

Program Priority: SO1.1 - Improve the framework conditions for innovation in the Alpine Space

Work Package: WPT3 Fostering CE processes in Alpine Space with digitalisation processes

Output: O.T3.1 Local actions addressed to SMEs to foster CE with digitalisation processes

PP2 – TUAS

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Purpose of the document

The purpose of this document is to describe the achievement of the output O.T3.1, described as follows in the AF:

“Grouped according to 3 CE approaches and in line with 3 feasibility studies, 15 pilots in 13 areas addressed to SMEs to push CE processes, increase attitude to invest and move toward sustainable growth, waste reduction and optimal use of resources.”

The following table shows the distribution of the 13 areas (according to the NUTS 2 region code of the respective partners) and the 15 partners in charge of performing one pilot each.

Areas	Pilots
1. SI02 Zahodna Slovenija	1. LP TPLJ 2. PP10 JSI
2. DE21 Oberbayern	3. PP2 TUAS Rosenheim
3. DE11 Stuttgart	4. PP3 bwcon
4. DE27 Schwaben	5. PP14 UCB
5. AT13, Wien	6. PP4 aws
6. AT32, Salzburg	7. PP5 ITG
7. AT31, Oberösterreich	8. PP6 Biz-Up
8. ITH3, Veneto	9. PP7 VI 10. PP13 CCIAA Venezia Rovigo
9. FR42, Alsace	11. PP8 Grand E-nov
10. FR71, Rhône-Alpes	12. PP9 AURAE
11. FR82 Provence-Alpes-Côte d'Azur	13. PP15 RISINGSUD
12. ITC1, Piemonte	14. PP11 TOWL
13. ITC4, Lombardia	15. PP12 Confindustria Bergamo

The present document encompasses the following elements:

- Overall methodology applied by all partners in the consortium to achieve the implementation of their own local pilot action.
- Description of the local pilot action for the partner PP2 TUAS
- Lessons learned by PP2 TUAS
- Durability and follow-up

Methodology to achieve the output

The methodology used to achieve the output mirrors the activities planned in the AF:

Step 1:	Planning digitalised CE processes in Alpine Space area addressed to SMEs Development of feasibility plans to foster digitalised CE processes in SMEs from the Alpine Space, according the 3 approaches: CE design, CE optimal use and CE value recovery. Each feasibility plan includes plans for local actions defined by the relevant partners, according to the following distribution across the partnership:		
	CE design LP TPLJ & PP10 JSI PP4 aws PP5 ITG PP9 AURAE	CE optimal use LP TPLJ & PP10 JSI PP3 bwcon PP7 VI PP8 Grand E-nov PP11 TOWL	CE value recovery PP2 TUAS Rosenheim PP6 Biz-Up PP13 CCIAA Venezia Rovigo PP14 UCB

	PP12 Confindustria Bergamo PP15 RISINGSUD		
	BWCON as a WP T3 leader prepared in a close collaboration with TPLJ a template for the feasibility plans, based on the methodology for the development of feasibility plans provided by TPLJ and confirmed by all PPs in May 2021.		
Step 2:	Experimenting transnational actions to foster CE approaches through digitalisation Implementation of the local actions by the respective partners as defined in the feasibility plans: maturity assessment check, identification of innovation needs, 1:1 assistance provided to SMEs. UCB provided to all partners a template for the drafting of implementation reports.		

PLANNING DIGITALISED CE PROCESSES IN ALPINE SPACE AREA ADDRESSED TO SMES - FEASIBILITY PLANS

The task A.T3.1 Planning digitalised CE processes in Alpine Space area addressed to SMEs was implemented under WP T3 - Fostering CE processes in Alpine Space with digitalisation processes. The main objective of WP T3 was to develop transnational and local actions to monitor the effectiveness of SMEs digitalisation to push them toward CE processes. The role of digitalisation as an 'enabler' for the CE is tested with the support of the CIRCULAR4.0 toolkit developed under T2. The testing method (T3.1) is based on a "cycle" moving from the transnational working groups and their specific approaches, through an Alpine "vision" of the actions to be implemented and developed with the feasibility studies and then their experimenting with local action to come back to the Alpine vision and produce the following CIRCULAR4.0 Action Plan (T4.1). The overall idea is that Circular Economy and digitalisation can benefit SMEs and Alpine well-being economy only if included in a transnational approach that will highlight connections, relationships, knowledge and opportunities for SMEs, Intermediaries, Policymakers, and the society as a whole.

The feasibility plans developed according to the 3 main approaches to CE define concrete paths to be undertaken to achieve the results, the resources and the organization required. Partners selected one priority CE approach looking at their economic and social environment and worked with the target groups "declining" the alpine roadmaps into local needs and expectations. Local Pilot actions consist of actions directly addressed to SMEs to check their maturity for CE processes, the innovation to be introduced in the processes, products and business models, the investment plan required and the way to implement it.

1. AS feasibility plan to foster CE design model with digitalisation processes (D.T3.1.1)

This feasibility plan focuses on how to foster CE design model with digitalisation processes. Each P from the group of CE design model developed its feasibility plan for setting-up local service providers addressed to SMEs to establish services to increase attractiveness by investors and propose new financial schemes by Public Actors, roadmaps to achieve these results. In the case of Slovenia two project partners collaborated – JSI & TPLJ.

The plan defines organization, actions, resources, and equipment needed to set-up Alpine regional centres able to promote digitalised CE activities addressed to SMEs on the design model and eco-innovation in general.

Local detailed plans by PPs for their pilots:

- LP TPLJ & PP10 JSI
- PP4 aws
- PP5 ITG
- PP9 AURAE
- PP12 Confindustria Bergamo
- PP15 RISINGSUD

are available in deliverable D.T3.1.1 in the annexes.

2. AS feasibility plan to foster CE optimal use approach with digitalisation processes (D.T3.1.2)

This feasibility plan focuses on how to foster CE optimal use approach with digitalisation processes. Each PP from the group optimal use model developed its feasibility plan for setting-up local service providers addressed to SMEs to establish services to increase attractiveness by investors and propose new financial schemes by Public Actors, roadmaps to achieve these results. In the case of Slovenia two project partners collaborated – JSI & TPLJ.

The plan defines organization, actions, resources, and equipment needed to set-up Alpine regional centres able to promote digitalised CE activities addressed to SMEs on the design model and eco-innovation in general.

Local detailed plans by PPs for their pilots:

- LP TPLJ & PP10 JSI
- PP3 bwcon
- PP7 VI
- PP8 Grand E-nov
- PP11 TOWL

are available in deliverable D.T3.1.2 in the annexes.

3. AS feasibility plan to foster CE value recovery approach with digitalisation processes (D.T3.1.3)

This feasibility plan focuses on how to foster CE value recovery approach with digitalisation processes. Each PP from the group value recovery model developed its feasibility plan for setting-up local service providers addressed to SMEs to establish services to increase attractiveness by investors and propose new financial schemes by Public Actors, roadmaps to achieve these results. In the case of Veneto Region two project partners from Veneto collaborated – PP7 VI and PP13 CCIAA Venezia Rovigo.

The plan defines organization, actions, resources, and equipment to set-up Alpine regional centres to promote digitalised CE activities addressed to SMEs to develop value recovery processes, services, and products.

Local detailed plans by PPs for their pilots:

- PP2 TUAS Rosenheim
- PP6 Biz-Up
- PP7 VI & PP13 CCIAA Venezia Rovigo
- PP14 UCB

are available in deliverable D.T3.1.3 in the annexes.

EXPERIMENTING TRANSNATIONAL ACTIONS TO FOSTER CE APPROACHES THROUGH DIGITALISATION - IMPLEMENTATION REPORTS FOR THE LOCAL ACTIONS

IN coherence with the feasibility plans, 15 local actions were implemented by the project partners, according to a shared methodology. The following picture shows the common parts of all local actions as well as the flexibility available to the partners for the operational aspects of the implementations:

Common parts of all local actions	Flexibility
Information events Calls for SMEs (transparent selection)	Kick-off for selected companies or pre-call events Selection procedure / main criteria = transparency

Circular assessment Digital maturity assessment Access to self-learning materials	Different tools can be used, as long as they are part of the toolkit. Assessments can be performed online as self-assessment or in interviews.
Identification of innovation needs 1:1 assistance	Assistance provided either directly by the partners or in combination with external experts (most common case)
Development of recommendations focus 3 to 6 months (on the basis of the above)	Format of recommendations: business model canvas, transformation roadmap...

Description of the local pilot action implemented by PP3 – TUAS

According to the overall methodology defined for the pilot actions, the following activities were implemented by TUAS:

- 1.) Selecting SMEs / Raise CE awareness
- 2.) Workshop/ 1:1 Consultation
- 3.) Circular CE capability/potentiality and digital maturity assessment of SMEs
- 4.) Identification of innovation needs and investment plan

(please, explain the activities carried out following the steps undertaken: engagement of SMEs; training actions addressed to them; 1:1 assistance; outcomes of the assistance)

1.) First activity was to select potential SME and raise awareness of CE:

1	Selecting SMEs / Raise CE awareness	Start date	11.2021
		End date	05.2022
Description The aim was to identify and train at least 22 SMEs to participate in the pilot action. To be able to select companies for the action. A call was launched via the Wirtschaftsservice Berchtesgadener Land. The Wirtschaftsservice has over 900 companies in its database. The training campaigns were advertised via a newsletter, social media and directly by e-mail. Unfortunately, only 2 companies could be identified in the first call, so TUAS sent direct emails to various companies in the Rosenheim and Traunstein area. At the same time, the concept was also posted on LinkedIn. Furthermore, the concept was advertised again at a university event on 15 March. This resulted in 14 interested companies. With the support of the Traunstein Economic Service, another 4 companies were identified.			

<p>The following branches were identified:</p> <ul style="list-style-type: none"> • Power generation / agriculture: 1 • Cosmetics: 1 • Metal industry: 3 • Electrical industry: 2 • Construction: 3 • IT: 1 • Furniture industry: 2 • Food industry: 3 • High frequency technology: 1 • Textile industry: 1 • Recycling: 1 • Building technology: 1 	
<p>Results</p> <ul style="list-style-type: none"> - Sectors for 1:1 counselling have been identified - Awareness of CE has been created through events at companies and can be built upon - Through two events and internal promotion (social media, website, email) 20 companies were identified. <p><i>(22 companies had to be reached, due to the extension 2 companies were still found in June.)</i></p>	

2.) Workshop/ 1:1 Consultation

2	Workshop/ 1:1 Consultation	Start date	12.2021
		End date	06.2022
Description <p>The aim of this activity was to organise workshops or 1:1 consultations for 22 companies. This in turn will be individually adapted for each company. The workshops were held on two dates at most of the companies.</p> <p>The activity was divided into two parts:</p> <p>Part 1 was designed individually for each company. In this meeting (mostly online) the status quo of the CE was asked and a pre-talk was held. A questionnaire tool was then used to find out the exact status quo of the company. The questionnaire was handed out after the first meeting and the companies had 2 weeks to fill it out internally.</p> <p>The questionnaire was then evaluated internally by expert Dr. Susanne Steinhauer and recommendations for action were drawn up.</p> <p>In Part 2, the recommendations for action were presented to the companies in the form of a workshop and discussed. All data were recorded on a Miro Board.</p>			
Results <p>22 companies had be trained.</p>			

3.) Circular CE capability/potentiality and digital maturity assessment of SMEs

3	Circular CE capability / potentiality and digital maturity assessment of SMEs	Start date	10.2021
		End date	05.2022
Description <p>The aim here was to recognise and evaluate the potential for CE + at the same time to recognise the digital maturity standard (if available).</p> <p>The following tool was used to assess digital maturity:</p> <ul style="list-style-type: none">- Regional Best Practice Cases- Check for linear risks and circular opportunities (based on the example of the CAS) → Questionnaire developed by Dr Sonja Eser <p>Circular CE capabilities/potentials and digital maturity assessment was carried out at 20 companies with the above-mentioned tool</p> <p><i>Question part: Linear risk 4: Lack of (digital) innovation and adaptation</i></p>			
Results <p>Circular CE capabilities/potentials and digital maturity assessment was conducted at companies with the questionnaire "Circular Opportunities and Linear Risks" in Part 1 (self-completion by the companies) and assessed and presented in Part 2.</p>			

4.) Identification of innovation needs and investment plan

4	Identification of innovation needs an investment plan	Start date	10.2021
		End date	05.2022
Description <p>Each SME then receives the evaluated questionnaire "Guide to Checking for Linear Risks and Circular Opportunities".</p> <p>With the help of the evaluated questionnaire, at least one recommendation/proposal for action was presented to the company.</p> <p>For example:</p> <ul style="list-style-type: none">- Development of a new product / product line- Offer services- Change energy types in the company e.g. green electricity- network more with other neighbouring companies- redesigning / revising a design of a product- optimise shipping and packaging			

Results

22 companies received the evaluated questionnaire " Guide to Checking for Linear Risks and Circular Opportunities " and the corresponding recommendation for action.

Lessons learned and recommendations for the follow-up

(Please, explain in the following which were your lessons learned and recommendations. The text below italic is an extract from our discussions on the evaluation of the pilots – it is not to be taken fully by all partners., it shows examples of lessons learned and recommendations)

22 companies were trained and 3 of them were warehouse enterprises.

At the beginning, it was very difficult to convince the companies that CE is important and that this does not start at the recycling yard, but already during the planning of a new product.

Another important lesson was that companies were surprised that it is possible to make something circular out of existing products and structures. sometimes even with little effort.

Here are a few positive and negative aspects in this context.

Negative:

- There is still a lot of work to be done in the field of CE.
- further, the awareness for CE has to be created, especially in small companies - 1 man; 2 man companies, these do not have the capacities and do not know their way around.
- In the area of digitalisation, there is still a lot to be done and possibly support from the EU, for many companies there is a lack of financial resources and the know-how for implementation.
- Further help for implementation in the CE must be offered, companies cannot do it alone.
- Even large companies still have problems in CE, they have departments in the area of "sustainability" but at most 3-5 employees for this. That is far too few here, as the companies themselves told TUAS. There is a lack of capacity and sometimes they simply don't get on because the topic is so extensive and something is constantly changing --> there is a need to create contact points for companies in order to be able to push everything forward better.

