



REPUBLIC OF SLOVENIA
GOVERNMENT OFFICE FOR DEVELOPMENT
AND EUROPEAN COHESION POLICY

PEER-REVIEW REPORT



Results of the "Digital tools and pathways" workshop



European Union
European Regional
Development Fund



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Summary

This peer-review report presents the findings of the “Digital tools & pathways workshop”, which was conducted in the context of Activity 4 of the SYMBI project (5th Interreg Europe call for additional activities). Its goal is to present the digital tools and processes that were presented during the workshop and classify them to identify the best.

The document comprises the following sections:

- ❖ The [first section](#) provides introductory details on the workshop and the qualitative data collection process, conducted prior to it.
- ❖ The [second section](#) describes the peer-review process, presenting the evaluation criteria and the classification system that was used for the identification of best practices.
- ❖ The [third section](#) consists of two parts; (a) the classification of the practices into “promising”, “good”, and “best”, and (b) a comparative discussion on practices that have been classified as “best”.
- ❖ The questionnaires filled out by SYMBI partners prior to the workshop have been annexed, at the end of this document ([Annex A](#)).
- ❖ The analysis of data collected during the workshop has been also annexed at the end ([Annex B](#))¹.

¹ In both annexes, the cases are presented in the order of the final results.

Introduction

This peer-review report, developed by the Government Office for Development and European Cohesion Policy of Slovenia (SVRK), encapsulates the results of the “Digital tools & pathways workshop” in order to classify the collected digital tools (i.e. cases) and identify the best that could be transferred in other regions.

Digital tools & pathways workshop

In the context of Activity 4 of the SYMBI project, the first online workshop on digital tools and processes that facilitate, improve, or otherwise contribute to industrial symbiosis practices at EU level, was held online on March 2nd, 2022, with the participation of 22 attendees, including 9 project partners from 7 countries. The purpose of the meeting was to present the content and main features of 15 cases and conduct an online peer-review to identify the best ones.

Qualitative data collection process

Prior to the workshop, SYMBI partners were invited to conduct desk research and fill in a questionnaire (developed by SVRK) providing information for digital tools that are in use in the context of industrial symbiosis, either in their own region or in EU regions outside the partnership. Each partner documented one to three relevant cases, which SVRK subsequently uploaded to Google Drive to ensure accessibility by all partners.

The questionnaire covered five thematic areas: (a) functionality, (b) usability, (c) added-value, (d) sustainability, and (e) transferability, which also comprised the evaluation criteria employed during the workshop. Partners collected and provided information regarding the following digital tools and processes:

Table 1: Collected cases

Name of the tool	Partner	Country of implementation	Type of the tool/process
Symbiex.es	Foundation FUNDECYT Scientific and Technological Park of Extremadura	Spain	Platform / Website
SYNER platform	Foundation FUNDECYT Scientific and Technological Park of Extremadura	Spain	Platform / Website
EUROCIRCULO	Foundation FUNDECYT Scientific and Technological Park of Extremadura	Spain	Platform / Website
Zero Waste Map	Malopolska Region	Poland	Platform / Website
CYRKL platform	Malopolska Region	Poland	Platform / Website
SFRIDOO	Chamber of Commerce of Molise	Italy	Database / Marketplace
SYMBIOSIS	Chamber of Commerce of Molise	Italy	Platform / Website

Name of the tool	Partner	Country of implementation	Type of the tool/process
Green Star	Government Office for Development and European Cohesion Policy	Slovenia	Platform / Website
SYNERGie 4.0	Government Office for Development and European Cohesion Policy	Slovenia	Software
E-SYMBIOZA	Government Office for Development and European Cohesion Policy	Slovenia	Platform / Website
DIADYMA Reuse centres	Municipality of Kozani	Greece	Platform / Website
Edible oils and fats platform	Municipality of Kozani	Greece	Platform / Website
Clean Way	Pannon Novum West-Transdanubian Regional Innovation Non-Profit Ltd	Hungary	Software / Database / Application
Materiaalitori	Regional Council of Häme & Häme University of Applied Sciences Ltd	Finland	Platform / Website
Biomass Atlas	Regional Council of Häme & Häme University of Applied Sciences Ltd	Finland	Platform / Software / Database
Circularity Assessment Scoring 2.0 (CAS2.0)	Regional Development Agency of the Ljubljana Urban Region	Slovenia	Online questionnaire

During the workshop, partners presented the collected cases (excl. EUROCIRCULO²) and rated them, according to the abovementioned thematic areas/evaluation criteria; the process is described in the next section.

² Since partners were advised to present a maximum of two cases each, FUNDECYT chose the SYNER platform and Symbiex.es as the most appropriate. However, information about EUROCIRCULO (provided by FUNDECYT) is included at the end of annex A.

Peer-review process

The evaluation of cases was conducted as a peer-review process by all partners during the workshop. More specifically, after presenting the cases documented, partners assigned points to each one according to the evaluation criteria. The following table depicts the rating system that was applied in order to ensure comparability.

Table 2: The rating system

Criterion – Definition	Scale	Evaluation Rate	Maximum Points	Minimum Points
Functionality	1-3	1- Weak / poor 2- Acceptable / satisfactory 3- Excellent / exceptional	3	1
Usability	1-3	1- Weak / poor 2- Acceptable / satisfactory 3- Excellent / exceptional	3	1
Added-value	1-3	1- Weak / poor 2- Acceptable / satisfactory 3- Excellent / exceptional	3	1
Sustainability	1-3	1- Short-term impact 2- Medium-term impact 3- Long-term impact	3	1
Transferability	1-3	1- Low transferability potential 2- With transferability potential (not yet transferred) 3- Already transferred to other regions	3	1
TOTAL			15	5

Based on the collected points, this report classifies cases as “promising”, “good”, and “best”, according to the following system³:

Table 3: Classification system

Classification system of Practices	Points
Promising Practice	5 – 7.9
Good Practice	8 – 11.9
Best Practice	12 – 15

³ Although the initial version of the rating system (provided by SVRK in the Input Paper prior the conduction of the workshop) did not use decimals, the latter have been included in this final one, to ensure accuracy.

