

CIRCULAR 4.0

1 Date & Time

3.2.2021, 9.00 – 13.30

2 Organizer

Business Upper Austria (BIZ UP, PP6), Jozef Stefan Institute (JSI, PP10)

3 Action

On-line transnational working group meeting – all three transnational working groups in one session - 3.2.2021 (Zoom)

A.T1.4: Aligning strategies, plans and industrial sectors of reference to implement digitalisation processes and CE in Alpine space

A.T2.3: Setting up the toolkit to strengthen CE with digitalization process

4 Participants

All PPs were present: (TP LJ – LP), TUAS Rosenheim (PP2), BWCON (PP3), AWS (PP4), ITG (PP5), Biz-UP (PP6), VI (PP7), Grand E-now (PP8), AURAE (PP9), IJS (PP10), TOWL (PP11), CONFBG (PP12), CCIAA Venezia Rovigo (PP13), UCB (PP14), and RISINGSUD (PP15)

External Experts & Observers:

5 WP(s) of Reference

WP T1, WP T2

6 Documents in Reference

WP T1

A.T.1.3. User needs, expectations and SWOT

A.T.1.4. Aligning strategies, plans and industrial sectors of reference to implement digital. Process and CE in AS

WP T2

A.T. 2.3. Setting up the toolkit to strengthen CE with digitalisation process

7 Key Words

WP T1, regional strategies, industrial sectors, user needs, SWOT

WP T2, Circular 4.0 training process; Operators Training Course (OTC), Circularity Acceleration Training – CAT 4.0; Circularity Assessment tools (CAS), Digital Maturity Assessment tools (DMA), SMEs, operators, users

8 Agenda

SESSION 1	PLENARY	
09.00 – 9.15	<i>Registration to the online meeting and welcome</i>	<i>BIZ UP & IJS& LP</i>
09.15 – 09.20	Welcome by the organizing PP	BIZ Up (Ashna) & IJS (Bojana&Rudi)
09.20. – 9.50	Finalisation of WP1 – an overview of findings in relation to reports A.T.1.3. User needs, expectations and SWOT A.T.1.4. Aligning strategies, plans and industrial sectors of reference to implement digital. Process and CE in AS	Biz-Up (Ashna & TWG coordin.) VENINN (Ivan/Francesca)
9.50 – 10.30	D.T.2.3.1 Proposal for the toolset addressed to the intermediaries (process & overview of the key concepts of the toolkit process & summary of tools presented (Digital maturity assessment- DMA & Circularity Assessment Score- CAS & Circularity Acceleration Training Course CAT 4.0); Introduction to the plenary session	IJS (Jurij Giacomelli, Miha Glavan, Davor Kontić)
SESSION 2 – Discussion on tools	Discussion in PLENARY	IJS (Rudi, Bojana, Miha, Jurij, Davor)
10.30.-11.00	Key concepts& General understanding of the tools presented Q&A Digital maturity scoring assessment tools overview Q&A Implications of tools for business plans & investment plans; Use of tools in Circularity Acceleration Training – CAT 4.0;	all TWG/PPs 5 minutes feedback on focal questions (questionnaire provided)
11.00.-11.10.	Coffee break: TEST Digital maturity tool http://e2-owncloud.ijs.si/owncloud/index.php/s/Cw8NJPRZOrgCrtn	ALL PP/TWGINVITED

9 Minutes

SESSION 1	PLENARY	
09.00 – 9.15	<i>Registration to the online meeting and welcome</i>	<i>BIZ UP & IJS & LP</i>
09.15 – 09.20	Welcome by the organizing PP The organizers (BIZ UP - Ashna, JSI - Bojana) welcome the participants, give guidelines and present shortly the agenda of the day.	BIZ Up (Ashna) & IJS (Bojana&Rudi)
09.20. – 9.50	Finalisation of WP1 – an overview of findings in relation to reports A.T.1.3. User needs, expectations and SWOT Bianca Kahr from AWS presented the main points for the TWG group “Circular Design Models”. She listed the sector choices for each of the TWG members and presented the main points of the SWOT analysis. ITG chose plastics, AURAE chose plastics, construction and building as well as textile, IJS chose plastics, Rising Sud chose food, Bergamo chose plastics, wood as well as building and construction and AWS chose building and construction. The main points of the SWOT analysis were: <u>Strengths:</u> awareness of importance of digitalization and CE, growing focus on the chosen sector and CE has become a strategic factor. <u>Weaknesses:</u> Lack of awareness, financial hurdles as well as lack of information. <u>Opportunities:</u> new market segments to be explored, economic incentives for new CE projects and growing knowledge to be used for other aspects. <u>Threats:</u> COVID-19 pandemic, presence of regulatory constraints and not enough financial means. Bianca moved on showing two examples of visualizations made in the mapping and concluded with the following points: <ul style="list-style-type: none"> • All but two partners chose construction and building as one of their sectors • Every PP identified CE potential in their area • SWOT analysis showed many parallels • While some have a very established CE others see room for potential → knowledge transfer • Some PPs see a clear need for CE training for mapped SMEs while others identified an unknown level of needed support • Circular Design is something every PP sees potential for their chosen sector(s) Lara Trikha from BWCON presented the results for the Optimal Use report. She started with a brief overview of the chosen sectors of each project partner that is part of the transnational working group. France (Grand Est) selected construction, textile, agri-food and bioeconomy. Italy (Piedmont) chose packaging, construction, food water and nutrients, textile but also manufacturing (including machines and industrial factories, agriculture machines, automotive and ICT) as well as wood. Germany (Baden Württemberg) chose construction, mobility and manufacturing (Industry 4.0). Slovenia chose food, wood processing, mobility and construction and Italy	Biz-Up (Ashna & TWG coordin.) VENINN (Ivan/Francesca)

