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

PP12 – CONFINDUSTRIA BERGAMO

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Version: 1.0

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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. SIO2 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 PP12 Confindustria Bergamo
- Lessons learned by PP12 Confindustria Bergamo
- 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	CE optimal use	CE value recovery
LP TPLJ & PP10 JSI PP4 aws PP5 ITG PP9 AURAE	LP TPLJ & PP10 JSI PP3 bwcon PP7 VI PP8 Grand E-nov PP11 TOWL	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 PP12 – Confindustria Bergamo

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

1. Selection/identification of SMEs
2. Circular CE capability/potentiality and Digital Maturity Assessment of SMEs
3. Identification of innovation needs and investment plan
4. Follow up on innovation needs and investment plan

Title	Selection and identification of SMEs	Start date	11.2021
		End date	12.2021

Description
For the initial involvement of companies in the pilot actions, a newsletter has been sent out by Confindustria Bergamo to all associated companies to invite them to participate to the Circular 4.0 project. Moreover, we organised an event where we invited prof. Albachiara Boffelli from the University of Bergamo to talk about the importance of integrating the concept of circular economy into the business model and spread awareness about the opportunity to participate to the Circular 4.0 project. After this initial round of call we engaged some of our associated companies, however, this was not sufficient to reach our planned target. We therefore contacted some companies that had previously done the Digital Maturity Assessment with us to know whether they were interested in taking the Circular Economy Assessment and thus receive guidelines on how to improve based on an integration of the two assessments. Some emails were also sent out by the University of Bergamo to our associated companies who had previously engaged with them on projects related to circular economy. The combined effort from these actions allowed us to reach the target of 16 enterprises for the Circular Economy Assessment (of which 12 also undertook the Digital Maturity Assessment) and 16 enterprises for the Digital Maturity Assessment (for a total of 32 companies assisted throughout the period).

Results			
1	Identification of 32 SMEs	Date	Jan-Feb 2022

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Title	Thematic workshops	Start date	06.2021
		End date	06.2021

Description

    The Local training Actions were organized in two different Front-desk modules:

1.   Front-desk module 1 were addressed to the internal resources of Confindustria Bergamo that are involved in the Circular Acceleration Training 4.0 (CAT4.0) and in the Pilot actions, in particular in the implementation of the Digital Maturity Assessment (DMA). The module were scheduled for the 25th June 2021 and consisted in a meeting of three hour in a classroom of Confindustria Bergamo dedicated to the training activities.

2.   Front-desk module 2 were addressed to the University of Bergamo that were involved in the Pilot action, and in particular in the implementation of the Circular Assessment Score (CAS) and in the construction of the Circular Business Model Canvas. The module were scheduled for the 29th June 2021 and was implemented through an online Teams meeting of four hours.

The front-desk modules were supported also by an online course (OCT training course) that was available on the platform TalentLMS. The online course was composed by eight modules of one hour each; the materials and information provided by the Talent platform were fundamental for the correct implementation of services dedicated to the SMEs: the training activities (CAT4.0) and the pilot action (implementation of the assessment tools and the circular business model canvas).

Results

1	Front-desk module 1	Date	25/6/2021
2	Front-desk module 2	Date	29/6/2021

Title	Digital and circular maturity assessment	Start date	09.2021
		End date	05.2022

Description

    Regarding the digital maturity assessment, Politecnico di Milano and Assoconsult have developed an online self-assessment tool Test Industria 4.0, available free of charge on the website: http://preparatialfuturo.confindustria.it/digital-innovation-hub/check-aziendale-online/ . We have assisted the companies in taking this assessment through 1:1 meetings.

The Industry 4.0 Test provides a first indication of the digital maturity of a company, with the intention of photographing its positioning with respect to the possibilities offered by the Industry 4.0 logic. The level of maturity is measured against four dimensions of analysis (Execution, Monitoring and Control, Technologies and Organization) in the processes that form the value chain of a company.

The tool used for the Circular Economy Assessment is the CAS 2.0, modified by the University of Bergamo. Companies received 1:1 assistance by researchers from the University of Bergamo
to make sure they would understand the questions and give the most accurate answers.

Results

1	16 Circular Economy Assessments with the University of Bergamo (of which 12 were integrated with the Digital Maturity Assessment that was done in the same period or in a previous period) comprising the questionnaire and preliminary report	**Date**	Feb-Apr 2022
2	28 Digital Maturity Assessments comprising the questionnaire and a thoroughly elaborated report	**Date**	Sept 2021-Apr 2022 *
	(32 companies were assisted in total)		
	*some companies have done the DMA in previous years, however those were considered relevant for the integration with the Circular economy assessment		

Title	Identification of innovation needs and roadmap for improvement	**Start date**	05.2022
		End date	06.2022

Description

The team of researchers from the University of Bergamo has produced a final report with guidelines for improvements for all the companies that have done the Circular Economy Assessment, and , where available, they have integrated those results with the Digital Maturity score. A final report has also been produced to give an overview of the results of the whole pilot actions, which will be presented in the capitalization workshop on the 7th of June 2022.

Results

1	An in-depth report with guidelines for improvement for each of the 16 companies that have undergone the CAS with the University of Bergamo	**Date**	05/2022
2	One final report summarising the results of the pilot actions	**Date**	05/2022

Lessons learned and recommendations for the follow-up

Through the parallel assessment of digital and circular maturity, companies were able to auto-assess their readiness with respect to the green and digital transitions, which is relevant to drive investments in the short term.

The assessments themselves were very useful in helping companies brainstorm and reflect on their internal organization, and the 1:1 discussions were often a great opportunity to generate new ideas as the companies could reflect on some aspects they did not previously think about. Overall, the assessments were great ways to support internal decision makers in thinking out of the box.

The benchmarking report allowed SMEs to achieve a deeper understanding on their current digital and circular state related to other companies in the same area. The individual report will also guide each company in evaluating best investment opportunities to gain a competitive advantage by integrating more circular processes/products and become more digitalized.

Overall, it has been hard to involve companies that have not started digitalization or circularization processes yet. Most of the companies who took part to the assessments, especially the Circular Economy Assessment, had already made some more or less significant steps in those directions. Hence our sample of participants can be defined as

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biased towards a more positive picture of circularity and digitalization in the Bergamo area than it is in reality. The application of a more differentiated strategy to involve companies with different maturity levels is recommended.

Given the limited financial resources available to SMEs, it has been hard to develop at deeper levels the improvement projects individuated through the assessments. Therefore, we highlight the importance that funding be made available to support the circular transition especially for SMEs. Action plans and recommendations need to be connected closely with funding opportunities for SMEs in order to accelerate the design of innovative activities and investment decisions.

Durability and follow-up

The Digital Maturity Assessment will continue to be applied by Confindustria Bergamo as part of an ongoing project that aims at measuring the digital maturity level of SMEs and enterprises in Lombardy, in order to promote digitalization and digital innovation projects. The same methodology seen so far will be applied, starting with a 1:1 meeting for the assessment, followed by a second meeting to discuss results and, eventually, the opportunity to develop bespoke digitalization projects with some competence centres in Italy. More information on the ongoing project can be found here.

The CAS 2.0 tool revised by the University of Bergamo has been made available by the University for companies who want to measure their Circular Maturity Level. A report is returned by the researchers and there is the possibility to further discuss the results and start collaborations between the University and the companies in the context of circular economy. In this case, the methodology slightly differs from the one applied so far as the assessment is self-compiled and is followed by an automatic report. The assessment can be accessed at this page.

Confindustria Bergamo will also pursue projects in the context of Circular Economy through the BG Circular initiative. A methodology similar to the one used by the CAS will be applied, consisting in a 1:1 initial assessment, followed by the development of bespoke projects. More information on the BG Circular initiative can be found here.

Annex

- D.T3.1.1 - AS feasibility plan to foster CE design model with digitalisation processes
- D.T3.2.1 - Local actions to implement CE Design Model approaches with digitalisation processes
- implementation report drafted by CONFINDUSTRIA BERGAMO, including overview of businesses supported.

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: Planning digitalised CE processes in Alpine Space area addressed to SMEs

Deliverable: D.T3.1.1 AS feasibility plan to foster CE design model with digitalisation processes

Author: TPLJ, inputs by PPs (JSI&TPLJ, CONFBG, AWS, ITG, AURAE, RISING SUD)

Version: final

Month, YEAR: December 2021

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EUROPEAN UNION

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 the deliverable *D.T3.1.1 AS feasibility plan to foster CE design model 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 feasibilities 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.T3.1.1) is focusing on the development of AS feasibility plan to foster CE design model with digitalisation processes. BWCON collected inputs of each project partner from the CE design model (in the case of Slovenia two project partners collaborated – JSI & TPLJ). Each PP from the group of CE design model (JSI & TPLJ, CONFBG, AWS, ITG, AURAE, RISING SUD) 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 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 pilots (Slovenia: JSI & TPLJ, CONFBG, AWS, ITG, AURAE, RISING SUD) are available in the appendix. All PPs in this group provided their input.

Appendix (Inputs by PPs: Local detailed feasibility plans by PPs for the implementation of pilots – Slovenia (JSI & TPLJ, CONFBG, AWS, ITG, AURAE, RISING SUD)

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

Type:	**T -Template/R – Report, JSI & TPLJ**
Dissemination level:	**CO = confidential**
Revision:	**DRAFT 02**
Due Date:	**26.11.2021, v1, JSI TPLJ**
Date of submission:	**2.12.2021 (v3), JSI & TPLJ**

Overview of the local pilot action - Slovenia (Jožef Stefan Institute, Technology Park Ljubljana)

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**
  Sectors, geographical area, type of businesses targeted, etc.

In Slovenia pilot actions will address the sectors in accordance with the selected sectors of interest as mapped out in D.T1.4.2. Report on the industrial sectors selected by each area and justification of those selected:
:
Wood processing industry,
Plastics,
Construction,
Manufacturing,
Food

These selected sectors of interest are in accordance with the National Circular Economy Roadmap and other national strategic development plans:

	TPLJ+IJS	RISINGSUD	GRAND E-NOV	AURE	TWL	VINN+CCIAAVE	UCP	TUAS	BIZ-UP	AWS
	SI	R-Sud	Grand Est	Rhone-Al	Piemonte	Veneto	Swabia	Up-Bayern	Ober-Oster	Vienna
Wood processing industry					Forest based value chains			Furniture		
Plastics					Packaging platics					
Construction							Construction and Building			Construc
Manufacturing industry										
Food										
Bioeconomy										
Textile										
Electronics and Electrical engineering										
TOTAL	5	1	3	3	6	1	2	1	1	1

These are also sectors included in Slovenia's regional specialization strategy supported by cluster organizations.

Circular economy approach we plan to undertake for pilots is the circular design model (approach) and optimal use model (approach) as defined in the scope of the Circular 4.0 project. If applicable for Slovenian SMEs also value recovery model (approach) will be used.

In addition, digital data-based models and systems changes will be adopted where applicable (example in advanced manufacturing) for coordinating business chains transformation and digitalization as enabler of circular transformation will be strongly emphasized along the value chain transformation. CAT4.0 transformation course of the Circular 4.0 project will be used as a base for pilot actions.

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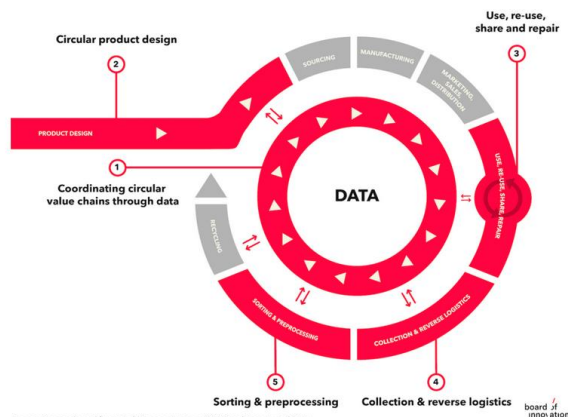
Source: Figure adapted from World Economic Forum (2019) and Accenture (2018).