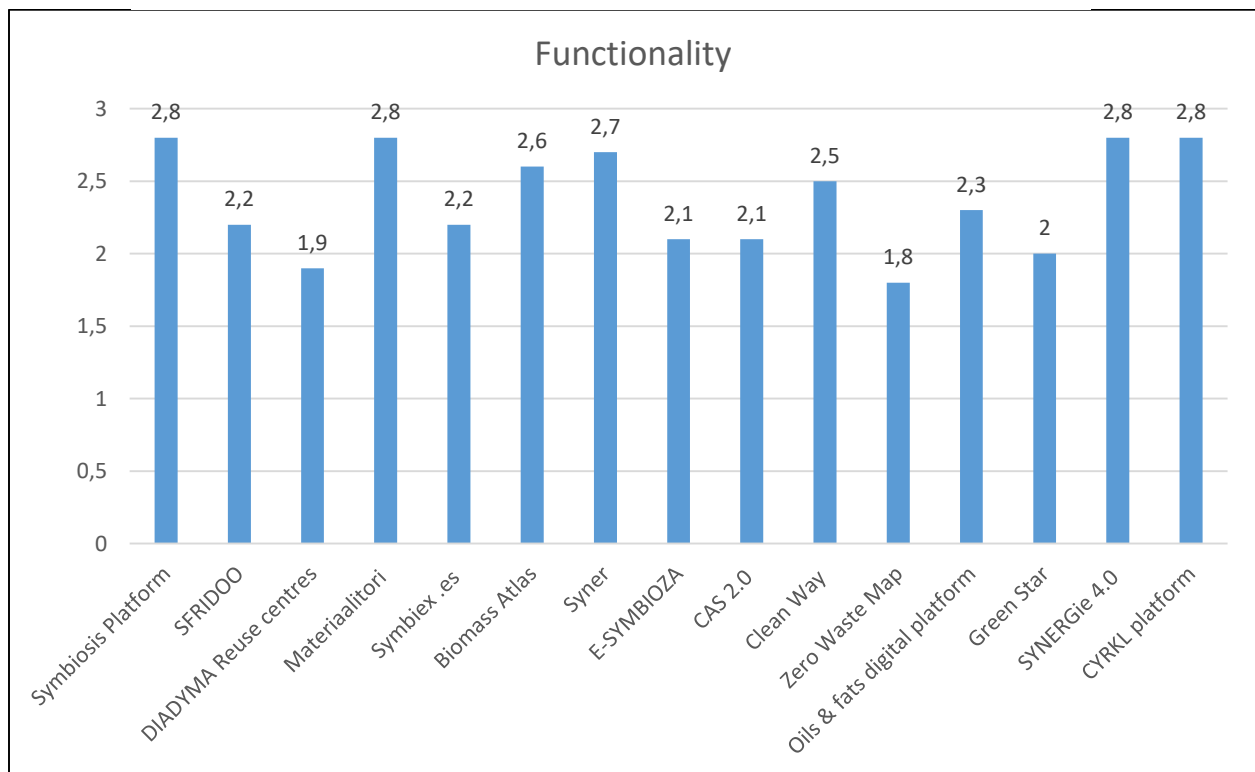
Evaluation results per criterion

This section presents an overview of the evaluation results per criterion, namely (a) functionality, (b) usability, (c) added-value, (d) sustainability, and (e) transferability. Qualitative data, collected during the online survey conducted prior to the workshop, was utilised to explain quantitative findings when required/applicable.

A. Functionality

This figure illustrates the functionality of the collected cases, namely the range of functions that each tool serves, as well as the extent to which it fulfils its goal(s).

Figure 1: Functionality



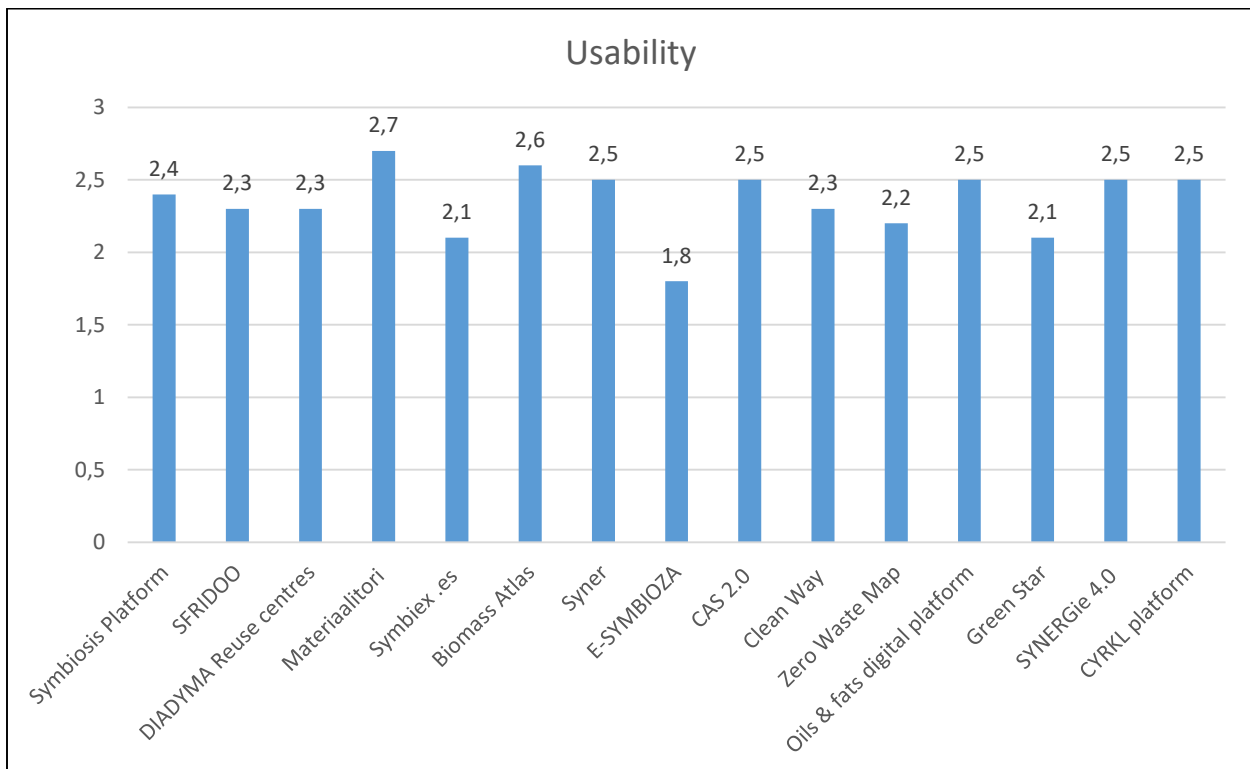
As depicted in the figure, Symbiosis Platform, Materiaalitori, SYNERGie 4.0 and CYRKL platform have the highest score (i.e. 2.8 out of 3 points). According to available qualitative data, both Symbiosis Platform and Materiaalitori serve at least 5 primary functions (exceeding all the other cases), namely (a) improvement of waste valorisation, (b) assistance in identifying potential synergies, (c) management of industrial symbiotic schemes, (d) facilitation of territorial industrial-waste management, and (e) facilitation of the virtual market for secondary materials operation. In addition, Symbiosis provides customized service to companies by developing individual reports on potential matches of interest, while Materiaalitori actively promotes the national Waste Act.

Similarly, both SYNERGie 4.0 and CYRKL platform serve successfully three primary functions (i.e. identification of potential synergies, management of industrial symbiosis schemes, and facilitation of a virtual market for secondary materials/by-products/waste) as indicated by the registered users as well as their expansion to new areas of implementation⁴.

B. Usability

The usability criterion refers to the users' experience and, specifically, to the extent the latter find the tool simple and easy to use.

Figure 2: Usability



⁴ Listed in the "transferability" subsection.

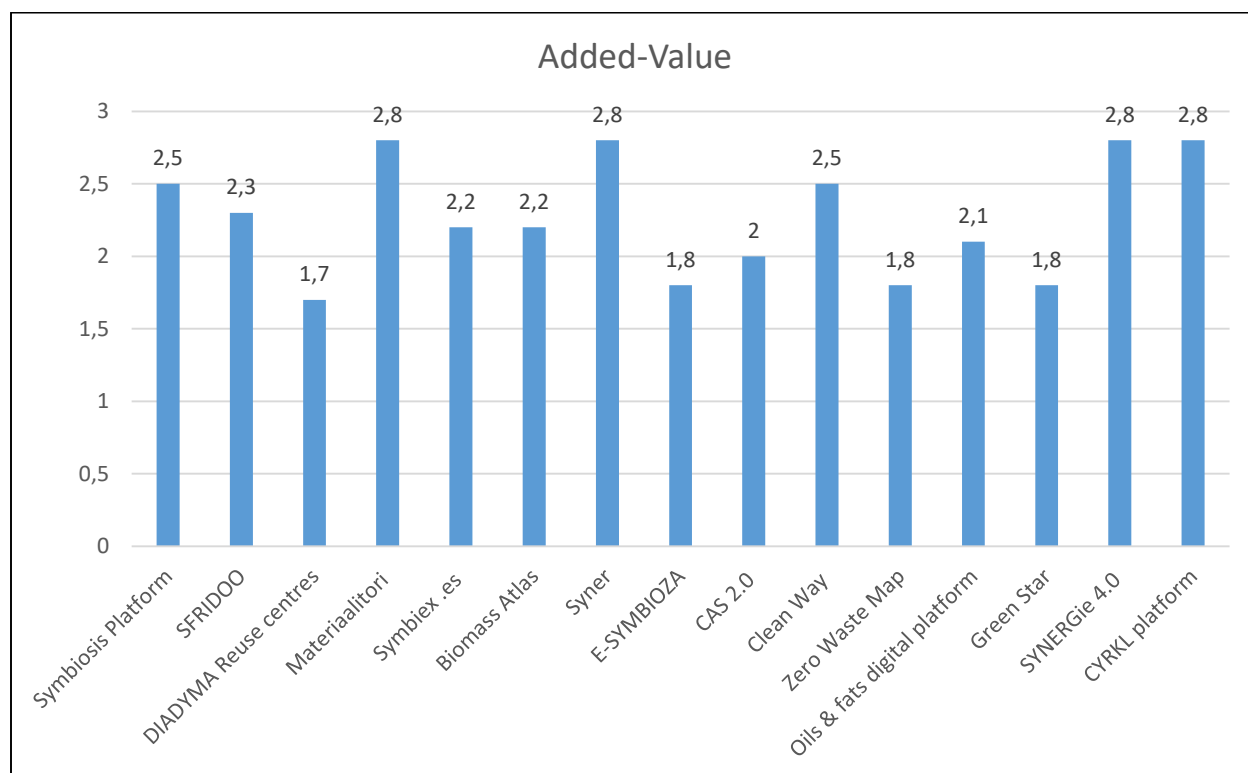
As illustrated, Materialitori and Biomass Atlas have been rated with the highest score (i.e. 2.7 and 2.6 out of 3 points, accordingly), followed by Syner, CAS 2.0, Oils & fats digital platform, and CYRKL platform (2.5 out of 3 points each). As qualitative data reveals, the aforementioned tools are easy and simple in use, since they do not require technical support and/or expertise while resources and instructions regarding their operation are provided publicly.

