

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

Work Package: WP T2

Activity: A.T2.2 Benchlearning and peering activities addressed to Intermediaries, Service Providers and public actors

Deliverable: D.T2.2.4 Exchange knowledge workshops addressed to Public Actors

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1. Introduction and methodology

The Circular Economy is expected to unlock €1.8 trillion annually in Europe¹ and sits at the core of the new EU Green Deal, supporting the climate-neutrality by 2050 target. The transition to a Circular Economy requires the innovation of new products and the development of Circular Business Models, where inter-organizational collaborations and Industry 4.0 are key enablers.

Plastics use has increased twenty-fold in the last half century², due its functional qualities and low cost, however, ambitious innovations are required to unlock its Circular potential and achieve the challenging EU 2030 Circular Economy targets.

The opportunity for the plastics industry to be redesigned is huge, considering only that currently, 95% of the value of plastic packaging material - worth €60-100 billion annually - is lost to the economy after a short first use³. And what is more, the responsibility is immense, considering that it is estimated that by 2050 there will be more plastics than fish in the ocean (by weight).

The Upper Austrian region and the surrounding area have one major advantage: The plastics industry there represents almost the entire plastics value chain, with a strong focus on tool manufacture and packaging.

Is in this context within D.T2.2.4 we have invited several private and public actors to two collaborative online workshops under the title **“Circular Plastics Inter-regional vision workshops”** organized together with the ITG, AWS and university of Graz.

¹ Ellen MacArthur Foundation, SUN, McKinsey & Company (2015) *Growth within: A circular economy vision for a competitive Europe*.

² World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company (2016). *The New Plastics Economy – Rethinking the future of plastics*.

³ Santa-Maria, Tomas, Walter J. V. Vermeulen, and Rupert J. Baumgartner. 2021. “Embedding Circular Economy and Business Model Innovation into Design Thinking.” Pp. 364–71 in *Proceedings of the 6th International Conference on New Business Models*. Halmstad, Sweden, June 2021

Methodology

Two three-hour online collaborative workshops have been designed and facilitated by Biz Up, ITG, AWS and the Institute of System Sciences, Innovation and Sustainability Research of the University of Graz. The main objective of the workshops was to support the transition to the Circular Economy in the plastics industry in Austria. To do so two sub objectives were aimed:

- **Knowledge transfer:** participants were provided with knowledge on Sustainability issues, the Circular Economy, Circular Business Models, Sustainable Product Development processes, Circular Business Model Innovation, lifecycle of the plastics industry in Austria, plastics policy context and Design Thinking methods, and practiced the application of Design Thinking activities for Circular Economy-oriented innovation.
- **Solution co-development:** in the first workshop participants co-created a vision for a Circular Plastics region, co-identified challenges and opportunities in the Plastics value chain and ideated solutions for a Circular Plastics region. In the second workshop participants analyzed and selected the best idea, details its design, and propose a roadmap for implementation.

The workshop structure, activity selection and adaptation for the previously mentioned context and objectives was based on recent research by University of Graz on how to apply Design Thinking methods to support Circular Economy-oriented business model innovation in an online and time-efficient manner⁴