Source: https://www.boardofinnovation.com/blog/circular-business-model-examples/
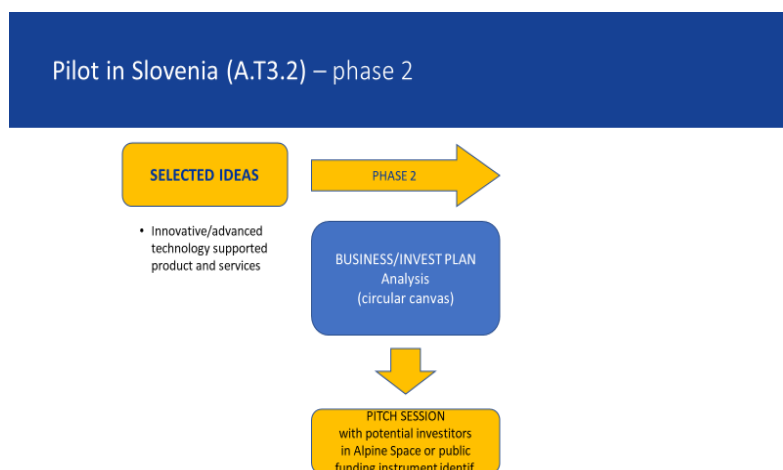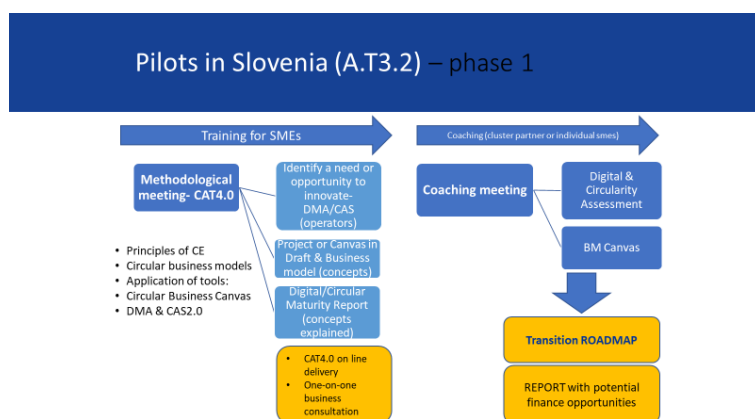
Underlying principles of pilots used in Slovenia are explained in the
Module 1 (Part 2) of the CAT4.0 training course Enabling the potential for circular transformation – tech readiness–digitalization and I4.0 (available over https://circular40.eu/).
The process encompasses systemic changes as well as transformation across the value chain of the product, production and business functions.
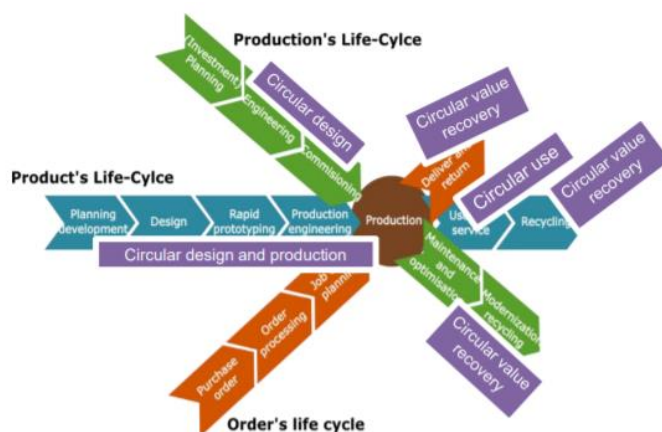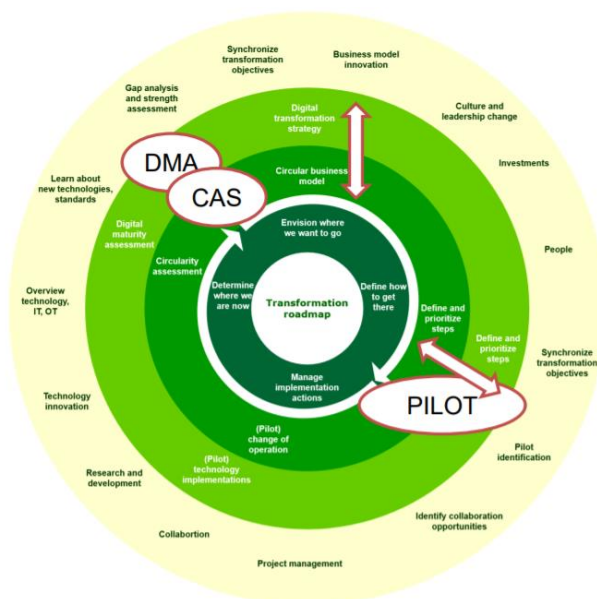
Improving production and process by means of digitalization will be examined such as the concepts of Zero-defect manufacturing through analytics, signal processing, AI, sensoring. Industrial symbiosis & industrial urban symbiosis for improving collaboration utilizing technology and IoT & Industrial cloud platforms for connecting, storing, monitoring, analyzing and improving production processes.
(Ref.: www.symbiosis.dk/en; • https://qu4lity-project.eu/wpcontent/uploads/2020/05/PRJ.pdf; https://www.ellenmacarthurfoundation.org/casestudies/effective)

- **Methodology**

AWARNESS RISING FOR SMEs& CHECK FOR LINEAR RISKS & CIRCULAR OPPORTUNITIES will be also included in the CAT4.0 approach.

Tools to be used:

Digital maturity assessment tools:

http://dma.innocape.eu/en/test/registration

Designed for all kinds of companies to assess the digital maturity and to give a foundation for internal discussions on strategic priorities in digitalization opportunities and challenges. It is useful for the assessment of results to initiate dialogue with the regional Digital innovation hub to gain further support in digitalization process within the company:
- Improving processes through digitization and automation
- Experimenting at low costs to reveal efficiency gains, new customer touch points or new products
- Collecting and analysing data to generate insights for strategic decision making
- Establishing relationships with external partners to pool complementary resources

Other tools for SMEs & business or CE model specific tool (to be selected by experts from the tools approved in the scope of the Circular4.0 project and introduced through the training actions in T.2.) including tools assessed in the scope of **D.T2.3.1 Setting up the toolkit to support digitalisation processes to foster the CE in the Alpine space**. Such as:

https://digital-transformation-tool.eu/project/

and some selected tools from a repository of identified tools "fit-for-purpose" (depending on level of maturity of SME, size and SME pilot project needs)

http://e2-owncloud.ijs.si/owncloud/index.php/s/rc17RxI7bd7Kw8d

Companies will be cross-examined also about the application of advanced technologies such as robotics, control technologies (industrial control systems), artificial intelligence, big data use, block-chain, XP, virtual reality or augmented reality use.

Circularity assessment scoring tool:

CAS2.0 tool (developed in the scope of Circular4.0 project):

https://circular40.eu/cas2-0/

- **Expected results**
  This section shall explain the benefit / added value expected for the SMEs.

  SME's will identify the pilot project (business transformation project and/or investment project) they will start the CE transformation journey, get acquainted with the CE principles. They will also elaborate a business plan (business canvas) and/or investment plan (investment project) and present it in front of funders i.e., proactively seek financial instrument for implementing the transformation project.

Planned activities

Planned activities in Slovenia (JSI & TPLJ) are:

1. **Recruit expert assessors for 1:1 consultations & delivery of DMA/CAS**
   TPLJ: Preparation of the open call for experts, selection & contracting phase

   Selected experts prepare CAT4.0 for specific sectors to support 1:1 assessment within the process of DMA/Circular Maturity Assessment, business canvas preparation, investment plan preparation, potentially for pitching)
   Deadline: 10.12.2021 (draft), 15.12.2021 (final)

2. **Selection/identification of SMEs**

   Selecting SMEs to participate in the training program & directly addressing sector specific industrial clusters (clusters for wood, manufacturing, plastics, food) (open call and/or direct call for participation in the CAT4.0 program through sectoral clusters organized through regional specialization or located under the umbrella of Chamber of Economy).

   TPLJ/JSI - expression of interest to be publicly published on TPLJ and JSI web page & involvement of Operators (Association of plastic industry of Slovenia, Regional development agencies/centres etc.)
   Deadline: 10.12.2021 (draft), 15.12.2021 (final)
   Clear message for SMEs!
   Deliverables: CAS2.0, DMA, Canvas, Fin. Investment plan, possible investors pitching events (Slo & It – venture capital investors)
   Preparation of direct invitations for companies: (approx. to be selected 10), list of companies from business data bases (BIZi/AJPEs, among 500 companies, selection by sectors, by turnover, profit & value added), principle of selection: First come, first selected, Deminimis rule (to be received by FLC)

3. **Thematic workshops/seminars**
   Implementing the CAT4.0 modules addressed to SMEs supported by awareness rising campaign (using project partners communications channels – JSI & TPLJ).

   Thematic workshops per sectors: 15.2.2022 – 15.3.2022

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

   Tools mainly used will be:

- **INNOCAPE tool**
  http://dma.innocape.eu/en/test/registration

Designed for all kinds of companies to assess the digital maturity and to give a foundation for internal discussions on strategic priorities in digitalization opportunities and challenges. It is useful for the assessment of results to initiate dialogue with the regional Digital innovation hub to gain further support in digitalization process within the company:
- Improving processes through digitization and automation
- Experimenting at low costs to reveal efficiency gains, new customer touch points or new products
- Collecting and analysing data to generate insights for strategic decision making
- Establishing relationships with external partners to pool complementary resources

Some other SME/sector specific tool from a repository of identified tools might be deployed as well that is "fit-for-purpose" (depending on level of maturity of SME, size and SME pilot project needs) http://e2-owncloud.ijs.si/owncloud/index.php/s/rc17RxI7bd7Kw8d

Other tools for less digitally advanced SMEs & business or CE model specific tool (to be selected by experts from the tools approved in the scope of the Circular4.0 project and introduced through the training actions in T.2.) including tools assessed in the scope of **D.T2.3.1 Setting up the toolkit to support digitalization processes to foster the CE in the Alpine space**. Such as: https://digital-transformation-tool.eu/project/

5. **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)
   - 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

   Business canvas and a roadmap for the implementation of the SME pilot action covering at least one of the transformation areas listed above will be produced by the experts and a pitching presentation prepared to advance SMEs with their transitioning intentions. Experts will assist SME's 1:1 on that.

6. **Pitching the pilot in front of finance organizations and/or identification of the funding instrument for SME to apply for funding the pilot action.**

   Identifying financial organizations and their instruments in support of CE.
   Organizing a "pitching" event with financial institutions and/or

   Pitching event (SLO-IT): April 2022 (to be decidec)

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

Title		Start date	MM.YYYY
		End date	MM.YYYY
Description			
Describe here the activity			

Add sub-activities if necessary			
Results 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	Example: 3 online workshops ...	**Date**	
2	Example: 1 call for applications	**Date**	
3	Example: 25 CE + digital maturity assessments of SMEs	**Date**	
n		**Date**	

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 (35 in Slovenia - 17 (JSI) within Circular Design Model and 18 (TPLJ) within Optimal Use Model).

Measurable objectives:

Minimally 17 + 18 PPs (JSI & TPLJ) SMEs going through CAT4.0. All together 35.

- Technology adoption
    - 1 new or improved process in SME
    - 1 New or improved or transformed business model identified
    - 1 New or improved products foreseen within 6 months to a year from finalizing CAT4.0
    - 1 New or improved services/business process
    - 1 Digitally supported action identified with at least one advanced digital technology

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

Type:	**T -Template/ R- Report, CONFBG**
Dissemination level:	**CO = confidential**
Revision:	**DRAFT 02**
Due Date:	
Date of submission:	**Nov 2021**

Overview of the local pilot action – Confindustria Bergamo

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**
  The local context of the local actions encompasses enterprises from the Bergamo province. The targeted companies are SMEs from the manufacturing sector
  The assessment allows to evaluate the status and the workshops would allow to understand how to improve in three areas:
    - design of new actions and strategies connected to the circular economy
    - optimal use through benchmarking companies and optimizing what enterprises already use
    - value recovery to implement trivial actions such as the reduction and recovery of waste finalized at recovering the value that was previously lost

- **Methodology**

The project described here has the general objective of developing, testing and applying a tool for assessing the maturity of companies in terms of Circular Economy.

In particular, it will be divided into 4 main phases:

- Project activation

- Circular Maturity Assessment Tool Test

- Application of the tool to the mapping of 5-15 virtuous companies associated with Confindustria Bergamo and identification of areas for improvement through workshops to be organized in the company

- Development of a final benchmarking report among the companies analyzed, possibly with a final dissemination event
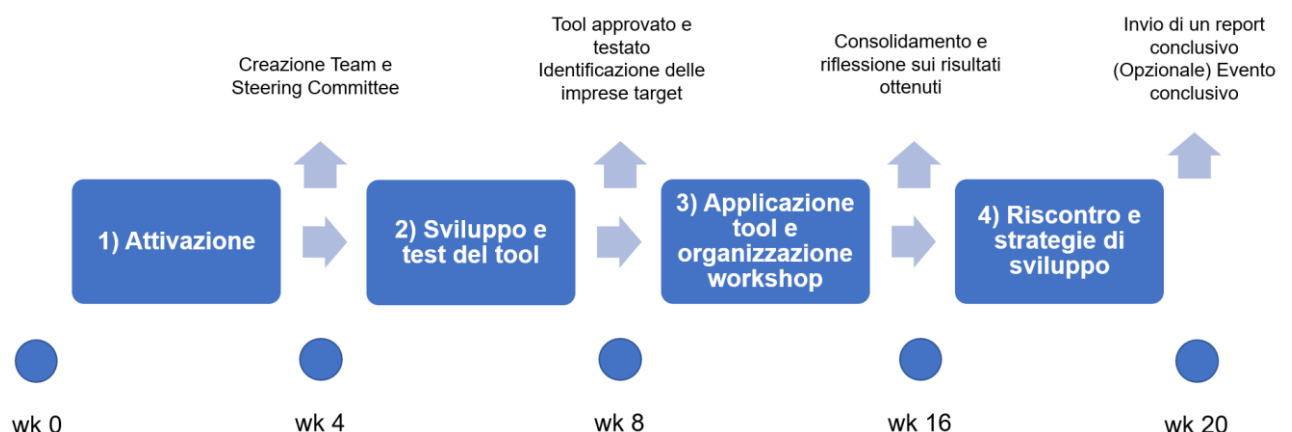
Main steps:
1. DMA (Confindustria Bergamo)
2. CAS (Bergamo University)
3. Roadmap with corrective actions and suggestions
4. Dedicated consultancy to build the Business Model Canvas of each company profile

Digital maturity tool: Derived from Dreamy 4.0 Politecnico of Milano
Circular assessment tool: Circularity Assessment Score 2.0

- **Expected results**
  Through the parallel assessment of digital and circular maturity, SMEs will be able to auto-assess their readiness with respect to the green and digital transitions, which will be relevant to drive investments in the short term. Thanks to the dedicated workshop, each company will be able to engage in brainstorming and reflections with the involved experts, as well as with other functions inside the company, so to overcome the so-called silos thinking. In addition, the benchmarking report will allow SMEs to achieve a deeper understanding on their current digital and circular state related to other companies in the same area. Finally, the main opportunity for companies is to understand which actions to implement to become more digitalized and exploit circular processes to get a competitive advantage.