Positive:

- Companies find the Circular4.0 project very good, because finally something is being done and support is coming.
- After the trainings and 1:1 consultations, the companies were very motivated to change something.
- The guidelines given to them are helpful (feedback from companies).
- Many companies did not realise that small things can contribute to CE.
- Companies want to get more involved with the topic and to work on it further.

Companies are interested in further CE training offers

Here are some lessons learned key facts:

- "Awareness of Circular Economy is key"
- The higher the circular maturity, the higher the need for digitalization
- Connect action plans directly with funding opportunities for SMEs
- Creating a network is essential

Durability and follow-up

Due to great interest from companies, TUAS will develop a concept that will provide companies with a precise guideline for implementation in CE. This wish has been expressed very often by companies, especially on the topic of digital product passport and reporting (CSRD), which concerns SMEs whose net turnover is more than 150 million. After the analysis, companies need precise guidelines on what to do next.

Furthermore, the acquired knowledge about CE will be incorporated into other projects, such as sustainable construction.

In addition, the university will teach the acquired knowledge to the students in lectures.

Annex

- D.T3.1.3 - AS feasibility plan to foster CE value recovery approach with digitalisation processes
- D.T3.2.3 - Local actions to implement CE value recovery approaches with digitalisation processes

Program Priority: SO1.1 - Improve the framework conditions for innovation in the Alpine Space

Work Package: WP T3 - Fostering CE processes in Alpine Space with digitalisation processes

Activity: A.T3.1 Planning digitalised CE processes in Alpine Space area addressed to SMEs

Deliverable: D.T3.1.3 AS feasibility plan to foster CE value recovery approach with digitalisation processes

Author: TPLJ and inputs by PPs (CCIAA DL VERO/VENINN, TUAS, UCB, Biz-up)

Version: final

Month, YEAR: December 2021

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I. Introduction

The task *A.T3.1 Planning digitalised CE processes in Alpine Space area addressed to SMEs* is implemented under *WP T3 - Fostering CE processes in Alpine Space with digitalisation processes*. This deliverable relates particularly to the development of *D.T3.1.3 AS feasibility plan to foster CE value recovery approach with digitalisation processes*.

The main objective of WP T3 is to develop transnational and local actions to monitor the effectiveness of SMEs digitalisation to push them toward CE processes. The role of digitalisation as an 'enabler' for the CE is tested with the support of the CIRCULAR4.0 toolkit developed under T2. The testing method (T3.1) is based on a "cycle" moving from the transnational working groups and their specific approaches, through an Alpine "vision" of the actions to be implemented and developed with the feasibility studies and then their experimenting with local action to come back to the Alpine vision and produce the following CIRCULAR4.0 Action Plan (T4.1). The overall idea is that Circular Economy and digitalisation can benefit SMEs and Alpine well-being economy only if included in a transnational approach that will highlight connections, relationships, knowledge and opportunities for SMEs, Intermediaries, Policymakers, and the society as a whole. The feasibility studies developed according to the 3 main approaches to CE will define concrete paths to be undertaken to achieve the results, the resources and the organization required (T3.2). Partners selected one priority CE approach looking at their economic and social environment and will work with the target groups "declining" the alpine roadmaps into local needs and expectations. Local Pilot actions (T3.3) will consist of actions directly addressed to SMEs to check their maturity for CE processes, the innovation to be introduced in the processes, products and business models, the investment plan required and the way to implement it. Finally, 280 SMEs will be assisted to implement CE processes and some of them, identified as success cases will be included in one exhibition tour, being CE with a social impact too. Pilots will be evaluated by a Scientific committee that will support the analysis of the performance according to KPIs (T2.5). The outputs will be the ground for the development of the CIRCULAR4.0 Action Plan (T4.1).

The task *A.T3.1 Planning digitalised CE processes in Alpine Space area addressed to SMEs* provides the AS users with proposals and plans to increase attitude by SMEs to eco-innovation, to innovate business models and products for re-use & recycling starting from traditional business and production processes. BWCON as a WP T3 leader prepared in a close collaboration with TPLJ a template for A.T3.1 based on the methodology for the development of feasibility plans provided by TPLJ and confirmed by all PPs in May 2021.

This deliverable (D.T3.1.3) is focusing on the development of AS feasibility plan to foster CE value recovery approach with digitalisation processes. BWCON collected inputs of each project partner from the value recovery model (in the case of Veneto Region of two project partners from Veneto collaborated – CCIAA DL VERO & Veneto Innovazione). Each PP from the group of value recovery model (CCIAA DL VERO & Veneto Innovazione, TUAS, UCB, Biz-Up) developed its feasibility plan for setting-up local service providers addressed to SMEs to establish services to increase attractiveness by investors and propose new financial schemes by Public Actors, roadmaps to achieve these results. The plan defines organization, actions, resources, and equipment to set-up Alpine regional centres to promote digitalised CE activities addressed to SMEs to develop value recovery processes, services, and products.

Local detailed plans by PPs or pilots (for Veneto: CCIAA DL VERO & Veneto Innovazione, TUAS, UCB, Biz-Up) are available in the appendix.

Appendix (inputs by PPs: Local detailed feasibility plans by PPs for the implementation of pilots –Veneto: CCIAA DL VERO/VENINN, TUAS, UCB, Biz-up)

Project Acronym: Circular 4.0

Project title: **Digital technologies as enabler to foster the transition to the circular economy by the SME in the Alpine Space area**

A.T3.1

Planning digitalised CE processes in Alpine Space area addressed to SMEs

Template for description (plan) of Local pilot actions (for use in D.T3.1.1/2/3)

WP n°: T.3.	Fostering CE processes in Alpine Space with digitalisation processes
Task n°: T.3.1	Planning digitalised CE processes in Alpine Space area addressed to SMEs
Author(s):	Valeria Bazzan, Ivan Boesso
Contributors:	Francesca Maccatrozzo
Type:	T -Template/ R- report, CCIAA DL VERO & VENETO INNOVAZIONE
Dissemination level:	CO = confidential
Revision:	DRAFT 02
Date/Submission:	December 2021

1. Overview of the local pilot action - Veneto (CCIAA VE RO and VENETO INNOVAZIONE).....	3
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1. Overview of the local pilot action – Veneto Region (CCIAA VE RO and VENETO INNOVAZIONE)

The local pilot action in Veneto will be carried out in coordination and collaboration between Chamber of Commerce of Venice Rovigo and Veneto Innovazione.

The industrial sectors involved will mainly be constructions and buildings, which are very important in the area, have a very strong environmental impact but at the same time are usually not very involved or advanced in terms of circularity and/or digitalization.

Additional sectors, such as textile, nautical, manufacturing and tourism will also be taken into consideration since they are often strictly connected with our main targeted sector and are very relevant to the local economy.

The selection and involvement of enterprises will be carried out together by the two partners, while the following activities will respectively focus mainly on the following approaches (as foreseen in the ApplicationForm):

- 1) Value recovery for CCIAA VE RO (D.T3.2.3)
- 2) Optimal Use for Veneto Innovazione (D.T3.2.2)

Assistance to the SMEs shall be opened to include both approaches, and even Circular design models, if necessary.

- **Methodology**

The combined effort of the two partners will hopefully be particularly effective with regard to the selection and engagement of the SMEs and the content/professional competence required.

CCIAA VE RO and Veneto Innovazione will jointly organize the promotional activities and the workshops to present the pilot actions path to local entrepreneurs and promote opportunities offered on the matters of circularity and digitalization at local and at national level.

The local workshops will particularly focus on awareness and financial instruments offered to the SMEs to implement digitalization and transition to circularity.

The workshop will take place online within the first week of February and will consist in:

- Aperitivo for circularity

Originally planned as a presence event, a happening with SMEs involved in circularity processes and/or interested in starting and promoting more eco sustainable productions and approaches. Also, intermediaries involved in circularity will be targeted, in order to promote the exchange of ideas and spread knowledge, mainly among SMEs on the opportunities offered by CE approach (along with digitalization).

SMEs will be invited to apply for the public call that Chamber of Commerce and Veneto Innovazione will launch in January and intermediaries will be invited to give their support to disseminate the potential opportunity of the call among their stakeholders.

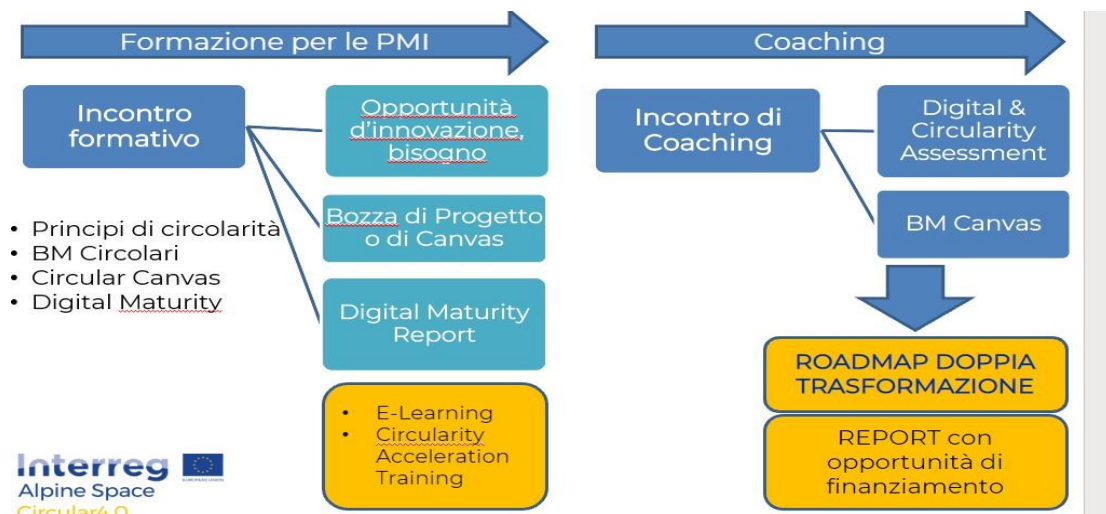
The call will give the opportunity to a maximum of 50 SMEs (selected according to the order of subscription to the call) to join the pilot action and be assisted by experts.

The experts, in strict coordination respectively with Chamber of Commerce and Veneto Innovazione, will carry out a digitalization assessment using Selfi 4.0 tool and a circularity capability by using CAS2.0 Tool of the selected SMEs. Both tools are included in the CIRCULAR4.0 Toolkit

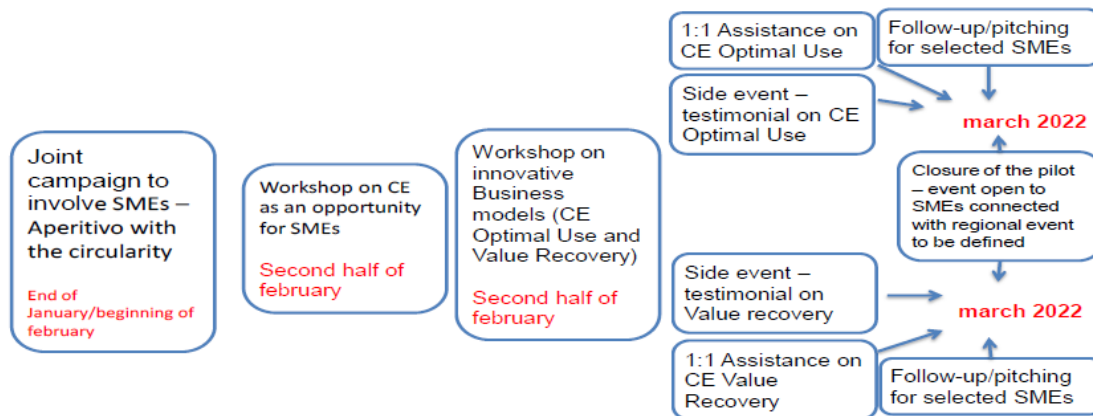
According to the combined results of the assessments carried out a customized plan of action will be elaborated and proposed to the SMEs. In this plan experts will suggest instruments and changes that could be adopted to improve the circularity and digitalization of the SMEs, also with regard of financial opportunities available to sustain the necessary activities.

The original plan of action was as follows:

First phase foresaw an informative meeting with SMEs, followed by personalized coaching, digital and circularity assessment, the drawing of a roadmap to improve on circular processes and digitalization, and finally some practical suggestions enlightening the financial sources to use to achieve the goals indicated in the roadmap.



The expected Plan for January/March 2022



- **Expected results**

According to the Application form:

- 1 local event “Aperitivo” to launch the Call
- 2 local workshops/awareness action will be addressed to SMEs
- 40 SMEs (Minimum 23+15 SMEs) 1:1 assisted:
 - Digital maturity assessment
 - CE capability
 - “customized plan”

2. Planned activities

1. Selection/identification of SMEs

Targeting of enterprises, which will mainly be constructions and buildings and additional sectors, such as textile, nautical, manufacturing and tourism to be involved in the promotional events.

Invitation to Workshops will be carried out by email, websites, social media channels and the cooperation of intermediaries. (End of January/beginning of February).

A public call will be launched for SMEs to apply to the assisted procedure of assessment and elaboration of a roadmap to improve circularity and digitalization.

2. Thematic workshops/seminars

Aperitivo with SMEs and two thematic workshops will take place online to promote the participation to the call and to involve SMEs and intermediaries in the activities (end of January/beginning of February).

3. Circular CE capability/potentiality and Digital Maturity Assessment of SMEs

SMEs applying for the assisted procedure will be guided by experts through digitalization and circularity capability assessment using respectively SELFI 4.0 and CAS 2.0.

4. Identification of innovation needs and investment plan

After the assessment SMEs representatives will receive from the experts a proposal of roadmap to improve their skills and solve potential weaknesses. Also, information on potential financial instruments to fulfil the actions required will be offered (march).