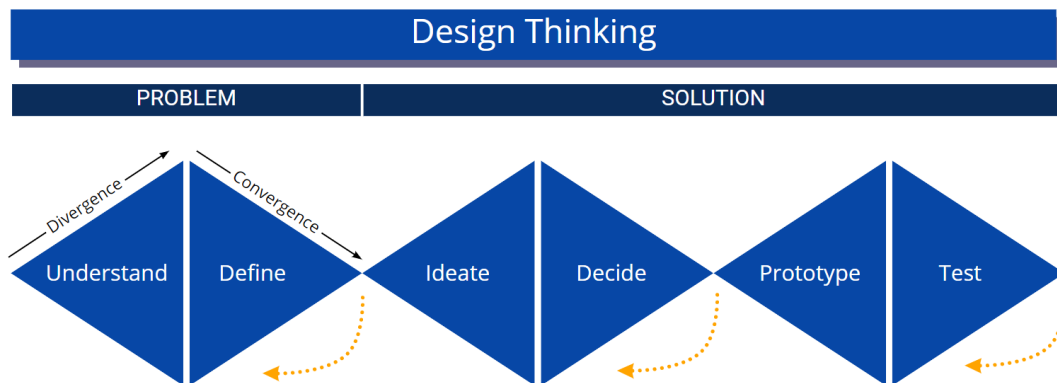


Figure 1: Generic Design Thinking framework

⁴ Santa-Maria, Tomas, Walter J. V. Vermeulen, and Rupert J. Baumgartner. 2021. "Embedding Circular Economy and Business Model Innovation into Design Thinking." Pp. 364–71 in *Proceedings of the 6th International Conference on New Business Models*. Halmstad, Sweden, June 2021.

2. Short description of the Exchange knowledge workshop

Please provide a short description of the implemented Exchange knowledge workshop:

What was the title of the Exchange knowledge workshop?

“Circular Plastics Inter-regional vision workshops”

What was the content of the Exchange knowledge workshop?

- **Knowledge transfer:** participants were provided with knowledge on Sustainability issues, the Circular Economy, Circular Business Models, Sustainable Product Development processes, Circular Business Model Innovation, lifecycle of the plastics industry in Austria, plastics policy context and Design Thinking methods, and practiced the application of Design Thinking activities for Circular Economy-oriented innovation.
- **Solution co-development:** in the first workshop participants co-created a vision for a Circular Plastics region, co-identified challenges and opportunities in the Plastics value chain and ideated solutions for a Circular Plastics region. In the second workshop participants analyzed and selected the best idea, details its design, and propose a roadmap for implementation.

Who were the speakers of the Exchange knowledge workshop?



Rupert J.
Baumgartner

Professor
Head of SIS



Anna
Diaz

PhD Researcher



Tomas
Santa-Maria

PhD Researcher

3. Lessons learnt

What are key conclusions and learnings of the Exchange knowledge workshop?

A mix of public and private actors related to the plastics value chain of Upper Austria (and neighboring regions) participated in the **first workshop on June 18th**, and in the **second workshop on September 15th**. Both workshops were held online, combining the use of Microsoft Teams for videoconference and the online visual collaboration platform Miro for the workshop activities. Table 1 has a condensed presentation of all the activities held in the workshops, indicating the corresponding Design Thinking phase, the allocated time, and the key outcomes (or KPIs) of each.

Table 1. Description of workshop activities and key outcomes/KPIs of each.

Design Thinking Phase	Activity	Time	What	Why	Outcomes / KPIs
Inspire	Introduction on CE /Plastics	35min(WS1) +25min(WS2)	(See knowledge transfer sub objective)		New knowledge and inspiration for action
	Vision co-creation	25 min	Co-creation of a 2030 vision for a Circular Economy for Plastics in Upper Austria and neighbouring regions	To stimulate a positive and future-oriented change in the industry; To inspire and align the workshop team with a shared "north star" vision	21 possible vision elements, 8 vision proposals, 1 winning vision
Understand	Plastics Value Chain Mapping	30 min	Collaboratively map the plastics value chain steps and identify the key challenges and opportunities of adopting a Circular Economy mindset.	To create a shared understanding of the current value chain; To identify intervention hotspots before ideating solutions	20 value chain steps, 21 challenges, 14 opportunities
	Ideate supported with circular patterns	30 min	Brainstorming session to propose solutions to the most relevant challenges, and possible ways to seize the opportunities identified.	To come up with as many possible solutions that could later be transformed in business model innovations and value chain collaborations	14 ideas, clustered in 5 categories
Ideation	Idea Filter	10 min	Initial selection of best ideas created in previous session	To reduce number of ideas and allow initial conceptualizations	3 top voted ideas
	Idea Clarification	20min	Simplified conceptualization on of the key elements of the idea: the who, what, how and why.	To refine ideas to be later analyzed	3 draft idea concepts
Decide	Idea Scan	25 min	Simplified assessment of 7 criterias for a successful sustainable innovation.	To analyze ideas and selection the best one	1 winning idea
	Design & Map	40 min	Visual representation of the actors involved and the flow of tangible and intangible values involved in the idea.	To detail and map the best idea through a visualization.	6 key value chain actors, 3 key system actors and 13 values exchanged
Prototype	Roadmap	30 min	Allocation of key activity by key actor in short/long term	To develop the idea implementation plan	19 key activities allocated to 7 key actors

4. Invitation letter

Please provide invitation letter to the Exchange knowledge workshop and a link to it (if applicable).

