUPA
6	PAVLIC-ASFALT-BETON	18	LTH ALUCAST D.O.O.
7	VETERINARSKA STANICA PRELOG D.O.O.	19	MEĐIMURSKO VELEUČILIŠTE U ČAKOVCU
8	BIOINSTITUT D.O.O.	20	MARTI D.O.O.
9	DRUŠTVENO PODUZEĆE “NAŠ IZVOR”	21	STROJARSTVO BRANILOVIĆ D.O.O.
10	SOCIJALNA ZADRUGA HUMANA NOVA ČAKOVEC	22	TEHNOLOŠKO-INOVACIJSKI CENTAR MEĐIMURJE D.O.O. I-KONG D.O.O.
11	ČAKRA D.O.O.	23	RECIKLAŽNO DVORIŠTE "MIŠIĆ"
12	(RAZVOJNA AGENCIJA GRADA ČAKOVCA)	24	TEHNIX D.O.O. MEĐIMURSKI IT CLUSTER (MIT CLUSTER) ČAKOVEC

3.7.3 Phase II: CIRCLab Planning and Implementing Activities

The second phase focuses on the development and operationalization of the CIRCLab in Međimurje County. This phase constitutes of the planning and implementation phase, where the activities of the lab will be defined as well as other details such as where, who, when etc.

The proposed circular business model in Međimurje county is connected to the recovery and recycling concept, with additional emphasis on avoiding and reuse methods. Therefore, activities in CIRCLab Međimurje will be oriented towards these methods, through the collaboration of specific stakeholders that are included in the waste management system of Međimurje county (but, also Croatia as a whole).

These activities are specified to increase and spread knowledge on practical viability of circular economy principles, through a collaborative approach involving innovation producers, business actors, administrative and financial organisations, as well as a civil society within urban areas, where biggest amounts of waste are produced, but also places where innovative models can be implemented.

In particular, the planned activities are summarised below:

Activity 1: Develop educational materials for stakeholder's use. In order to increase the knowledge and stakeholder's awareness of the circular economy concept.

Activity 2: Organising workshops, seminars, events (knowledge transfer). Organising various events, that will enable stakeholders to establish communication and networking.

Activity 3: Capacity building and training. Capacity building and the exchange of experience and good practices regarding specific waste management models (regional and city models), as well as practices in promoting and realising the transition to a circular economy. The main elements and approaches of the sustainable development and circular economy concepts within cities and regions will be presented, debated and promoted.

Activity 4: Encouraging the formation of new ideas and business clusters. Networking leads to intensive communication between various stakeholders. This will lead to the creation of new ideas that require some guidance and encouragement to be developed as much as possible. CIRCLab will provide such encouragement.

Activity 5: Communication with policymakers. Development of new strategies and legislative documents.

Activity 6: Information on financing opportunities. Development of a document that will include all the possibilities and financing options, to further develop innovative ideas and project concepts.

Time plan for defined activities is provided below.

Time Plan																				
						2020			2021											
	Name	Responsible Person	Start	End	Dur	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
Action 1	Develop educational materials for stakeholder's use	Community Manager	M13	M15	3 months															
Action 2	Organising workshops, seminars, events (knowledge transfer)	Project manager	M14	M17	4 months															
Action 3	Capacity building and training	Community Manager	M17	M21	5 months															
Action 4	Encouraging the formation of new ideas and business clusters	Project manager	M16	M24	9 months															
Action 5	Communication with policymakers	Project manager	M13	M24	12 months															
Action 6	Information on financing opportunities	Project manager	M18	M24	7 months															

3.7.4 Phase III CIRCLab Monitoring and reviewing

In this phase the aim is to **monitor and review the progress of the implemented actions**. The monitoring will be based on definition of relevant indicators. Community Manager will be able to provide evidence on implemented actions and outcomes to CIRCLab Members, stakeholders and other interested groups including dissemination to the public.

Recommended indicators are shown below:

Table 3-10: Recommended indicators for CIRCLab Donji Miholjac

Type of action	Indicative recommended indicator	Duration
Capacity building and training	No. of individuals trained	Short-term
	No. of industries and organisations that benefited from professional training	Long-term
	No. of stakeholders included	Short-term
Knowledge transfer	No. of seminars/workshops implemented	Short-term
	No. of topic-specific seminars/workshop organised (e.g. food waste management, industrial synergy, etc.)	Short-term
Form of new partnerships and ideas	No. of new ideas/projects generated	Short-term / Long-term
	New clusters formed	Short-term / Long-term
	No. of new partnerships	Short-term / Long-term
	No. of policymakers included	Short-term / Long-term
Closing the loop and implementing circular economy concepts	No./percentage of new technologies adapted	Long-term
	Amount of waste reduced (long-term indicator);	Long-term
	Amount of waste reused (long-term/short-term indicator);	Long-term
	Amount of waste recycled (long-term/short-term indicator).	Long-term
	No. of new partnerships	Short-term / Long-term
Improved regulatory framework and development of new documents and strategies	No. of new value chains formed	Short-term / Long-term
	No. of new legislative provisions issued	Short-term / Long-term
	Green Public Procurements	Short-term / Long-term
	No. of new acts, law, regulations	Long-term
	Development of regional/local documents (circular economy action plans, strategies)	Long-term
Information on financing options	Annual No. of events including policymakers	Short-term / Long-term
	No. of seminars/workshops organised	Short-term / Long-term
	No. of stakeholders present during the seminars/workshops	Short-term / Long-term
	No. of organisations/stakeholders that benefited from workshops	Long-term
Implementation actions	No. of organisations financed	Long-term
	No. of developed new systems	Long-term
	No. of created new organisations	Long-term
	No. of conducted new actions, generated from the CIRCLab	Long-term

3.8 Profile of the CIRCLab in Forlì area Italy

3.8.1 Organisational Structure

In the following section the profile of the **CIRCLab in Forlì area** is presented. The recommended positions and their main role and interrelations are described below and are illustrated in the figure that follows. In brief the proposed positions include:

- ☐ Innovation Manager: will be nominated within the CIRCLE project actions
- ☐ The Technical and Scientific Committee: will be nominated within the CIRCLE project actions
- ☐ Community Manager: Marco Affronte
- ☐ Secretariat: Maria Celeste Clarembaux
- ☐ CIRCLab Host: Comune Forlì
- ☐ Technical support: Alessandra Folli/Andrea Donda and the technical staff of Romagna Tech

3.8.2 Phase I: CIRCLab Identity –Strategy formulation

In defining the identity and the paths and strategies of the CIRCLab Forlì, the choice was to ensure that all decisions regarding identity, objectives, planning and strategy are taken in a collective way, together with stakeholders, in the first preparatory meetings of CIRCLab and therefore cannot be illustrated in this Urban model except in a very general way.

In the first phase the focus is on the identification of the main goal of the CIRCLab and the formulation of its objectives through a participatory process. Furthermore, will be conducted the analysis of the stakeholders involved (their areas of action, their skills, their availability, their objectives) as well as reasoning on possible actions and strategies to involve others. The exploration and conceptualization of the new circular business model of the lab will be conducted. This phase is considered to be the preparation phase which will enable the CIRCLab team to organise their activities in a more effective way.

Specific actions to be carried out:

- Description of CIRCLab scope (vision and/or mission)
- Description of CIRCLab specific objectives based on the identified needs
- Stakeholder analysis (recording of potential stakeholders)
- Description of types of actions based on the identified needs

3.8.3 Phase II: CIRCLab Planning and Implementing Activities

The second phase focuses on the development and operationalization of the CIRCLab Forlì.

Regarding the **organizational and operational structure of the CIRCLab Forlì**, the secretariat of the CIRCLab will be hosted by Municipality of Forlì, Piazza Saffi, 8.

Nevertheless, the CIRCLab will not have a real physical seat, even if it will often use physical spaces inside the premises of the Municipality of Forlì. The activities will be carried out in a widespread way, with meetings in presence, when possible, or on an online platform. CIRCLab

Forlì is conceived as a distributed living lab, that will perform activities on different locations, depending on the issues and stakeholders which will be involved along the project timeline.

Hence, the lab could set up information and demonstration actions within companies or R&D centers or schools, according to the specific action plan.

As for its equipment, it will count on a basic equipment (2 Laptop with accessories) to carry out coordination activities.

The second phase also focuses on the development of the CIRCLab and is further divided into two sub-phases. This phase constitutes of the planning and implementation phase, where the activities of the lab will be defined as well as other details such as where, who, when etc. Finally, in this phase planned activities will be put into action.

The two sub-phases are:

- A. The organisational and operational structure, where the main structure of the lab will be defined and described (including workplace and equipment details, roles and responsibilities and financing) and
- B. The planning of CIRCLab activities, where certain actions will be determined, responsibilities will be assigned and specific time plan for each action will be prepared.

Specific actions to be carried out:

- Description of specific actions and responsibilities based also on the objectives
- Time plan for the implementation of actions

The planning of activities will be conducted in a collective way, together with stakeholders, in the first preparatory meetings of the CIRCLab.

3.8.4 Phase III CIRCLab Monitoring and reviewing

In the third phase, the aim is to monitor the progress of the implemented actions as well as the organizational structure and the responsibilities assigned. In this phase through an indicator-based-monitoring-system the evaluation of the actions' progress will take place and modifications may be planned in the operation of the CIRCLab if considered necessary. Indicators for monitoring the progress of the lab will be defined and described.

4 References

CIRCLE Project (2020), Del T1.2.2 “CIRCLab urban model in Thessaloniki”, Version 1, November 2020

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