For the description of each activity (or sub-activity if relevant), we suggest using the following table:

Title	Identification of the SMEs and preparatory activities	Start date	12.2021
		End date	01.2022
Description Veneto Innovazione and CCIAA VERO both will launch a public tender to hire experts to support the pilot implementation. The procurement procedure will last several weeks and will be completed hopefully by January 2022 In the meantime, the following preparatory activities will be carried out: a) Scouting and analysis of the entrepreneurial environment b) Analysis of the tools (SELF4.0 and CAS2.0) to be adopted and their adaptation for the local use c) Organization and launch of the communication campaign Add sub-activities if necessary, no sub-activities are planned			
Results			
		Date	

Title	Involvement of the SMEs	Start date	12.2021
		End date	03.2022
Description Veneto Innovazione and CCIAA VERO organize a communication campaign to invite SMEs to participate to the Pilot. An open call will be published on their website. This way, the SMEs will be selected, and the state-aids rules will be respected.			
Add sub-activities if necessary, no sub-activities are planned			
Results:			
1	List of SMEs interested in participating in the CCIAAVERO pilot	Date	31/03/2022
2	List of SMES interested in participating to the VENINN pilot	Date	31/03/2022

Title	Kick-off pilots' event	Start date	01.2022
		End date	02.2022
Description			
Veneto Innovazione and CCIAA VERO will organize one event to start the pilot action. Minimum 30 SMEs will participate.			
Add sub-activities if necessary			

No sub-activities are planned			
Results:			
1	One online kick-off event in form of aperitif jointly organized	Date	15/02/2022

Title	Raising knowledge by SMEs for CE-innovation oriented processes	Start date	02.2022
		End date	02.2022
Description Veneto Innovazione and CCIAA VERO will organize 2 online thematic seminars addressed to SMEs on the following topics: a) Thematic seminar on CE as an opportunity for SMEs b) Thematic seminar on CE business models connected with CE Value Recovery and CE optimal use.			
Add sub-activities if necessary Sub-act1: thematic seminar on Value recovery organized by CCIAAVERO Sub-act2: thematic seminar on Optimal use organized by VENINN			
Results:			
1	One kick-off event in form of aperitif jointly organized	Date	15/02/2022

Title	Assisting SMEs for sustainability transaction plans	Start date	02.2022
		End date	03.2022
Description Veneto Innovazione and CCIAA VERO, with the support of external experts, will organize 1:1 assistance to SMEs consisting with the following steps: <ul style="list-style-type: none">a) Digital maturity level assessment with SELFIE toolb) CE capability assessment with CAS2.0 tool Elaboration of a report as result from the 1:1 assistance provided			
Add sub-activities if necessary Sub-act1: 1:1 assistance provided by CCIAAVERO for (estimated) 23 SMEs Sub-act2: 1:1 assistance provided by VENINN for (estimated) 15 SMEs			
Results:			
1	38 (estimated) digital maturity checks implemented	Date	31/03/2022
2	38 (estimated) CE capability assessment checks implemented		31/03/2022
3	38 (estimated) report as results from the 1:1 assistance provided		31/03/2022

Indicators (KPIs) and monitoring

The objective of the pilot action is to assist at least 40 SMEs in the assessment and elaboration of the roadmap.

Project Acronym: Circular 4.0

Project title: **Digital technologies as enabler to foster the transition to the circular economy by the SME in the Alpine Space area**

A.T3.1

Planning digitalised CE processes in Alpine Space area addressed to SMEs

Template for description (plan) of Local pilot actions (for use in D.T3.1.1/2/3)

WP n°: T.3.	Fostering CE processes in Alpine Space with digitalisation processes
Task n°: T.3.1	Planning digitalised CE processes in Alpine Space area addressed to SMEs
Author(s):	Lara Trikha, Luc Schmerber, bwcon Dr. Eva Schichl, UCB
Contributors:	Roberto Sandrini, TPLJ

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Revision:	DRAFT 02
Due Date:	November 2021
Date of submission:	December 2021

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2. Planned activities.....	17
3. Indicators (KPIs) and monitoring.....	18

Overview of the local pilot action – Germany (TUAS Rosenheim)

This is the place where to describe in 2-3 pages the pilot action in its entirety, without entering deep operational details related to its implementation. It is a summary-like or elevator pitch like approach.

The description should encompass at least the following elements:

- **Local context and CE approach**

Sectors, geographical area, type of businesses targeted, etc.
Any other information on the context, as relevant.

Sectors:

- *Timber Industry*
- *Plastic Industry*
- *Dairy Industry*

geographical area:

- *Berchtesgadener Land - BGL (Southern Bavaria)*

type of businesses targeted:

- *Furniture Industry*

Please mention which is the CE approach originally foreseen for your pilot (among those listed in the project: design, optimal use, value recovery) and add the justification – if relevant - to include one or more CE additional approaches.

- *Furniture Industry*
➔ *Cooperation with the Business Service Berchtesgadener Land (BGL) has resulted in other companies and sectors.*

- **Methodology**

This part shall provide an overview of the methodology that will be used to select and assist SMEs in their circular transformation (common to all pilots).

Please specify which tools will be used (among those listed in the toolkit – D.T2.3.3) and the justification for their selection.

The use of graphic elements is recommended.

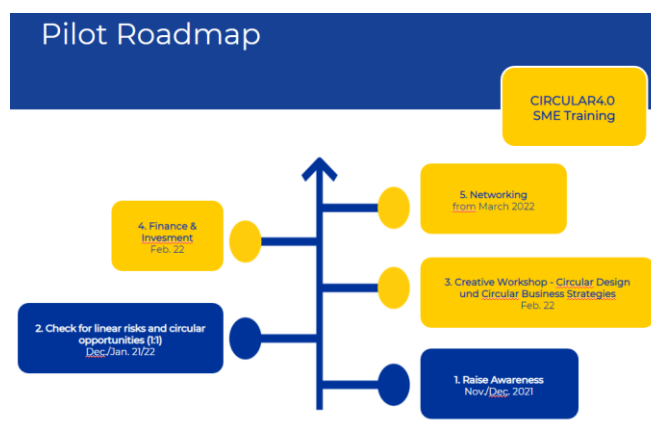
- *TUAS methodology*

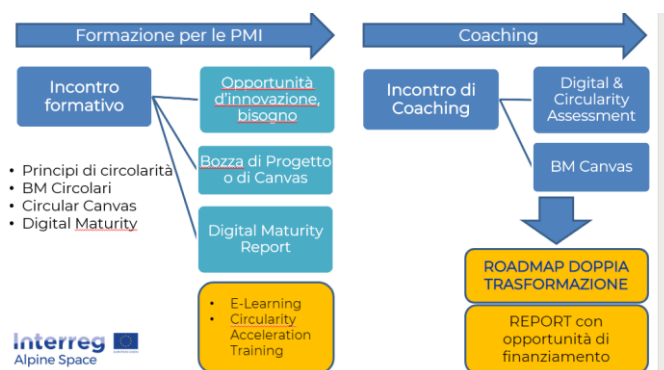
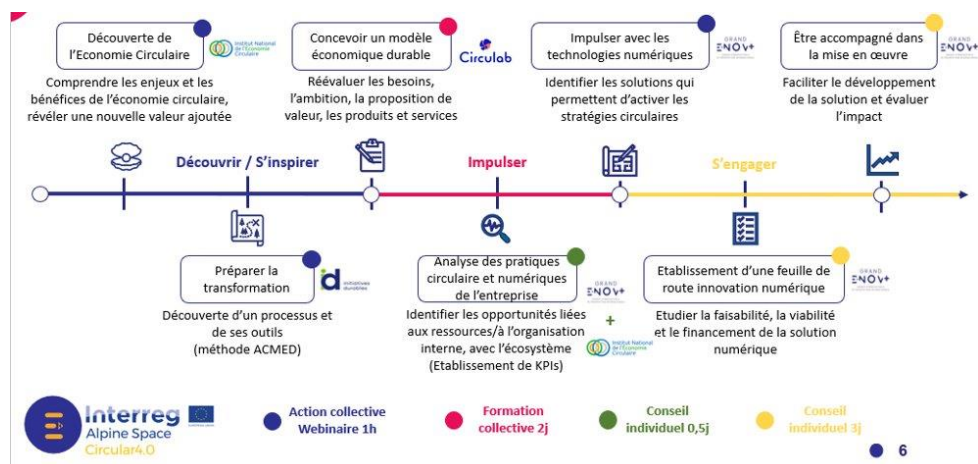
T3.2	
Duration	Oktober 2021 – February 2022
How	<div> <div> 1. Raise Awareness for CE 2. Understanding the Business Case of CE </div> <div> Module 1 & 2 Online event (12 – 15 companies) 10.November 2021 </div> </div> <div> 3. Circular business strategies: sector specific training </div> <div> Module 3 1:1 consulting December 2021 </div> <div> <div> 4. Finance & investment 5. Networking </div> <div> Module 4 & 5 Individual for each company January / February 2022 </div> </div>
Which tools	<ul style="list-style-type: none"> Katch-e Canva Business Model Talent LMS
Collaboration	Together with Wirtschaftsförderung Berchtesgadener Land, Mrs Dr. Susanne Steinhauer

Which tools will be used:

- *Katch-e: optimal use of training methods and knowledge platform; for free*
- *Canva Business Model: simplest business model but with great result*
- *Talent LMS: CE Community, provide materials*

Examples:





• Expected results

This section shall explain the benefit / added value expected for the SMEs.

- analyse the needs of the companies (where are you now, what do you need to implement the CE)
- provide an expert who can support
- contacts and documents for financing
- community building and knowledge sharing with other companies

Planned activities

In this session, the activities planned for the roll-out of the approach described above shall be detailed. In order to have a significant degree of comparison among the different local pilot actions, we suggest using a set of common activities (= same title or heading, not the same methods). Those activities are the ones listed in the AF

1. Selection/identification of SMEs

This activity regroupes the actions undertaken by each partner to approach and select SMEs involved in the pilot action.

SMEs were selected by the BGL business development agency. BGL already had a pool of companies interested in CE, or active in CE. These approx. 40 companies were contacted and invited to participate in the first kick-off event.

2. Thematic workshops/seminars

This activity regroupes the CAT2.0 or other training modules selected by the partners and addressed to SMEs.

- *Anticipated Katch-e and Canva Businessmodel*

Kick-off on November 10 were general presentations on CE

- *Presentation of the project*
- *Presentation of the EU action plan on the circular economy*
Basics of the circular economy & and how digitalization can support the transformation
- *Case study on CE - Kiefel company*

3. Circular CE capability/potentiality and Digital Maturity Assessment of SMEs

This activity regroupes the actions delivered to evaluate the CE and digital maturity of the SMEs. In this activity, the tools used should be specified.

- *Questionnaire (before/after with rating system)*

(Questionnaire is currently under construction)

4. Identification of innovation needs and investment plan

As discussed during the partner meeting on 02.11.2021, each company supported should receive a document established on the basis of the assessment and in collaboration with the SME (at least one bilateral meeting between the SME and an expert/consultant during the process) and encompassing at least one recommendation covering any of the following aspects of the transformation of the company towards higher circularity (= increase of maturity level)

- Technology adoption
- New or improved process
- New or improved or transformed business model
- New or improved products
- New or improved services
- Digitally supported (as far as possible)
- With a time horizon from 6 months up to 1 year

Consequently, this activity should describe the process for the draft of those recommendations, like for instance involvement of experts and setup of a roadmap (example for AURA-E).

Each of the above activity can be split into several steps (sub-activities) as relevant for each pilot action. But we recommend keeping it simple.

For the description of each activity (or sub-activity if relevant), we suggest using the following table:

Title	Name of activity	Start date	MM.YYYY
		End date	MM.YYYY
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1	Example: 3 online workshops ...	Date	
2	Example: 1 call for applications	Date	
3	Example: 25 CE+digital maturity assessments of SMEs	Date	
n		Date	

- *In progress (registrations for 1:1 consultation will run until 15th December 2021)*
- *I use the suggested table*

Indicators (KPIs) and monitoring

This section shall describe what are the measurable objectives (qualitative and quantitative indicators) of the pilot action and how the progress will be monitored. The selection/definition of indicators shall refer to deliverable *D.T2.5.1 Evaluation methodology* and *D.T2.4.2 KPIs definition to assess the contribution of digitalisation on CE approaches* (templates available on Teams – see also next page).

A basic indicator for all pilot actions is the number of SMEs targeted (~20 on average).

- *Questionnaire before / after Questionnaire (is asked before the 1:1 consultation and after)*
- *The questionnaire contains a point system e.g. "How much do you already integrate CE in your company?" (Rating system: 1 low 10 high)*
- *After the two surveys (before/after), the successes or failures can be visually presented in a diagram*

Project Acronym: Circular 4.0

Project title: **Digital technologies as enabler to foster the transition to the circular economy by the SME in the Alpine Space area**

A.T3.1

Planning digitalised CE processes in Alpine Space area addressed to SMEs

Template for description (plan) of Local pilot
actions (for use in D.T3.1.1/2/3)

WP n°: T.3.	Fostering CE processes in Alpine Space with digitalisation processes
Task n°: T.3.1	Planning digitalised CE processes in Alpine Space area addressed to SMEs
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Contributors:	Roberto Sandrini, TPLJ

Type: **T -Template/ R – Report, UCB**

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Due Date: **26.11.2021**

Date of submission: **22.12.2021**

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Overview of the local pilot action - Bavaria/Swabia (Umweltcluster Bayern)

Local context and CE approach

The pilot focuses manufacturing SMEs in Bavaria including especially manufacturer in environmental technologies due to the membership structure of UCB. This is a focus, not a limitation. All other companies are invited to express their interest. The selection was made based on the analysis in WPT1 but also on the characteristics of existing and developed tools. The tool “Check for linear risks and circular opportunities” that will mostly be used is targeted towards manufacturing companies.

The CE approach originally foreseen for UCB is value recovery. The selection was made based on our membership structure, including many waste-management and recycling companies. We do not see any added value in the focus on an approach. The idea of the circular economy is to turn away from linear and silo thinking. We also do not want to impose a specific approach on companies on the first hand. They should be free to decide which approach they deem the most important in their individual situation. Due to the low level of maturity of the topic with most Bavarian SMEs we need companies to start off from the basics and therefore a holistic approach to understanding CE is necessary, including all CE approaches.