Invitation to Workshop I



SCHALTwerk_Circular
Business Model Wor



Die Kreislaufwirtschaft soll in Europa jährlich 1,8 Billionen Euro erwirtschaften und steht im Mittelpunkt des neuen EU Green Deal Programmes, mit dem Ziel der Klimaneutralität bis 2050.

Der Übergang zu einer Kreislaufwirtschaft erfordert die Entwicklung neuer Produkte sowie die Erarbeitung von kreislauffähigen Geschäftsmodellen. Dabei spielt die Zusammenarbeit zwischen Unternehmen und der „Industrie 4.0“ eine Schlüsselrolle.

Der Einsatz von Kunststoffen hat sich in den letzten fünfzig Jahren aufgrund seiner Funktionalität und den geringen Produktionskosten verzehnfacht. Gerade deswegen sind ehrgeizige Innovationen erforderlich, um das gesamte Nutzungs-Potenzial zu erschließen und die anspruchsvollen Ziele der EU für eine funktionierende Kreislaufwirtschaft bis 2030 zu erreichen.

Die LEADER-Region "Traunviertler Alpenvorland" und die umliegende Region haben einen großen Vorteil: Die dortige Kunststoffindustrie bildet nahezu die gesamte Kunststoff-Wertschöpfungskette ab, mit einem starken Fokus auf Werkzeugbau und Verpackung. Darüber hinaus stellt die Upper Vision 2030, die Wirtschafts- und Forschungsstrategie Oberösterreichs, den Schwerpunkt einer Modellregion für Kreislaufwirtschaft in Aussicht. Zeitgleich soll eine Technologie Roadmap für nachhaltige

Kunststofflösungen entwickelt und etabliert werden. Im Rahmen des Projektes Schaltwerk2030 und des Interreg Alpine Space Projektes Circular 4.0, lädt der Cleantech- und Kunststoff-Cluster sowie das Technologiezentrum Kirchdorf und das Institut für Systemwissenschaften, Innovations- und Nachhaltigkeitsforschung der Universität Graz zum Interregional Vision Workshop.

Gemeinsam werden wir über Chancen und Herausforderungen auf dem Weg zur Kunststoff-Kreislaufwirtschaft sprechen und eine überregionale Vision entwickeln. Daraus resultierend werden mögliche zirkuläre Geschäftsmodelle erarbeitet.

Die Veranstaltung umfasst eine 40-minütige Präsentation und einen 120-minütigen Workshop, der auf einer Online-Kollaborationsplattform basiert.

Wann: 18. Juni, 9:00 - 12:00
Wo: online
Kosten: kostenlos
Sprache: Englisch
Ansprechpersonen:
dorian.wessely@biz-up.at
christian.mayr@biz-up.at
ANMELDUNG: [Hier klicken zur Anmeldung](#)

Invitation to Workshop II



2021-09-15_Circular
_Plastics_WS_2__Scha



Die Kreislaufwirtschaft soll in Europa jährlich 1,8 Billionen Euro erwirtschaften und steht im Mittelpunkt des neuen EU Green Deal Programmes, mit dem Ziel der Klimaneutralität bis 2050.

Der Übergang zu einer Kreislaufwirtschaft erfordert die Entwicklung neuer Produkte sowie die Erarbeitung von kreislauffähigen Geschäftsmodellen. Dabei spielt die Zusammenarbeit zwischen Unternehmen und der „Industrie 4.0“ eine Schlüsselrolle.

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Wann: 15. September 2021 14:00 - 17:00 Uhr

Wo: Online
Kosten: kostenlos
Sprache: Englisch

Ansprechpersonen:
ashna.mudaffer@biz-up.at
christian.mayr@biz-up.at

ANMELDUNG: Hier klicken zur Anmeldung

5. Agenda of the Exchange knowledge workshop

Please provide an agenda of the Exchange knowledge workshop.