	<p>(Veneto) chose smart manufacturing, food industry and food waste, energy, waste management, construction and plastics/packaging. She continued giving examples of the SWOT analysis:</p> <p>Italy (Piedmont):</p> <p><u>Strengths</u>: many efficiency results can be achieved through digitalization actions for SMEs in the selected sectors.</p> <p><u>Opportunities</u>: The use of tracing technologies and data management can enable new models of use, or better save and use materials, wastes and products.</p> <p><u>Weaknesses</u>: Business model changes from product to service requires a lot of effort for SMEs. Initial reasoning actions, feasibility studies can be done.</p> <p><u>Threats</u>: Low maturity level of companies specially SME in order to make actions to obtain real changes in a short time. Need of financing tools and many support actions.</p> <p>She went on highlighting examples from Piedmont:</p> <p><u>Strengths</u>: Evolved energy efficient building solutions provided by many companies in the territory. Heightened attention to sustainability of buildings over its life cycle, also link to energy communities at condominium, district or larger scale, and to social issues like mitigation of energy poverty.</p> <p><u>Opportunities</u>: This is an important sector that can grow much on the use of digital technologies. Energy related action can be stimulated. High cost of energy becomes stimulated. High cost of energy becomes a stimulation to adopt technologies. Possibility of developing policy and regulations to support the possible changes brought about by the digitalization (for example tracing materials to certify that they are local, enable recovery/reuse, allow exchange of energy produced via renewables).</p> <p><u>Weaknesses</u>: Interfacing with infrastructure not always easy (market/regulatory conditions), old building stock. A cluster entity of reference for construction sensible to CE not yet identified.</p> <p>Threats: Difficult to interface with existing procedures. Low awareness and maturity about CE, need time to raise more awareness and educate entrepreneurs in this area.</p> <p>Lara then went on to highlight an example of Grand Est:</p> <p><u>Strengths</u>: One of the most important sectors of activity and employment in France. Near ½ public works activities linked with 1 or more themes related to green growth. A performance of inert waste close to 80% of recovery. Reduction in the inert waste quantities from the construction industry. 99,722 KT of tonnages collected of which 39,200 KT for building waste and ordinary industrial waste, increase in salaried employment in construction.</p> <p>As a conclusion Lara presented these points:</p> <ul style="list-style-type: none"> • Most of the project partners saw the need for additional regional sector choice. • Chosen sector of construction- missing link between all partners in the working group. • Each partner reflected on their chosen sector and the connection to their area accordingly • The Identification of initial set of Key Actors provides a good foundation for contacts needed for Work Package 3 	
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Eva Dehnert then went on presenting the main results of the third transnational working group on value recovery. She started out by presenting the chosen sectors by the project partners. Biz-Up from Upper Austria chose Waste of Electrical and Electronic Equipment (WEEE), Grande E-nov from Grand Est chose construction, textile and agri-food and bioeconomy. TUAS from Upper Bavaria chose furniture. UCB from Swabia chose textile and construction. Eva then went on to present Upper Austria's SWOT analysis. One of the strengths mentioned were the recycling of iron, aluminium and copper from e-waste could contribute to net savings of 15 Mt of Co2. Weakness: design of current electronics is not serving a circular economy. Opportunities: new digital technology sensoring enables easier detection of materials within products. Threat: lack of transparency in waste management and value recovery of WEEE. Eva also gave an example of a visual map of key actors from Upper Austria. The key results for the transnational working group are the following:

- Next to chosen sectors textiles and furniture, most of the project partners saw the need for another regional sector choice à choice of the construction sector by two of five partners à creates link to the two other working groups

- Upper Austria: enormous untapped potential of value recovery from waste of WEEE and increased acceptance of recycled or refurbished electrical equipment at user level à promising path towards implementing a circular economy in this sector

Grand Est: actions within the project need to be integrated in the already existing regional strategy on Circular Economy – also reflected by sector choice

Upper Bavaria: value recovery isn't established yet in the furniture industry; chipboard technology may serve as base for further value recovery innovations

Swabia: Textile: eager to be part of sustainable solutions for circularity – experts suggest industrial symbiosis to match supply and demand of pre-consumer-waste as a solution – Construction: increasing costs of the disposal only slowly change the mindset in favor of circularity.

Especially in France one can build upon already increased awareness to transition towards a CE due to existing policies. Moreover, balancing regional interests and transnational inspiration and learning will benefit all project partners and the overall project.

A.T.1.4. Aligning strategies, plans and industrial sectors of reference to implement digital. Process and CE in AS

Veneto Innovazione presented the main outcomes of the A.T.1.4. deliverables. Ivan mentioned that 5 partners selected one single sector (Region Marseille, Regione Veneto, Upper Bavaria, Upper Bavaria and Austria), 2 partners selected 5 – 6 different sectors (Slovenia and Region of Piemonte) and others selected 2-3 different sectors (Region Grand Est, Region Auvergne Rhone Alps and Swabia). The main reasons for selecting the sectors were the following: Single sector: sum up focused approach with more chances to verify the impact of circular 4.0 actions

	<p>5-6 different sectors: presence in strategic documents, high numbers of companies and employees, big companies (stimulus for SMEs), which has a very high impact for Circular 4.0</p> <p>2-3 sectors: inclusion in strategic (à political support), high level of pollution and environmental impact (bigger impact of CE).</p> <p>The main sectors that were chosen are the following:</p> <ul style="list-style-type: none"> • Wood processing industry • Plastics • Construction and building • Manufacturing • Food • Textile • Bioeconomy • Electronic waste <p>The presentation went on presenting those aligning strategies aims at the fact that policies and tools availability and regional and national level, the involvement of Circular 4.0 partners in other relevant EU initiatives such as platforms, EUSALP, KIC(s), having clusters, networks and poles focused on CE, digitalization and I4.0 as well as other relevant initiatives that are being launched at local level (for example Chambers of Commerce).</p> <p>As a next step the presenter went through the different project partners' areas:</p> <p>1) Bavaria</p> <ul style="list-style-type: none"> • Climate protection offensive (implemented November 2019) includes the establishment of a Center for climate resilience and climate research; • the Bavarian Resource Efficiency Centre is being expanded to become the "Clean Tech Hub for the circular economy of the future"; • the Ministry for Environment and consumer protection provides an information platform on waste management; • The Environmental Pact of Bavaria is an agreement in which voluntariness, assumption of personal responsibility for environmental protection and cooperative action are the basic pillars since 1995. <p>2) Salzburg</p> <ul style="list-style-type: none"> • Circular Economy is one of the key-strategies; • The government is committed to a sustainable, eco-social market economy and the strengthening of the Circular Economy and sees the energy transition as an economic stimulus; • One of the main objectives is to create a dynamic and open innovation culture (e.g., Open Innovation Initiative) and to facilitate access for companies and creative minds to modern innovation methods and new technologies <p>3) Upper Austria</p> <ul style="list-style-type: none"> • the #upperVISION2030 is promoting efficient and sustainable industry and manufacturing and connected and efficient mobility <p>4) Region Sud</p>	
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	<ul style="list-style-type: none"> • The plan for Circular Economy included in the SRADDET (regional strategy for sustainable development) • Circular Economy is embedded in a global program called “ecological transition” also composed by Corporate social responsibility. • Several institutional stakeholders, at different levels, work in partnership to foster circular economy and animate a regional platform for circular economy (PRECI). <p>5) Region Grand Est</p> <ul style="list-style-type: none"> • ensure shared governance and make the Region a lever for developing Circular Economy; • support economic players towards Circular Economy; • develop high potential “material” sectors; • put Circular Economy at the heart of R&I and develop training. • Business Act Grand Est adapt the strategy after COVID-19: • a strategic vision based on 3 drivers of change (ecological, digital, industry 5.0), combined with the industrial sectors and the territory <p>6) Region Auvergne-Rhone-Alpes</p> <ul style="list-style-type: none"> • A roadmap was approved (July 8th 2020) as part of the recovery plan, which includes five priorities for action • It provides for voluntary agreements in favour of the circular economy; • 5 priority sectors (construction, plastics, agriculture, energy and tourism) 3 sectors of attention (mechanics, chemical industry, manufacture of electrical and electronic equipment). <p>7) Lombardia</p> <ul style="list-style-type: none"> • Update of the S3 (2017) identifying Circular Economy as one of the main drivers to foster the development of mature into emerging industry; • “Roadmap for Research and Innovation on the Circular Economy” (May 2020), aiming to provide a framework for sustainable, low-carbon, resource-efficient and competitive development in the transition to a more circular economy. With it the government has activated cross-sectorial actions involving multiple Directorates and regional stakeholders in a wide participative and collaborative process. <p>8) Regione Veneto</p> <ul style="list-style-type: none"> • The approach to Circular Economy is partially embedded in the regional strategy for sustainable development. • Relevant topics are included in the actions related to: <ul style="list-style-type: none"> - promote sustainable agriculture, - ensuring access to affordable, reliable, sustainable and modern energy systems for all. • making cities and human settlements inclusive, safe, long-lasting and sustainable; 	
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	<p>- Some topics can also be found in the S3, in particular in development trajectories related to the agri-food and manufacturing</p> <p>At national level:</p> <p>1) Slovenia 2018 “Roadmap towards the Circular Economy in Slovenia”; The transition towards the Circular Economy is one of Slovenia's strategic development priorities, closely tied to the Sustainable Development Goals (SDG's) and included in key national documents (A Vision for Slovenia in 2050, Slovenian Development Strategy 2030, Slovenia's Smart Specialisation Strategy). It addresses also the National energy and climate plan, Resolution on the National environmental protection, long term climate strategy and Strategy of the spatial planning until 2050. The roadmap key priority areas are:</p> <ul style="list-style-type: none"> • food systems, • forest-based value chains (including wood processing), • manufacturing industry, • mobility • construction. <p>Slovenian industrial strategy 2021-2030: a strategic project at the national level, bringing together the governmental ministries that collaborate with the Climate KIC EIT, EIT Raw Matters and Joint Research Center.</p> <p>2) France</p> <ul style="list-style-type: none"> • Grand Plan d'investissement” (2018-2022) → transition towards a new growth model (especially regarding digital and ecological transition); • Law on circular economy (Feb. 2020); • Recovery plan post COVID (released in September 2020), includes measures on environmental transition (loans form Bpifrance for investments aiming to increase energy efficiency, calls for projects for the decarbonation of the economy, support to SME's to lower their consumption of energy, water and resources); • several programs regarding digital topic, such as “Nouvelle France industrielle” and “Territoires d'industrie program”. <p>3) Austria</p> <ul style="list-style-type: none"> • Smart Specialization aims to boost growth and competitiveness with a new generation of business location strategies defining thematic investment priorities. These strategies are designed to facilitate the development of eco-systems; • The concept of “Smart Diversification” has been introduced as it is more useful when referring to the (re-)combination of strengths with technologies of the future, new markets and target groups to achieve a transformation process <p>4) ITALY It is worth mentioning some initiatives:</p>	
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- Ministry of Economic Development has just launched a call for proposals for the development of technologies for CE;
- Ministry of Education, University and Research is working on the National Research Program 2021-27 which will include a focus on innovation for the manufacturing industry – towards carbon neutrality and circularity;
- the National Intelligent Specialization Strategy (SNSI) is interconnected with CE mainly via the Action Plans of the National Technological Clusters.