Methodology

SMEs based in Bavaria, preferably from the manufacturing sector, are invited to apply. The pilot is aimed at managing directors and executives of SMEs. The limited number of participants (22 as per AF) is admitted by the principle “first come, first served”, documented via an online application form.

1. Initial needs assessment

Applicants are contacted and invited to a 30 mins online initial conversation, understanding their individual needs and expectations.

2. Kick off workshop: Raise awareness

Next step is an online kick off event and workshop to raise awareness on Circular Economy and digitalization as an enabler, to which all participants who have applied until the day before are invited. We decided to do two rounds of application phases and kick off workshops in order to reach the relevant number of SMEs.

3. Phase of self-learning & 1:1 assistance (check for linear risks and circular opportunities)

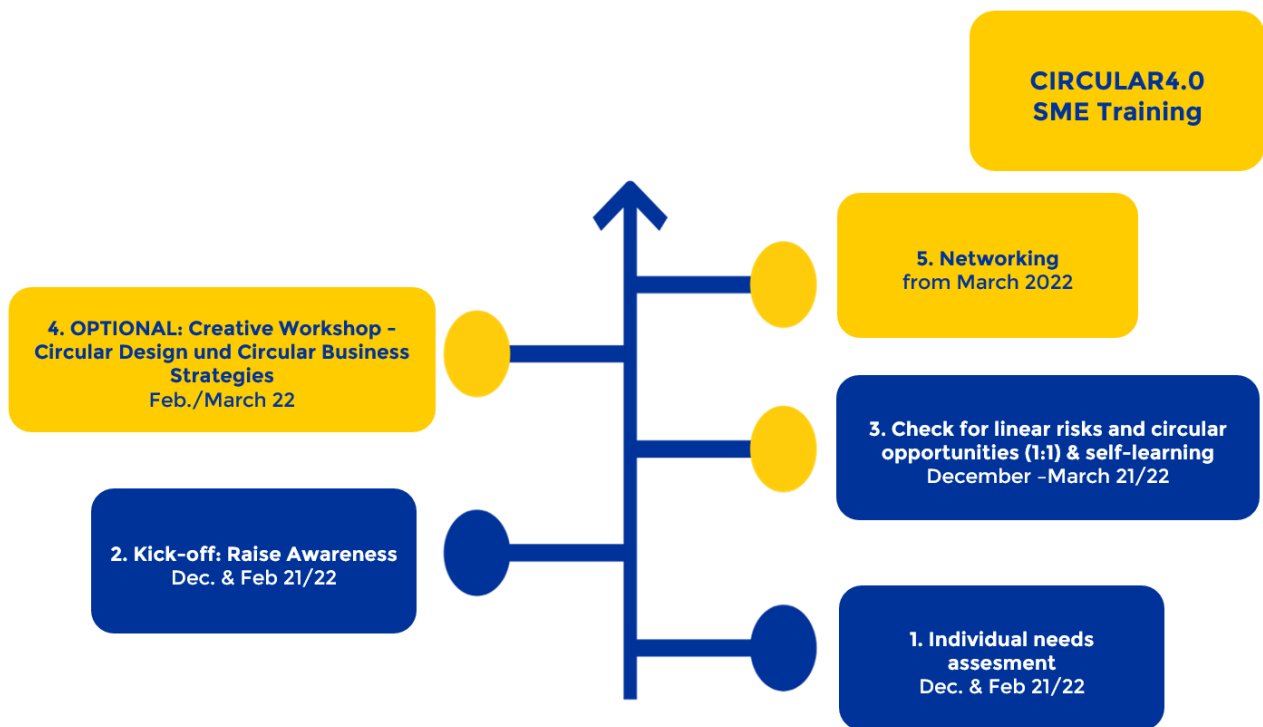
As a follow up of the kick-off workshop, appointments for 1:1 assistance are organized with each participating company and our external experts Dr. Sonja Eser as well as/or Andreas Jenne. Additionally, SMEs are invited to self-study CAT2.0 on the online learning platform Talent LMS. The 1:1 assistance appointment can be held online or in person at the individual company. The tool “Check for linear risks and circular opportunities” will identify circularity as well as digital maturity and potential during the 1:1 assistance. This tool is selected due to its low-level entry barrier and no need for specific company data. It best suits the needs of SMEs in Bavaria who are at an early stage of adopting Circular Economy principles. In case the tool does not fit the individual company's needs, another tool from the CIRCULAR4.0 toolbox will be chosen.

4. *Optional: Creative workshop with teams of each company - Circular Design und Circular Business Strategies*

Depending on budget availability and individual company's needs and maturity we plan to offer selected companies the possibility for a Circular Design und Circular Business Strategies workshop with several employees/executives and even partners along the supply chain.

5. Kick off regular SME Networking

At the end of the pilot phase, we want to initiate a network meeting with all assisted SMEs, discussing lessons learned, next individual steps planned and a platform for networking with peers.



Expected results

There are at least three very clear benefits for participating SMEs:

1. individual circular opportunity and risk analysis including circular & digital maturity assessment with concrete recommendations for action
2. access to Talent LMS learning platform with numerous examples of best practice
3. exchange with CE experts and other participants

We expect an increase in CE awareness and an increase in understanding of CE as an innovation opportunity. Additionally, SMEs can expect an understanding of individual linear risks and circular opportunities as well as a specific recommendation for next action (identifying low hanging fruits or gaps in their overall CE strategy, depending on the CE or digital maturity of the SME). Additionally, we expect to create a group of peer companies, willing to take action transforming their business model, business processes or their product towards circularity.

Planned activities

1	Selection/identification of SMEs	Start date	11.2021
		End date	03.2022
SMEs based in Bavaria, preferably from the manufacturing sector, are invited to apply. The pilot is announced on UCB as well as our observer’s website. Communication is supported by several partnering business support organizations (e.g., Bavarian Chambers of industry and commerce, local business support organization, Bayern Innovativ, Cluster of Manufacturing & Automation etc). Companies headquartered or with a branch in Bavaria are admitted by the principle “first come, first served”, documented via an online application form. In an initial conversation, individual needs and expectations are assessed and a recommendation to participate is made in collaboration with the expert who decides about the applicability of the available tools for the individual company.			
Result			
Reach 22 interested companies to participate in the pilot action. Meeting each company individually for an initial introduction and needs assessment.			
1	Introducing the pilot actions to SMEs at a webinar on Circular Economy, hosted by Umweltcluster Bayern and all Bavarian Chambers of Commerce and Industry	Date	9.11.2021
	Introducing the pilot actions to SMEs at a webinar on Circular Economy, hosted by Umweltcluster Bayern and all Bavarian Chambers of Commerce and Industry	Date	7.12.2021
2	Meeting 22 companies: Getting to know and needs assessment	Date	11.2021 - 03.2022

2	Thematic workshops/seminars	Start date	12.2021
		End date	03.2022
<p>The online kickoff event and workshop is used to raise awareness on Circular Economy and digitalization as an enabler. All companies who have applied until the day before are invited. We decided to do two rounds of application phases and kick off workshops in order to reach the relevant number of SMEs. Kick off no.1 takes place on December 9th 2021. Kick off no.2 is scheduled for February 3rd 2022 (duration of 3 hours). Three experts are addressing CE and digitalization from different angles. 1) Why CE? 2) How does CE work and how can digitalization support it? 3) Which digital technologies enable which CE processes/business model incl. specific examples. In the workshop part, experts use trend cards from CIRCit Norden to activate a discussion between participating companies, reflecting the relevance of CE and digital technologies for their own companies.</p> <p>Additionally, SMEs are invited to self-study CAT2.0 on the online learning platform Talent LMS.</p>			

Result 22 companies attend the seminars and take-home new insights on Circular Economy and the meaning for their own business. Their awareness on the opportunities within circular business models increases and they are aware of the regulative EU instruments EU Green Deal and Circular Economy Action Plan.			
1	1 st Kick-off: Online event by experts for participants - Awareness Raising	Date	9.12.2021
2	2 nd Kick-off: Online event by experts for participants - Awareness Raising	Date	3.02.2022
3	Closing/networking workshop	Date	End of March 2022

3	Circular CE capability/potentiality and Digital Maturity Assessment of SMEs	Start date	01.2022
		End date	03.2022
As a follow up of the kick- off workshop, appointments for 1:1 assistance are organized with each participating company and our external experts Dr. Sonja Eser as well as/or Andreas Jenne. The 1:1 assistance appointment can be held online or in person at the individual company. The tool “Check for linear risks and circular opportunities” will identify circularity as well as digital maturity and potential during the 1:1 assistance. This tool is selected due to its low-level entry barrier and no need for specific company data. It best suits the needs of SMEs in Bavaria who are at an early stage of adopting Circular Economy principles. In case the tool does not fit the individual company’s needs, another tool from the CIRCULAR4.0 toolbox will be chosen.			
Result			
Note: the results (or deliverables) will need to be documented and reported upon in Activity T3.2 in the report for each local pilot action. They should therefore be formulated in a way that enables monitoring and documentation of the implementation.			
1	1 st Kick-off: Online event by experts for participants - Awareness Raising	Date	9.12.2021
2	2 nd Kick-off: Online event by experts for participants - Awareness Raising	Date	3.02.2022
3	Closing/networking workshop	Date	End of March 2022
4	Identification of innovation needs and investment plan	Start date	01.2022
		End date	03.2022

Each company supported receives a document established on the basis of the assessment and in collaboration with the SME (at least one bilateral meeting between the SME and an expert/consultant during the process) and encompassing at least one recommendation covering any of the following aspects of the transformation of the company towards higher circularity (= increase of maturity level)

- Technology adoption
- New or improved process
- New or improved or transformed business model
- New or improved products
- New or improved services
- Digitally supported (as far as possible)
- With a time horizon from 6 months up to 1 year

After the 1:1 assistance to the company during which the expert assessed the maturity as well as linear risks and circular opportunities for the company, the expert drafts at least one specific recommendation for a next step/specific pilot project and identifies potential partners/support organization for the realization of these steps/projects.

Result

Companies assessed receive an individual evaluation with at least one individual recommendation.

1	1:1 assistance of 22 companies	Date	01.2022-03.2022
2	22 evaluation reports with innovation needs and investment plans handed out	Date	03.2022

Indicators (KPIs) and monitoring

Progress of KPIs will be monitored during the 1:1 assistance as well as after individual company's pilot actions by a standardized questionnaire, asking for their self-assessed increase in Commitment level to CE implementation, Digital technologies awareness, Specific pilot project identified and their overall level of satisfaction with pilot activities.

KPI	Number of SMEs assisted	Identification of linear risks	Identification of circular opportunities	Commitment level to CE implementation	Digital technologies awareness	Level of satisfaction
Goal	22	100% of assisted companies identified a potential circular opportunity for their business	100% of assisted companies identified a potential circular opportunity for their business	On average Increase in level of commitment	On average Increase in level of digital technology awareness	Level of satisfaction of at least 8 (out of 10)
Evaluation method	1:1 assistance received	Result of check for linear risks and circular opportunities	Result of check for linear risks and circular opportunities	questionnaire	questionnaire	questionnaire

Project Acronym: Circular 4.0

Project title: **Digital technologies as enabler to foster the transition to the circular economy by the SME in the Alpine Space area**

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Revision:	DRAFT 02
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2. Planned activities.....	17
3. Indicators (KPIs) and monitoring.....	18

Overview of the local pilot action – UPPER AUSTRIA (Biz up)

This is the place where to describe in 2-3 pages the pilot action in its entirety, without entering into deep operational details related to its implementation. It is a summary-like or elevator pitch like approach.

The description should encompass at least the following elements:

- **Local context and CE approach**

We are going to give extra points to the SMEs which are focusing on the textile and electronics sector. However, since we have to work with 20 SMEs, we will leave it sector open, which means that even SMEs that do not work in those specific sectors can be part of the pilot if there is space for them.

The CE approach we are focusing on is value recovery, however we will also include the circular design approach slightly within the pilot, as it is essential for an optimal value recovery. Often the argument comes up that a proper value recovery is only possible when the product itself had a circular design in the first place.

- **Methodology**

3 Modules shall serve the proper training for our SMEs. The modules are structured as following:

MODULE 1 - Raise Awareness for CE supported by digitalization (community building)

Format:

Networking event/(online) workshop

2 – 3 h

Topics:

Presentation of the Circular 4.0 project

Presentation of EU Circular Economy Action Plan

Basics of the circular economy and how digitalization can support transformation (with focus on the respective sectors)

Q&A + discussion

Forecast: what does Circular4.0 offer the participating companies?

Tools:

Regional best practice cases

MODULE 2 - Understanding the Business Case of CE and Finance & Investment

Format:

- (Online) coaching for one company - 1:1 assistance
- 2-4 hours
- Handout and possibly reference to external experts (establish contact)
- Consultation

Topics:

- Entry point: linear risks and circular opportunities of sectors - as a check
- Knowledge transfer of added value of the circular economy for company
- Opportunities at point of intersection of CE and digital technologies for various circular economy business models
- Specific funding options (Finance)
- Typical challenges with circular business models, product service systems and pre-

- financing (e.g. via expert lecture) (Finance)
- Presentation of the EU taxonomy and its implications for SMEs (Finance)

Tools:

- Check for linear risks and circular opportunities (based on the example of the CAS) + digi check (evaluation of contexts)
- Katch-e CE Strategist (<https://www.katche.eu>)
- MOVECO Qualification tools (<http://www.interreg-danube.eu/news-and-events/programme-news-and-events/2577>)
- SMEs will receive:
- an evaluation of the check for linear risks and circular opportunities (based on the example of the CAS) and digital maturity check (+ evaluation of contexts)
- Circular business model canvas

Tools (Finance)

- Regional guidelines such as the Funding Guide for Environmental Protection and Energy from the Bavarian State Office for Environment:
<https://www.umweltpakt.bayern.de/werkzeuge/foerderfibel/> (overview of all funding opportunities & financial instruments related to sustainability / circular economy)
- Booklet with collected funding opportunities from Circular4.0 with reference to digitization (compilation from Output D.T2.4.1 & D.T2.4.3)
- MOVECO Toolbox: Financing Instruments - <http://www.interreg-danube.eu/news-and-events/programme-news-and-events/2568> (List of Funding instruments for the circular economy, Interregional match-making tool, Concept for Investor Day, Public-private partnership investment opportunities in the circular economy)
- Individual consultation on request

MODULE 3 – Circular business strategies in specific sectors (sector specific training)

Format:

- Workshop for one sector, several companies
- The entire value chain is invited (if possible, cover the entire value chain of specific sector)
- Creative session

Topics:

- Focus: understanding of possible new circular business models and how digital technologies can support them

Tools:

- Creative tools (CE idea creation game: https://www.katche.eu/knowledge-platform/tools-and-training-materials/katch_e-tools/katch_up-board-game/m) to stimulate the users to generate value ideas from a business challenge, applying circular design and circular business strategies. The tools should act as a guide to get an idea about an innovative product-service or to solve a real business problem and generate opportunities
- Outsourcing to external experts

- **Expected results**

This section shall explain the benefit / added value expected for the SMEs.