Circular4.0: D.T2.2.4 Exchange knowledge workshop Austria

Date: 18.06. 09:00 - 11:00

Plattform: MS Teams

Moderation: Tomas Santa-Maria - Technical University of Graz

Participants: Public authorities of the plastic value chain

Time	
	Workshop
09:00 – 09:10	Introductions
09:10 – 09:45	Seminar – front desk <ul style="list-style-type: none"> ○ Circular Economy: why, what and how? ○ EU Circular Economy Action Plan ○ Circular Product development ○ Circular Business Model Innovation ○ Plastics in Austria & Policy context
09:45 – 09:55	Coffee Break
09:55 – 10:05	Miro Onboarding & Ice Break
10:05 – 10:35	Vision: Co-Create a vision for a circular region
10:35 – 11:10	Understand: Map key value chain challenges & opportunities (30+5m)
11:10 – 11:20	Coffee break (10m)
11:20 – 11:45	Ideate: Ideate supported by CE strategies + Idea prioritization (30+5m)
11:45 – 12:00	Wrap up and next steps (15m)

Circular4.0: D.T2.2.4 Exchange knowledge workshop Austria Part 2

Date: 15.09.2021 14:00 - 17:00

Plattform: MS Teams

Moderation: Tomas Santa-Maria - Technical University of Graz

Participants: Public authorities of the plastic value chain

Time	
	Workshop
14:00 – 14:25	Welcome and introduction to Circular Economy
14:25 – 14:35	Onboarding and Recap <ul style="list-style-type: none"> ○ Get familiarized with Miro Board functionalities ○ Review Workshop 1 ○ Review of ideas generated
14:35 – 14:45	Exercise 1 – Idea filter <ul style="list-style-type: none"> ○ First filter of ideas and voting for top 3 ideas
14:45 – 15:05	Exercise 2 – Idea Clarification <ul style="list-style-type: none"> ○ Clarify top 3 ideas ○ Simplified conceptualization ○ Specify what, who, how, why
15:05 – 15:30	Exercise 3 – Idea Scan <ul style="list-style-type: none"> ○ Analyse top 3 ideas and choose the best one ○ Idea sustainability scan to select best one
15:30 – 15:40	Coffee break
15:40 – 16:20	Exercise 4 – Design & Map <ul style="list-style-type: none"> ○ Detailed design of best idea through a value exchange map ○ Identify actors of the socio-technical system and the exchanges of value
16:20 – 16:50	Exercise 5 – Roadmap <ul style="list-style-type: none"> ○ Allocation of actions to each societal stakeholder to implement the circular idea
16:50 – 17:00	Reflection and Wrap up

6. List of participants of the Exchange knowledge workshop

Please provide a list of participants - first name, last name, e-mail address, institution, signature (if applicable – for the physical meetings scan list of participants that include signatures).

Number of participants (total): **34**

Number of institutions participated (not individuals): **27**

WS 1

First name	Last name	Organisation	E-Mail
Robin	Roth	KIEFEL Packaging GmbH	robin.roth@kiefel.com
Christian	Mayr	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	christian.mayr@biz-up.at
Maximilian	Egner	ITG - Innovationsservice für Salzburg	maximilian.egner@innovation- salzburg.at
Christian	Wagner	Wirtschaftskammer Salzburg	cwagner@wks.at
Wolfgang	Bohmayr	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	wolfgang.bohmayr@biz-up.at
Dorian	Wessely	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	dorian.wessely@biz-up.at
Nicole	Eibensteiner	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	nicole.eibensteiner@biz-up.at
Joerg	Radanitsch	Carbon Cleanup GmbH	joerg@carbon-cleanup.com
Christian	Ehrengruber	O.Ö. LAVU GmbH	gf@lavu.at
Gerald	Warter	Technologie- und Innovationszentrum Kirchdorf GmbH	warter@tiz-kirchdorf.at
Harald	Fischer	Fischer Plastik GesmbH	harald.fischer@fischer-plastik.at
David	Schönmayr	Fronius International GmbH	schoenmayr.david@fronius.com
Christoph	Hillebrand	umwelt service salzburg	Christoph.Hillebrand@umweltservice salzburg.at
Willibald	Windhager	Haidlmair Holding GmbH	willibald.windhager@haidlmair.at
Sonja	Eser	SinnenWandel	sonja.eser@sinnen-wandel.de