Regarding Materialitori, all organisations in Finland⁵ can easily access it, on the sole condition they have a relevant ID (i.e. a business ID). Similarly, Biomass Atlas is an easy-to-use tool that has been adjusted during the deployment phase to become as user-friendly as possible. SYNERGie 4.0 provides a translate feature to facilitate users' experience on a global scale. Finally, the operators of CAS 2.0, considering that most of the companies have not yet fully endorsed the concept of circular economy, run a parallel dissemination programme aiming at raising awareness concerning the economic value brought by the transition to a circular economic model.

C. Added-value

The term “added-value” describes the final outcome of the practice in terms of the positive change it might have brought in the implementation area(s). Figure No.3 illustrates the added-value points per case.

Figure 3: Added-value



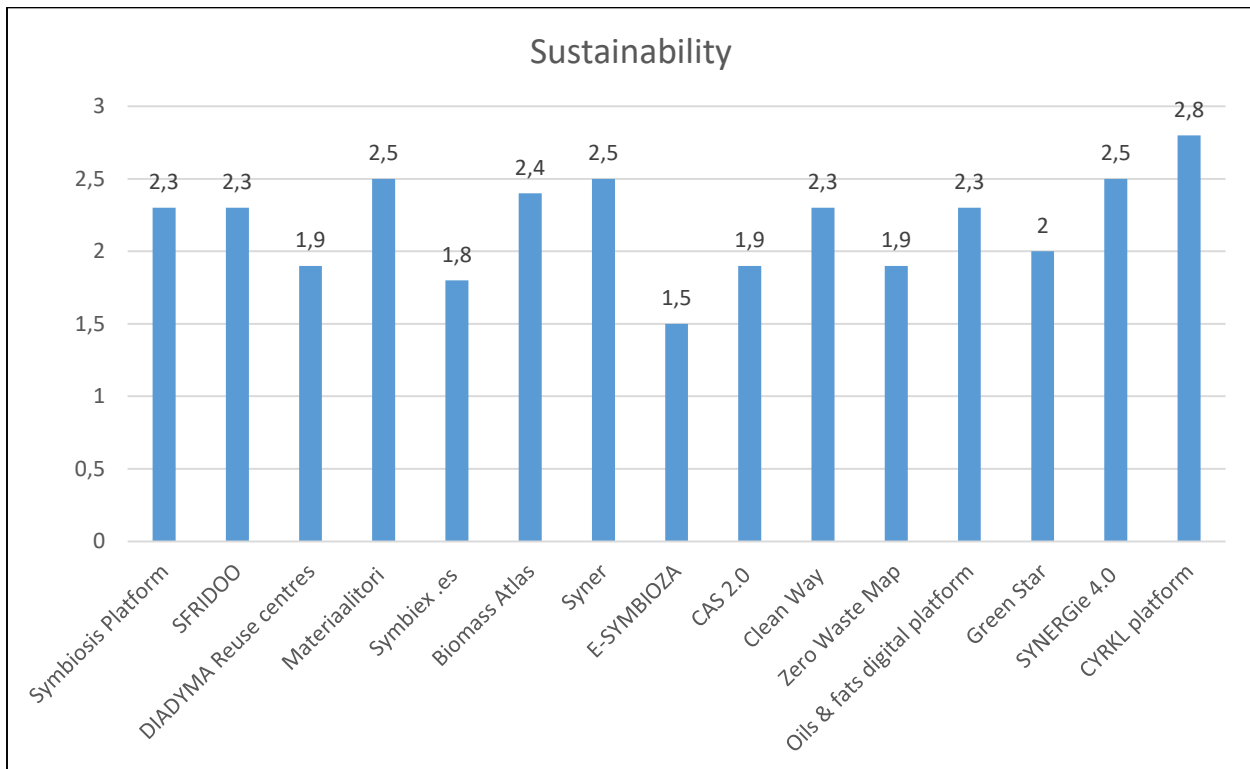
⁵ Excluding regions that are not involved yet in the Finnish Industrial Symbiosis System.

According to the figure, Materiaalitori, Syner, SYNERGie 4.0, and CYRKL platform have been rated with the highest score (i.e. 2.8 out of 3 points). The collected qualitative data provides explanatory information on this result; 1547 users have been already registered in Materiaalitori while many organisations are bound by law to use it, further enhancing its potential by increasing the amount of the available materials. SYNERGie 4.0 hosts information for over 100,000 resources from 34,000 organisations, promoting local sourcing and reuse opportunities for companies across 23 countries. CYRKL platform is currently used by 12,000 clients, becoming the largest platform for the exchange of secondary raw materials in Europe. Finally, Syner promotes circular economy by managing resource consumption and waste production of 52 companies.

D. Sustainability

Figure No.4 depicts the collected sustainability points per case. This fourth criterion refers to the long-term outcome of the practice, namely the extent to which involved actors will continue benefiting from its use in the future, as well as the positive impact it might bring on circular economy in the implementation area(s).

Figure 4: Sustainability



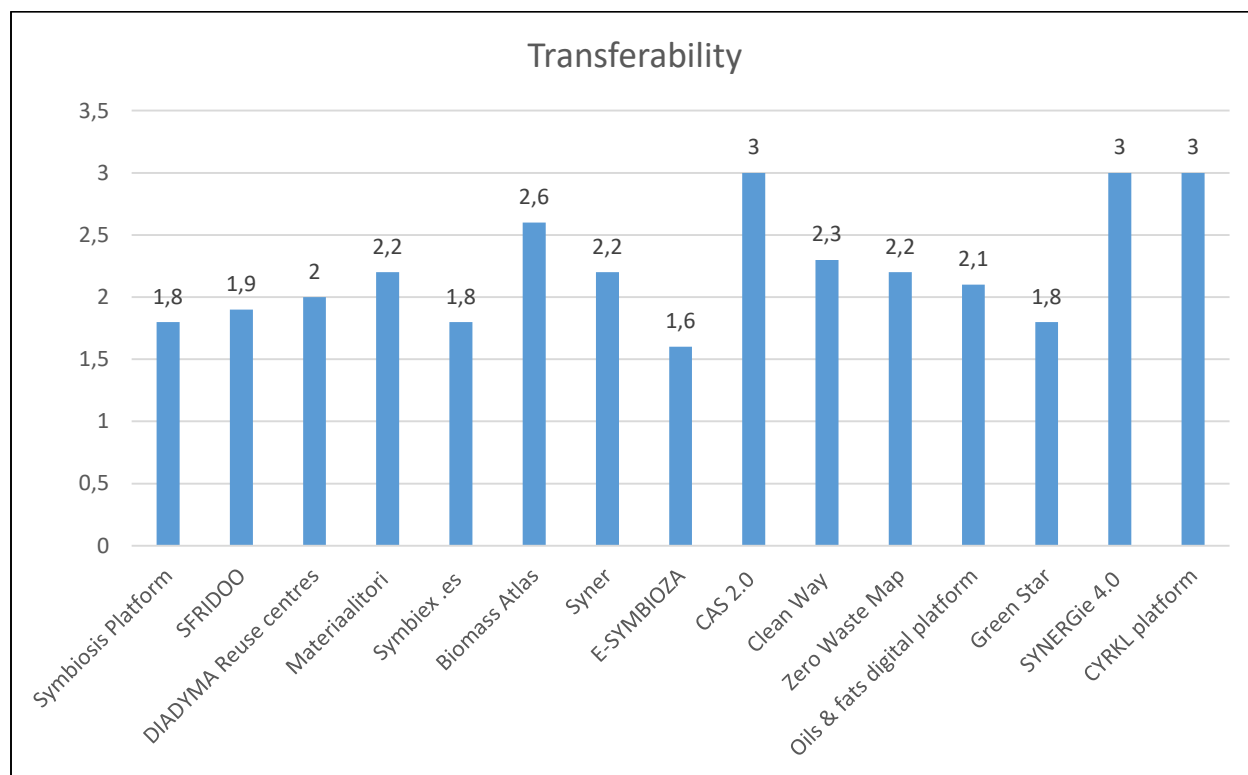
As illustrated in the figure, CYRKL platform received the highest score (i.e. 2.8 out of 3 points), followed by Materiaalitori, Syner, and SYNERGie 4.0 (i.e. 2.5 out of 3 points each). According to the available qualitative data, CYRKL platform has great potential to continue its operation long-term, given its smooth