When it comes to clusters, poles and networks there are plenty of organizations that are lively operating at regional level as well as national level in all project partners' areas. Moreover, he mentioned that it is very active in the framework described above and they could constitute a basis for the companies' involvement.

With regards to involvement in the EU initiatives the involvement is the following:

- European Circular Economy Stakeholder Platform: 3 PPs;
- Industrial Modernisation Thematic Platform: 4 PPs;
- EUSALP AG1: 4 PPs;
- EUSALP AG2: 6 PPs;
- KIC Digital: 2 PPS;
- ICT Innovation for Manufacturing SMEs: 2 PPS;
- Factory of the Future: 3 PPs;

Other initiatives: VANGUARD, the under-constitution network of European Digital Innovation Hubs (EDIH) and the Enterprise Europe Network (EEN).

As final remarks a few final reflections were shared.

On sectors:

- there is a clear continuity between the work carried out at local and transnational level. In particular, all the selections made at TWGs level are present, in different ways, at local level;
- Anyhow, when the discussion moves to the local level, the specificities of the territories re-emerge and lead to different choices (i. e. waste electronics, packaging, bioeconomy, food, automotive);
- the comparison among the different specific interests could also support the identification of possible cooperation at transnational level.

On strategies, policies and other:

- the information collected could help to integrate the transnational pilot actions into the national and regional background;
- the presence of clusters and networks, dealing with the CIRCULAR 4.0 topics, represent an asset for the identification of prospects in the implementation of pilot phases;

	<ul style="list-style-type: none"> the possibility to exchange this information shall support partners in detecting, or creating, possible connections and associations among SMEs involved, thus favouring the transnational impact. 	
9.50 – 10.30	<p>D.T.2.3.1 Proposal for the toolset addressed to the intermediaries (process & overview of the key concepts of the toolkit process & summary of tools presented (Digital maturity assessment- DMA & Circularity Assessment Score- CAS & Circularity Acceleration Training Course CAT 4.0); Introduction to the plenary session</p> <p>Jurij Giacomelli presented tools developed in the scope of the Circular 4.0 training process for the training course of the operators (trainers from partner organizations) and SME's. He introduced training as an opened concept and core 5 steps of the training were presented (i.e., identification of frontrunners, understanding of CE opportunities, analysing circular/digital transformation, business model transformation, scaling across Alpine sectors) and relation of Circular 4.0 toolkit to the training course. Methodological approach in relation to the Circularity acceleration training 4.0 process was presented. Focus was given to Circularity Assessment Score (CAS) tool and Digital Maturity Assessment (DMA). CAS is a composite measure of multiple measures allowing to assess the potentials and ability to closing, narrowing or slowing the loops. Some questions addressed by the partners in the consultation phase prior to TWG meeting were addressed like What does it mean to be circular? Key for understanding circular business model is to know the differences between measuring and assessing circularity. Measuring means quantitative evaluation of how big, wide something and is objective, while assessing is qualitative judgment-based opinion and subjective. Circularity of a company is assessed as a strategic orientation of a company, manifested by a set of criteria. Companies' circularity potential is assessed across the entire value chain. Managerial abilities are assessed to determine levels of commitments to circular business model. Circularity assessment is translated into scoring which is why the proposed CAS is a tool enabling to see the level of commitment of a company to enter transition journey. Multiple tools exist to assess different aspects of circularity in companies such as use of materials, current business practices, material changes etc. How CAS is composed was explained as a set of questions across the value chain and the questions take through organizations structure, budgets, current practices, reporting schemes, embeddedness of circularity into the strategic planning and monitoring. CAS is linked to DMA tool to take into account project perspective (supply as inputs and technologies used in companies). Composite assessment was not recommended as results would not add value to better understand companies to help them on their circular journey. DMA as a tool linked to Circular 4.0 training process was than presented by dr. Miha Glavan from the Systems and Control Department of the Jozef Stefan Institute. Digital technologies (DT) are not prerequisite for CE, they do not guarantee circular business, but they are enablers and disruptors of businesses. DT improve knowledge, connections and info sharing. DT make business models, processes, products circular. DT strengthen</p>	IJS (Jurij Giacomelli, Miha Glavan, Davor Kantić)