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

7. **Selection/identification of SMEs**
   The selection of SMEs is done through the Confindustria Bergamo database of companies. Firstly the companies are filtered in order to visualize only the ones that are qualified as SMEs regarding the number of employees and their annual turnover. Secondly, the selected SMEs are contacted through the Confindustria newsletter to inform them about the Circular 4.0 project and its opportunities. After having an adequate number of responses, the works proceeds in organizing the thematic workshops, the circular and digital maturity assessments in our headquarters or in company according to company preferences.

8. **Thematic workshops/seminars**
   The Local training Actions were organized in two different Front-desk modules:
1. Front-desk module 1 were addressed to the internal resources of Confindustria Bergamo that are involved in the Circular Acceleration Training 4.0 (CAT4.0) and in the Pilot actions, in particular in the implementation of the Digital Maturity Assessment (DMA). The module were scheduled for the 25th June 2021 and consisted in a meeting of three hour in a classroom of Confindustria Bergamo dedicated to the training activities.
2. Front-desk module 2 were addressed to the University of Bergamo that were involved in the Pilot action, and in particular in the implementation of the Circular Assessment Score (CAS) and in the construction of the Circular Business Model Canvas. The module were scheduled for the 29th June 2021 and was implemented through an online Teams meeting of four hours.

   The front-desk modules were supported also by an online course (OCT training course) that was available on the platform TalentLMS. The online course was composed by eight different module of one hour each; the materials and information provided by the Talent platform are fundamental for the correct implementation of services dedicated to the SMEs: the training activities (CAT4.0) and the pilot action (implementation of the assessment tools and the circular business model canvas).

9. **Circular CE capability/potentiality and Digital Maturity Assessment of SMEs**
   Regarding the digital maturity assessment, Politecnico di Milano and Assoconsult have developed an online self-assessment tool Test Industria 4.0, available free of charge on the website: http://preparatialfuturo.confindustria.it/digital-innovation-hub/check-aziendale-online/

   The Industry 4.0 Test provides a first indication of the digital maturity of your company, with the intention of photographing its positioning with respect to the possibilities offered by the Industry 4.0 logic. The level of maturity is measured against four dimensions of analysis (Execution, Monitoring and Control, Technologies and Organization) in the processes that form the value chain of a company.

   On the other hand, the tool used for the circularity assessment is the CAS 2.0, it will be applied by the experts of the University of Bergamo in order to make sure the companies understand the questions and fill them in the most accurate way.

10. **Identification of innovation needs and investment plan**
    The University of Bergamo will then merge the results of the digital maturity test with the circular assessment score in a single report. This report will present to each company

the current state on both maturities and a roadmap on which actions to take in order to develop both their digital and circular maturity.

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	Selection and identification of SMEs	Start date	11/2021
		End date	12/2021
Description			
	The selection of SMEs is done through the Confindustria Bergamo database of companies. Firstly the companies are filtered in order to visualize only the ones that are qualified as SMEs regarding the number of employees and their annual turnover. Secondly, the selected SMEs are contacted through the Confindustria newsletter to inform them about the Circular 4.0 project and its opportunities. After having an adequate number of responses, the works proceeds in organizing the thematic workshops, the circular and digital maturity assessments in our headquarters or in company according to company preferences.		
Results			
1	Identification of 15 SMEs		

Title	Thematic workshops	Start date	.YYYY
		End date	MM.YYYY

Description

The Local training Actions were organized in two different Front-desk modules:

1.   Front-desk module 1 were addressed to the internal resources of Confindustria Bergamo that are involved in the Circular Acceleration Training 4.0 (CAT4.0) and in the Pilot actions, in particular in the implementation of the Digital Maturity Assessment (DMA). The module were scheduled for the 25th June 2021 and consisted in a meeting of three hour in a classroom of Confindustria Bergamo dedicated to the training activities.

2.   Front-desk module 2 were addressed to the University of Bergamo that were involved in the Pilot action, and in particular in the implementation of the Circular Assessment Score (CAS) and in the construction of the Circular Business Model Canvas. The module were scheduled for the 29th June 2021 and was implemented through an online Teams meeting of four hours.

The front-desk modules were supported also by an online course (OCT training course) that was available on the platform TalentLMS. The online course was composed by eight different module of one hour each; the materials and information provided by the Talent platform are fundamental for the correct implementation of services dedicated to the SMEs: the training activities (CAT4.0) and the pilot action (implementation of the assessment tools and the circular business model canvas).

Results

1	Front-desk module 1	Date	25/6/2021
2	Front-desk module 2	Date	29/6/2021
3		Date	
n		Date	

Title	Digital and circular maturity assessment	Start date	12/2021
		End date	3/2022

Description

Regarding the digital maturity assessment, Politecnico di Milano and Assoconsult have developed an online self-assessment tool Test Industria 4.0, available free of charge on the website: http://preparatialfuturo.confindustria.it/digital-innovation-hub/check-aziendale-online/

The Industry 4.0 Test provides a first indication of the digital maturity of your company, with the intention of photographing its positioning with respect to the possibilities offered by the Industry 4.0 logic. The level of maturity is measured against four dimensions of analysis (Execution, Monitoring and Control, Technologies and Organization) in the processes that form the value chain of a company.

On the other hand, the tool used for the circularity assessment is the CAS 2.0, it will be applied by the experts of the University of Bergamo in order to make sure the companies understand the questions and fill them in the most accurate way.

Results			
1	Digital and Circular maturity assesments		

Title	Identification of innovation needs and investment plan	Start date	3/2022
		End date	4/2022

Description

The University of Bergamo will then merge the results of the digital maturity test with the circular assessment score in a single report. This report will present to each company the current state on both maturities and a roadmap on which actions to take in order to develop both their digital and circular maturity. Along with the report, it will also be created a business model canvas that encompasses the findings of both the circular and digital assessments.

Results			
1	Final report of assessment activities and roadmap	Dd/mm/yy	

Indicators (KPIs) and monitoring

The KPIs defined for the four above-mentioned phases are as follows:

1.   Selection/identification of SMEs:

- Number of identified SMEs

2.   Thematic workshops/seminars:

- Number of workshops

- Average number of participants

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

- Number of SMEs that were assessed with the Digital Maturity Assessment

- Number of SMEs that were assessed with the Circular Assessment Score

4.   Identification of innovation needs and investment plan:

- Number of SMEs that participated in the post-assessment workshop

- Average number of improvement actions/innovation identified per company

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

Type:	**T -Template/ R- Report, AWS**
Dissemination level:	**CO = confidential**
Revision:	**DRAFT 02**
Due Date:	**November 2021**
Date of submission:	**December 2021**

Overview of the local pilot action - Austria (Austria Wirtschaftsservice)

AWS has started to work with experts to plan out the pilot actions, based on what has been developed with the other German speaking partners.

The pilot action is planned out in the following models:

1. Raise awareness for CE supported by digitalization
2. Understanding the business case of CE with digital support
3. Circular business strategies in den specific sectors (sector specific training)
4. Finance & Investment
5. Networking

Not all steps are mandatory – depending on the demands/requirements of the SMEs the different modules will be applied. Just the first module is more or less mandatory because we need it to come into contact with the SMEs and to build the community.

1:1 assistance starts immediately after the first module. Module 2 is implemented in the form of a workshop but just for one company (CEO + additional employees). Module 3, 4 and 5 can be carried out either as individual 1:1 assistance or as group workshops (depending on the demands/requirements of the SMEs

Expected results

We expect to assist 15 companies with their journey to introduce circular economy in their businesses. With the kick-off workshop we hope to educate companies on what circular economy is and what it could mean for their respective businesses. The 1:1 assistance is an opportunity for the companies to dive deeper into their business cases and to find specific ways to introduce circular economy e.g., when producing a product with the help of digitalisation. The creative workshops intend to help companies with the circular design of their products and services and plan their journey beyond the project life.

Planned activities

MODUL 1

Raise Awareness for CE supported by digitalization (community building)

Objective: to raise awareness of the opportunities of the circular economy through information events for specific sectors / several companies (building & construction, wood industry, recycling/water treatment, waste electronic equipment)

Format:

- Networking event/(online) workshop
- 1-2 hours
- An event is planned and carried out for each of the three sectors
- The entire value chain is invited

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)
- Presentation of two (regional) case studies
- Q&A + discussion
- Forecast: what does Circular4.0 offer the participating companies?

Tools:

- Regional best practice cases

MODUL 2

Understanding the Business Case of CE
Objective: Create awareness / raise awareness of the business case of CE and digital transformation

Format:

- (Online) coaching for one company - 1:1 assistance
- 2-4 hours

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

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

MODUL 3

Circular business strategies in specific sectors (sector specific training)
Objective: Know-how transfer & sector-specific workshops (building & construction, wood industry, recycling/water treatment, waste electronic equipment) - creative process

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

Title	Selection/identification of SMEs	Start date	12.2021
		End date	03.2022

In December 2021 we have published a press release as well as social media posts in order to find companies to take part in our pilot action. Moreover, we have sent out the information on our company newsletter (reaching hundreds of aws clients) as well as shared the information with our expert in order to circulate the ad.

For any company that has sent us an e-mail stating their interest we have sent a form to fill out asking for the following information:

- Why would you like to take part in the pilot action?

- Have you already taken measures to introduce circular economy in your company and if so, which ones?

- What are your expectations for the pilot action?

Results

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	Selection/identification of SMEs	Date	12.2021 - 03.2022
		Date	
		Date	
		Date	

Title	Modul 1	Start date	01.2022
		End date	01.2022

For modul 1 we plan to organize a kick-off meeting for all interested companies to introduce the principal concepts of circular economy and how to introduce them into their daily work.

Results

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	Modul 1	Date	01.2022

Interreg
Alpine Space
Circular4.0

		Date	
		Date	
		Date	

		Start date	02.2022
Title	**Modul 2**	**End date**	02.2022

For modul 2 every company taking part in the pilot to receive the opportunity for a 1:1 session with our experts for about 2-3 hours where they have the opportunity to discuss their individual business cases and undergo digital maturity assessments as well as a circularity assessment.

Results

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	Modul 2	Date	01-02.2022
		Date	
		Date	
		Date	

		Start date	03.2022
Title	**Modul 3**	**End date**	03.2022

Circular business strategies in specific sectors (sector specific training)
Objective: Know-how transfer & sector-specific workshops (building & construction, wood industry, recycling/water treatment, waste electronic equipment) - creative process.

Results
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	Modul 3	Date	03.2022
		Date	
		Date	
		Date	

Interreg
Alpine Space
Circular4.0

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).

One of the KPIs will be a satisfactory survey. As we have asked all companies taking part what their expectations are in the pilots, we will ask them after the pilots if we have met their expectations. We will define the exact KPIs as soon as all companies are identified.

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

Type:	**T -Template/R – Report, ITG**
Dissemination level:	**CO = confidential**
Revision:	**DRAFT 02**
Due Date:	November 2021
Date of submission:	December 2021

Overview of the local pilot action – Salzburg (ITG)

Local context and CE approach

The focus of the ITG work in WP T3 is D.T3.1.1 AS feasibility plan to foster CE design model with digitalisation processes. ITG starts to gather information on possible organization, actions, resources, and equipment needed to set-up Alpine regional centers able to promote digitalised CE activities addressed to SMEs on the design model and eco-innovation in general. Therefore, desk research and an analysis of existing structures (within the region and beyond) and requirements on a regional political, economic, sociological, and technical basis is performed.

Due to the regional economy structure of Salzburg, SMEs from the following sectors are mainly targeted for the local actions:

- building and construction
- wood / timber industry
- plastics industry (not as a sector but as a material with great impact on many sectors)

Methodology

In order to assist SMEs in their circular transformation, ITG developed together with the Austrian and German partners and an external expert five modules to promote and implement digitalised CE activities. Depending on the SME's individual demands/requirements, different modules are applied. This means, that not all modules are mandatory, except from the first one, as it is needed to get in contact with the SMEs and to build up the community. Right after the first module, 1:1 assistance starts by performing workshops for one company (CEO + additional employees) with checks for linear risks and circular opportunities within module 2. Modules 3,4, and 5 can be carried out either as individual 1:1 assistance or as group workshop, depending on the needs and requirements of the SMEs.
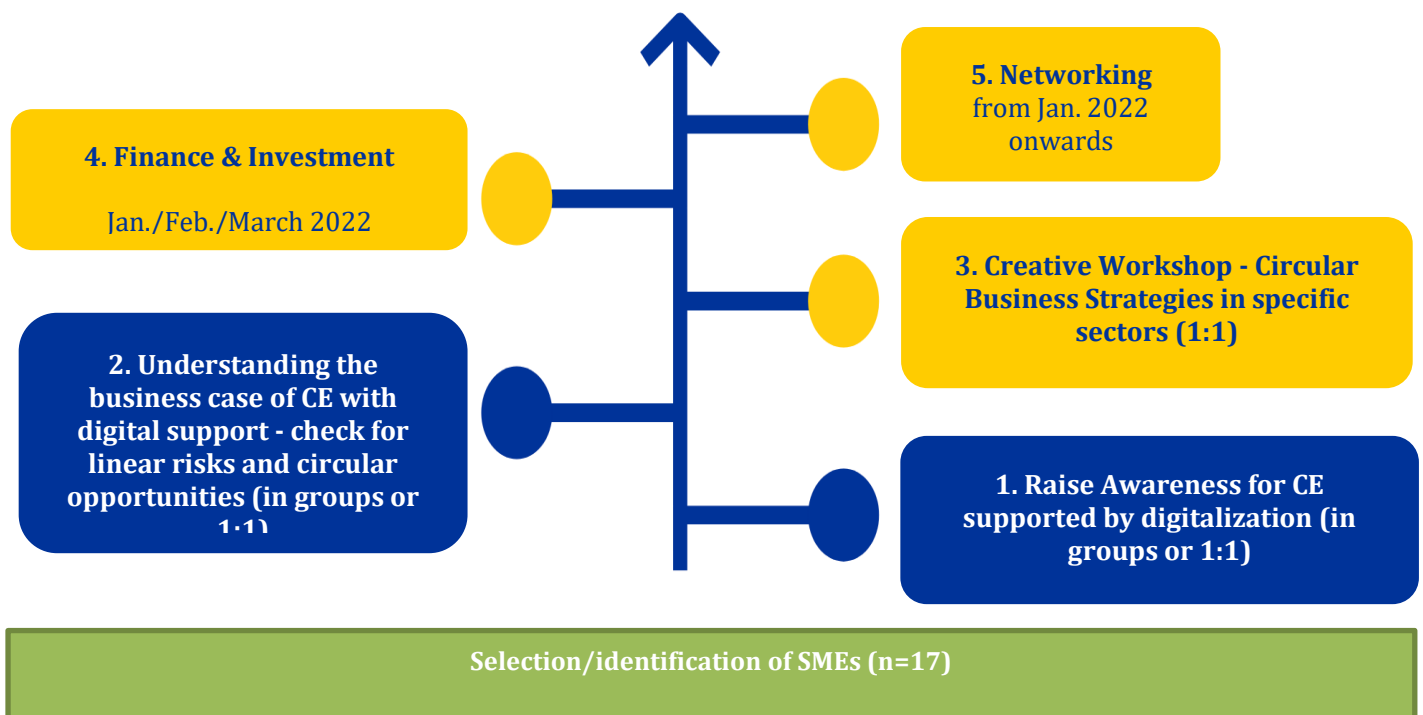
Expected results