implementation so far as well as its expansion to countries within and beyond Europe⁶. Materialitiori ensures its viability not only by offering easy access to all organisations at national level (as described earlier), but also by exchanging information with other similar tools and building cooperation. Syner is considered sustainable given its innovative and inclusive character that promotes participation of all relevant stakeholders as well as guarantees a positive impact on the wide-area. Finally, concerning SYNERGie 4.0, raw statistical data shows that resources and organisations on the platform are growing at 10% per year, indicating that the tool has the capacity to operate long-term.

E. Transferability

This last figure describes the transferability of the presented cases, namely their potential to be transferred in other regions/countries. Upon agreement with workshop participants, SVRK processed the collected quantitative data as follows: cases that have been already transferred in other regions/countries have been assigned with 3 points, regardless of their initial score, while there has been no change in the score of other cases.

Figure 5: Transferability



As depicted in figure No.5, CAS 2.0, SYNERGie 4.0, and CYRKL platform have been rated with the highest score (3 out of 3 points). According to the qualitative data collected, CYRKL platform, preliminary developed in the Czech Republic, has been later implemented in other countries, including Slovakia,

⁶ Listed in the “transferability” subsection



Poland, Germany, Italy, Spain, France, and Russia. SYNERGie 4.0 has been in use in Slovenia and UK while CAS 2.0 has been tested in Slovenia, Italy, Austria, and Germany.

Classification and discussion

Classification

Table 4 presents the total score of all cases, classifying them as best, good, and promising, according to the methodology prescribed by the Input paper on digital tools and pathways workshop.

Table 4: Total score/case

Cases	Sum
CYRKL platform (PL)	13.9
SYNERGie 4.0 (SI)	13.7
Materiaalitori (FI)	13.2
Syner (ES)	12.5
Biomass Atlas (FI)	12.4
Clean Way (HU)	12
Symbiosis Platform (IT)	11.8
CAS 2.0 (SI)	11.5
Oils & fats digital platform (GR)	11.2
SFRIDOO (IT)	11
Symbiex.es (ES)	10
Zero Waste Map (PL)	9.8
DIADYMA Reuse centre (GR)	9.8
Green Star (SI)	9.7
E-SYMBIOZA (SI)	8.8

As depicted in table 4, cases are classified as follows:

Best practices

Cases that have collected at least 12 points each are considered best. As illustrated in table 4, these are: Clean Way (12), Biomass Atlas (12.4), Syner (12.5), Materiaalitori (13.2), SYNERGie 4.0 (13.7), and CYRKL platform (13.9).

Good practices

Cases with 8 to 11.9 points are considered good. Based on the final results, such practices are E-SYMBIOZA (8.8), Green Star (9.7), DIADYMA Reuse centre (9.8), Zero Waste Map (9.8), Symbiex.es (10), SFRIDOO (11), Oils & fats digital platform (11.2), CAS 2.0 (11.5), and Symbiosis Platform (11.8).

Promising practices

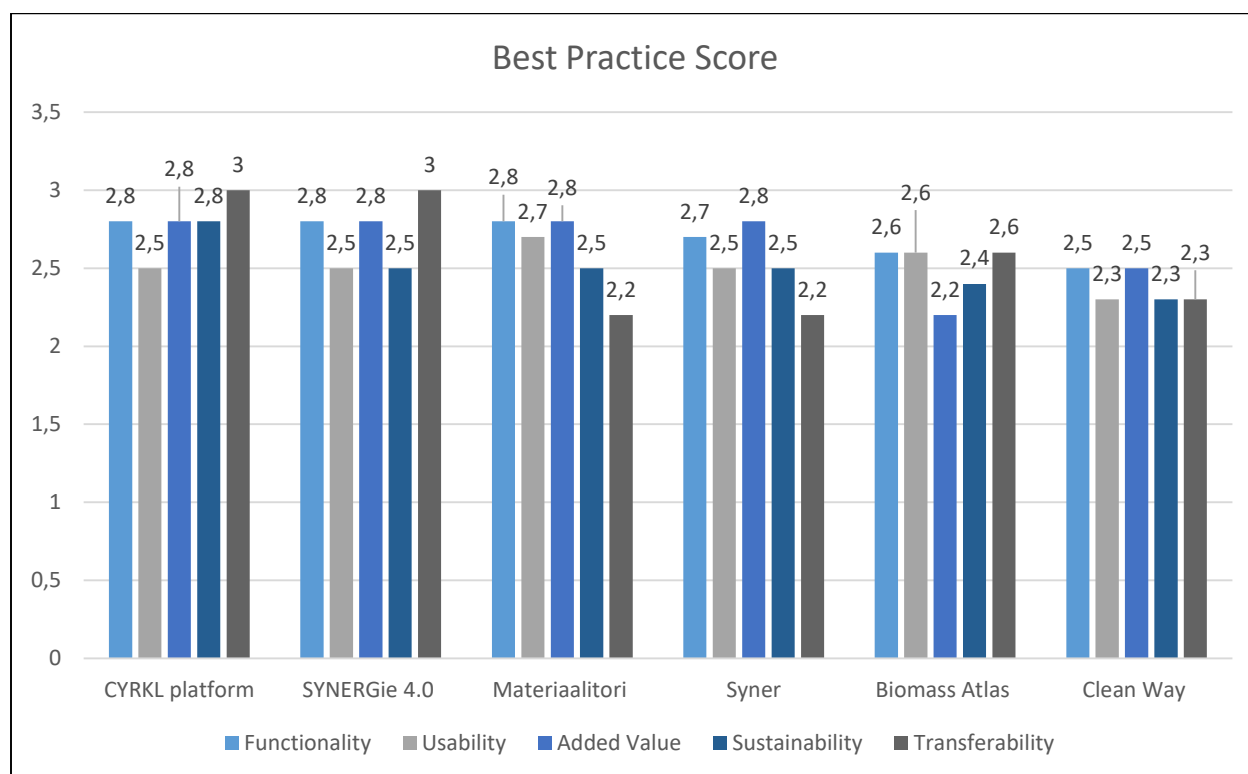
As depicted in the table, there is no case that can be assessed as promising, as the minimum sum equals 8.8 points.

The following subsection comparatively discusses the identified best practices, based on their score per criterion.

Discussion on best practices

Figure 6 illustrates the final score of best practices across the five evaluation criteria, namely functionality, usability, added-value, sustainability, and transferability.