	<p>the role of citizens and consumers. DMA tools help to evaluate opportunities for change. They are relevant for companies to evaluate their current status of digitalization. They are used as motivators and thinking of some technologies that are available and how they would be useful in their cases. Tool help to interconnect DT and CE- interconnect transformation process. DMA also help with positioning and comparing of companies. Relevance of the DMA to the CAT 4.0 course was than explained. The courses can be adapted with the help of this tool (refined topics, select speakers, identification of pilots). CAS commitment dimension is evaluated also using DMA and training KPIs modified to fit the needs of companies for their transformation. Several DMA tools are available in European Union and 14 were tested and overviewed in the scope of actions in Circular 4.0 as an Appendix V of the training process D.T.2.1.1. Suggestions i.e., criteria for selecting the most appropriate DMA tools for the local trainings were than overviewed including organizational dimension, business dimension, assets, technologies, operational dimensions, innovation dimensions. Other criteria for selecting DMA tool are also industry scope, expected digitalization levels, circular business models/value chain positioning (design/optimal use/value recovery). Questions for plenary were addressed to partners and TWG experts such as if they see the need/usefulness of DMA and the proposed criteria for their selection.</p> <p>Third set of tools in relation to Circular 4.0 training for operators (partners/intermediary organizations assisting SME's and their affiliated partners) was than presented by Jurij i.e., the CAT4.0 course (Circularly Acceleration Training 4.0.) modules from 0-7. Delivery of this course is a transformation plan for the company to be examined and approved by the management of a company. Importance of the process of recruitment was stressed. Mentoring being one of them. CAT 4.0 is a tool to assist companies to select their pilot project for transformation. Every company is its own story. Bankability of a selected pilot is of a big importance and covered in the CAT4.0 module. Complexity of a business transformation journey is to be presented through the course and providing a bankable project for company is important. This is what trainers /operators need to be able to assist to provide to companies.</p>	
<p>SESSION 2 – Discussion on tools</p>	<p>Discussion in PLENARY Plenary session started at 10.30. First presenter was Andreas Jenne expert associated with the UCB. He suggests simplifying the complex process. He points that lot of SMEs have not been all acquainted with the concepts of CE. He asks if there is a way to minimize the questionnaire and skip some points as operators are not all familiar with certain topics. He proposes more compact questions. The CAS matrix is a good thing to get a first impression by companies before they get through the assessment as the introduction/entry point. In large a</p>	<p>IJS (Rudi, Bojana, Miha, Jurij, Davor)</p>

company there are also many managers and employees not familiar with CE as a topic.

Jurij validates the question and passes the word to other experts. Andreas continues with other questions. He points that 90% of companies are linear. We need a different business culture of all the partners of companies who operate in linear economy now. New business models go with different cultural setting of companies. Openness and transparency are important to be checked. People are used to be in competition and not being transparent.

Next expert was from **BIZ UP and Ashna** presented the case of BIZ UP. They are of an opinion that the assessment is way too complex and an overview in a nutshell is needed. The focal point is either on digital technologies or on circular economy but not in the integration of the two. Question is also who will do the assessment with SME's? The questionnaires should be simplified if companies are to do self-assessment as it is too complex for them. It should be clearer not only which digital technologies are considered by how digitalization should support transition to CE.

Sabine Erdler, expert associated with **UCB** than presented questions & suggestions for improvements/highlight points. Training is more mentoring and consultation with companies and not training. Maybe first would be best to see where company is standing. What are their strategic positions? For that she suggests looking into a simple tool used by UCB to get acquainted with companies called "Old World-New world". Then the company gets an interest in the subject of CE. Complex system, lots of tools, maybe take all the tools and make a toolbox rather than focusing on one tool for all. The person who has meeting with an SME has than various tools to choose from that it fit for the company and not one approach for all. Too much interconnectivity between digital transformation and circular economy. She suggests instead to make a sequence i.e., first a plan for CE and then use digitalization as a tool to implement of improvement of the CE.

Anna Hartlaub from TUAS then presented an opinion of Susana Solner. CAS tool is important to measure for changes in companies but toolset with regards to new business model would not be needed for small changes with one product change. Ex.one product with eco-design product than next step. On meaning of Circular companies, it is dealt individually. Minimum requirements could be considered. DMA they are difficult to differentiate. Industry scope/dimensions could be first step to start using DMA.

Susanne Sollner added why should company participate. First should know where I stand now, and most CEOs do not change business models but start with small start. Not offer big

transformation but small steps how to begin with transformation. Openness and transparency are very important. Digital should support circular and not vice versa. As producer of furniture, we need to have a journey of a product not only via one company, but we need look from above. Perspective of another company to repair. More cooperatives, ind. Symbiosis where one product must be. How do we consider this system collaboration issue not only one company?

Venezia Rovigo Valeria Bazzan presented how complex the questionnaires are. They should be guided, trained by an operator. Main risk, difficulty is the shift from identifying circular model to propose to SMEs and connect it to digital technologies. This will be a real challenge.

TP Ljubljana Roberto stressed the point about measuring vs. assessing as a crucial point for understanding SMEs we have in mind. They repeat the difference between big transformation and step-by-step transformation. Intervention is a big scheme that exists only in limited number of Alpine SMEs. Which structure is simple in many cases is one entrepreneur, small management staff? Behind identify. Of toolset and the kind of organized process we need to get to SMEs we have in mind. Mostly medium and large enterprises or small and micro enterprise. This needs to be further addressed. To get feedback what kind of companies we deal with would be useful. An example of a target companies we have in mind would be useful.

Benjamin Lallemand, Grand e-nov added a hands-on own perspective as a consultant to use assessment tools with the user group. One or all tools for assessment would be useful work if consultant has good vision of technologies, sectors, and related constraints to relate to. Consultant and the management team from SME need to understand each other that there is a complete transparency. Often management faces difficulties such as lacks some knowledge for example on CE or lacks knowledge of internal processes. So, assessment tools are biased by the fact that only one person is interviewed. It is important to cross the answers from many people in the organization apart from management.

TOWL, Cesar Pacheco added synergies with other transnational WGs in relation to tools with value recovery. AWUS focuses on waste and expert is experienced in this. Other synergy he points out is related to open data. Piedmont region is interested in this topic. Most companies are from manufacturing sector but not from construction sector. In relation to DMA he has personal experience with applying such tool in manufacturing SME's. Chamber of Commerce from Piedmont is using a DMA analysis. DMA in Italy for operators

should be in Italian language. Analysing existing records could be done by the operators and not only applying proposed tool. He points to the Questions on CAS tool as it is not so well fit for the optimal use but more for the waste companies. So for managing waste the tool would be useful if it would not focus on business transformation.

Ilaria Schiavi from Enviropark added that companies would respond differently if they were under pressure of such extensive scoring. Companies need also support with understanding what changes would mean, what would be costs of changes what can they afford to avoid concern about the costs of changes.

Gabrielle Muzio added on complexity/simplification of this questionnaire despite a declared simplicity. From his experience questionnaire is simple with 10 or max 15 questions. He invites to simplify CAS questionnaire. Make some graduality in the answers. Some answers could be positive or negative. They would need more information regarding first answers from SMEs. When thinking of SMEs think also of dimensions such as enterprise less than 10 employees from 10-15 from 15 to 100 and so on. We could also have different type of SMEs (manufacturing, SMEs offering services are very different). Life cycle analysis is different from the type of companies. Results of questionnaires are differently presented. Spiders, radars are not easy to understand for all so interpretation is needed. **Ivan Boesso Veneto Innovazione** put comments in the chat that we need to consider different targets in front of us. Concept of CE is not shared by SMEs. Some cases we can do is raise awareness first than get them involved to transfer their business practices. Who are our targets and how can we select them to reach our objectives? Concerning the tools, he mentions to be careful on how we use tools. Preparatory phase of operators is important not to be too heavy with companies as the goal is to provide solutions or options to companies to start their path to Ce. Maybe a very comprehensive set of tools is ok, but we need to know how to use them correctly to reach our objectives.