Andreas	Van-Hametner	Ressourcen Forum Austria	a.van-hametner@ressourcenforum.at
Ashna	Mudaffer	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	ashna.mudaffer@biz-up.at
Rupert J.	Baumgartner	Karl-Franzens-Universität Graz	rupert.baumgartner@uni-graz.at
Anna	<i>Diaz Tena</i>	Karl-Franzens-Universität Graz	anna.diaz.tena@uni-graz.at
Bianca Anna	<i>Kahr</i>	AWS Austria Wirtschaftsservice GmbH	b.kahr@aws.at
Tomas	<i>Santa-Maria (Gonzalez)</i>	Karl-Franzens-Universität Graz	tomas.santamaria@uni-graz.at
Christina	Koch	AWS Austria Wirtschaftsservice GmbH	c.koch@aws.at

WS 2

First name	Last name	Organisation	E-Mail
Lukas	Stockinger	Industrietechnik Filzwieser GmbH	l.stockinger@filzwieser.eu
Nicole	Eibensteiner	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	nicole.eibensteiner@biz-up.at
Ashna	Mudaffer	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	ashna.mudaffer@biz-up.at
Andreas	Van-Hametner	Ressourcen Forum Austria	a.van-hametner@ressourcenforum.at
Gudrun	Maurer	Redexter GmbH	gudrun.maurer@redexter.at
Gerald	Warter	Technologie- und Innovationszentrum Kirchdorf GmbH	warter@tiz-kirchdorf.at
Dorian	Wessely	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	dorian.wessely@biz-up.at
Thomas	Pflügl	eWASTE Umweltconsulting GmbH	t.pfluegl@ewaste.at
Christoph	Reiss-Schmidt	Business Upper Austria - OÖ Wirtschaftsagentur GmbH	christoph.reiss-schmidt@biz-up.at
Johannes	Schumich	Hackl Container Abfallbehandlungs GmbH	j.schumich@hackl-container.at
Timna	Reisenberger	Business Upper Austria	timna.reisenberger@biz-up.at
Tomas	Santa Maria Gonzalez	Uni Graz	

Rainer	Steindler	ITG	Rainer.steindler@innovation-salzburg.at
Bianca Anna	Kahr	AWS	
Veronika	Reinberg	Alchemia nova	reinberg@alchemia-nova.net

7. 9.Follow up

Planned follow-up actions in terms of future collaboration with the national/regional authorities involved

Starting with the pilots planned in WPT3.

8. Target Group Assessment

*Has this deliverable addressed any of the target group indicated in the application form?
 (Please bold and underline).*

Yes / No

If yes, please describe the involvement of each individual target group in the table below.

Target group	Number reached
Project partners (PPs)	3
Experts of the TWG (EXP)	
Observers of the TWG (OBS)	
Local public authority (LPA)	3
Regional public authority (RPA)	6
National public authority (NPA)	2
Higher education and research (HER)	2
Enterprise, except SME (ENT)	1
SMEs (SMEs)	7
Business support organisations (BSOs)	3
Interest groups including NGOs (IG/NGOs)	
Sectoral organisations (SO)	
International organisations under inter-national law (IO)	
Other (O)	
Total	27

Who was the main target group?

Public actors

What numbers of target groups were reached?

11

What was the planned number of target groups to be reached?

10

How many participants were satisfied with the Exchange knowledge workshop?

80%

How many were not satisfied with the Exchange knowledge workshop?

10%

How many did not respond?

10%

Please provide a link to the on-line satisfaction survey (if applicable):

-

9. Pictures of the Exchange knowledge workshop

Please provide pictures (print screens) of the Exchange knowledge workshop.



10. (Social) media appearance

Please provide print screens and links to the (social) media appearance (if applicable).