The main benefit for the SMEs is to raise awareness of the opportunities of circular economy through information events at the beginning. With that we introduce the SMEs into the whole world of circular economy and with best practices we state how business have been introduced before and successfully implemented circular strategies already. Within the 1:1 consulting we provide explicit business model canvas and digital maturity assessments for the SMEs in order to state their current challenges but also possible opportunities. Within the last workshop together with all participants we will use design thinking techniques to elaborate possible next steps and measures in order to become more circular and support the transition with means of digitalization.

Planned activities

In this session, the activities planned for the roll-out of the approach described above shall be detailed. In order to have a significant degree of comparison among the different local pilot actions, we suggest using a set of common activities (= same title or heading, not the same methods). Those activities are the ones listed in the AF

5. Selection/identification of SMEs

We send out a call for interest to attract SMEs that want to apply for the Circular4.0 pilot. Together with that the interested companies get application templates from us in order to give all the relevant information so that we can guarantee a transparent selection process. Afterwards we let them sign a letter of commitment so that they will be part of the whole pilot.

6. Thematic workshops/seminars

See the Modules 1-3

7. Circular CE capability/potentiality and Digital Maturity Assessment of SMEs

See Modules 1-3

8. Identification of innovation needs and investment plan

As discussed during the partner meeting on 02.11.2021, each company supported should receive a document established based on the assessment and in collaboration with the SME (at least one bilateral meeting between the SME and an expert/consultant during the process) and encompassing at least one recommendation covering any of the following aspects of the transformation of the company towards higher circularity (= increase of maturity level)

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Indicators (KPIs) and monitoring

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A basic indicator for all pilot actions is the number of SMEs targeted (~20 on average).

Company dashboard																	
Full project partner dashboard																	
	CE Strategy/Business model		Commitment level Investments		Digital technologies awareness		Commitment level Investments		Other relevant item linked to the pilot action considered			Trainee level of satisfaction	Maturity improvement		Impact on CE related to the pilot action		
Goals	CE Readiness level assessment		Trainee motivation toward CE implementation		Digital Technology Readiness level assessment		Financial effort foreseen during the pilot action				Satisfaction level on tools and trainings provided	Project maturity phase to be reached *		Circular metrics to be improved *		
Phase	Initial State	Outputs	Initial State	Outputs	Initial State	Outputs	Initial State	Outputs	Initial State	Outputs		Quality of trainers and tool, relevance, applicability ...	Initial level	Level reached	Initial measure	Results achieved **	
Means indicator *																	
Comments **	Describe the inputs needed	Describe what has been done	Describe the inputs needed	Describe what has been done	Describe the inputs needed	Describe what has been done	Describe the inputs needed	Describe what has been done	Describe the inputs needed	Describe what has been done			Describe the Improvement		Describe the Improvement		

Program Priority: SO1.1 - Improve the framework conditions for innovation in the Alpine Space

Work Package: WPT3 Fostering CE processes in Alpine Space with digitalisation processes

Activity: A.T3.2 Experimenting transnational actions to foster CE approaches through digitalisation

Deliverable: D.T3.2.3 Local actions to implement CE Value recovery approaches with digitalisation processes

Reporting on local pilot actions – TUAS

Author: Marietta Maier, PP2 – TUAS

Version: FINAL

Month, YEAR: June, 2022

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1. Introduction

The aim of the A.T.3.2 is to sensitise small and medium-sized enterprises to CE. We, the Rosenheim University of Applied Sciences (TUAS), are responsible for the companies in the Upper Bavaria area. The aim is to raise awareness of the CE model with digitalisation processes in at least 22 SMEs in the sectors of wood construction / furniture industry, cosmetics and metal industry. The companies can register with us and we will check whether the sector / trade is suitable for us. Through a kick-off meeting, interested SMEs can inform themselves about the content and approach.

Afterwards, a 1:1 consultation takes place for each company to clarify their wishes and requirements and to provide more information and structures for the questionnaire. The companies then have to complete the questionnaire "Check for linear risks and circular opportunities" by Dr Sonja Eser. After completing the questionnaire, TUAS and Dr. Susanne Steinhauer evaluate it and develop strategies and solutions for the companies. With a further 1:1 consultation, all solutions and strategies are presented to the company in the form of a workshop with the help of a Miro Board. In this discussion, companies can also brainstorm again with the aspects mentioned in order to be able to collect new ideas etc.

The knowledge and procedures gathered from this will be made available and shared with other SMEs over the course of the CE project. (Topic: Learning in advance)

The present deliverable displays for the local pilot action in Bavaria, Germany the:

- activities delivered,
- results achieved,
- lessons learned to foster CE approaches through digitalization.

2. Local pilot actions in Bavaria (TUAS) - Overview

The pilot action is aimed at SMEs in the region of Upper Bavaria (Germany). The basic idea of the pilot action is to create an awareness of CE among the companies in order to then deepen the topic with the companies. Participation is possible for every company, regardless of how big or small the knowledge about CE is. Not only manufacturing companies were invited, but also service companies as well as companies in the B2C sector and B2B sector. CE cannot be strictly separated from manufacturing and service industries.

According to the activities planned for the pilot actions, the following activities were planned:

1	Selecting SMEs / Raise CE awareness	Start date	11.2021
		End date	05.2022
Description The aim of this activity is to identify 22 SMEs participating in the local action. Activities / Preparations <ul style="list-style-type: none">• Identify sectors• Research for suitable SMEs			

- Raising awareness of SMEs to apply at the CE consultation meeting

Results

Sectors of the companies were selected and then the research for suitable SMEs in our region began

Kick off meeting was disseminated through a newsletter of the Berchtesgadener Wirtschaftsservice (BGL). At the same time it was published by mail, on social media and on the homepage.

There was no restriction on participation as the event took place online on 10 November 2021.

1	Identification of sectors	Date	Until 12/2021
2	Application period	Date	Until 05/2022
3	Companies are selected and trained	Date	Until 05/2022

2	Workshop/ 1:1 Consultation	Start date	12.2021
		End date	05.2022

Description

The aim of this activity was to organise workshops or 1:1 consultations for 22 companies. This in turn will be individually adapted for each company.

Activities / Preparations

- Organization of workshops, currently 20 companies (we are still looking for 2 companies)
- Selection of training methods (individual for each company)

Results

Part 1:

In your online or live 1:1 preliminary discussion, the state of affairs on the subject of CE was queried.

Afterwards, basic points about CE were explained

Furthermore, the question areas of the questionnaire were dealt with in more detail and questions could be asked.

Part 2

In Part 2, the second 1:1 meeting between the company and TUAS took place. In this event, all the elaborated results of the questionnaire were discussed in more detail in a workshop of about 2 hours and the company was able to think about them in more detail and brainstorm in a kind of workshop. Everything was recorded on a Miro Board, which was then displayed to the companies.

1	Part 1 Clarify CE basics	Date	Until 04/2022
2	Part 2 1:1 training of the companies - elaboration of a concept	Date	Until 05/2022

3	Circular CE capability/potentiality and digital maturity assessment of SMEs	Start date	10.2021
		End date	05.2022

Description

The following tool was used to assess digital maturity:

- Regional Best Practice Cases
- Check for linear risks and circular opportunities

Questionnaire developed by Dr Sonja Eser

Question part: Linear risk 4: Lack of (digital) innovation and adaptation

+

- the companies could also tick in the questionnaire with 4 technology areas what they already use or future potential would be for them
- Digital technologies for circular supply and circular design
- Digital technologies for optimisation in the production process
- Digital technologies to extend the useful life
- Digital technologies for recovery models

Results

All companies were asked about the above-mentioned parts.

Nevertheless, the topic of digitisation is a very difficult one for SMEs. Most of them do not know where to start and often the companies are too small to make such high investments in the area of digitalisation.

1	The tool mentioned above is applied to all 22 companies.	Date	Until 04/2022
---	--	------	---------------

4	Identification of innovation needs and investment plan	Start date	12.2021
		End date	05.2022

Description

Each SME then receives the Evaluated Questionnaire "Guide to Checking for Linear Risks and Circular Opportunities". The questionnaire is further broken down with the help of a Miro board and then broken down in detail for each company.

The evaluation is accompanied by recommendations for further action in the coming months:

For example:

- Introduction of new technologies
- New or improved products
- new service concept (upgrade)
- new digital technology

Results

The SMEs receive the results from the Linear Risks and Circular Opportunities check. Companies can use them to plan their further. (see above)

1		Date	Until 05/2022
---	--	------	---------------

3. Identification and involvement of the SMEs for the Pilot Action

The following activities were implemented to identify participating SMEs:

Publication of the event:

The kick-off meeting on 10 November 2021 was planned together with BGL. The event was advertised by BGL in their internal company newsletter and at the same time interested companies were contacted by mail. TUAS also contacted SMEs directly by mail. The economic development agency from the district of Traunstein has also forwarded the evaluation concept in the internal newsletter and uploaded it to the website.



Kreislaufwirtschaft verstehen und Chancen nutzen!

Derzeit findet auf der ganzen Welt ein Umbruch statt. Der von der EU beschlossene „Green Deal“ verfolgt das Ziel, bis 2050 in Europa klimaneutral zu sein.

Die Ansprüche sind hoch, vor allem für den Mittelstand. Aber das Modell der Circular Economy (Kreislaufwirtschaft) bietet viele Chancen und Strategien, um Ihr Geschäftsmodell für die Zukunft innovativ und wettbewerbsfähig stark zu machen.

Im Rahmen des EU-Projekts CIRCULAR4.0 entwickelt der Berchtesgadener Land Wirtschaftsservice zusammen mit der Technischen Hochschule Rosenheim ein Beratungs- und Workshopkonzept, sowie Tools für KMU, um sie auf dem Weg hin zur Circular Economy zu unterstützen. Ein besonderer Fokus wird dabei auf den Hebel der Digitalisierung zur Umsetzung zirkulärer Produkte, Prozesse oder ganzer Geschäftsmodelle gelegt.

Ort: Online via Cisco Webex

Datum: 10. November 2021

Uhrzeit: 16:00 Uhr

Veranstalter: Berchtesgadener Land Wirtschaftsservice GmbH

Anmeldung: <https://www.berchtesgadener-land.de/kreislaufwirtschaft>

Programm:

- | | |
|-----------------|--|
| 16:00-16:05 Uhr | Einleitung & Begrüßung
<i>Dr. Anja Friedrich-Hussong (BGLW); Marietta Maier (TH Rosenheim)</i> |
| 16:05-16:15 Uhr | Vorstellung des Projekts Circular 4.0 und Ziele des Workshops
<i>Marietta Maier (TH Rosenheim)</i> |
| 16:15-16:45 Uhr | Vorstellung des EU – Aktionsplans zur Kreislaufwirtschaft
Grundlagen der Kreislaufwirtschaft & und wie die Digitalisierung die Transformation unterstützen kann
<i>Dr. Susanne Steinhauer (Expertin für Nachhaltigkeitsmanagement)</i> |
| 16:45-17:00 Uhr | Vorstellung Fallstudie |
| 17:00-17:15 Uhr | Fragen & Ausblick |



CIRCULAR4.0 is co-financed by the European Regional Development Fund via Interreg Alpine Space



Maier, Marietta

info@togu.de; info@altholz-bayern.de; info@dekuteq.de; info@richter-spielgeraete.de; info@acryl-innovations.de; barth@schuhbandl.de; bauholz@neuesausholz.de; info@berghammers.de

Kreislaufwirtschaft verstehen und Chancen nutzen!

Sie haben diese Nachricht am 22.02.2022 11:22 weitergeleitet.

Sehr geehrte Damen und Herren,

derzeit findet auf der ganzen Welt ein Umbruch statt. Der von der EU beschlossene „Green Deal“ verfolgt das Ziel, bis 2050 in Europa klimaneutral zu sein. Die Ansprüche sind hoch, vor allem für den Mittelstand. Das Modell der Circular Economy (Kreislaufwirtschaft) bietet hier viele Chancen und Strategien, die Ihr Geschäftsmodell für die Zukunft innovativ und wettbewerbsfähig macht.

Im Rahmen des EU Interreg Alpenraum Projekts **CIRCULAR4.0**, bietet die Technische Hochschule Rosenheim für Interessierte Unternehmen in der Region eine kostenlose 1:1 Beratung an, in der die Risiken eines linearen Geschäftsmodells, sowie die Chancen der Kreislaufwirtschaft analysiert werden. Anschließend erhalten alle Firmen einen individuell zugeschnittenen Leitfaden.

Nähere Informationen zu unserem Projekt finden Sie hier:

- <https://www.th-rosenheim.de/forschung-entwicklung/kompetenzfelder-und-projekte/technologien-der-digitalisierung/circular-40/>
- <https://www.alpine-space.org/projects/circular4.0/en/home>

Haben wir Ihr Interesse geweckt, oder benötigen noch mehr Informationen, dann melden Sie sich gerne per Mail bei uns.
marietta.maier@th-rosenheim.de



Wir freuen uns von Ihnen zu hören.