Jurij added problems of transparency and interpretation. In the next step we need to put a focus on good preparation of operators and experiences as we go on with activities. Radar charts are difficult to understand, and this is first feedback needed to operators. We should know how to use those tools and use them pragmatically. Operators should have interest in companies on individual level. This is part of the training process and must be addressed. The CAS questionnaire is almost too simple. It was extended by 2 questions only. It used to be 15 questions, now there are 17. This is almost to

simplified. If you want to assess life cycle of the companies, you need to ask certain questions and collect and assess first side of companies. With a good guidance one will be able to bring companies from point A to B. We will be gradually able to build up this tool. It is not a recipe to make change. You prepare recipes fit for different seasons. These tools will gradually grow. DMA are applied and are much longer examinations and are much more common and in 2-3 years standards of assessment will be very different.

Rainer Pamminer AWS. Simple tools are very good. At early stage it is not about assessment or measurement but about identifying potentials for CE. Later, measurement of certain aspect of circularity can be applied. Circularity is a big topic and not easy to assess it with one tool. First is useful to identify strategy for the company. Then you identify indicators like reuse rates, recycling rates and these can be later measured and assessed. The combination regarding the use of DMA and CE is not needed. First you define strategy where a company wants to apply DMA. A lot of tools and training materials are available, and it is good to use existing already developed such as Catchy tool he mentions, guidelines for identify potentials, then select strategy than use of business canvas and what you need to change. Then all kind of tools available online exist in relation to business model redesign. In parallel they have a project related to start-ups to develop business models from scratch. One comment regarding waste/electronic equipment. Second use/refurbishment is a key but here is also important design of product that enables repair/repurpose. If the product is of bad shape cannot be reused. Business model and design are a key for good refurbishment.

Davor KONTIĆ JSI commented. We were focusing on the practical aspects of the train the trainers programme and we prepared some focused questions. We started with 3 levels of the practical approach: 1.st going to companies and ask them what is going on in their companies, the 2nd level is detailed information about their business process to know what to target with transition process and the 3rd level are intermediaries including financial institutions that need to understand CE and implementation and company's needs. The banks that provide loans and financial support and credits to companies would be the focus at the beginning and at the end. So, we prepared also questions for the banks to see how they see CE and what are their priorities/conditions for companies to meet to get to loans for CE business transformation. So, in this regard one of main stakeholders with training intermediaries are also financial institutions. Are links between intermediaries and SMEs transparent? What is the role of intermediaries in transformation? Aspect with achieving

transformation is also have the intermediaries been asked to express their needs for training. How do they see interrelation of the training? Is this communication active? Main idea is to involve them in interactive way. What is a suitability and a fit-for-purpose of the training programme? We work on practical approach, and we gathered practical aspects by two companies and two banks. This is a basis for discussion and approach to training.

Majda Potokar from Technology Park Ljubljana added this is a good point to have a chance to go through practical cases and have a more concrete experience with using these tools also further on pilots.

ITG Reiner & Maximillian. Very interesting and complex materials. Thinking about low level and hands on simplicity with working with SMEs. He trusts the partnership and consortium to understand what needs to be done. He passes the word on to Maximillian Egner to address points discussed with the ITG experts. The concept is too big not easy to look through and it has the same effect on companies. Too much too high and too early stage. CAS is a good idea to start understanding the standpoint of companies with regards to CE. What are requirements, potentials, challenges. Companies can reach that level only after the training. Some questions are too high for SME. For example, Q no.14 Are there any resistances by employees. How can companies decide on that if they have not tried yet to take any action in direction of CE? This is too far away for them. Questions must be more accessible for companies not to chase them away by thinking this is too much for us as we do not understand the basics. Another point is about DMA. Why do we measure DM and not status or digitalization of CE in companies and which practices are already in use? Maybe it would be preferred to form questions in such way as well as to think to combine DMA and CAS at this point. They will send questions and comments to better understand.

Miha was asked to reply on complexity issue and on combining CAS and DMA. He explained there are different companies out there and some are well advanced with digitalization and some less. He agrees to make some kind of distinction between the two types of companies and explore further how to adjust questions in the scope of TNA where you can assess their standpoint with simple questions and see what to expect from them and during the course, they can perform more complex and detailed DMA to identify some practical approach where to start or where they are good or what they need to improve with regards to digital transformation. Link among CE business model and digitalization can be made. In relation to the link between CAS and DMA. The goal is first to educate SMEs what

possibilities exist with digital technologies and how digital transformation can add to their business and to train them about possibilities. It is good idea to include some good cases how digital. Tech. support CE for example optimal use or product design. Quite a lot of cases exist, and we should cover different situations where companies can apply digital technologies in support of CE and assess where company stands. We should cover different situations where companies need digital technologies in support of CE. Combining CAS and DMA is a good idea to use one tool to measure contribution of digitalization towards CAS. We can start with mapping how digital tech support business models than focus questions more on use specific digital tech. in support of CE. So, CAS tool can be modified. Q on data sharing and collaboration is important point but in a long term with regards to mind changing to share data. This is a long-term process. On Q. how tools are not interconnected. They are separate now as we leveraged existing developed tools. We did not develop new ones as there is no simple way how to merge the two tools. Our first plan was to use what is there already.

AUREA Charlotte on behalf of Isabelle took the word.

Questionnaires should be combined to identify companies for assessment. Main subject is CE and digitalization is only a tool to improve CE in company. Q should cover also what kind of digital tools they use. Idea is to combine the two tools to reach better integration of the circular model. It would be good to combine the two tools and ask companies about CE with some questions on digital tools they use as it will take some time for companies to ask themselves questions and start thinking about transformation. It would not make sense to come to the companies twice and ask companies to be more efficient with companies' assessment and then ask more q during training. During discussion over training at AURAE about training course seems long and individual. They suggested companies on short training and then individual consultancy with experts. When will they get suggestions on content of the training, they would organize the course in springtime? Bojana explains training will be online available within a month. In terms who will be trained she explains who operators are and invites one-on-one consultation on executing training course.

Illaria Cairo ConfBG- self assessment is hard to implement because of bias to have a better score on the other side there are difficulties for companies to understand some questions. At Confbg they use Dreamy 4.0 developed by Politecnico from Milano that assess large and small companies' profiles on DMA. They assess the Ddigital maturity level and propose a roadmap step to take by a company. Even though the tool is self-assessment online. There are about 100 questions, and

they prefer to take individual assessment with companies after the training that companies go through by the team who developed the assessment. In this way they better explain and analyse questions or present cases/examples with companies to better understand the meaning. She agrees with Jurij to analyse the status quo of the companies many questions are needed to be addressed. She agrees with Reiner that the two assessments DMA and CAS maybe cannot match, and we would have difficulties to finding conclusions on that. She further comments appendix V in relation from the IDIH Digital Innovation Hub Conference in Luxemburg in which is a list of DMAs in Europe- would be useful to add to the existing list in the appendix. 13 DMA tools were highlighted among them the one used by ConfBg (Dreamy 4.0 by Politecnico Milano) others being (Dihnet Champions Challenge, MDI 4.0, VTT DMA, Achatech MI, IMP Rove DIQ, CEF, COTEC, DMAT, Dreamy 4.0, HADA, ATI, IPAR 4.0, European Enterprise Network). Other tools are shared in appendix V. Other highlights from other 13 DMAs would be useful to add. Combining DMA and CAS would be useful as in DMA one cannot touch questions on CE like supply chain. For companies and effectiveness of the assessment would be useful to combine. Cesare asked if the Dreamy tool was applied to small and micro companies as well. Illaria replies that this tool can be applied to micro companies. They got 81 SMEs answering questioner and she has a report summarizing reports and dimensions of large and small companies and micro companies. Micro companies can do this questionnaire with someone else to understand questions and answers.