The aim of A.T3.2 is to foster CE design model with digitalisation processes in at least 17 SMEs mainly in the sectors building and construction, wood / timber industry and plastic industry. Awareness for CE activities will be raised on a very broad level e.g. by tenders on the homepage. These SMEs are coached in CE activities, at first by raising awareness to the importance and the chances of CE, secondly by the check for linear risks and circular opportunities. SMEs benefit from the checks and the detailed results they get after the workshop performed by the external expert. Additionally, SMEs are coached in further CE activities (modules 3-4), which should support them in developing a business strategy and a transformation plan. Networking and exchange with other SMEs are another aim of the pilot action (module 5). SMEs should be motivated and enthusiastic about further working on CE through knowing the chances and advantages of CE and by the help of an expert in the first steps of implementation CE activities.

Within the pilot action, the developed modules should be tested for their applicability and their usefulness. The tools and the generated knowledge on CE should be provided to more SMEs above the project framework. Thus, it is important that CE knowledge is provided on a low level and it should be easily applicable. In the long run, the knowledge collected during pilots should be made available to other SMEs within the region of Salzburg.

Planned activities

11. Selection/identification of SMEs

ITG decided to focus on the following sectors:

- **Building and construction**
  This sector is an especially lively one in most project areas and certainly a sector with a lot of potential to work with during the course of the project. In Austria, more specifically in Salzburg, there are almost 3000 companies within this sector. According to the economic cycle of the construction industry in Salzburg, the following picture emerges: the positive economic development in the construction industry in recent years has continued so far. Despite the Corona crisis, the construction industry in Salzburg can record a high level of workload, which reliably keeps an important part of the regional economy running and secures thousands of jobs. Digitalization and circular economy are currently seen as the greatest challenges but also opportunities in the sector (cf. member survey of the building and construction industry of Salzburg). For these reasons, regional research institutes, such as the Kompetenzzentrum Bauforschung (competence center for research within the sector of building and construction), deal with the building industry in connection with circular economy issues.
  For the Austrian government authorities, the promotion of circular economy and material efficiency is very important. In particular, the preparation for the reuse of components and the ensuring of a high quality of recycled building materials to recycle construction and demolition waste is supported by regulations.
- **Wood / timber industry**
  The wood and timber industry are also very present in Salzburg. The only cluster the region of Salzburg has so far, is the cluster in timber industry. Therefore, this sector has also been chosen for CE activities.
- **Plastics industry** (not as a sector but as a material with great impact on many sectors)

As the aim is to include at least 17 SMEs in the pilot actions, ITG might not only to include SMEs from the three above mentioned sectors but expand the target group also to other sectors like print and life sciences.

ITG publishes the invitation for the participation in the workshops on their homepage and, additionally, invites and contacts SMEs directly to apply for the participation in these workshops. Selected SMEs (First Come – First Served) are chosen to participate in the workshops. Additionally, SMEs in the wood and timber industry will be contacted via the Holzcluster Salzburg.

Title	Selection/identification of SMEs	Start date	11.2021
		End date	03.2022

Description

The aim of this activity is to select and identify at least 17 SMEs for participation in local action.

Sub-activities

- Identification of sectors
- Raising awareness among SMEs in sectors – Call for applications
- Selection of SMEs

	Results - Sectors, the addressed SMEs are operating in, have been selected - Awareness is raised among SMEs in predefined sectors by publishing information and invitation to participate in local actions on homepage (call for applications); additionally, SMEs are contacted directly by email (direct approach) or via Holzcluster Salzburg - At least 17 SMEs are selected based on first come – first served principle for participation in local action		
1	Identification of sectors	**Date**	Until 10/2021
2	Raising awareness / call for applications	**Date**	Until 03/2022
3	17 SMEs are selected for CE + digital maturity assessments	**Date**	Until 03/2022

12. Thematic workshops/seminars

Together with German-speaking partners and the external expert a module system has been developed to be able to foster CE activities in SMEs. The aim of the development of the modules is to reach SMEs on a low-threshold level to increase motivation, acceptability, and applicability of CE tools within SMEs. ITG developed these modules together with an external expert, whose knowledge, experience, and know-how are outstanding. Dr. Sonja Eser is circular design consultant and supports companies, administrations, and organisations in the development of products, processes, buildings, and areas for regenerative circular economy (https://www.sinnen-wandel.de). She will also be part of the training courses with SMEs until the knowledge building has reached an appropriate level ITG internally.
In summary, all these activities should ensure, that the modules can also be easily implemented from theory into practice to as many SMEs as possible within the region of Salzburg.

The following modules have been developed to be addressed to the SMEs:

- **Modul 1**: Raise Awareness for CE supported by digitalization (community building)
  Objective: to raise awareness of the opportunities of the circular economy through information events for specific sectors / several companies (building & construction, wood industry, recycling/water treatment, waste electronic equipment)
- **Modul 2:** Understanding the Business Case of CE
  Objective: create awareness / raise awareness of the business case of CE and digital transformation
- **Modul 3:** Circular business strategies in specific sectors (sector specific training)
  Objective: know-how transfer & sector-specific workshops (building & construction, wood industry, recycling/water treatment, waste electronic equipment) - creative process
- **Modul 4:** Finance & Investment
  Objective: advice on financing & investment options and imparting knowledge on the implications of circular business models for the financing structure of SMEs
- **Modul 5:** Networking
  Objective: regular exchange between companies (of one value chain or with similar challenges), between investors, between authorities, etc.

Title	Thematic workshops/seminars	**Start date**	11.2021
		End date	03.2022

Description

The aim of this activity is to organize local workshops/seminars with at least 17 SMEs where the developed tools (modules) are applied (in groups and/or in 1:1 workshops)

Sub-activities

- Organization of workshops with 17 SMEs (in groups and/or in 1:1 workshops)
- Definition of training modules to be applied to 17 SMEs

Results

- Modul 1 – Raise awareness is applied to at least 17 SMEs (either in groups or in 1:1 workshops)
- Modul 2 – Understanding the business case of CE is applied to at least 17 SMEs (in groups or 1:1 workshops)
- Modul 3-5 are optionally applied to 17 SMEs

1	Modul 1 – Raise awareness is applied to at least 17 SMEs (either in groups or in 1:1 workshops)	**Date**	Until 10/2021
2	Modul 2 – Understanding the business case of CE is applied to at least 17 SMEs (in 1:1) workshops	**Date**	Until 03/2022

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M o d u l e s

1. Raise awareness for CE supported by digitalization
2. Understanding the business case of CE with digital support
3. Circular business strategies in den specific sectors (sector specific training)
4. Finance & Investment
5. Networking

Not all steps are mandatory – depending on the demands/requirements of the SMEs the different modules will be applied. Just the first module is more or less mandatory because we need it to come into contact with the SMEs and to build the community.

1:1 assistance starts immediately after the first module. Module 2 is implemented in the form of a workshop but just for one company (CEO + additional employees). Module 3, 4 and 5 can be carried out either as individual 1:1 assistance or as group workshops (depending on the demands/requirements of the SMEs

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M o d u l 1

Raise Awareness for CE supported by digitalization (community building)

Objective: to raise awareness of the opportunities of the circular economy through information events for specific sectors / several companies (building & construction, wood industry, recycling/water treatment, waste electronic equipment)

Format:

- Networking event/(online) workshop
- 1-2 hours
- An event is planned and carried out for each of the three sectors
- The entire value chain is invited

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)
- Presentation of two (regional) case studies
- Q&a + discussion
- Forecast: what does Circular4.0 offer the participating companies?

Tools:

- Regional best practice cases

M o d u l 2

Understanding the Business Case of CE

Objective: Create awareness / raise awareness of the business case of CE and digital transformation

Format:

- (Online) coaching for one company - 1:1 assistance
- 2-4 hours

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

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

M o d u l 3

Circular business strategies in specific sectors (sector specific training)

Objective: Know-how transfer & sector-specific workshops (building & construction, wood industry, recycling/water treatment, waste electronic equipment) - creative process

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

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M o d u l 4

Finance & Investment
Objective: advice on financing & investment options and imparting knowledge on the implications of circular business models for the financing structure of SMEs

Format:
- Handout and possibly reference to external experts (establish contact)
- Consultation
- 1-2 hours (+ self-study)

Topics:
- Specific funding options
- Typical challenges with circular business models, product service systems and pre-financing (e.g. via expert lecture)
- Presentation of the EU taxonomy and its implications for SMEs

Tools:
- 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

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M o d u l 5

Networking
Objective: regular exchange between companies (of one value chain or with similar challenges), between investors, between authorities, etc.

Format:
- (Online) group of regulars
- Guests are invited for certain topics (e.g. topic financing: invite investors)
- Regular events & fixed dates
- 1 hour

Topics:
- General exchange between companies: state of the art, current developments
- Best Practices "Flagship Companies" from T2.2.1
- New guidelines, action plans (invitation of authorities from T2.2.4)
- Financing (e.g. investor brunch as a special format, investors from T2.4.2)

Tools:
- Networking-plattform
- LinkedIn group

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

The following tools are used for the digital maturity and the CE assessment as part of module 2: understanding the business case of CE:

- o Regional best practice cases
- o Check for linear risks and circular opportunities (based on the example of the CAS) + digi check (evaluation of contexts)
- o Katch-e CE strategist tool to help the user identify circular business opportunities and provide ideas and inspiration along the process of defining a circular business model.
- o Katch-e CE idea creation game 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
- o Moveco qualification tools – principles of circular economy & business models for the circular economy

Title	Circular CE capability/potentiality and digital maturity assessment of SMEs	Start date	10.2021
		End date	03-2021

Description
The following tools are used for the digital maturity and the CE assessment: o Regional best practice cases o Check for linear risks and circular opportunities (based on the example of the CAS) + digi check (evaluation of contexts) o Katch-e CE strategist tool to help the user identify Circular Business Opportunities and provide ideas and inspiration along the process of defining a Circular Business Model. o Katch-e CE idea creation game 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 o Moveco qualification tools – principles of circular economy & business models for the circular economy

Results			
- Circular CE capability/potentiality and digital maturity assessment is applied to at least 17 SMEs with the above defined tools within module 2: Understanding the business case of CE with digital support - check for linear risks and circular opportunities			
1	Circular CE capability/potentiality and digital maturity assessment is applied to at least 17 SMEs with the above defined tools	**Date**	Until 03/2022

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14. Identification of innovation needs and investment plan

SMEs participating in the training course will work through modules 1 & 2, as these are the obligatory modules. This means, that within a 1:1 session with the expert Dr. Sonja Eser, SMEs will be checked for linear risks and circular opportunities (based on the example of the CAS) and the digit check (evaluation of contexts). As a result, SMEs will be provided with the evaluation and the results of this check and will additionally get the circular business model canvas. Innovation needs, and – if appropriate – investment plans can be derived from these results. Each SME will 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 the expert) at least one recommendation covering any of the following aspects of the transformation of the company towards higher circularity (this means an increase of maturity level) will be developed. This recommendation with a time horizon from 6 months up to one year can for example be:

- 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)

A standardized document for the delivery of the results from the check for linear risks and circular opportunities has been developed, here is an excerpt from the results for the SME (find the whole document in annex 1):
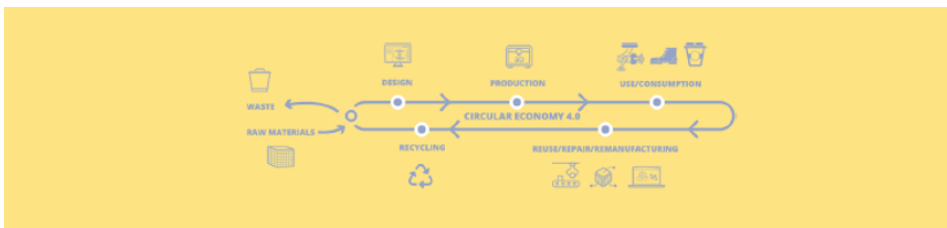
Auswertung
Nützliche Circular Strategies für Ihr Unternehmen:
(identifizierte Lösungsstrategien werden in die Grafik eingetragen, CS1-CS10)
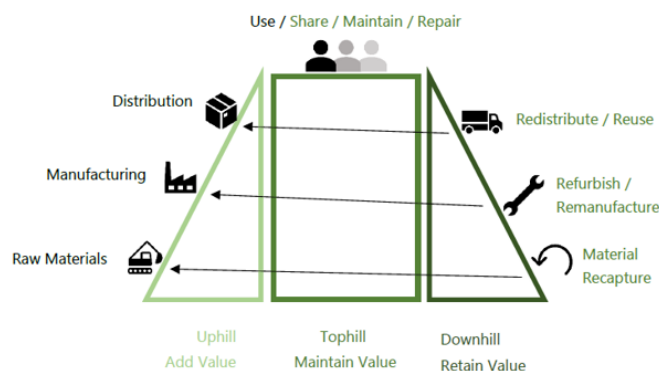
Es wird kurz umrissen, welche Gedanken dazu für das Unternehmen besprochen wurden:

Title	Identification of innovation needs and investment plan	Start date	11.2021
		End date	03.2022

Description

Each SME will receive the results based on the check for linear risks and circular opportunities. At least one recommendation covering any of the following aspects of the transformation of the company towards higher circularity (this means an increase of maturity level) will be developed. This recommendation with a time horizon from 6 months up to one year can for example be:

- 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)

Results
- 17 SMEs get the results from the check for linear risks and circular opportunities and can derive at least one recommendation for innovation needs to be implemented

1	Recommendation for innovation needs to be implemented	Date	Until 03/2022

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Indicators (KPIs) and monitoring

To measure the results of the pilot action and the progress made, various key performance indicators (KPIs) have been defined beforehand (D.T2.5.2). These KPIs are part of the company dashboard and derive from the instruments used in module 2.