Figure 6: Best practices' score



As illustrated in figure 6, CYRKL platform received the highest score for its transferability (3/3) while it scored the lowest in usability (2.5/3). Participants' concern regarding CYRKL's usability can be explained by the collected qualitative data, which reveals that the tool is vulnerable to fraudulent information, hindering trust building among users. Nevertheless, the tool has become increasingly popular in Czech Republic and beyond.

SYNERGie 4.0 scores the highest in transferability (3/3) and the lowest in usability (2.5/3) and sustainability (2.5/3). Still, these scores are among the highest comparing to other tools, explaining why SYNERGie 4.0 was selected as the basis for the pan-European CircLean matching tool.

Materiaalitori scores the highest in functionality and added-value (2.8/3) and the lowest score in transferability (2.2/3). As described earlier, Materiaalitori acts as a platform to accelerate industrial symbiosis in Finnish regions, by enhancing resource efficiency and utilisation of secondary raw materials. Participants' concerns about Materiaalitori's transferability can be addressed considering that the platform continues to expand across Finland while it has a high potential for being implemented in other EU countries, due to its open-source software.

Syner scores the highest in added-value (2.8/3) and the lowest in transferability (2.2/3). Syner is an open initiative that engages all local stakeholders, thus bringing a positive impact to the whole area. The fact that it has not been in use outside of Manresa, explains its score in transferability; nevertheless, qualitative data highlights that it has the potential to be implemented in other regions as well.

Biomass Atlas scores the highest in functionality, usability, and transferability (2.6/3) and the lowest in added-value (2.2/3). Concerns about Biomass Atlas' added-value are easily addressed considering that the database does not calculate or track its users so the number of involved entities is not available, making it difficult to quantify the implementation outcome and the positive impact it has brought in its implementation areas.

Clean Way is the only tool that does not show significant deviation across the evaluation criteria (i.e. less than < 0.2 points), with the final score per criterion ranging from 2.5 to 2.3/3. More specifically, the tool was assessed with 2.5 in functionality and added-value and 2.3 in usability, sustainability, and transferability. Despite its smooth implementation in Hungary (e.g. unexpected operational problems have not been reported), Clean Way got the lowest score compared to the rest best practices. However, evidence-based explanatory conclusions cannot be drawn due to the limited relevant data available.

Overall, when comparing best practices per criterion (figure 7 and table 5), it can be concluded that, on average, they scored the highest in functionality (2.7/3) and the lowest in usability and sustainability (2.5/3 each), indicating that workshop participants were more concerned about tools' performance in these two criteria. Upon these results, two main conclusions can be drawn:

- Although instructional material and resources are provided publicly for all best practices, workshop participants' concerns indicate the need for additional instructional support that will further facilitate end-users' experience.
- Actions for raising public awareness concerning tools' long-term positive impact on local economy will boost their use at local, national, and international level, thus promoting circular economy.

Figure 7: Best practices/criterion

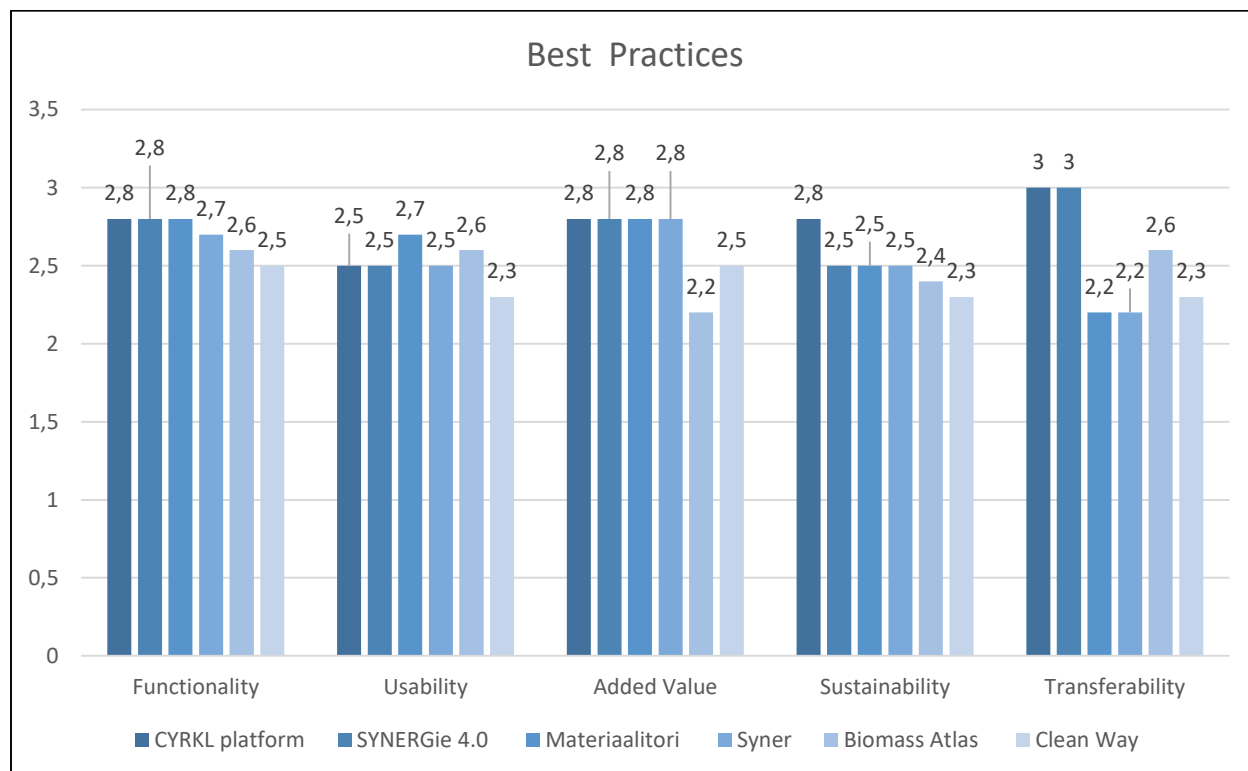


Table 5: Best practices per criterion

Criterion	Average
Functionality	2.7
Added-value	2.7
Transferability	2.6
Usability	2.5
Sustainability	2.5

Annex A⁷

A. CYRKL platform (PL)

Questionnaire	
This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.	
A. Contact Information	
A.1 Please provide the following contact information.	
Name of respondent:	Country Manager of CYRKL.COM in P
Project partner:	Małopolska region
E-mail:	dorota.lesniak@umwm.malopolska.pl
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	Click or tap here to enter text.
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other:
Developer of the tool (Name of the company):	CYRKL.COM - international technology and consulting company specialising in circular waste management based in Prague with branches in different counties
The tool was developed primarily through:	<input checked="" type="checkbox"/> Private funding
	<input type="checkbox"/> EU funding
	<input type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input type="checkbox"/> To improve / standardise waste valorisation	

⁷ The cases are presented in the order of the final results.

<input checked="" type="checkbox"/> To assist in identifying potential synergies						
<input checked="" type="checkbox"/> To monitor / manage industrial symbiotic schemes						
<input type="checkbox"/> To facilitate the territorial management of industrial waste						
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste						
<input type="checkbox"/> Other Click or tap here to enter text.						
C. Use of the digital tool						
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.						
<p>Click or tap here to enter text.</p> <p>CYRKL.COM operates in two areas – as the largest platform of the exchange of secondary raw materials in Europe used by around 12,000 clients (2000 from Poland - SMEs) and also as the team of waste management experts who run a service called Circular Waste Scans aimed at analyzing waste streams in companies generating large amounts of waste.</p> <p>At Cyrkl one can offer: all waste (only to authorized persons), secondary products, recycled and secondary raw materials and excess raw materials. The free account allows to respond to 5 offers. There is also Cyrkl profit account paid with no limit in offers and immediate support from a waste expert.</p>						
C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.						
1 – Not relevant 2 – Somewhat relevant 3 – Relevant 4 – Very relevant 5 – Extremely relevant N / A – Not applicable / No answer						
Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Other Click or tap here to enter text.	1	2	3	4	5	N/A

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)						
The biggest challenge is to build trust among users of this platform, as such a tool is vulnerable to fraudulent users. Legislative and legal aspects of waste management caused problems in operating this tool more efficiently.						
D. Transferability						
D.1 If the digital tool has been implemented <u>in your region / country</u>, please briefly discuss if it should be further supported and disseminated to reach a wider audience.						
This tool was preliminary developed in the Czech Republic, then its coverage has been extended to other countries, including Slovakia, Poland, Germany, Italy, Spain, France, Russia (branches of this company).						
D.2 If the digital tool has been implemented <u>in another EU region / country</u>, please indicate if and under which conditions it could be transferred to yours.						
This transfer to Poland has already happened and the number of users is increasing every week.						