RISINGSUD expert Natalie Jardiner explains they use a national tool from Alliance Industrie de Future for assessment. They can make the link what they call maturity indicator with this tool in order not to use another tool for assessment of the companies. They will link existing tool on I4.0 and DMA tool in France. The other issue is there are many tools on CE for example Eco-design model, 4.0 and many others and it is important not to use to many tools to companies but to corelate tools and not to multiply the use of many tools. They will use any tools offered in combination with the tools they already use for assessing DMA and CAS.

Reinhard from ITG added we should look like partners what we want to achieve with the combined tools. Tools are used by them over five years and are the just door openers to access companies and nothing more. Later, we would need more elaborated tools but right now we are at the beginning with CE concepts and this consortium should decide what we want to achieve with the tools. Project ends in one year and we need

results, and we need to reconsider where we are going and maybe we are not headed in the right direction. Cesar Pacheco adds the results are the transformation plans for companies and transformation projects. The qualified opinion that we can give to our companies with these instruments can be different depending on kind of companies and their experiences. The answer is as Jurij said during his presentation the tools are useful to give a qualified opinion to the companies and everyone can have more/less use of tools and more/less experiences using them. We will not design a specific DMA tool for our purposes as there are already many too choose from, and it is difficult to have one tool that would fit everybody. We can adapt existing ones. It is important not to give one tool to everybody, but we can use classifications about our commitments, and this is important to share with partners and to give a qualified opinion and everybody can declare what level of assessment can they do to be appropriate for the levels of company assessment. Bojana JSI intervened that part of the answer with different approaches lies in differences between measuring vs. assessing. Also, maybe we can investigate narrowing down number of tools proposed to use for the purpose in relation to the 3 pillars (optimal use, value recovery, design) or other type of classification in relation to the production process as proposed by Miha.

Jana from Giacomelli Media and Bianca from AWS summarized comments. There were too many questions, too complex, some questions are biased, there should be guidance from us for the SMEs weather questions should be simplified. We are looking still in assessing linear systems and we need to conjure better with the CE purposes we need to work more cooperative with companies. Instead of training wording a consultation should be used instead. Time should be spent with companies before the assessment. There should be minimal criteria what kind of circularity company has or wants to have. There should be a definition of circularity provided for companies to understand. One fits all approach might not work as companies will not be the same in all the regions. They come from different sectors, different levels of development, size. Measurement and assessment differences should be better understood. Finding strategy first than use digitalization as a tool to reach the goal to work on CE strategy. Maybe we should go back to the question what kind of companies we would like to assess in order to know what kind of tool to use. There should be a simpler approach. It would be useful to use a more hands-on approach when working with SMEs. More than one person inside the SME should take part in the questionnaire on self-assessment. SMEs need to be clearly identified. Companies not

willing to share the data truthfully might me a risk. Combining questionnaires and tools. What do we actually want to achieve in the project with the tools in terms of goals so we know which are tools best suitable for us? We as partners should go back. Jana added that for digitalization process i.e., application of the DMA it is a supporting process. DMA and CAS should or should not be combined i.e., interplay. Jana added this two are different questionnaires they assess different things. If we combine them than this does not tell us anything more weather the company is good in circularity or digitalization. Taking small steps instead of changing the whole business model. How to have pilot projects? Pilot projects need to address this in more practical terms on case model in Slovenia. Regional differences, languages, and tools present in different regions and different state of SMEs were mentioned and operators can adapt existing tools and results from regions. Introductory comments sent prior to the meeting are to be further addressed and considered. Measurement and assessment issues can be addressed additionally. Welcomed were further questions and challenges. She asked to provide specifically for one or two pages on challenges and what digital learning platform needs to provide by the 5th of February to provide the feedback. Revision on the process and the tools will be made to consider some feedback comments. Bojana added not to forget the scaling issue to address differently micro, midsize, and large companies. Roberto added from the point of view positive aspects high level of debate and the content. He thanked to all the experts to participate with the project. He concluded the meeting with having more time for discussion. He pinpointed that over the past week the Green deal call closed. 1500 proposals were submitted. Horizon 2020 portal crashed because high number of applicants. 1 bEUR were available with a big interest. It is most popular call in Horizon 2020. We have a popular topic not from policy view put also from SMEs and large companies. This implies we need to think what kind of SMEs we want to address. Mostly we think of SMEs that have not big managerial support and large teams but the ones lagging that need support because of lack of resources, management, teams. Keep in mind we are not addressing companies with instruments available but the ones starting from 0. Large companies and SMEs that are well equipped we have plenty of consultants available. Second point Roberto made was CE like i4.0 are nowadays very popular topics. He experienced another project in i4.0. where there were many EU, national, regional policy instruments. The decision needs to be made how to address the richness of policies and instruments. Shall we capitalize them? Shall we replace them? This decision needs to

be taken. Interreg is not a Horizon 2020 programme. We will not develop or implement brand new instruments. We will not research activities but share knowledge and structures and capitalize according to the interests by the partners. This is another consideration when we are talking about tools and trainings. Third point was he never heard during the meeting the word Covid 19. Talking about companies many times were stated why and how and where companies should join our actions. Pilot actions will overlap the recovering time after Covid 19 probably. Companies will have emergency plans. We need to have this in consideration. Our proposal needs to meet their urgency to overcome difficult period. When talking a about surveys and questionnaires we need to keep this in mind. Another point is that partnership of Circular 4.0 is made of public partners or non-profit organizations. Staff involved has specific needs and expectations. Talking about training we need to take that into consideration. We cannot have academic and long-term trainings. This needs to be considered with TNA and collecting CVs of participants and so on. Last point from Roberto- this is a transnational working group. The mission is to advice, share knowledge, give inputs for implementation to the projects. Then there is a specific environment for the partners where decisions should be taken. Probably we will appoint a new partner meeting where we will take the necessary decisions and tray to validate comments shared on this TWG meeting. Roberto thanked to all the experts for the great value provided to the partners by the experts and their contributions to the project topics. Now decisions need to be made on the following steps. This is the worry of the lead partner not to leave anyone behind. All the partners need to work and collaborate. Partners have different expectations, situations. All together they need to go ahead. He thanked to participants. Bojana thanked to Roberto for his reflections and additional observations and pointed out to a newly published Circularity gap report worth looking into as a reference.

At the end follow up steps were presented by Bojana JSI. First local OTCs will start in March (Slovenia, France, Italy- TOWL have plans). She informed about e-learning tool for pilot testing in March to support local training actions as operators. Number of events i.e., Study tours and Train-the-trainer course are coming on the 17th of February and followed by Study tours on the 18th 24th and 25th of February in Product design, Optimal use and Value recovery. Plus 13 local trainings (D.T2.2.3) should start. Overall schedule will be prepared shortly. 3rd or 10th of March is next STC/TC meeting (to be confirmed). She thanked to all partners and participants and TWG experts. Debriefing will provide in more details how to

	address the opened issues and continue the process. Quality survey was presented at the end of the meeting and a plea by Reinhard was made on the deadlines to provide feedback on the process as some partners would need some more time to provide feedback to the issues. Roberto addressed the request from Illaria concerning invitations for Study visits to open the invitation to companies. Other stakeholders were also invited to join the Study visits as they will be organized online. Confindustria will provide news to member companies to promote the event to their companies. Eva provided information on the link to registration.	
10.30.-11.00	Key concepts & General understanding of the tools presented Q&A Digital maturity scoring assessment tools overview Q&A Implications of tools for business plans & investment plans; Use of tools in Circularity Acceleration Training – CAT 4.0;	all TWG/PPs 5 minutes feedback on focal questions (questionnaire provided)
11.00.-11.10.	Coffee break : TEST Digital maturity tool http://e2-owncloud.ijs.si/owncloud/index.php/s/Cw8NJPRZOrgCrtn	ALL PP/TWG INVITED

10 Decisions taken / next steps

Partners need to reflect upon the objectives with the trainings and using of tools.