Additionally, the trainee's level of satisfaction, maturity improvements, and the impact on CE related to the pilot action are part of the monitoring.

To document the trainee's level of satisfaction, the participating SMEs will fill in a short questionnaire before the workshop takes place. This is also important to identify the expectations from and needs of the SMEs beforehand. After the workshop(s) took place, SMEs will fill in another questionnaire to ask for their satisfaction, if their expectations were fulfilled and if an added value was created to the company. Additionally, SMEs are asked, if they are motivated to further push the implementation of CE and if the contents and tools within the workshop were clear, practicable, understandable, and applicable. Participants are asked if all relevant topics have been covered, if the content is applicable to the company environment. Finally, SMEs are asked If they were satisfied with the organisation of the workshop, with the workshop instructor and with the duration of the workshop.

The exact tools for the measurement of maturity and the impact on CE will be defined later depending on the SMEs selected.

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

Type:	**T -Template/ R- Report, AUREAE**
Dissemination level:	**CO = confidential**
Revision:	**DRAFT 02**
Due Date:	**26/11/2021**
Date of submission:	**26/11/2021**

Overview of the local pilot action – AUVERGNE RHONE ALPES ENTREPRISES

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**

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

    Our agency is missioned by the Auvergne-Rhône-Alpes Region to support companies of the industry and service to industry sectors.
    We have identified 10 000 SME's that have significant size or activity that we follow and support. Among them, 300 have been identified as "High potential" because of the progression of their turnover, their activity, and projects.
    For the pilot action, we finally decided not to focus on a particular sector nor to a particular CE approach but to open it to all the interested companies.
    The first criteria is the motivation of the CEO. We have noticed that companies that engage in the circular economy often do so out of the manager's conviction and it is the best way to get results.

- **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.

    We build our pilot actions on different levels:
    - Circular industry path, the core of the pilot action, dedicated to support 25 SMEs with collective training and individual support
    - Intervention in events organized by partners, during which we present our tools and the circular industry path
    - Tools developed during the WP2, that are used to support the 25 SMEs but also other companies interested.
    - Actions to raise awareness on CE internally.

    The main action of our pilot action is the **Circular Industry Path,** aimed at raising awareness of SMEs on CE and helping them to define a roadmap to CE. It is a first step in CE, and this path has to be followed up by complementary support to implement the roadmap.

    GOALS and ADDED VALUE For the SMEs:

    - Anticipate the challenges of ecological transition
    - Understand what the circular economy is for industrial companies & identify opportunities
    - Imagine how to integrate this concept into their business

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- Identify if digital tools make it possible to facilitate its deployment
- Launch a meaningful project within the company
- Define their priorities and build a circular economy roadmap
- Differentiate and gain in competitiveness

The program is composed of these elements:

1. A webinar to introduce CE
2. CE Assessment
3. One-day training workshop
4. One day of individual support for each company by a consultant to define the action plan for the company,
5. Personalised **support by a project manager from AURA Entreprises** to deploy the action plan

⇨ **25 SMEs** engaged in the **pilot action Circular Industry path** that started at the end of August and will end by the end of the year
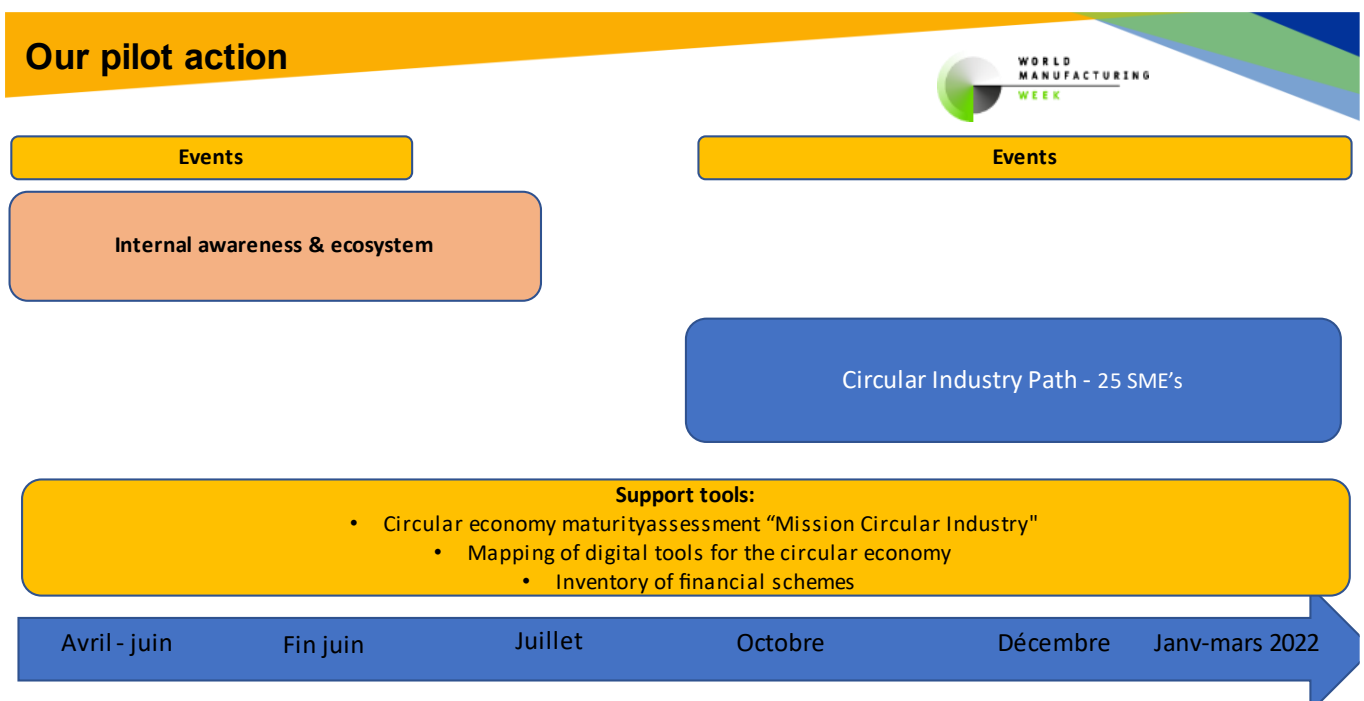
Our pilot action

| Events | Events |

Internal awareness & ecosystem

Circular Industry Path - 25 SME's

Support tools:
- Circular economy maturityassessment "Mission Circular Industry"
- Mapping of digital tools for the circular economy
- Inventory of financial schemes

| Avril - juin | Fin juin | Juillet | Octobre | Décembre | Janv-mars 2022 |

- **Expected results**
  This section shall explain the benefit / added value expected for the SMEs.

With the program and pilot actions, the strategic objectives for our agency are to:

- Acquire tools to support companies towards the circular economy
- Propose complementary tools compared to already existing tools we already have to support SMEs
- Continue to build internal skills on these 2 priority themes: circular & digital economy

- Affirm our position in the ecosystem on these digital and circular economy topics

The pilot action will be successful if:

- The CEOs of the SMEs are motivated to carry on working on CE
- Companies have defined an action plan towards CE and have initiated at least 1 concrete action or a support program
- The program is followed by studies, investments, R&D programs

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

15. Selection/identification of SMEs

We decided to open widely the circular industry path.
We first sent an e-mail (cf following page) to all our 300 high potential SME's. We thought they could be interested in exploring CE, and that the size and potential of the companies could be relevant. The project managers of the agency also relayed this offer to the companies they were referent for.
The companies had to fill in a formular to explain their motivation and stakes for CE.
One month later, 10 high potential companies had filled the formular.
We than decided to open the program to all the SMEs that are supported by our agency. The e-mail was sent to 10 000 companies and relayed also by the agency project managers.
In 2 days, 15 companies answered and we closed the inscriptions.

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Parcours Industrie Circulaire

Intégrez les enjeux de demain dans votre business model grâce à l'économie circulaire

20 PLACES

Gratuit, car financé par le dispositif Interreg Alpine Space

Transitions écologique et numérique sont deux enjeux majeurs pour les entreprises.

85% des industriels considèrent l'économie circulaire comme une opportunité !*

Et vous ?

L'Agence vous propose de participer à ce **parcours de formation-action inédit.** Court et pragmatique, il vous permettra de :
- Comprendre ce qu'est l'économie circulaire pour les entreprises industrielles & d'identifier les opportunités
- Imaginer comment intégrer ce concept dans l'entreprise
- Identifier si des outils digitaux peuvent faciliter son déploiement
- Définir vos priorités et construire une feuille de route économie circulaire

Démarrage à partir de juillet ! Date limite d'inscription 28 juin

En savoir plus   **Inscrivez-vous**

(* source : étude Inec – Opeo « Pivoter vers l'industrie circulaire », avril 2021 sondage mené auprès de 63 acteurs industriels)

Contact : Isabelle Clouet - iclouet@arae.fr | 06 70 90 59 92

16. **Thematic workshops/seminars**
   This activity regroups the CAT2.0 or other training modules selected by the partners and addressed to SMEs.

The program is composed of these elements:

1. A w**ebinar to introduce CE:** by our CE expert: 2 sessions programmed: 24/08/21 and 12/10/21
2. **CE Assessment: online on our website** – each SME fills in the assessment before the training
3. **One-day training workshop:** by consultant OPEO to understand how to integrate CE in the business model of the company: 3 sessions programmed: 31/08; 1/09 and 19/10/2021
4. **One day of individual support for each company** by a consultant: to define the action plan for the company – From October 2021 to end of January 2022.
5. **Personalized support by a project manager from AURA Entreprises:** to deploy the action plan The project managers also attend the one-day individual support and can contribute with their knowledge of the economic local actors, public programs or other interesting connections.

In April 2021, we published a tender to select consultants to:
- Lead the 3 trainings. We selected the consulting firm OPEO, that has a strong industry experience and had just published a survey called "Pivoting towards Circular economy" with the French national institute for CE.
- Support the companies. Due to the number of companies to support (25), we selected 5 consulting firms for their experience on CE and the methodology they proposed.

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

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

We decided to mix CE and digital maturity in a single assessment we called **Mission « Circular Industry »** we developed internally, inspiring by the assessment proposed by IJS and other French tools. Our objective was to propose a simple and pragmatic tool adapted for SMEs.
This tool is available on our website: https://auvergnerhonealpes-entreprises.fr/testez-votre-maturite-sur-leconomie-circulaire
Through around forty questions, the company can assess its level of maturity in each of the circular economy's areas of action and consider whether digital tools can facilitate its deployment.
We developed the assessment on the Eval&Go platform, that can allow us to get easily a synthesis of the results.

For the digital part of the program, we also developed a **mapping of regional digital solutions** for the circular economy. We identified 100 solutions that meet the challenges of the circular economy, most of them are regional but we also added national solutions for very specific needs.

The solutions are presented on the PowerBI Platform.

18. 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
Description Describe here the activity			

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Add sub-activities if necessary			

Results			
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	Example: 3 online workshops …	**Date**	
2	Example: 1 call for applications	**Date**	
3	Example: 25 CE+digital maturity assessments of SMEs	**Date**	
n		**Date**	

Each company that follows the Circular Industry path has to sign a participation contract to commit to follow the support. This document also aims to promote the European funding of the program.

At the end of each individual one-day support, the deliverable of the consultant is:

- a roadmap to CE
- an action plan for the next 3-6 months

The Agency project managers contribute also by:

- identifying if complementary support is needed: other relevant public schemes or financing schemes.
- identifying if digital tools could be relevant to deploy the action plan, with the help of the mapping of the 100 solutions.

We prepared a specific document for these purposes that we enclosed in Annex ("Bilan & feuille de route").

At the end of the pilot action, we will be able to measure the number of companies:

- that followed the Circular Industry path
- that filled the "mission Circular industry" assessment and their CE maturity
- that launched new CE projects.

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).

⇨ We will use the tool proposed below by the program at the end of the pilot action to measure the results.