B. SYNERGie 4.0 (SI)

Questionnaire	
This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.	
Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.	
Estimated completion time: 10-15'	
A. Contact Information	
A.1 Please provide the following contact information.	
Name of respondent:	Marjana Dermelj
Project partner:	GODC
E-mail:	Marjana.dermelj@gov.si
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	Click or tap here to enter text.



Type of the tool:	<input type="checkbox"/> Platform / website
	<input checked="" type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	International Synergies
The tool was developed primarily through:	<input checked="" type="checkbox"/> Private funding
	<input type="checkbox"/> EU funding
	<input type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input type="checkbox"/> To improve / standardise waste valorisation	
<input checked="" type="checkbox"/> To assist in identifying potential synergies	
<input checked="" type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input type="checkbox"/> To facilitate the territorial management of industrial waste	
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input type="checkbox"/> Other Click or tap here to enter text.	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
<p>SYNERGie® software`s primary function is to overcome information barriers: the lack of knowledge within one company or sector about opportunities within another company or sector to move the (waste) resource up the value chain and keep it in productive use for longer. A categorisation system for non-material resources is included to enable the reuse of equipment and other non-waste assets. The advisor function running in the background accesses a library of past successes to present the user with automatic, evidence-based solutions from available matching resources without having to search manually. SYNERGie®4.0 enables organisations globally to reduce cost, risk and environmental footprint through efficiently identifying resource reuse opportunities SYNERGie®4.0 features include:- Integrated mapping of resources to prioritise local sourcing and reuse opportunities -Advisor guides characterisation of resources for reuse and recommends opportunities based on machine learning (AI)- Internal and supply chain KPI reporting aligned with stakeholder requirements- External data set upload for system pre-population. It hosts information for over 100,000 resources from 34,000</p>	

organisations across 23 countries on 6 continents; resources and organisations on the platform are growing at 10% per year. Variants of SYNERGie® are now being used for sector specific applications, e.g. construction and utilities.

The company also led a project to combine various data sets together in the software SYNERGie® which adapted the core functionality to incorporate national requirements for waste reporting. The project System for Waste Enhancement, Evaluation and Tracking (SWEET) aim was to generate a solution that simplifies current data entry processes through big data, machine learning and artificial intelligence (AI). Auto-population of company details from Companies House (including SIC), postal address file, waste interrogator and other EA data facilitated quality data entry and assisted users with SIC and EWC selection. SWEET also explored the feasibility of an API to enable the transfer/sharing of required data from organisations with existing data systems.

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Other System proactively identifies potential cross-sectoral matches	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other System has been proven in practice in multiple settings	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

Deployment entails signing up for a license, after which the cloud-based system is available online, and can be translated upon request. System already available in English, French, Hebrew, with further options available as required. Previous versions have been translated into Mandarin, Portuguese and Polish

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

The tool is used within the UK and worldwide.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

The digital tool SYNERGie® is being used worldwide so it is fully transferable into partner regions. It was also selected as the basis for the pan-European CircLean matching tool, albeit with more limited functionality.

C. Materiaalitori (FI)

Questionnaire

Materiaalitori (Material marketplace) is a platform managed by the Finnish state owned company Motiva Ltd for exchange, sale and purchase of waste materials, side streams, by-products and residues. Materiaalitori is intended for the professional exchange of waste and production side streams from companies and organisations. Materiaalitori also allows searching for and offering related services, such as waste management and specialist services. Those working in the field can use Materiaalitori transparently and free of charge.

One of the main goals of the platform is to accelerate the transition towards a circular economy by enhancing resource efficiency and utilisation of secondary raw materials. Materiaalitori also acts as a platform to accelerate industrial symbiosis.

A further aim is to create transparency in the use of the supplementary waste management service provided by municipalities, on which provisions are issued in the Waste Act, and indicating the lack of other service provision which is a prerequisite for obtaining the service.

The reformed Waste Act entering into force on 1 January 2020 requires those waste holders whose need for their municipality's supplementary waste management services exceeds EUR 2,000 in value to use the Materiaalitori service. This requirement will apply to public waste holders, i.e. procurement units, as of 1 January 2021.

Source: https://www.motiva.fi/en/solutions/material_efficiency/materiaalitori

A. Contact Information



A.1 Please provide the following contact information.	
Name of respondent:	Ilkka Hippinen, Motiva Ltd
Project partner:	HAMK & Häme
E-mail:	iida.holck@hamk.fi
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	Materiaalitori
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	Ministry of the Environment and Motiva Oy
The tool was developed primarily through:	<input type="checkbox"/> Private funding
	<input type="checkbox"/> EU funding
	<input checked="" type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input checked="" type="checkbox"/> To improve / standardise waste valorisation	
<input checked="" type="checkbox"/> To assist in identifying potential synergies	
<input checked="" type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input checked="" type="checkbox"/> To facilitate the territorial management of industrial waste	
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input checked="" type="checkbox"/> Other: promote the implementation of the national Waste Act	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	



Any organisation with a business ID producing or utilising waste or side streams or offering related services can use Materiaalitori. Certain authorities can also use the service for managing their statutory duties. Organisations can independently log into the platform and announce their materials or services or inquiries to look for a service or material. If an organisation does not want to log into the system independently, a Regional Coordinator from the Finnish Industrial Symbiosis System (FISS) can make the announcement (applies to regions that have a regional FISS coordinator). The material marketplace has 1547 registered users, 1253 enterprises/organisations. The total number of listed announcements is 600 (2021).

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other <small>Click or tap here to enter text.</small>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other <small>Click or tap here to enter text.</small>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

The reformed Waste Act entering into force on 1 January 2020 requires those waste holders whose need for their municipality's supplementary waste management services exceeds EUR 2,000 in value to use the Materiaalitori service. This requirement applies to public waste holders, i.e. procurement units, as of 1 January 2021. The fact that many organisations are law bound to use the service/platform is an enabler as it increases the notability of the service and the amount of the materials on the platform. This also causes somewhat barriers as thus many users use the platform without desire to

look for industrial symbioses and it also causes some disbalance between the offered materials and required materials. In the commission phase of the platform multiple different end-user profiles were piloted and the service has been tailored to suit different needs. The system is instructional and it guides the user forward. Utilisation of the tool does not require expertise in the field. The funding of the tool entails budget for technical, operational and substance development and the tool is continuously developed. The tool will next be expanded to even more support industrial symbiosis chemes and synergies by bringing the FISS system and the tool closer together. In the future the industrial symbiosis expert pool will be available on the tool’s website.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

The Materiaalitori platform is nationally accessible by all organisations with a business ID. All regions in Finland can access it but there are still some regions that are not involved in the FISS operation (Finnish Industrial Symbiosis System). The FISS operation accelerates the industrial symbiosis schemes through top-down approach. The concept is fully transferable to other EU countries as well. Materiaalitori is built on open-source software and interface. The tool can be programmed to exchange information with other similar platforms to bring other similar tools under the same platform.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

Click or tap here to enter text.