Mit freundlichen Grüßen

Marietta Maier

Marietta Maier, B.Eng.
Circular 4.0
Zentrum für Forschung, Entwicklung und Transfer



Bitte löschen



Maier, Marietta

[Schwarzbach, Harald](mailto:Schwarzbach,Harald); [Aberger, Franziska](mailto:Aberger,Franziska)

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AW: Technische Hochschule Rosenheim - JETZT KOSTENLOSE BERATUNG SICHERN - Kreislaufwirtschaft verstehen und Chancen

„Kreislaufwirtschaft verstehen und Chancen nutzen!“ - Machen Sie Ihr Unternehmen durch die kostenlose 1:1 Beratung der Technischen Hochschule Rosenheim innovativ und wettbewerbsfähig für die Zukunft!

Die Ansprüche sind hoch geworden, vor allem für den Mittelstand. Unsere Verbraucher fordern immer mehr Nachhaltigkeit in der kompletten Wertschöpfungskette.

Hier ermöglicht das Modell der Circular Economy (Kreislaufwirtschaft) viele Chancen und Strategien, die Ihr Geschäftsmodell für die Zukunft fit macht.

Im Rahmen des EU Interreg Alpenraum Projekts **CIRCULAR4.0** bieten wir eine kostenlose 1:1 Beratung an. (Zeitaufwand ca. 2 Stunden) In dieser werden die Risiken eines linearen Geschäftsmodells, sowie die Chancen der Kreislaufwirtschaft in Ihrem Unternehmen analysiert.

Anschließend erhalten Sie einen individuell zugeschnittenen Leitfaden für Ihr Unternehmen, der Ihnen bei der Umsetzung helfen soll.

Haben wir Ihr Interesse geweckt, oder benötigen noch mehr Informationen, dann melden Sie sich gerne per Mail bei uns:

marietta.maier@th-rosenheim.de



Social Media

The kick-off event and the further promotion of the 1:1 consultation "Understanding CE and using opportunities" was published by some posts on LinkedIn.

Berchtesgadener Land Wirtschaftss... ...
 200 Follower:innen
 2 Monate · 🌐

Ein spannendes Projekt für Unternehmen im Berchtesgadener Land, die ihren Betrieb noch nachhaltiger gestalten möchten: Lassen Sie im Rahmen einer kostenlosen 1:1-Beratung der TH Rosenheim doch einmal die Chancen der Kreislaufwirtschaft für Ihr Unternehmen analysieren!

#berchtesgadenerland #bgl #nachhaltigkeit #circulareconomy #kreislaufwirtschaft

Marietta Maier · Sie
 Projekttechnikerin CIRCULAR4.0
 Projektmitarbeiterin ICAROS
 3 Monate · 🌐

Machen Sie Ihr Unternehmen durch die kostenlose 1:1 Beratung der Technischen Hochschule ... mehr

Sie und 1 weitere Person

Gefällt mir Kommentar Teilen Senden

Marietta Maier · Sie
 Projekttechnikerin CIRCULAR4.0
 Projektmitarbeiterin ICAROS
 4 Monate · 🌐

Kreislaufwirtschaft verstehen und Chancen nutzen!

Nutzen Sie als KMU das Geschäftsmodell der #circulareconomy, das Ihr Unternehmen wettbewerbsfähig und innovativ für die #zukunft macht.

Im Rahmen des EU Interreg Alpenraum Projekts #circular4.0 bietet die #TechnischeHochschuleRosenheim für interessierte Unternehmen in der Region eine kostenlose 1:1 Beratung an, in der die Risiken eines linearen Geschäftsmodells, sowie die Chancen der #kreislaufwirtschaft analysiert werden. (Zeitaufwand ca. 3 Stunden) Anschließend erhalten alle Firmen einen individuell zugeschnittenen Leitfaden.

Noch Fragen? Dann melden Sie sich gerne per Mail bei uns. marietta.maier@th-rosenheim.de

Information event

As mentioned before, the kick-off meeting was organised together with the BGL Wirtschaftsservice. As the response to this event was unfortunately not so great and more SMEs were needed, TUAS organised another event on 15 March 2022 "Ideas Lab". Other TUAS projects were presented at this event.

Kreislaufwirtschaft verstehen und Chancen nutzen!
 Derzeit findet auf der ganzen Welt ein Umbruch statt. Der von der EU beschlossene „Green Deal“ verfolgt das Ziel, bis 2050 in Europa klimaneutral zu sein.

Die Ansprüche sind hoch, vor allem für den Mittelstand. Aber das Modell der Circular Economy (Kreislaufwirtschaft) bietet viele Chancen und Strategien, um Ihr Geschäftsmodell für die Zukunft innovativ und wettbewerbsfähig stark zu machen.

Im Rahmen des EU-Projekts CIRCULAR4.0 entwickelt der Berchtesgadener Land Wirtschaftsservice zusammen mit der Technischen Hochschule Rosenheim ein Beratungs- und Workshopkonzept, sowie Tools für KMU, um sie auf dem Weg hin zur Circular Economy zu unterstützen. Ein besonderer Fokus wird dabei auf den Hebel der Digitalisierung zur Umsetzung zirkulärer Produkte, Prozesse oder ganzer Geschäftsmodelle gelegt.

Ort: Online via Cisco Webex
 Datum: 10. November 2021
 Uhrzeit: 16:00 Uhr
 Veranstalter: Berchtesgadener Land Wirtschaftsservice GmbH
 Anmeldung: <https://www.berchtesgadener-land.de/kreislaufwirtschaft>

Programm:
 16:00-16:05 Uhr Einleitung & Begrüßung
 Dr. Anja Friedrich-Husong (BGLW); Marietta Maier (TH Rosenheim)
 16:05-16:15 Uhr Vorstellung des Projekts Circular 4.0 und Ziele des Workshops
 Marietta Maier (TH Rosenheim)
 16:15-16:45 Uhr Vorstellung des EU – Aktionsplans zur Kreislaufwirtschaft
 Grundlagen der Kreislaufwirtschaft & wie die Digitalisierung die Transformation unterstützen kann
 Dr. Susanne Steinhilber (Expertin für Nachhaltigkeitsmanagement)
 16:45-17:00 Uhr Vorstellung Fallstudie
 17:00-17:15 Uhr Fragen & Ausblick

Interreg Alpine Space Circular4.0 BERCHTESGADENER LAND Technische Hochschule Rosenheim European Union

CIRCULAR4.0 is co-financed by the European Regional Development Fund via Interreg Alpine Space



...see also above...



Ideenlabor:

Wissenstransfer - Wissenschaft - Wirtschaft

Die Technische Hochschule Rosenheim veranstaltet gemeinsam mit den beiden Wirtschaftsförderungen aus dem Berchtesgadener Land und Traunstein das Ideenlabor „Wissenstransfer - Wissenschaft - Wirtschaft“.

Wie arbeiten kleinere und mittlere Unternehmen mit einer Hochschule zusammen? Welche Möglichkeiten für Kooperationen mit der TH Rosenheim gibt es? Welche Fördermöglichkeiten existieren für Entwicklungsprojekten? Neben Antworten auf diese Fragen werden Beratungsmöglichkeiten für Unternehmen zum Thema Circular Economy erläutert. Einblicke von Unternehmen zur Zusammenarbeit mit der TH Rosenheim runden die Informationsveranstaltung ab.

Die Wirtschaftsförderungen aus dem Berchtesgadener Land und Traunstein sowie die TH Rosenheim laden Sie zu dieser Informationsveranstaltung ein. Ziel ist, die unternehmerische Innovationskraft zu stärken und die Ansprechpartner*innen der TH Rosenheim persönlich kennenzulernen.

Anmeldung unter: <https://www.berchtesgadener-land.de/ideenlabor-th-rosenheim> (hier kommt noch ein zweiter Link)

Der 2. Teil der Veranstaltung ist im Mai/Juni 2022 in Präsenz in Rosenheim geplant.

Programm:

16:30 bis 18:00 Uhr

- Begrüßung (Wolfgang Alversammer, TH Rosenheim)
- Möglichkeiten der Zusammenarbeit für Unternehmen (Dr. Torsten Armstroff, TH Rosenheim)
- Projektförderungen durch Land und Bund (Harald Schwarzbach, Chiemgau GmbH Wirtschaftsförderung)
- Beratungsangebot Circular Economy (Marietta Maier, TH Rosenheim)
- Interview: Die Zusammenarbeit mit der TH Rosenheim aus Unternehmenssicht (Lars Holstein, Berchtesgadener Land Wirtschaftsservice)
 - Karl-Heinz Schörghofer, MAFO Systemtechnik AG (Vorstand)
 - Dr. Christoph Hechl, BSH Hausgeräte GmbH (Bereichsleiter Produktion Produktbereich Kochen)
- Ausblick und Verabschiedung

BBG TH Rosenheim/Hermaul Email

4. Implementation report

TUAS has performed the activities as follows:

- 1.) Selecting SMEs / Raise CE awareness
- 2.) Workshop/ 1:1 Consultation
- 3.) Circular CE capability / potentiality and digital maturity assessment of SMEs
- 4.) Identification of innovation needs an investment plan

Selecting SMEs / Raise CE awareness

1	Selecting SMEs / Raise CE awareness	Start date	11.2021
		End date	05.2022
Description			
<p>The aim was to identify and train at least 22 SMEs to participate in the pilot action.</p> <p>To be able to select companies for the action. A call was launched via the Wirtschaftsservice Berchtesgadener Land. The Wirtschaftsservice has over 900 companies in its database. The training campaigns were advertised via a newsletter, social media and directly by e-mail.</p> <p>Unfortunately, only 2 companies could be identified in the first call, so TUAS sent direct emails to various companies in the Rosenheim and Traunstein area. At the same time, the concept was also posted on LinkedIn.</p> <p>Furthermore, the concept was advertised again at a university event on 15 March. This resulted in 14 interested companies.</p> <p>With the support of the Traunstein Economic Service, another 4 companies were identified.</p> <p>The following branches were identified:</p> <ul style="list-style-type: none">• Power generation / agriculture: 1• Cosmetics: 1• Metal industry: 3• Electrical industry: 2• Construction: 3• IT: 1• Furniture industry: 2• Food industry: 3• High frequency technology: 1• Textile industry: 1• Recycling: 1• Building technology: 1			
Results			
<p>- Sectors for 1:1 counselling have been identified</p>			

- Awareness of CE has been created through events at companies and can be built upon

- Through two events and internal promotion (social media, website, email) 20 companies were identified.

(22 companies need to be reached, due to the extension June will still be used for this)

1 Selecting SMEs / Raise CE awareness

Date

10.11.2021

2 SMEs were identified through the online event
"Understanding the circular economy and using opportunities, 10. November 2021."

Registrations for the event were made via the
 Berchtesgadener Wirtschaftsservice.

Participants in the event were: 15

Second online event took place on 15 March under the title
 "Ideas Lab".

15.03.2022

Documentation:

- Agenda:

Programm:

16:00-16:05 Uhr Einleitung & Begrüßung
Dr. Anja Friedrich-Hussong (BGLW); Marietta Maier (TH Rosenheim)

16:05-16:15 Uhr Vorstellung des Projekts Circular 4.0 und Ziele des Workshops
Marietta Maier (TH Rosenheim)

16:15-16:45 Uhr Vorstellung des EU – Aktionsplans zur Kreislaufwirtschaft
 Grundlagen der Kreislaufwirtschaft & und wie die Digitalisierung die
 Transformation unterstützen kann
Dr. Susanne Steinhauer (Expertin für Nachhaltigkeitsmanagement)

16:45-17:00 Uhr Vorstellung Fallstudie

17:00-17:15 Uhr Fragen & Ausblick



CIRCULAR4.0 is co-financed by the European Regional Development Fund via Interreg Alpine Space

10. November

15. März 2022

Agenda



- 1 Begrüßung (Wolfgang Alversammer, TH Rosenheim)
- 2 Möglichkeiten der Zusammenarbeit für Unternehmen (Dr. Torsten Armstroff, TH Rosenheim)
- 3 Projektförderungen durch Land und Bund (Harald Schwarzbach, Chiemgau GmbH Wirtschaftsförderung)
- 4 Beratungsangebot Circular Economy (Marietta Maier, TH Rosenheim)
- 5 Die Zusammenarbeit mit der TH Rosenheim aus Unternehmenssicht (Lars Holstein, Berchtesgadener Land Wirtschaftsservice)
 - Karl-Heinz Schörghofer, MAFO Systemtechnik AG (Vorstand)
 - Dr. Christoph Hechl, BSH Hausgeräte GmbH (Bereichsleiter Produktion Produktbereich Kochen)
- 6 Ausblick und Verabschiedung

© Hochschule Rosenheim, 16. März 2022, Seite 2

Ideenlabor Wissenstransfer_15.03.22_V1 0_TA

Participant list/screen shot

Anrede	Vorname	Nachname	Unternehmen / Institution
Frau	Denise	Biedermann	Wäscherei Abel KG
Herr	Robert	Rank	Bachmaier & Klemmer GmbH
Herr	Engelbert	Sellmaier	Engelbert Sellmaier Feinwerktechnik GmbH
Herr	Detlev	Knoll	Zurich Versicherung Detlev Knoll
Herr	Reinhold	plot	Kiefel GmbH
Herr	Franz	Lichtmanegger	Berghotel Rehlegg
Herr	Berthold	Nobis	Manufaktur B.W. Nobis
Herr	Hans	Grassl	Hans Grassl GmbH
Herr	Franz	Eichinger	Energieberatung
Frau	Margit	Haslauer	CutCut Deutschland GmbH
Herr	Johannes	Bost	Dr. Bost & Compagnon
Frau	Birgit	Grabmüller	Berchtesgadener Land Wirtschaftsservice
Herr	Christian	Mader	Raiffeisen-Lagerhäuser Rupertiwinkel
Herr	Florian	Baumann	CutCut Deutschland GmbH
Herr	Daniel	Mikl	Batimat GmbH

Picture

Mi 10.11.2021 13:09

Maier, Marietta

Zugesagt: Webex-Meeting-Einladung: Kreislaufwirtschaft

Zeit: Mittwoch, 10. November 2021 16:00-17:30 (UTC+01:00) Amsterdam, Berlin, Bern, Rom, Stockholm, Wien.