	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*	

ANNEX - CIRULAR INDUSTRY PATH

Auvergne Rhône-Alpes Entreprises | **Interreg Alpine Space** Circular4.0

Innovation

Parcours gratuit

Parcours Industrie Circulaire

Participez à un parcours de formation-action gratuit pour intégrer les enjeux de demain dans votre business model, grâce à l'économie circulaire.

✓ **85%* DES INDUSTRIELS CONSIDÈRENT L'ÉCONOMIE CIRCULAIRE COMME UNE OPPORTUNITÉ !**

ET VOUS ?

Transitions écologique et numérique sont deux enjeux majeurs pour les entreprises.

Une gestion efficace de vos ressources peut vous permettre de tendre vers une industrie flexible, performante et responsable. A cet effet, l'économie circulaire et les outils digitaux sont de précieux leviers pour repenser vos procédés, produits et services.

Dans le cadre du programme européen Circular 4.0, Auvergne-Rhône-Alpes Entreprises vous propose un parcours de formation-action inédit pour engager votre entreprise vers l'économie circulaire.

APPROVISIONNEMENTS & SUPPLY CHAIN DURABLES

MATIÈRES PREMIÈRES

ÉCOCONCEPTION

PRODUCTION EFFICIENTE

ECONOMIE CIRCULAIRE 4.0

ÉNERGIES LOCALES

RECYCLAGE

ÉCONOMIE DE FONCTIONNALITÉ

ALLONGEMENT DE LA DURÉE D'USAGE

*source : étude Inec - Opeo « Pivoter vers l'industrie circulaire », avril 2021 sondage mené auprès de 63 acteurs industriels

La Région

POUR QUI ?

- **20 Entreprises industrielles** situées sur le territoire de l'ex région Rhône-Alpes, souhaitant identifier les opportunités offertes par l'économie circulaire et désirant s'engager dans cette démarche
- **Dirigeants ou membres de comités de direction**

POURQUOI PARTICIPER AU DISPOSITIF ?

- Anticiper les enjeux de la transition écologique
- Comprendre ce qu'est l'économie circulaire pour les entreprises industrielles & identifier les opportunités
- Imaginer comment intégrer ce concept dans son entreprise
- Identifier si des outils digitaux permettent de faciliter son déploiement
- Lancer un projet porteur de sens au sein de votre entreprise
- Définir vos priorités et construire une feuille de route économie circulaire
- Vous différencier, gagner en compétitivité

L'ÉCONOMIE CIRCULAIRE ?... ÇA DOIT ÊTRE UNE ÉCONOMIE AVEC DES RONDS... BEAUCOUP DE RONDS OU PAS UN ROND... ÇA VIENT SANS DOUTE DE LÀ !...

CONTENU

- **Un webinaire** d'introduction à l'économie circulaire
  > 2 sessions : 24 août - 14 octobre

- **Un diagnostic** « Mission Industrie circulaire » pour tester votre maturité sur le sujet

- **Un atelier de formation d'une journée** autour de mises en situation et cas pratiques pour identifier les opportunités offertes par l'économie circulaire & les clés pour l'intégrer au modèle de l'entreprise L'atelier sera animé par le cabinet OPEO et se basera sur de nombreux exemples tirés de l'étude « Pivoter vers l'industrie circulaire », menée auprès de 63 industriels.
  > 3 sessions : 31/08 : Le Bourget du lac – 01/09 : Lyon – 19/10 : Lyon

- **Une journée d'accompagnement individualisé** par un consultant expert pour définir votre feuille de route économie circulaire.
  > A partir de septembre

A l'issue du programme, l'Agence vous propose un accompagnement personnalisé pour la mise en œuvre de la feuille de route établie (mise en relation partenaires, prescription de dispositifs d'accompagnement et financiers, recherche d'outils digitaux pertinents pour faciliter le déploiement de l'économie circulaire).
> A partir de septembre

DATE LIMITE D'INSCRIPTION :
20 JUILLET 2021

POUR EN SAVOIR PLUS :

Isabelle CLOUET
iclouet@arae.fr - 06 70 90 59 92

Formulaire de candidature :
https://cutt.ly/HbbdAnH
Nombre de places disponibles : 20

ENTREPRISE :

ACTIVITE :

CONTACT (Nom & fonction) :

Date du bilan :

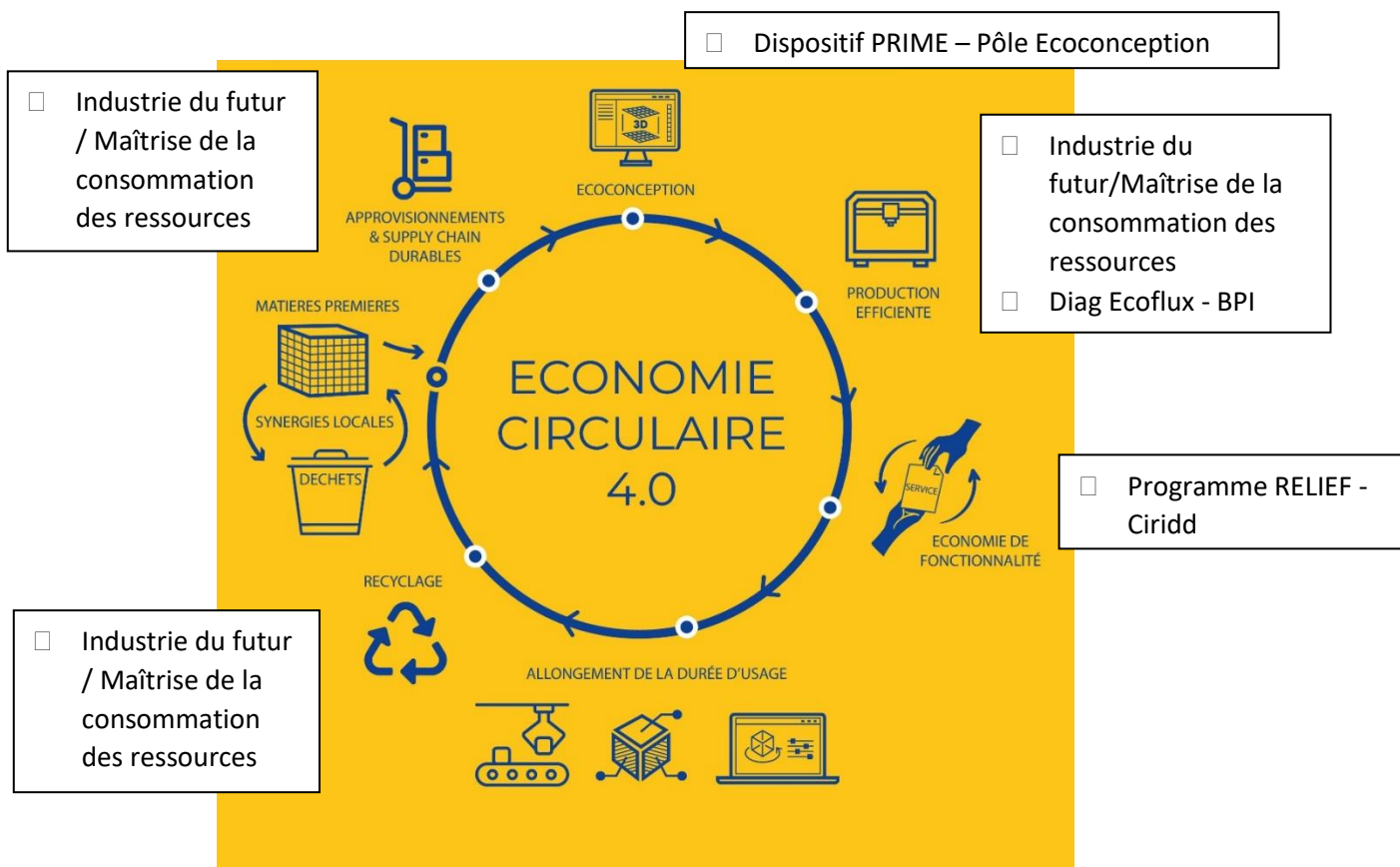**NOTRE FEUILLE DE ROUTE ECONOMIE CIRCULAIRE (***format libre selon méthodologie consultant)*

Plan d'actions pour les 3 à 6 prochains mois :

Besoins d'accompagnement complémentaire :

Pour mener à bien sa feuille de route, quels sont les besoins d'accompagnement complémentaires de l'entreprise ?

A-t-elle besoin de compléter l'accompagnement par l'un des programmes suivants ?

☐ Dispositif PRIME – Pôle Ecoconception

☐ Industrie du futur / Maîtrise de la consommation des ressources

☐ Industrie du futur/Maîtrise de la consommation des ressources
☐ Diag Ecoflux - BPI

☐ Programme RELIEF - Ciridd

☐ Industrie du futur / Maîtrise de la consommation des ressources

Plus d'informations sur les programmes :

☐ Industrie du futur / Maîtrise de la consommation des ressources :
file:///C:/Users/ICLOUE~1.AGE/AppData/Local/Temp/INDUSTRIE_DU_FUTUR_AMELIORATION_PROCE
DES_PRODUIRE.pdf

☐ Dispositif PRIME – Pôle Ecoconception : https://www.eco-conception.fr/static/PRIME-ecoconception-
AURA.html

☐ Programme RELIEF – CIRIDD : https://www.ciridd.org/appui-a-l-innovation-et-animation-
territoriale#relief

☐ Diagnostic EcoFlux BPI: https://diagecoflux.bpifrance.fr/

QUESTIONNAIRE DE SATISFACTION:

CONTACT (Nom & fonction) :

	- -	-	+	++
Comment évaluez-vous le contenu de la formation ?				
Connaissance du sujet et pédagogie de l'intervenant				
Comment évaluez-vous le contenu de la journée d'accompagnement individuel?				
Connaissance du sujet et pédagogie de l'intervenant				
Que pensez-vous du degré de transfert dans votre entreprise ?				
Ce parcours vous a t'il fourni des outils pratiques et méthodologiques pour avancer vers l'économie circulaire?				
Comment évaluez-vous l'organisation du parcours ? (durée, logistique…)				
Ce parcours a t'il répondu à vos attentes ?				

Commentaires :

Suggestions d'améliorations :

1. **Outils numériques pour l'économie circulaire?**

Au regard de la feuille de route et des projets de l'entreprise, y a-t-il des outils numériques qui pourraient faciliter le déploiement de l'économie circulaire ?

2. Bilan des actions réalisées par l'entreprise suite au parcours Industrie circulaire

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

Type:	**T -Template/ R- Report, Rising SUD**
Dissemination level:	**CO = confidential**
Revision:	**DRAFT 02**
Due Date:	
Date of submission:	

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Overview of the local pilot action - Région SUD Provence-Alpes-Côte d'Azur (RisingSUD)

- **Local context and CE approach**

As risingSUD was a member of the Ecodesign transnational working group, this approach was kept while selecting the companies and coaching them. The aim was to look at the earliest stage of the lifecycle of products and services offered by the companies. However, some sectors were added to the initial list of sectors targeted. Initially, risingSUD targeted the food and water sector. If some companies belonged to that sectors other were added, consistent with 3 of the 8 key strategic sectors of Région SUD Provence-Alpes-Côte d'Azur: Natural living (including food and water), Blue economy and Industry.

- **Methodology**

The program is composed by two different parts:

1- Initiation (11th June- 19th of November)

5 collective online workshops are organised covering module 0,1 and 3 of the CAT, with a slight adaptation with an adapted auto diagnosis. It is open to all companies with no selection process. The workshop was organised in close cooperation with OPEO and Institut national de l'économie circulaire, two organisations that are experts in circular economy. The goal was twofold: assess the maturity of the companies in the region, and inform them about the potentialities of circular economy, and Circular4.0 project.

Several on site one-to-one workshops covering module 2, 4, 5 with a restitution workshop to validate with the company the transformation plan covering modules 6, 7. These workshops meetings are either animated by risingSUD and its partner the Chamber of Commerce of Provence-Alpes-Côte d'Azur. Companies apply with an Expression of interest. The applications of the companies are validated by a selection committee composed by members of Région SUD Provence-Alpes-Côte d'Azur and risingSUD.

2- Acceleration (19th of November- 28th of February)

Selected companies selected among the companies of the first phase benefit from a one-to-one support by an expert selected through a dedicated tenure to implement one prioritary action of the action plan. The companies benefit from 5 days of consulting services.
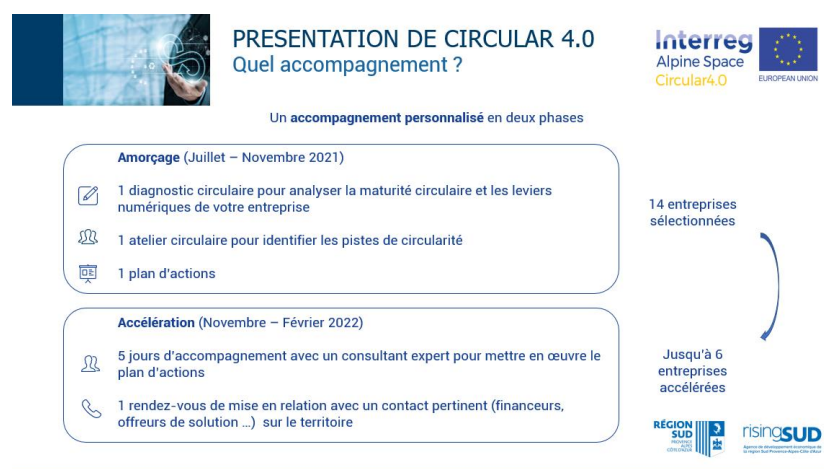
- **Expected results**

After the "Initiation phase" phase, companies should:

- Understand, rethink and accelerate their transition toward circular economy thanks to the online workshop
- Have a diagnostic report on their circular and digital maturity
- Have a complete transformation plan and know what actions to undertake on their own, require further assistance to be implemented.