D. SYNER platform (ES)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:

Maika Diaz Aguilar



Project partner:	FUNDECYT-PCTEX
E-mail:	maika.diaz@fundecyt-pctex
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	Click or tap here to enter text.
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	General Secretariat for Population and Rural Development. Government of Extremadura.
The tool was developed primarily through:	<input type="checkbox"/> Private funding
	<input checked="" type="checkbox"/> EU funding
	<input type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input checked="" type="checkbox"/> To improve / standardise waste valorisation	
<input checked="" type="checkbox"/> To assist in identifying potential synergies	
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input checked="" type="checkbox"/> To facilitate the territorial management of industrial waste	
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input type="checkbox"/> Other Click or tap here to enter text.	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
SYNER platform is the online data management tool to implement industrial symbiosis projects towards a circular economy. Our software can effectively manage resource consumption and waste production of companies and identify potential high valued matches between companies through wasted resources. SÍNER is a compilation of innovative solutions	

to give added value to company waste by connecting them to potential “partners”. The summary data are:

52 companies involved
7,4 thousand energy consumption (Kw/h /year)
33,8 thousand (t/year) Waste generation.
15 thousand Water consumption (m2/year)

Access the platform: www.synerplatform.com

C.2 According to the desk research you conducted and / or end-users’ perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

Click or tap here to enter text.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

Click or tap here to enter text.

This could be transferable to other regions. This is an open initiative, where all the stakeholders in the area are working in the identification of the best projects to be implemented. Because it is defined to impact in a wide area, the results will affect every category described above. It is an initiative with an integral point of view where they will discover new opportunities to turn Manresa into a reference in Industrial Symbiosis within the country.

E. Biomass Atlas (FI)

Questionnaire	
Biomass Atlas is an open service that collects location data about biomass under a single user interface. Developed by the Natural Resources Institute Finland together with the Finnish Environment Institute, Tapio, the University of Eastern Finland and the University of Vaasa, and with funding from the Finnish Ministry of Agriculture and Forestry, the service enables users to calculate the amount of biomass in a given geographical area, as well as examining the opportunities to utilise the biomass and restrictions on its use. The development and update of the Atlas has happened through several national publically funded projects.	
Source: https://projects.luke.fi/biomassa-atlas/en/	
A. Contact Information	
A.1 Please provide the following contact information.	
Name of respondent:	Eeva Lehtonen
Project partner:	HAMK & Häme
E-mail:	iida.holck@hamk.fi
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	Click or tap here to enter text.
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input checked="" type="checkbox"/> Software
	<input checked="" type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	Natural Resources Institute Finland

The tool was developed primarily through:	<input type="checkbox"/> Private funding
	<input type="checkbox"/> EU funding
	<input checked="" type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input type="checkbox"/> To improve / standardise waste valorisation	
<input checked="" type="checkbox"/> To assist in identifying potential synergies	
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input type="checkbox"/> To facilitate the territorial management of industrial waste	
<input type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input checked="" type="checkbox"/> Other Click or tap here to enter text.	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
<p>The map user interface is easy to use and allows users to watch, analyse and report on biomass from forestry, agriculture, and biodegradable waste from communities and industry. There are approximately 300 map layers of different biomass types or land use categories in the map user interface. It is not necessary to register and log in, but if you do so, you will enable some extra features like saving your biomass search and analysis. The goals of making the biomass data available include supporting investment decisions and sustainable use of natural resources, as well as helping decision-makers to create sustainable energy policies. Biomass Atlas is available in Finnish, Swedish and English. The database does not calculate or track its users so the number of involved entities is not available.</p>	
C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.	
1 – Not relevant	
2 – Somewhat relevant	
3 – Relevant	
4 – Very relevant	

5 – Extremely relevant						
N / A – Not applicable / No answer						
	1	2	3	4	5	N/A
Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Click or tap here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Click or tap here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)						
<p>The main enabler of the tool is that it entails extensive information; approximately 300 map layers of different biomass types or land use categories in the map user interface. The users can choose whether they login to the service or not which lowers the threshold to deploy the service. In the deployment phase of the tool different end user profiles were tested and the service was adjusted to make the service as user friendly as possible. The main barrier of the tool is that it requires some knowledge and expertise in the field of biomasses to be able to grasp the aim of the tool. The tool can be a building block of industrial symbiosis schemes by supporting investment decisions; for example where to find suitable by-products or wastes when looking for industrial symbiosis synergies. However, the tool does not indicate whether the biomass is “available” or not, but it gives an overview of the biomass resources and their locations. The tool also acts as an important databank for research and education. It also supports sustainable use of natural resources, as well as helping decision-makers to create sustainable energy policies.</p>						
D. Transferability						
D.1 If the digital tool has been implemented <u>in your region / country</u>, please briefly discuss if it should be further supported and disseminated to reach a wider audience.						
<p>The concept is fully transferable to other EU countries as well. The atlas is built on EU compatible standards that are based on an open interface. Some of the information to the atlas is abstracted from the EU's integrated administration and control system (IACS). Similar tools exist in other EU countries.</p>						

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

Click or tap here to enter text.

F. Clean Way (HU)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Gabor Heves
Project partner:	Pannon Novum Nonprofit Ltd.
E-mail:	gabor.heves@pannonnovum.hu

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	Clean Way
Type of the tool:	<input type="checkbox"/> Platform / website <input checked="" type="checkbox"/> Software <input checked="" type="checkbox"/> Database <input checked="" type="checkbox"/> Other: application
Developer of the tool (Name of the company):	Clean-Way Ltd.
The tool was developed primarily through:	<input checked="" type="checkbox"/> Private funding <input type="checkbox"/> EU funding <input type="checkbox"/> National public funding <input type="checkbox"/> Regional public funding <input type="checkbox"/> Local public funding

	<input type="checkbox"/> Joint public-private funding <input type="checkbox"/> Other: Click or tap here to enter text.					
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)						
<input checked="" type="checkbox"/> To improve / standardise waste valorisation						
<input checked="" type="checkbox"/> To assist in identifying potential synergies						
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes						
<input type="checkbox"/> To facilitate the territorial management of industrial waste						
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste						
<input type="checkbox"/> Other Click or tap here to enter text.						
C. Use of the digital tool						
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.						
This is a map application which enables the coordination of construction projects in the country and thus the economical and environmentally friendly use of the extracted waste. End-users are construction managers, contractors, architects, project managers.						
C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.						
1 – Not relevant						
2 – Somewhat relevant						
3 – Relevant						
4 – Very relevant						
5 – Extremely relevant						
N / A – Not applicable / No answer						
Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

Other Click or tap here to enter text.	1	2	3	4	5	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Click or tap here to enter text.	1	2	3	4	5	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)						
Unfortunately we didn't find any information regarding this question.						
D. Transferability						
D.1 If the digital tool has been implemented <u>in your region / country</u>, please briefly discuss if it should be further supported and disseminated to reach a wider audience.						
It has been introduced in Hungary, there is no information regarding the use of the application in any other country. The digital tool could be implemented in the border region around Hungary and also could be extended the use to the neighborhood countries although we have no information of the intent of developer.						
D.2 If the digital tool has been implemented <u>in another EU region / country</u>, please indicate if and under which conditions it could be transferred to yours.						
Click or tap here to enter text.						

G. SYMBIOSIS Platform (IT)

Questionnaire
<p>This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.</p> <p>Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.</p> <p>Estimated completion time: 10-15'</p>
A. Contact Information
A.1 Please provide the following contact information.

Name of respondent:	Francesca Cuna
Project partner:	PP4 Chamber of Commerce Molise
E-mail:	francesca.cuna@molise.camcom.it
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	SYMBIOSIS
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	ENEA - National Agency for New Technologies, Energy and Sustainable Economic Development
The tool was developed primarily through:	<input type="checkbox"/> Private funding
	<input type="checkbox"/> EU funding
	<input checked="" type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input checked="" type="checkbox"/> To improve / standardise waste valorisation	
<input checked="" type="checkbox"/> To assist in identifying potential synergies	
<input checked="" type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input checked="" type="checkbox"/> To facilitate the territorial management of industrial waste	
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input type="checkbox"/> Other Click or tap here to enter text.	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
Enea has designed the first Italian industrial symbiosis platform, as a tool to facilitate the process.	
The ENEA methodology is based on a "horizontal" network approach, with the aim of creating synergies and closing the loop between supply and demand for various resources.	

The Platform is based on:

- an expert structure that identifies possible solutions of industrial symbiosis
- a complex information structure, also georeferenced, which describes the territory, its structures, the interlocutors and available resources
- a network that connects different interlocutors with a web interface.