Ort: <https://berchtesgadener-land.webex.com/berchtesgadener-land-de/j.php?MTID=m69036352b9872ee89c39f76b046c4b8>

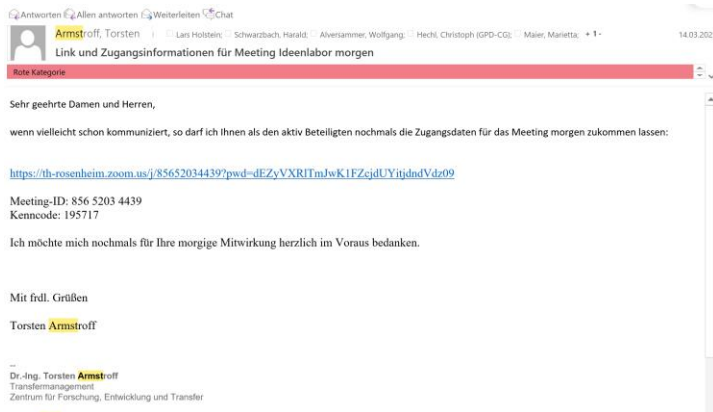
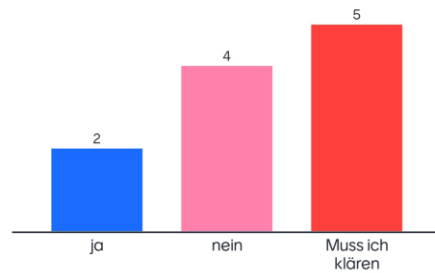
Maier, Marietta hat dieser Besprechung zugesagt.

10. November




15. March 2022



Sehen Sie in Ihrem Unternehmen Bedarf für eine Beratung zum Thema Circular Economy?



2	<p>Call for applications:</p> <p>After the two online events, companies could register at marietta.maier@th-rosenheim.de.</p> <p>In addition, various companies were also contacted by e-mail. They could also register by e-mail or telephone.</p>	Date	Until 05/2022
---	--	------	---------------

	<div data-bbox="347 197 1126 1429"> <div>  <div> Maier, Marietta Christian Rieder - Möbel Rieder e. K. </div> </div> <div> AW: Technische Hochschule Rosenheim - JETZT KOSTENLOSE BERATUNG SICHERN - Kreislaufwirtschaft verstehen und Chancen n... </div> <p>Machen Sie Ihr Unternehmen durch die kostenlose 1:1 Beratung der Technischen Hochschule Rosenheim innovativ und wettbewerbsfähig für die Zukunft!</p> <p>Die Ansprüche sind hoch geworden, vor allem für den Mittelstand. Unsere Verbraucher fordern immer mehr Nachhaltigkeit in der kompletten Wertschöpfungskette. Hier bietet das Modell der Circular Economy (Kreislaufwirtschaft) viele Chancen und Strategien, die Ihr Geschäftsmodell für die Zukunft fit macht.</p> <p>Im Rahmen des EU Interreg Alpenraum Projekts CIRCULAR4.0, sucht die Technische Hochschule Rosenheim interessierte Unternehmen in der Region, die an einer kostenlosen 1:1 Beratung teilnehmen (Zeitaufwand ca. 2 Stunden). In dieser werden die Risiken eines linearen Geschäftsmodells, sowie die Chancen der Kreislaufwirtschaft in Ihrem Unternehmen analysiert.</p> <p>Anschließend erhalten Sie einen individuell zugeschnittenen Leitfaden für Ihr Unternehmen, dieser Ihnen bei der Umsetzung helfen soll. Zugleich wird Ihnen der Zugang zu unserer Interreg – Learning Plattform freigeschaltet, in der finden Sie weitere Materialien und Kontakte zu anderen Firmen, die ebenfalls an dem Projekt teilgenommen haben.</p> <p>Nähere Informationen zu unserem Projekt finden Sie hier:</p> <ul style="list-style-type: none"> https://www.th-rosenheim.de/forschung-entwicklung/kompetenzfelder-und-projekte/technologien-der-digitalisierung/circular-40/ https://www.alpine-space.org/projects/circular4_0/en/home <p>Nutzen Sie die Chance und machen Sie Ihr Unternehmen umweltfreundlich und nachhaltig!</p> <p>Haben wir Ihr Interesse geweckt, oder benötigen noch mehr Informationen, dann melden Sie sich gerne bei uns: marietta.maier@th-rosenheim.de Tel.: 08031 805 2894</p> <div>  <div> Marietta Maier • Sie <div> Projektingenieurin CIRCULAR4.0 Projektmitarbeiterin ICAROS 4 Monate • </div> </div> </div> <p>Kreislaufwirtschaft verstehen und Chancen nutzen!</p> <p>Nutzen Sie als KMU das Geschäftsmodell der #circulareconomy, das Ihr Unternehmen wettbewerbsfähig und innovativ für die #zukunft macht.</p> <p>Im Rahmen des EU Interreg Alpenraum Projekts #circular4.0 bietet die #TechnischeHochschuleRosenheim für interessierte Unternehmen in der Region eine kostenlose 1:1 Beratung an, in der die Risiken eines linearen Geschäftsmodells, sowie die Chancen der #kreislaufwirtschaft analysiert werden. (Zeitaufwand ca. 3 Stunden) Anschließend erhalten alle Firmen einen individuell zugeschnittenen Leitfaden.</p> <p>Noch Fragen? Dann melden Sie sich gerne per Mail bei uns. marietta.maier@th-rosenheim.de</p>  </div>		
3	20 CE are selected for CE +digital maturity assessments of SMEs	Date	Until 05/2022
Deviations – corrective measures <ul style="list-style-type: none"> - At the beginning until January / February only 6 SME's had registered for the 1:1 training - Many companies said that they did not have time because of Corona etc. - in our area there are many small SMEs, but especially in the 1 or 2 man companies almost no awareness of CE could be created. The reason given was that it would be too much effort and not profitable. - Due to the extension of the pilot training, 20 companies have been reached so far. 			

- Since there are many companies in our area that have more than the number of employees of SMEs, such companies have also applied.
- TUAS has good contacts to such companies and both sides can benefit.
- Due to the change in the project that larger companies can also be trained, we have been able to identify **3 companies**.

Workshop/ 1:1 Consultation

2	Workshop/ 1:1 Consultation	Start date	12.2021
		End date	05.2022
Description The aim of this activity was to organise workshops or 1:1 consultations for 22 companies. This in turn will be individually adapted for each company. The workshops were held on two dates at most of the companies.			
Sub-activities <ul style="list-style-type: none">• Organising 22 workshops• Prepare individual documents/workshop methods for each company			
Results <ul style="list-style-type: none">- So far 20 1:1 consultations have been organised for companies- 18 times in two appointments, 2 companies blocked more time and we did the workshop in one appointment- 19 events were online, 1 was live with a factory tour Part 1: <ul style="list-style-type: none">- Inquiry CE "state of affairs" in companies → Create awareness for CE- Clarify general questions about the questionnaire Part 2: <ul style="list-style-type: none">- Discussion of the evaluated questionnaire- Workshop: develop further ideas / approaches → develop CE business strategies			
1	Part 1: An appointment was made with each company individually for a preliminary discussion. (online)	Date	Until 05/2022

In the preliminary meeting, the status of CE was asked about e.g.:

- Are you already familiar with CE?
- Do you already work sustainably?

Afterwards, the questionnaire developed by Dr. Sonja Eser "Check for linear risks and circular opportunities" was explained in more detail (see screenshots).

After the event, the questionnaire was handed out to the companies and they had about 1-2 weeks to complete it.

Lineares Risiko 1:

→ Nutzung knapper und nicht-nachhaltiger Ressourcen sowie toxischer Materialien
(Fragen 1 – 12)

Problem 1:

- Das Unternehmen liefert, oder verlässt sich auf Primärressourcen, die aktuell, oder in den nächsten Jahren knapp werden
- keine Nutzung von erneuerbaren Ressourcen
- Einsatz von toxischen Materialien in Produkten, die gesundheits- und/oder umweltschädlich sind
- nicht nachhaltige Ressourcen werden genutzt → hoher CO₂-Footprint

Lineares Risiko 2:

→ Abfälle und Restenergie in der Produktion
(Fragen 13 – 18)

Problem:

- nicht mehr nutzbare oder genutzte Stoffe in der Produktion verursachen Entsorgungskosten
- steigende Auflagen zu mehr Ressourcenproduktivität, oder Abfallreduktion erzeugen Druck
- Erwartungen der Kunden im B2B und B2C Bereich sind sehr hoch

Lineares Risiko 3:

→ Profit hängt am Verkauf neuer Produkte
(Fragen 19 – 34)

Problem 1:

- Unternehmen produziert Produkte mit kurzer Lebensdauer
→ verfrühte Entsorgung vor Erreichung der vollen Produktlebensdauer

Aufgrund der Corona Pandemie hat in der Gesellschaft ein Umdenken stattgefunden
→ es gibt einen erhöhten Bedarf nach nachhaltigen Lösungen/Angeboten

Lineares Risiko 3:

→ Profit hängt am Verkauf neuer Produkte
(Fragen 19 – 34)

Problem 2 – Maximierung der Produktnutzung:

- wichtiger Nachhaltigkeitsfaktor: Ausschöpfung der vollen Produktlebensdauer (Bsp: Rolls Royce „Power by the hour“)
- Business-Modelle in der Produktnutzungsphase bringen Unternehmen näher an die Kunden
→ CE Business-Modelle bieten die Möglichkeit, mehr und umfassendere Einblicke zu sammeln, wie Kunden ihre Produkte verwenden und ersetzen



Lineares Risiko 4:

→ **Fehlende (digitale) Innovation und Anpassung**
(Fragen 35 – 44)

Problem:

- aufgrund schnell entwickelter Technologien, ist es manchmal Unternehmen nicht möglich neue Angebote auf den Markt zu bringen und mit der Konkurrenz mithalten
- viele Wettbewerber haben die steigende Sorge wie z.B., Abfälle in den Meeren, oder Klimawandel erkannt und etablieren eigene nachhaltige Produkte
- digitale Infrastrukturen, oder digitale Technologien werden genutzt um CE-Ziele schneller zu erreichen (Bsp: Digitale Zwillinge, Robotik)

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Lineares Risiko 5:

→ **Fehlende Kooperation**
(Fragen 46 – 53)

Problem:

- Eine Transformation hin zur CE bedeutet nicht die Einführung einzelner zirkulärer Produkte, sondern die **Etablierung zirkulärer Systeme**, die es Produkten und Materialien erst erlaubt, in Kreisläufen geführt zu werden
- Fehlende Kooperationen über die Lieferkette steigern die Risiken: schädliche Inhaltsstoffe, mangelnde Transparenz den Mitarbeitenden gegenüber, oder sonstigen Risiken nicht zu erkennen → ein Mangel der zunehmend durch Informationskampagnen, Medien oder neue Gesetze (Lieferkettengesetz) zum Problem wird
- CE bedeutet, viele Dinge anders zu machen als zuvor, es bedarf einer Änderung des Mindset und Zusammenarbeit innerhalb des Unternehmens
→ So-Denken der Abteilungen, oder Wettbewerb zwischen Geschäftsbereichen erschwert die Umsetzung zur CE

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Questionnaire:

Leitfaden zum Check auf lineare Risiken und zirkuläre Chancen
Notizen und Auswertung

Hinweise:
Bitte nutzen Sie den Leitfaden für Ihr Unternehmen zur eigenen Risikoeinschätzung und Stand des Unternehmens in der Transformation hin zu einer Circular Economy. Die Fragen dienen dem Bewusstmachen aktueller blinden Flecken im Unternehmen und weniger einem exakten Faktencheck. Nicht alle Fragen sind für alle Unternehmen relevant, und nicht jedes Unternehmen ist von jedem linearen Risiko betroffen.

Erster Überblick:
Bitte kreuzen Sie für Ihr Unternehmen relevante Risiken und Ineffizienzen in der Grafik an:

Lineare Risiken	Zirkuläre Chancen
<ul style="list-style-type: none"> Wachstumsstagnation Produktlebenszyklus Wettbewerb Produktion Vertrieb Verpackung Logistik Finanzierung Personal Technologie Recht Normen Standards Qualität Reputation Image Marken Identität Werte Normen Standards Qualität Reputation Image Marken Identität Werte 	<ul style="list-style-type: none"> Wachstumsstagnation Produktlebenszyklus Wettbewerb Produktion Vertrieb Verpackung Logistik Finanzierung Personal Technologie Recht Normen Standards Qualität Reputation Image Marken Identität Werte Normen Standards Qualität Reputation Image Marken Identität Werte

2 Part 2:

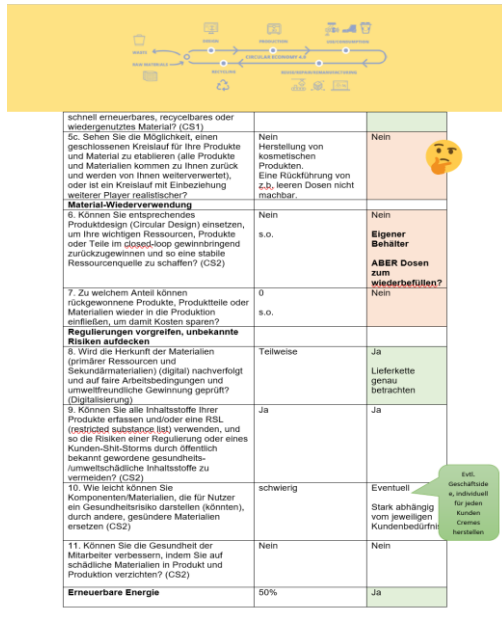
In the second meeting, the evaluated questionnaire was presented in a kind of workshop with the help of a Miro Board.