After the "Acceleration" phase, companies should have worked with a consultant on one prioritary action of the action plan and get at least one contact with an investor or solution provider.

Planned activities

19. Selection/identification of SMEs

Title	Identification / identification of SMEs	Start date	06.2021
		End date	10.2021

Description

risingSUD launches a series of collective online workshops between June and October 2021, in order to inform companies about the potentialities of circular economy, and Circular4.0 project.

During this period of time, the selection committee meets several time to select the companies that will benefit from the one-to-one coaching service. This committee is composed by member of risingSUD and members of Région SUD Provence-Alpes-Côte d'Azur.

Results

4 online workshops

14 companies to be selected

1	Online workshop #1	**Date**	06.2021
2	Online workshop #2	**Date**	06.2021
3	Launch of the call for applications	**Date**	06.2021
4	Online workshop #3	**Date**	07.2021
5	Selection committee #1	**Date**	07.2021
6	Selection committee #2	**Date**	10.2021
6	Online workshop #4	**Date**	09.2021
7	Selection committee #3	**Date**	09.2021
9	Selection committee #4	**Date**	10.2021

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L'ACCOMPAGNEMENT CIRCULAR 4.0
Comment candidater ?

1. Répondre à l'appel à manifestation d'intérêt : https://sphinxdeclic.com/d/s/n0910m

2. L'équipe CIRCULAR 4.0 vous rappelle pour vérifier les conditions d'éligibilité et demander les éléments complémentaires du dossier de candidature

3. Compléter le diagnostic circulaire

4. Le comité de sélection CIRCULAR 4.0 valide les candidatures au fil de l'eau

Jusqu'au 30 septembre

20. Thematic workshops/seminars

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

Title	Collective workshop for the selected SMEs	Start date	10.2021
		End date	11.2021

Description

For the selected companies that did not attend the online workshop, a specific session is organised. The goal is the same that the previous online workshop: inform companies about the potentialities of circular economy.

Results

1 online workshop

1	Online workshop #5	Date	10.2021

Title	One-to-one workshops and transformation plans	Start date	10.2021
		End date	11.2021

Description

For the selected companies, one-to-one workshops are organised to coach individually the companies toward more circular business models. These workshops are adapted according to the level of maturity of the project as described in the CAT: either a workshop of identification of the sources of circularity in their organisation and business model or an assessment of the potential of the transformation project.

Results

14 one-to-one workshops to identify with the company the sources of circularity / assess the potentiality of the potential transformation project

14 transformation plans with one priority action

1	Launch of the one-to-one workshops and transformation plans	Date	09.2021
2	End of the one-to-one workshops and transformation plans	Date	11.2021

Title	Final selection of SMEs the implementation of the priority action of the transformation plan	**Start date**	11.2021
		End date	11.2021

Description

The selection committees meet one last time to select the companies that will benefit from the one-to-one assistance to implement their transformation plan. To be selected for this second phase, companies must fill a letter of intent describing the priority action to put in place and committing to full investment to the program.

Results

6 companies to be selected

1	Selection committee #1	Date	11.2021

Title	Implementation of the priority action of the transformation plans	**Start date**	11.2021
		End date	03.2022

Description

The final selection of companies benefits from 5 days of assistance by an expert to implement the priority action identified in the action plan. The experts are selected by risingSUD after a tenure, based on their quality of their proposal, their competence in the field as well as the price.

Results

6 priority actions of the action plan implemented

1	Launch of the tenure for experts to assist companies	Date	11.2021

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2	Selection of the experts	Date	12.2021
3	Launch of the One-to-one assistance for the implementation of the transformation plans	Date	12.2021
4	End of the one-to-one assistance for the implementation of the transformation plans	Date	03.2022

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

To assess the Circular and the digital maturity, risingSUD uses a diagnosis derived from the tool built from the project. It was built in close cooperation with the French partners of the project to adapt to the specificities of the three regions (language, size of companies etc.). This diagnosis indicates:
- the leverage to be used in order to remove the breaks to initiative or accelerate the transition towards circular economy
- some initial lines of enquiry for the sources of circularity in their business model and organisation
- the application potential of digital tools to facilitate the implementation of circular economy actions
risingSUD uses the online tool "eval&go" to enhance the accessibility of the diagnosis and get a clean report.
Companies can fill the questionnaire either with the help of risingSUD during the collective online workshop or a one-to-one workshop, or by themselves. In any case, a link to access the questionnaire is provided to them to access the online questionnaire.
Each company assessed with this diagnosis receives a detailed report with some elements of analysis.
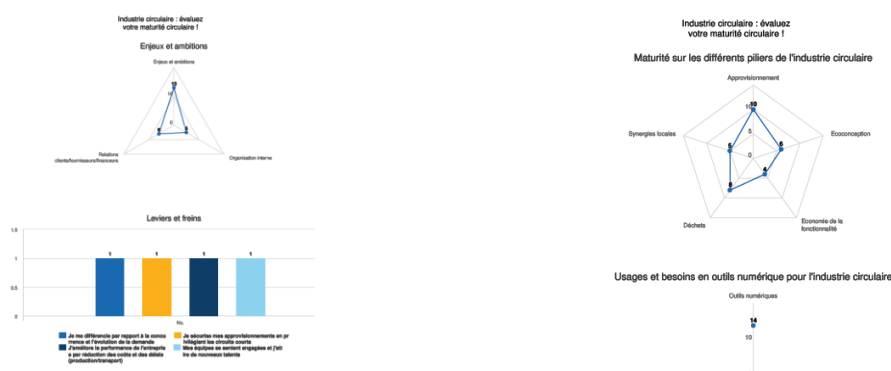
22. Identification of innovation needs and investment plan

As described before after the "Initiation phase" phase, companies should receive a complete transformation plan (from 6 to 12 months) mentioning which actions to undertake on their own, and which actions require further assistance to be implemented. This transformation plan is the result of the one-to-one workshop with the company, and may encompass either new or improved process, products, services or business model. It may be digitally supported if necessary and may require the adoption of a new technology.
This transformation plan is given to the company in the form of a PowerPoint presentation or a word document.

After the "Acceleration" phase, companies should have worked with a consultant on one priority action of the action plan and get at least one contact with an investor or solution provider.

Indicators (KPIs) and monitoring

RisingSUD will use the data retrieved by diagnosis tool at the beginning to measure an initial level of maturity on the circular and digital aspects and compare it with the results with selected questions from the same diagnosis tool at the end of the pilot action. It will be associated with questions analysing the progress regarding the main challenges identified, as well as the future actions of the action plan to be implemented. Finally, general question will be added to improve the support scheme, and possible ways of improvements.

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.T3.2.1 Local actions to implement CE Design Model approaches with digitalisation processes

Reporting on local pilot actions – Confindustria Bergamo

Author: Marzia Morgantini, Sara Guerrini. PP12 – Confindustria Bergamo

Version: FINAL

Month, YEAR: June, 2022

Table of contents

Introduction

The pilot actions have the purpose to increase attitude by SMEs to eco-innovation, to innovate business models and products for reuse and recycling starting from traditional business and production processes. The working groups will develop feasibility plans for setting-up local service providers addressed to SMEs, establish services to increase attractiveness by investors and propose new financial schemes by Public Actors.

Specifically, the present deliverable displays for the local pilot action in Lombardy the:

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

Local pilot actions: Lombardy, Confindustria Bergamo - Overview

Local context and CE approach

The local context of the local actions encompasses enterprises from the Bergamo province. The targeted companies are SMEs from the manufacturing sector, although some larger enterprises have also been considered. The assessments have allowed to evaluate the state of the art and the workshops have allowed to understand how to improve in three areas:
- design of new actions and strategies connected to the circular economy
- optimal use through benchmarking companies and optimizing what enterprises already use
- value recovery to implement trivial actions such as the reduction and recovery of waste finalized at recovering the value that was previously lost

Methodology

The project described here has the general objective of developing, testing and applying a tool for assessing the maturity of companies in terms of Circular Economy, integrating considerations on digitalization. Broadly speaking, the project has followed 4 main phases:
- Selection of companies and project activation
- Application of the Circular Economy and Digital Maturity Assessment tools to the mapping of virtuous companies associated with Confindustria Bergamo and identification of areas for improvement through 1:1 meetings to be organized in the company
- Development of a final benchmarking report among the companies analyzed, presented in a final dissemination event

Identification and involvement of the SMEs for the Pilot Action

For the initial involvement of companies in the pilot actions, a newsletter has been sent out by Confindustria Bergamo to all associated companies to invite them to participate to the Circular 4.0 project. Moreover, we organised an event where we invited prof. Albachiara Boffelli from the University of Bergamo to talk about the importance of integrating the concept of circular economy into the business model and spread awareness about the opportunity to participate to the Circular 4.0 project. After this initial round of call we engaged some of our associated companies, however, this was not sufficient to reach our planned target. We therefore contacted some companies that had previously done the Digital Maturity Assessment with us to know whether they were interested in taking the Circular Economy Assessment and thus receive guidelines on how to improve based on an integration of the two assessments. Some emails were also sent out by the University of Bergamo to our associated companies who had previously engaged with them on projects related to circular economy.

The combined effort from these actions allowed us to reach the target of 16 enterprises for the Circular Economy Assessment (of which 12 also undertook the Digital Maturity Assessment) and 16 enterprises for the Digital Maturity Assessment (for a total of 32 companies assisted throughout the period).

Implementation report

Title	Selection and identification of SMEs	Start date	11/2021
		End date	12/2021

Description

For the initial involvement of companies in the pilot actions, a newsletter has been sent out by Confindustria Bergamo to all associated companies to invite them to participate to the Circular 4.0 project. Moreover, we organised an event where we invited prof. Albachiara Boffelli from the University of Bergamo to talk about the importance of integrating the concept of circular economy into the business model and spread awareness about the opportunity to participate to the Circular 4.0 project. After this initial round of call we engaged some of our associated companies, however, this was not sufficient to reach our planned target. We therefore contacted some companies that had previously done the Digital Maturity Assessment with us to know whether they were interested in taking the Circular Economy Assessment and thus receive guidelines on how to improve based on an integration of the two assessments. Some emails were also sent out by the University of Bergamo to our associated companies who had previously engaged with them on projects related to circular economy.

The combined effort from these actions allowed us to reach the target of 16 enterprises for the Circular Economy Assessment (of which 12 also undertook the Digital Maturity Assessment) and 16 enterprises for the Digital Maturity Assessment (for a total of 32 companies assisted throughout the period).

Results			
1	Identification of SMEs	**Date**	Jan-Feb 2022

Title	Thematic workshops	Start date	06/2021
		End date	06/2021

Description

    The Local training Actions were organized in two different Front-desk modules:

1.   Front-desk module 1 were addressed to the internal resources of Confindustria Bergamo that are involved in the Circular Acceleration Training 4.0 (CAT4.0) and in the Pilot actions, in particular in the implementation of the Digital Maturity Assessment (DMA). The module were scheduled for the 25th June 2021 and consisted in a meeting of three hour in a classroom of Confindustria Bergamo dedicated to the training activities.

2.   Front-desk module 2 were addressed to the University of Bergamo that were involved in the Pilot action, and in particular in the implementation of the Circular Assessment Score (CAS) and in the construction of the Circular Business Model Canvas. The module were scheduled for the 29th June 2021 and was implemented through an online Teams meeting of four hours.

The front-desk modules were supported also by an online course (OCT training course) that was available on the platform TalentLMS. The online course was composed by eight modules of one hour each; the materials and information provided by the Talent platform were fundamental for the correct implementation of services dedicated to the SMEs: the training activities (CAT4.0) and the pilot action (implementation of the assessment tools and the circular business model canvas).

Results			
1	Front-desk module 1	**Date**	25/6/2021
2	Front-desk module 2	**Date**	29/6/2021

Title	Digital and circular maturity assessment	**Start date**	09/2021
		End date	05/2022

Description

Regarding the digital maturity assessment, Politecnico di Milano and Assoconsult have developed an online self-assessment tool Test Industria 4.0, available free of charge on the website: http://preparatialfuturo.confindustria.it/digital-innovation-hub/check-aziendale-online/ . We have assisted the companies in taking this assessment through 1:1 meetings.

The Industry 4.0 Test provides a first indication of the digital maturity of a company, with the intention of photographing its positioning with respect to the possibilities offered by the Industry 4.0 logic. The level of maturity is measured against four dimensions of analysis (Execution, Monitoring and Control, Technologies and Organization) in the processes that form the value chain of a company.

The tool used for the Circular Economy Assessment is the CAS 2.0, modified by the University of Bergamo. Companies received 1:1 assistance by researchers from the University of Bergamo to make sure they would understand the questions and give the most accurate answers.

Results			
1	16 Circular Economy Assessments with the University of Bergamo (of which 12 were integrated with the Digital Maturity Assessment that was done in the same period or in a previous period) comprising the questionnaire and preliminary report	**Date**	Feb-Apr 2022
2	28 Digital Maturity Assessments comprising the questionnaire and a thoroughly elaborated report	**Date**	Sept-Apr 2022 *
	(32 companies were assisted in total)		
	*some companies have done the DMA in previous years, however those were considered relevant for the integration with the Circular economy assessment		

Title	Identification of innovation needs and roadmap for improvement	**Start date**	05/2022
		End date	06/2022

Description

The team of researchers from the University of Bergamo has produced a final report with guidelines for improvements for all the companies that have done the Circular Economy Assessment, and , where available, they have integrated those results with the Digital Maturity score. A final report has also been produced to give an overview of the results of the whole pilot actions, which will be presented in the capitalization workshop on the 7th of June 2022.