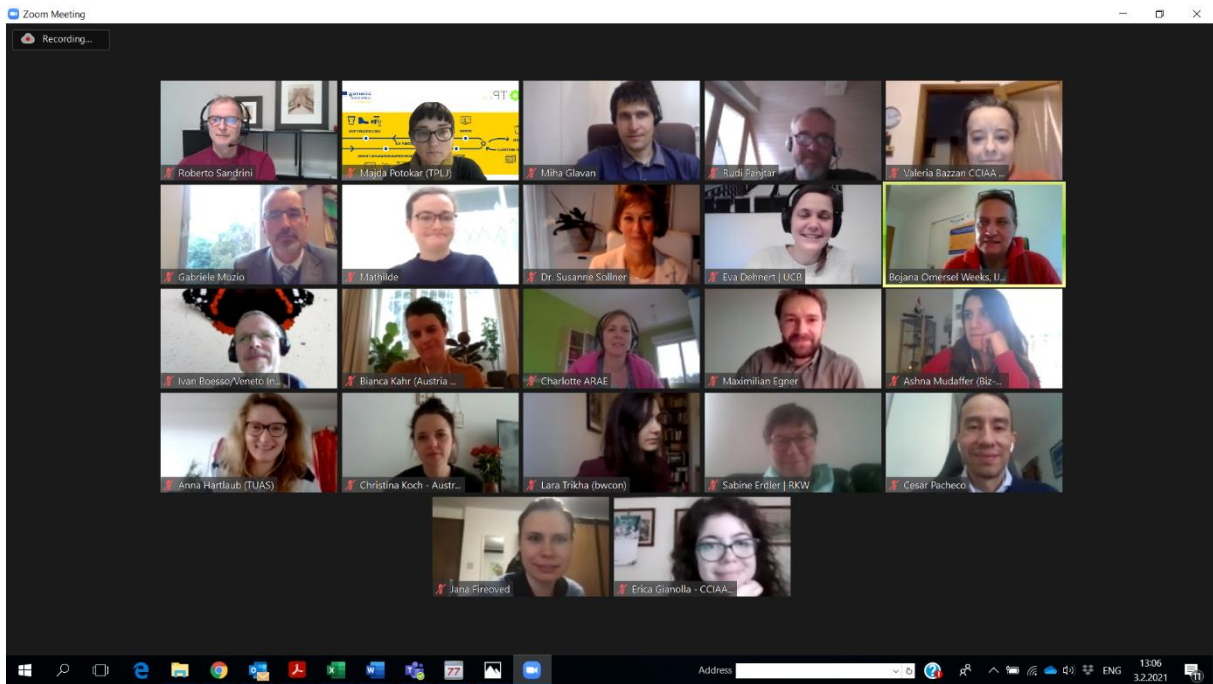
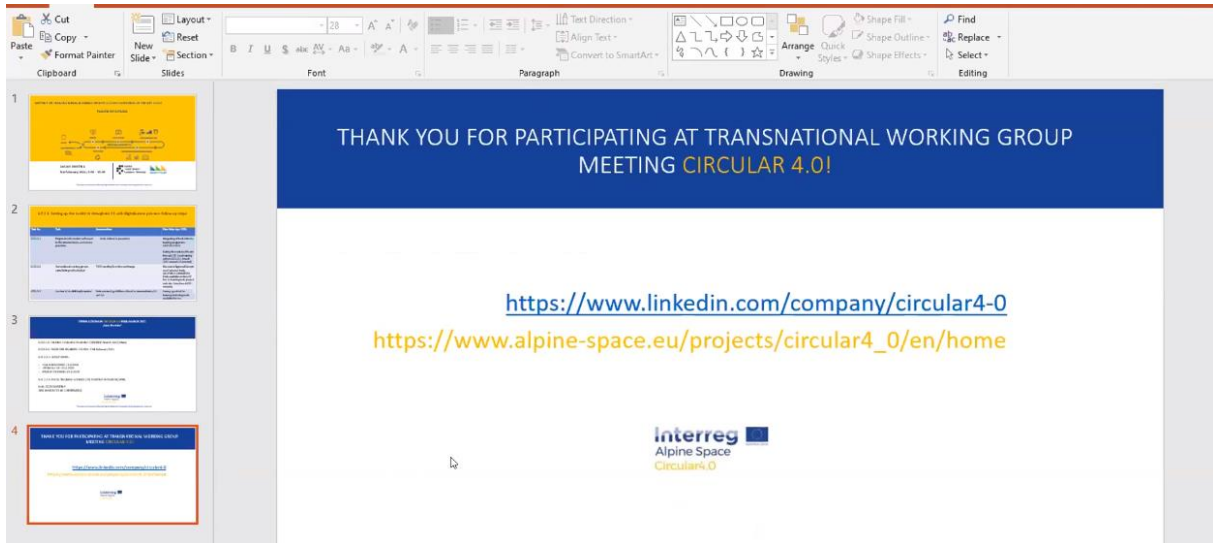
Training needs to be simplified and adopted to the purpose that partners need to decide for assessments of circular/digital maturity.

Train the trainers & 3 Study tours are coming up.

TC&SC meeting will be held on 3rd March or on 10th March 2021 (to be confirmed)

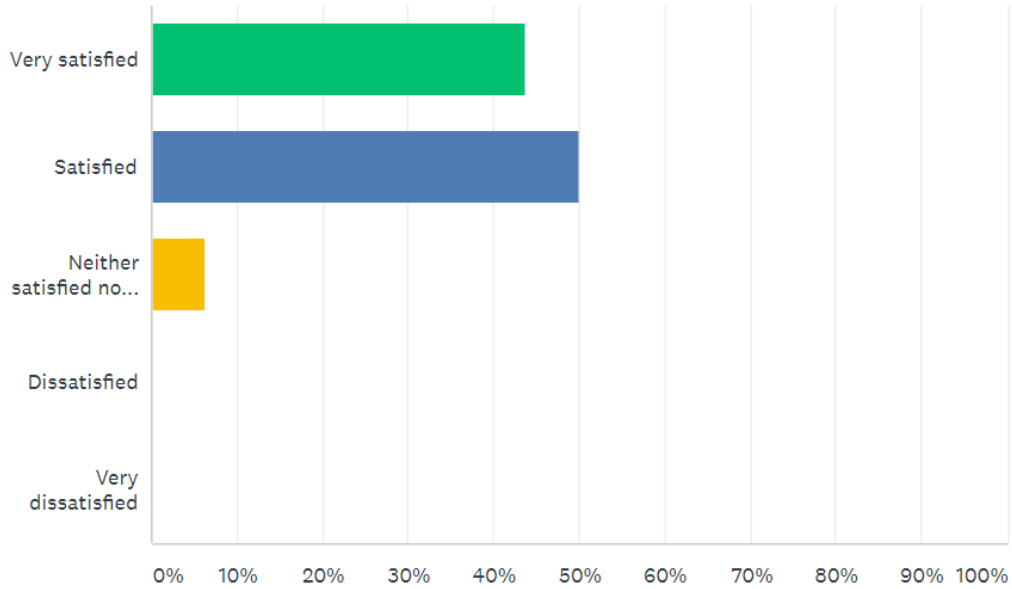
11 Other Comments (pictures and attendance)

- For more details see related presentations of WP T1 and WP T2.
- All presentations are uploaded on SharePoint.