The questionnaire was evaluated by the expert Dr. Susanne Steinhauer and provided with ideas and strategies.

Date

Until
05/2022

The event was structured in the form of a workshop. The companies were able to collect further ideas and strategies themselves through the future potential mentioned, which were immediately entered into the Miro Board by the moderator (Marietta Maier).



Deviations – corrective measures

- Only 6 SMEs could be trained in February/March, as the response to applications was very low.
- We currently have 20 companies, we will use May/June to find 2 more companies.
- Due to the start-up difficulties and the change that larger companies (not SMEs) may also be trained, we also trained 3 companies that are not SMEs → TUAS is very well networked with large companies and they were immediately very enthusiastic about this project

Circular CE capability/potentiality and digital maturity assessment of SMEs

3	Circular CE capability / potentiality and digital maturity assessment of SMEs	Start date	10.2021
		End date	05.2022
Description <p>The aim here was to recognise and evaluate the potential for CE + at the same time to recognise the digital maturity standard (if available).</p> <p>The following tool was used to assess digital maturity:</p> <ul style="list-style-type: none">- Regional Best Practice Cases- Check for linear risks and circular opportunities (based on the example of the CAS) → Questionnaire developed by Dr Sonja Eser <p><i>Question part: Linear risk 4: Lack of (digital) innovation and adaptation</i></p>			
Results <p>Circular CE capabilities/potentials and digital maturity assessment was conducted at companies with the questionnaire "Circular Opportunities and Linear Risks" in Part 1 (self-completion by the companies) and assessed and presented in Part 2.</p>			
1	Circular CE capabilities/potentials and digital maturity assessment was carried out at 20 companies with the above-mentioned tool.	Date	Until 05/2022

Auswertung

Nützliche Circular Strategies für ihr Unternehmen:
(Identifizierte Lösungsstrategien werden in die Grafik eingetragen, CS1-CS10)

Es wird kurz umrissen, welche Gedanken dazu für das Unternehmen besprochen wurden

Auswertung

Identifizierte interessante digitale Technologien werden notiert.

Digitale Technologien für Circular Supply und Circular Design

Technologie	Anwendungsbereich	Bereits eingesetzt	Interessant
Digitale Produktkette	Materialinformationen bleiben über die Lebensdauer des Produkts und geben Aufschluss, aus welchem Material welches Ersatzteilhersteller werden kann		
Additive Manufacturing (3D-Druck)	Erproduktion von Ersatzteil-Abfallreduktion, eigene Produktion (Verkauf) von Konstruktionsreife Ersatzteil (Produkt)		
Visuelle Prototypen	Visualisierung von Konstruktionsentwürfen		
AI, Blockchain	Zur Erweiterung von Circular Sourcing (Suche nach Sekundärrohstoffen)		
Data sharing	Bessere Zusammenarbeit in Teams		

Digitale Technologien zur Optimierung im Produktionsprozess

Technologie	Anwendungsbereich	Bereits eingesetzt	Interessant
Plattform-Technologien	z.B. Unterstützung industrieprozessübergreifender Verbesserung der Nutzung von Nebenprodukten, z.B. durch Software Tools, die den Output steuern, Verbindung zu Bediener-Training-Plattformen, Unterstützung einer engen Zusammenarbeit innerhalb des Versorgungsumfelds, ermöglicht die gemeinsame Nutzung von Daten, Material und Infrastruktur		
Sensoren	z.B. zur real-time Erfassung von separaten Quellen in der Produktion		
IoT	Sensoren und Aktoren, die über Netzwerke mit Cloudsystemen verbunden sind, um Daten und Informationen zu sammeln und Zusammenführen von Informationen, um z.B. die Identifizierung der Wartungsbedürfnisse zu unterstützen, Unterstützung der Identifizierung für erneuerbare Energien		

Big Data	z.B. zur Überwachung von Produktionsabläufen		
Digitale Twins	Vorhersage von Produktionsprozessen durch bessere Vorhersage von Stillständen, Unterstützung von Energie- und Ressourcenoptimierung in der Produktion, Modellierung der Produktion bei geänderten Kundenbedürfnissen und Lieferketten		
Blockchain	Rückverfolgung der Lieferkette (z.B. Case Study VW, Coca-Cola)		
KI	Umsetzung energie- und ressourcenorientierter Prozesse, intelligenten, datenorientierten Maschinen- und Gerätesteuerung		
RFID	Tags für Lagerverwaltung, Sozialenverfolgung, ermöglicht Produktidentifikation über den gesamten Lebenszyklus		

Digitale Technologien zur Verlängerung der Nutzungsdauer

Technologie	Anwendungsbereich	Bereits eingesetzt	Interessant
Plattformen, Cloud Lösungen	Verbindet Benutzer und Hersteller, ermöglicht die Erleichterung von Dienstleistungen und Dienstleistungen, Bereitstellung von Reparaturanleitungen, Ersatzteil Identifikation		
Augmented reality, VR	Stellen den Arbeitern die notwendigen Informationen zur Reparatur und zum Umgang mit gefährlichen Abfällen zur Verfügung		
IoT	Vorausschauende Wartungsangebote		
Apps für Nutzer	Effiziente z.B. Rückbau-Apps, um schnell optimale Demos zu erhalten		
Robotik	Effiziente z.B. effizientere Montage durch Wartungsanleitungen in Schichten		
RFID	Erstellt ein a service Tage zur Lagerverwaltung, Sortier- und Tracking-Anwendungen, ermöglicht die Produktidentifikation über den gesamten Lebenszyklus, Rekonstruktion/Reparatur		
3D Druck	Reparatur lokaler Produktteile		

Deviations – corrective measures

- No further deviations. See deviations 4.1, 4.2
- We still need 2 companies, we will try to have found and advised them by the end of June.

Identification of innovation needs and investment plan

4	Identification of innovation needs an investment plan	Start date	10.2021
		End date	05.2022
Description Each SME then receives the evaluated questionnaire "Guide to Checking for Linear Risks and Circular Opportunities". With the help of the evaluated questionnaire, at least one recommendation/proposal for action was presented to the company. For example: - Development of a new product / product line - Offer services - Change energy types in the company e.g. green electricity			

- network more with other neighbouring companies
- redesigning / revising a design of a product
- optimise shipping and packaging

Sub-activities

- Evaluation of the questionnaire and development of strategies with Dr Susanne Steinhauer
- Elaboration of the Miro Board

Results

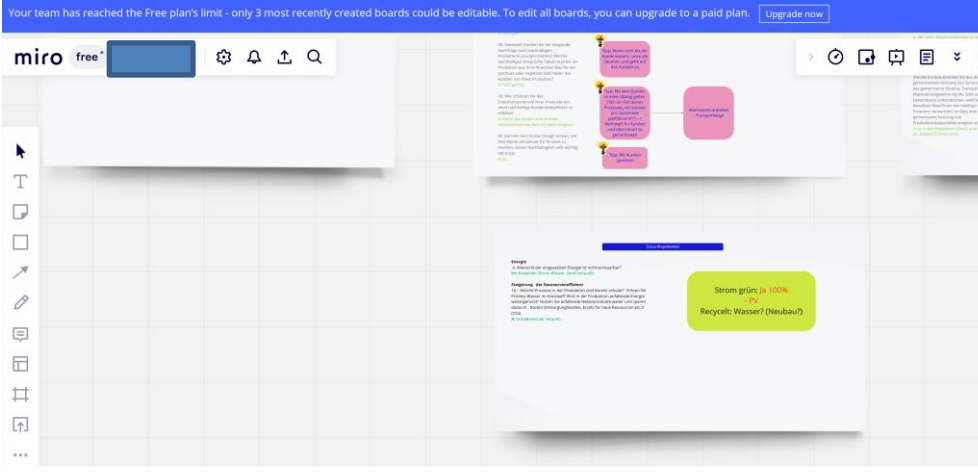
20 companies received the evaluated questionnaire " Guide to Checking for Linear Risks and Circular Opportunities " and the corresponding recommendation for action.

1 Evaluation and recommendation for action are presented to the companies.

Date

Until
05/2022



			
<p>Deviations – corrective measures</p> <ul style="list-style-type: none"> - No further deviations. See deviations 4.1, 4.2, 4.3 - We still need 2 companies, we will try to have found and advised them by the end of June. 			

5. Deviations from the pilot action plan (D.T3.1)

TUAS has the following deviations:

- Extension of the pilot schools until the end of May was necessary as only 6 SMEs could be found by March
- So far only 20 companies have been trained, 2 companies are still missing, these will be found and trained by the end of June.
- Not only SMEs were included, but also 3 large companies, due to the approval, larger companies were searched for, which were very interested.
- ➔ Smaller SMEs are still overwhelmed with the CE topic or do not see it as necessary.

6. Communication activities implemented to support the pilot action

TUAS carried out communication activities in the framework of finding participating KUMs. (see chapter 3)

Further communication activities are still planned. Regional information day with press conference, followed by a technical article which will be forwarded to our university press department (everything is currently being planned).

7. Summary of the achievements - lessons learnt

Achievements

The following TUAS achievements:

Currently 20 KPI's have been achieved - deviation 2 less. Awareness of CE has been created in all companies. Recommendations for action were developed for all 20 companies and access to our TalentLMS platform for self-study was passed on.

1 SME still needed support in the area of investment, for which it received several documents and contacts.

Lessons learnt

Here is TUAS's summary of all the lessons learned:

Negative:

- There is still a lot of work to be done in the field of CE.
- further, the awareness for CE has to be created, especially in small companies - 1 man; 2 man companies, these do not have the capacities and do not know their way around.
- In the area of digitalisation, there is still a lot to be done and possibly support from the EU, for many companies there is a lack of financial resources and the know-how for implementation.
- Further help for implementation in the CE must be offered, companies cannot do it alone.
- Even large companies still have problems in CE, they have departments in the area of "sustainability" but at most 3-5 employees for this. That is far too few here, as the companies themselves told TUAS. There is a lack of capacity and sometimes they simply don't get on because the topic is so extensive and something is constantly changing --> there is a need to create contact points for companies in order to be able to push everything forward better.

Positive:

- Companies find the Circular4.0 project very good, because finally something is being done and support is coming.
- After the trainings and 1:1 consultations, the companies were very motivated to change something.
- The guidelines given to them are helpful (feedback from companies).
- Many companies did not realise that small things can contribute to CE.
- Companies want to get more involved with the topic and to work on it further.
- Companies are interested in further CE training offers
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8. Annex

Overview of companies assisted

ID° (partner acronym +no.)	Company type	Company Region	Sector of reference	1:1 meeting (preliminary discussion)	CE maturity assessment	CE maturity assessment tool	Digital maturity assessment	DM assessment tool	1:1 meeting	Action Plan	Follow up
TUAS 01	SME	Höslwang	Power generation / agriculture	15.11.2021	16.11.2021	The elaborated guideline "Linear risks and circular opportunities" by Dr. Sonja Eser was used.	16.11.2021	The elaborated guideline "Linear risks and circular opportunities" by Dr. Sonja Eser was used.	23.11.2021	26.11.2021	
TUAS 02	SME	Laufen	Cosmetics	15.12.2021 & 24.01.2022	11.02.2022		11.02.2022		26.05.2022	26.05.2022	
TUAS 03	SME	Höslwang	Metal industry	31.01.2022	03.02.2022		03.02.2022		08.02.2022	15.02.2022	
TUAS 04	SME	Freilassing	Metal industry	02.02.2022	24.01.2022		24.01.2022		24.02.2022	28.02.2022	
TUAS 05	SME	Bergen	Electrical industry	07.02.2022	08.02.2022		08.02.2022		16.02.2022	21.02.2022	
TUAS 06	SME	Rosenheim	Metal industry	09.02.2022	22.02.2022		22.02.2022		06.04.2022	12.04.2022	
TUAS 07	SME	Höslwang	Construction	01.03.2022	01.03.2022		01.03.2022		07.03.2022	09.03.2022	
TUAS 08	SME	Rosenheim	Wood construction	04.04.2022	04.04.2022		04.04.2022		19.05.2022	19.05.2022	
TUAS 09	SME	Schnaitsee	Plant construction	28.02.2022	28.02.2022		28.02.2022		20.05.2022	24.05.2022	
TUAS 10	SME	Berchtesgaden	IT	01.04.2022	01.04.2022		01.04.2022		13.04.2022	14.04.2022	
TUAS 11	SME	Neumarkt-Sankt Veit	Furniture industry	03.05.2022	03.05.2022		03.05.2022		03.05.2022	05.05.2022	In planning
TUAS 12	SME	Siegsdorf	Food industry	03.05.2022	03.05.2022		03.05.2022		31.05.2022	08.06.2022	
TUAS 13	larger enterprise	Fridolfing	High frequency technology	11.05.2022	11.05.2022		11.05.2022		11.05.2022	13.05.2022	In planning
TUAS 14	larger enterprise	Rosenheim	Textile	16.05.2022	16.05.2022		16.05.2022		16.05.2022	18.05.2022	
TUAS 15	SME	Traunstein	Recycling	17.05.2022	17.05.2022		17.05.2022		17.05.2022	18.05.2022	In planning
TUAS 16	SME	Bernau	Electrical industry	27.05.2022	27.05.2022		27.05.2022		27.05.2022	27.05.2022	
TUAS 17	larger enterprise	Wasserburg	Food industry	25.05.2022	25.05.2022		25.05.2022		25.05.2022	01.06.2022	
TUAS 18	SME	Rosenheim	Building technology	01.06.2022	01.06.2022		01.06.2022		01.06.2022	06.06.2022	
TUAS 19	SME	Traunstein	Food industry	17.05.2022	17.05.2022		17.05.2022		25.05.2022	25.05.2022	
TUAS 20	SME	Bad Endorf	Furniture industry	02.05.2022	02.05.2022		02.05.2022		24.05.2022	25.05.2022	
TUAS 21	SME	Traunreut	IT	17.05.2022	17.05.2022		18.05.2022		02.06.2022	07.06.2022	

TUAS 22	SME	Vagen	Electrical industry	19.05.2022	19.05.2022		23.05.2022		13.06.2022	15.06.2022	
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