Results			
1	An in-depth report with guidelines for improvement for each of the 16 companies that have undergone the CAS with the University of Bergamo	**Date**	05/2022
2	One final report summarising the results of the pilot actions	**Date**	05/2022

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

We deviated from the pilot action plan in the following way:

1. We did not only involve SMEs in our identification process, in fact, also larger enterprises participated to the pilot actions. This is because our newsletter is sent out to all companies associated, and, after verifying that it was hard to get strictly only SMEs on board, we opened the call to larger enterprises too in order to reach a larger audience.

Communication activities implemented to support the pilot action

Beside the open calls reported in section 3, we advertised the opportunity to participate to the Pilot Actions through a 'morning -coffee talk' on Circular Economy available on our YouTube channel https://www.youtube.com/watch?v=RqWKS1R7BG4 . Further materials in Annex III.

A news article explaining the Circular 4.0 project and containing an interview from one of the researchers from the Bergamo University team was also released. Annex IV.

Summary of the achievements - lessons learnt

Achievements

With reference to the KPIs identified in the pilot actions plan, we report numbers achieved at the end of the reporting period (13th May 2022):

1. Selection/identification of SMEs:

    - Number of identified SMEs : after the newsletter was sent out to all associated companies, 40 SMEs (including some enterprises were contacted by us individually. 16 of them then decided to undertake the Circular Economy Assessment with the University of Bergamo. 12 of these had also taken the Digital Maturity Assessment before)

    - Identification went as planned, as we clearly stated that we would be referring to our internal database of associated companies, which did not undergo any significant change during the period.

2. Thematic workshops/seminars:

    - Number of workshops: 2

    - Average number of participants: 10

    - Workshops and number of participants went as planned, with no significant deviation from the quantitative target set at the beginning.

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

-        Number of SMEs that were assessed with the Digital Maturity Assessment: 28

-        Number of SMEs that were assessed with the Circular Assessment Score: 16

- If we consider all companies that have taken either the DMA or the CAS, or both, we reached out to a much greater number of companies than initially planned. Since we reported 15 companies as our initial target, in any case, we went beyond that target.

Identification of innovation needs and investment plan:

-        Number of SMEs that participated in the post-assessment workshop: 16

-        Average number of improvement actions/innovation identified per company: 1

- This target is in line with the one we set before starting the pilot actions, as we were planning to give specific guidelines for improvement to each of the company that would have taken the Circular Economy Assessment. As many of the companies who participated were already doing well in terms of Circular Economy approaches , we tried to suggest at least one further incremental step that could help them do even better. It was easier, instead, to find more than one improvement opportunity for companies that were at their first stage with circularity approaches.

Lessons learnt

Through the parallel assessment of digital and circular maturity, companies were able to auto-assess their readiness with respect to the green and digital transitions, which is relevant to drive investments in the short term.

The assessments themselves were very useful in helping companies brainstorm and reflect on their internal organisation, and the 1:1 discussions were often a great opportunity to generate new ideas as the companies could reflect on some aspects they did not previously think about. Overall, the assessments were great ways to support internal decision makers in thinking out of the box.

The benchmarking report allowed SMEs to achieve a deeper understanding on their current digital and circular state related to other companies in the same area. The individual report will also guide each company in evaluating best investment opportunities to gain a competitive advantage by integrating more circular processes/products and become more digitalized.

Overall, we want to highlight that it has been hard to involve companies that have not started digitalisation or circularisation processes yet. Most of the companies who took part to the assessments, especially the Circular Economy Assessment, had already made some more or less significant steps in those directions. Hence our sample of participants can be defined as biased towards a more positive picture of circularity and digitalization in the Bergamo area than it actually is in reality.

Annex

https://www.confindustriabergamo.it/comunicazioni/circolari?id=120590

CONFINDUSTRIA BERGAMO

Circolare	DIREZIONE
n° 2022/115	INNOVAZIONE TECNOLOGICA E ORGANIZZATIVA
11 Febbraio 2022	

Circular 4.0 - Misurazione integrata dei livelli di economia circolare e digitalizzazione aziendale

Grazie ad una collaborazione a livello europeo e con il supporto dell'Università di Bergamo, Confindustria Bergamo ha sviluppato un assessment con lo scopo di misurare il livello di **integrazione dei concetti dell'Economia Circolare** all'interno dei modelli organizzativi e dei processi aziendali in ottica digitale.

Partecipando a questa iniziativa, attraverso un incontro di due ore, l'azienda ha la possibilità di:

- **Acquisire maggiore sensibilizzazione sui concetti della Circular Economy** e su come essa sia abilitata dalla **trasformazione digitale e dall'industria 4.0;**
- **Compilare l'assessment** con il supporto di ricercatrici universitarie e discuterne immediatamente i risultati per **individuare possibili azioni di miglioramento;**
- **Sviluppare e testare** una **serie di strumenti** in grado di favorire il contributo delle logiche dell'Industria 4.0 per il passaggio delle PMI all'economia circolare, con particolare attenzione ai modelli di **design circolare, modelli di utilizzo ottimale, modelli di recupero valore.**

Questa iniziativa contribuisce inoltre a sviluppare un **piano d'azione a livello europeo** per contribuire alla transizione verso l'economia circolare da parte delle **PMI,** attraverso una maggiore digitalizzazione.

Per approfondimenti sul progetto vi invitiamo a visitare la pagina **https://circular40.eu/**

Per ulteriori informazioni e per partecipare all'assessment, vi invitiamo a contattare Giada Barzaghi all'indirizzo **g.barzaghi@confindustriabergamo.it**

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Alpine Space
Circular4.0

Annex II: open call to enterprises associated to Confindustria Bergamo to participate in the Circular 4.0 local pilot actions – awareness event
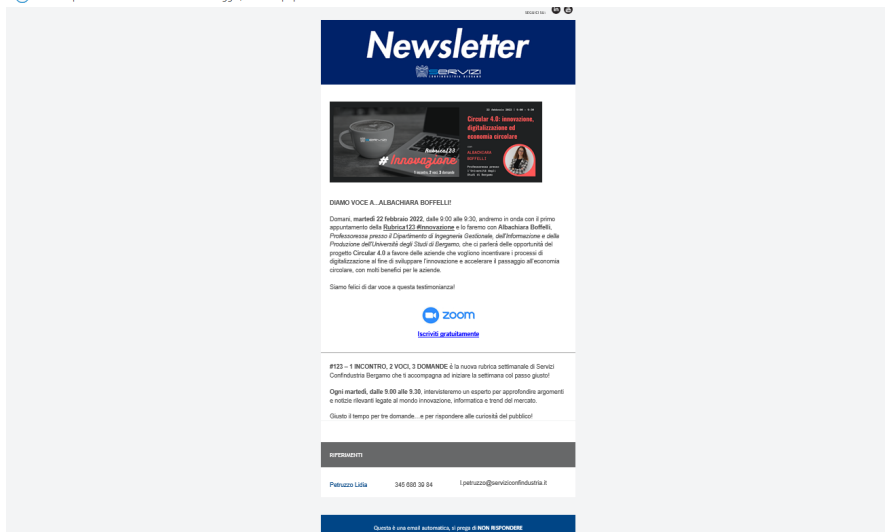
Annex III: webinar on Circular Economy and the opportunity to participate to the pilot actions within Circular 4.0

https://www.serviziconfindustria.it/it/blog/rubrica-123-del-22-02-2022-circular-4-0

Annex IV: Smart News article on the Circular 4.0 project in Bergamo

Annex IV – list of enterprises supported

LOCAL PILOT ACTION – Confindustria Bergamo (CBG) Overview of companies assisted in Lombardy (IT)

ID	Company type	Sector of reference	Subsector	Company Region	CE assessment (1:1 meeting)	CE maturity assessment tool	Digital Maturity Assessment (1:1 meeting)	DM Assessment tool	Action Plan
CBG01	Enterprise	Manufacturing	Chemicals	Lombardy	15/02/2022	CAS 2.0 edited by UniBG	03/06/2021	Test Industria 4.0 - Assessment of maturity	May 2022
CBG02	SME	Manufacturing	Metals	Lombardy	16/02/2022	CAS 2.0 edited by UniBG	08/06/2021	Test Industria 4.0 - Assessment of maturity	May 2022
CBG03	SME	Manufacturing	Wood	Lombardy	02/03/2022	CAS 2.0 edited by UniBG	04/02/2022	Test Industria 4.0 - Assessment of maturity	May 2022
CBG04	SME	Manufacturing	Construction	Lombardy	03/03/2022	CAS 2.0 edited by UniBG	01/07/2020	Test Industria 4.0 - Assessment of maturity	May 2022
CBG05	SME	Manufacturing	Chemicals	Lombardy	09/03/2022	CAS 2.0 edited by UniBG	03/05/2022	Test Industria 4.0 - Assessment of maturity	May 2022
CBG06	Enterprise	Manufacturing	Textiles	Lombardy	15/03/2022	CAS 2.0 edited by UniBG	06/05/2022	Test Industria 4.0 - Assessment of maturity	May 2022
CBG07	SME	Manufacturing	Wood	Lombardy	15/03/2022	CAS 2.0 edited by UniBG	17/01/2022	Test Industria 4.0 - Assessment of maturity	May 2022
CBG08	SME	Manufacturing	Construction	Lombardy	17/03/2022	CAS 2.0 edited by UniBG	19/03/2018	Test Industria 4.0 - Assessment of maturity	May 2022
CBG09	Enterprise	Manufacturing	Rubber	Lombardy	18/03/2022	CAS 2.0 edited by UniBG	n.a.	n.a.	May 2022
CBG10	SME	Manufacturing	Wood	Lombardy	25/03/2022	CAS 2.0 edited by UniBG	n.a.	n.a.	May 2022
CBG11	SME	Manufacturing	Metals	Lombardy	29/03/2022	CAS 2.0 edited by UniBG	22/03/2020	Test Industria 4.0 - Assessment of maturity	May 2022
CBG12	SME	Manufacturing	Electronics	Lombardy	30/03/2022	CAS 2.0 edited by UniBG	13/01/2020	Test Industria 4.0 - Assessment of maturity	May 2022
CBG13	SME	Manufacturing	Textiles	Lombardy	30/03/2022	CAS 2.0 edited by UniBG	16/05/2022	Test Industria 4.0 - Assessment of maturity	May 2022
CBG14	Enterprise	Manufacturing	Textiles	Lombardy	11/04/2022	CAS 2.0 edited by UniBG	27/03/2018	Test Industria 4.0 - Assessment of maturity	May 2022
CBG15	Enterprise	Manufacturing	Rubber	Lombardy	13/04/2022	CAS 2.0 edited by UniBG	n.a.	n.a.	May 2022
CBG16	Enterprise	Manufacturing	Chemicals	Lombardy	26/04/2022	CAS 2.0 edited by UniBG	n.a.	n.a.	May 2022
CBG17	SME	Manufacturing	Metals	Lombardy	n.a.	n.a.	01/03/2022	Test Industria 4.0 - Assessment of maturity	31/03/2022
CBG18	SME	Manufacturing	Construction	Lombardy	n.a.	n.a.	19/02/2022	Test Industria 4.0 - Assessment of maturity	21/03/2022
CBG19	SME	Manufacturing	Metals	Lombardy	n.a.	n.a.	06/02/2022	Test Industria 4.0 - Assessment of maturity	08/03/2022
CBG20	SME	Manufacturing	Construction	Lombardy	n.a.	n.a.	08/01/2022	Test Industria 4.0 - Assessment of maturity	07/02/2022
CBG21	Enterprise	Manufacturing	Cosmetics	Lombardy	n.a.	n.a.	05/01/2022	Test Industria 4.0 - Assessment of maturity	04/02/2022
CBG22	SME	Manufacturing	Mechanical engineering	Lombardy	n.a.	n.a.	28/12/2021	Test Industria 4.0 - Assessment of maturity	27/01/2022
CBG23	SME	Manufacturing	Construction	Lombardy	n.a.	n.a.	26/12/2021	Test Industria 4.0 - Assessment of maturity	25/01/2022
CBG24	SME	Manufacturing	Construction	Lombardy	n.a.	n.a.	22/11/2021	Test Industria 4.0 - Assessment of maturity	22/12/2021
CBG25	Enterprise	Manufacturing	Chemicals	Lombardy	n.a.	n.a.	14/11/2021	Test Industria 4.0 - Assessment of maturity	14/12/2021
CBG26	SME	Manufacturing	Automation	Lombardy	n.a.	n.a.	14/11/2021	Test Industria 4.0 - Assessment of maturity	14/12/2021
CBG27	SME	Manufacturing	Mechanical engineering	Lombardy	n.a.	n.a.	06/11/2021	Test Industria 4.0 - Assessment of maturity	06/12/2021
CBG28	SME	Manufacturing	Food	Lombardy	n.a.	n.a.	25/10/2021	Test Industria 4.0 - Assessment of maturity	24/11/2021
CBG29	SME	Manufacturing	Mechanical engineering	Lombardy	n.a.	n.a.	27/09/2021	Test Industria 4.0 - Assessment of maturity	27/10/2021
CBG30	SME	Manufacturing	Electrical engineering	Lombardy	n.a.	n.a.	12/09/2021	Test Industria 4.0 - Assessment of maturity	12/10/2021
CBG31	SME	Manufacturing	Mechanical engineering	Lombardy	n.a.	n.a.	21/08/2021	Test Industria 4.0 - Assessment of maturity	20/09/2021
CBG32	SME	Manufacturing	Mechanical engineering	Lombardy	n.a.	n.a.	04/08/2021	Test Industria 4.0 - Assessment of maturity	03/09/2021