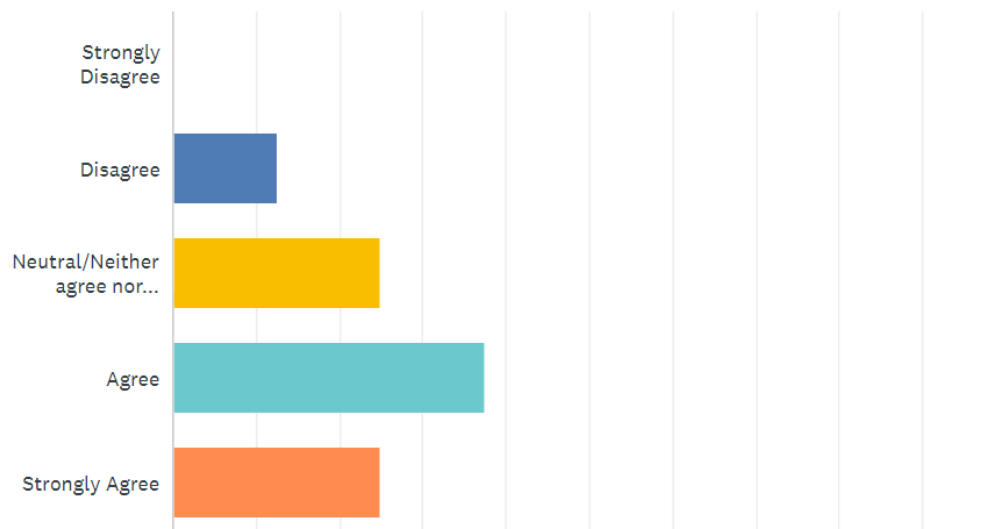
Overall, were you satisfied or dissatisfied with the CIRCULAR4.0 working group meeting?

Beantwortet: 16 Übersprungen: 0



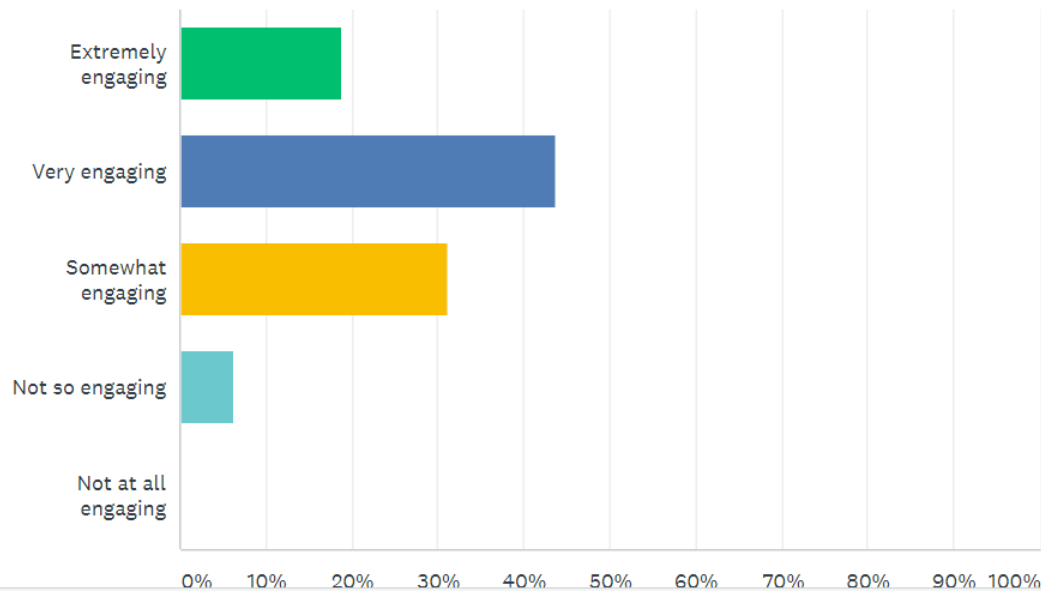
I gained a thorough understanding of the CIRCULAR4.0 toolkit presented and discussed in the meeting.

Beantwortet: 16 Übersprungen: 0



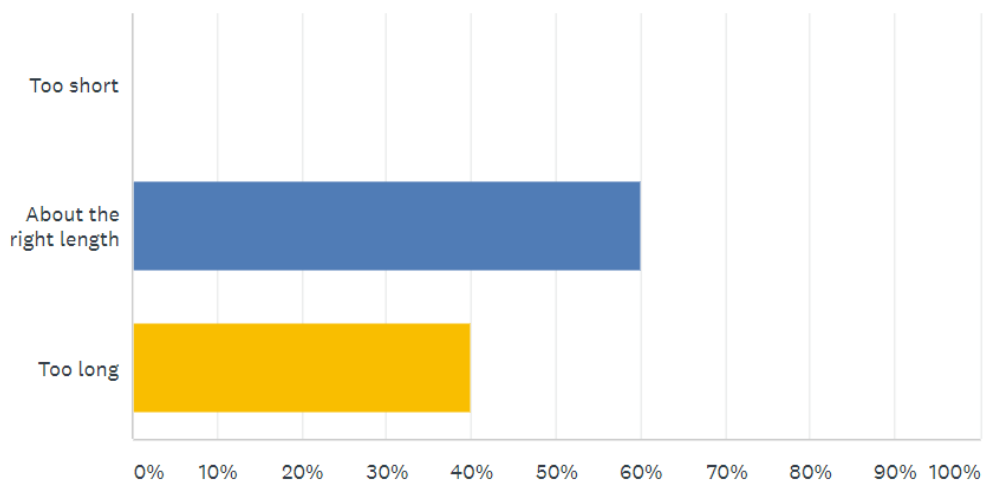
How engaging was the discussion at the CIRCULAR4.0 working group meeting?

Beantwortet: 16 Übersprungen: 0



How did you feel about the length of the online meeting?

Beantwortet: 15 Übersprungen: 1



Attendance

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Kontić	Davor	IJS	IJS	External Expert
Miha	Glavan	IJS	IJS	External Expert
Jenne	Andreas	REHAU	UCB	External Expert
Erdler	Sabine	RKW	UCB	Observer & External Expert
Jardinier	Nathalie	RISINGSUD	RISINGSUD	External Expert
Muzio	Gabriele	Api Turin Technical Area	TOWL	External Expert
Sollner	Susanne	Burgbad	TUAS	External Expert
Schiavi	Ilaria	Environment Park S.p.A.	TOWL	External Expert
Akhras	Hassan	CHASE Competence Centre	Biz-up	External Expert
De Barba	Daniele	Centro Consorzi		Eksternal Expert
Mozzi	Silvia	EEN - Enterprise Europe Network		External Expert



Torresan	Andrea	ARPAV Regional Agency for Environmental Prevention and Protection	VENINN	External Expert
Glavan	Miha	IJS	IJS	External Expert