Among other activities and services, Symbiosis is able to send to each company individual reports containing information on potential matches of interest. It is also developing operating manuals for industrial symbiosis.

SOME DATA

N. 234 companies involved

N. 2644 resources

N. 1946 symbios cases

<https://circulareconomy.europa.eu/platform/en/dialogue/existing-eu-platforms/enea-platform-industrial-symbiosis>

<http://www.industrialsymbiosis.it/piattaforma>

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1	2	3	4	5	N/A

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Click or tap here to enter text.	1	2	3	4	5	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)						
<u>ENABLERS</u> The tool allows an integrated analysis of the management system of company resources (materials, water, services, capacities) in order to obtain internal efficiency (optimization and enhancement at company level) and external (evaluation of cooperative and exchange approaches , implementation of industrial symbiosis paths in the area).						
<u>BARRIERS</u> No barriers else than the ones connected to the implementation of industrial symbiosis at local level, mainly due to regulatory obstacles encountered by companies when trying to share production residues (“waste” to be converted into resources)						
D. Transferability						
D.1 If the digital tool has been implemented <u>in your region / country</u>, please briefly discuss if it should be further supported and disseminated to reach a wider audience.						
Click or tap here to enter text. It has not been implemented in our region but it can also offer its services to Molise companies. The platform could be national or regional. All national companies can subscribe to the platform, share resources and identify industrial symbiosis paths.						
D.2 If the digital tool has been implemented <u>in another EU region / country</u>, please indicate if and under which conditions it could be transferred to yours.						
Click or tap here to enter text.						

H. Circularity Assessment Scoring 2.0 (CAS2.0) (SI)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information	
A.1 Please provide the following contact information.	
Name of respondent:	Tina Pezdirc Nograšek
Project partner:	Regional Development Agency of the Ljubljana Urban Region
E-mail:	tina.pezdirc@rralur.si
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	Circularity Assessment Scoring 2.0 (CAS2.0)
Type of the tool:	<input type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input checked="" type="checkbox"/> Other: Online questionnaire
Developer of the tool (Name of the company):	Institute Josef Stefan, Technology Park Ljubljana, Giacomelli media d.o.o.
The tool was developed primarily through:	<input type="checkbox"/> Private funding
	<input checked="" type="checkbox"/> EU funding
	<input type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input type="checkbox"/> To improve / standardise waste valorisation	
<input type="checkbox"/> To assist in identifying potential synergies	
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input type="checkbox"/> To facilitate the territorial management of industrial waste	
<input type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input checked="" type="checkbox"/> The purpose of the Circularity Assessment Scoring 2.0 (CAS 2.0) is to assess the degree of circularity in the companies. Consequently the improvements, made on the basis of the CAS 2.0, exploit the potential of the circular economy practices in companies, which could increase the economic value with the improvement of profitability, competitiveness, level of internationalisation	

and the total factor productivity. This is the self-assessment tool that enables the strategic approach toward circular economy transformation.

C. Use of the digital tool

C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.

The idea behind this tool is to support businesses in the green transition, enabling them to integrate circular principles in its business model. The testing phase includes 60 companies from Slovenia, Italy, Austria and Germany from different sectors. The second testing phase indicates to reach the level of 280 companies in different Alpine Space countries. The focus is on assessment of the level of commitment towards circular transformation and awareness of the key aspects of circular economy before entering the implementation process. The main purpose of the tool is to encourage the company to move on a higher level of commitment for circular economy practices.

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

The main barrier is the level of understanding in companies of what benefits could the transformation to circular economy bring to the economic value (profitability, competitiveness, internationalisation productivity, etc.). At the same time the companies willing to commit to this transformation have a lack

of knowledge and understanding of the process. Therefore the CAS 2.0. tool is followed by the pilot programme mentored by the operators that support the process of transformation.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

The digital tool has been tested in Slovenia, Italy, Austria and Germany. This systemic tool could be used in transformation programs in EU regions in connection with the specific strategic documents that deal with the green transition.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

The transfer of the digital tool is ongoing in Slovenia. It is indicated that the tools will be further supported, disseminated and implemented in the framework of the strategic project: "Deep demonstration of a Circular, Regenerative and Low-Carbon Economy", one of eight Deep Demonstrations launched by EIT Climate-KIC.

I. Edible oils and fats platform (GR)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	PERIKLIS KAFASIS -WASTE MANAGEMENT OF WESTERN MACEDONIA S.A. – DIADYMA S.A.
Project partner:	PP6-Municipality of Kozani
E-mail:	pkafasis@diadyma.gr

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	Edible oils and fats platform
Type of the tool:	<input checked="" type="checkbox"/> Platform / website <input type="checkbox"/> Software



	<input type="checkbox"/> Database <input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	Less Waste II -the partnership is coming from Greece and Albania –DIADYMA S.A (LEADER, Greece) – Centre for Research and Technology Hellas (Greece) – Municipality of Grevena(Greece) – Municipality of Kastoria (Greece)– Urban Research Institute (Albania) – Municipality of Skrapar (Albania)
The tool was developed primarily through:	<input type="checkbox"/> Private funding <input checked="" type="checkbox"/> EU funding <input checked="" type="checkbox"/> National public funding <input type="checkbox"/> Regional public funding <input type="checkbox"/> Local public funding <input type="checkbox"/> Joint public-private funding <input type="checkbox"/> Other: Click or tap here to enter text.
<input checked="" type="checkbox"/>	
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.) <input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> To improve / standardize waste valorisation	
<input type="checkbox"/> To assist in identifying potential synergies	
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input type="checkbox"/> To facilitate the territorial management of industrial waste	
<input type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input type="checkbox"/> Other •	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
<p><i>The edible oils and fats platform may include all the citizens of Western Macedonia Region and provides the recycling and re-use of edible oils through awarding digital tools. Each household which wants to be a part of the tool can be registered and collect points through edible oils recycling. They can take a specific bottle with a unique barcode and when the bottle is full they put it into specific machines (ATM's) and take another one empty. The full bottle is checked for its content and the household is awarded with points which may be redeemed to private or public entities.</i></p>	

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

The platform was developed from a private company after market research. We have not faced any barriers during the development but the main obstacle can be the participation of private companies. We strongly believe that when the number of households will increase the companies will take part in the system because they will have several advantages.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

This tool can be transferred at the country level and assist all the waste management entities in Greece. Several authorities came in contact with us to ask about its operation. It is a very effective tool for the recycling and re-use of edible oils and fats that are produced at homes.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

Click or tap here to enter text.

J. Sfridoo (IT)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Francesca Cuna
Project partner:	PP4 Chamber of Commerce Molise
E-mail:	francesca.cuna@molise.camcom.it

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	SFRIDOO
Type of the tool:	<input type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input checked="" type="checkbox"/> Database
	<input checked="" type="checkbox"/> Other: Marketplace
Developer of the tool (Name of the company):	SFRIDOO S.R.L. (Startup)
The tool was developed primarily through:	<input checked="" type="checkbox"/> Private funding
	<input type="checkbox"/> EU funding
	<input type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding

	<input type="checkbox"/> Local public funding <input type="checkbox"/> Joint public-private funding <input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input checked="" type="checkbox"/> To improve / standardise waste valorisation	
<input checked="" type="checkbox"/> To assist in identifying potential synergies	
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input type="checkbox"/> To facilitate the territorial management of industrial waste	
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input type="checkbox"/> Other Click or tap here to enter text.	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
<p>SFRIDOO is the marketplace for buying and selling production waste and company assets. SFRIDOO helps the companies to improve their by-product management model, through a dedicated project to build the documentation required by current legislation.</p> <p>Over the last two years, the average increase in waste disposal costs has been around 40% for manufacturing and service companies (source: REF Research Laboratory report). This leads to a difficult business challenge to find efficient and innovative solutions. Sfridoo was born from this need: to help producers and service companies in obtaining the maximum value from production residues, assets and leftovers.</p> <p>Furthermore, Sfredo certifies the commitment of companies in the elimination and reduction of single-use plastic items from the workplace. With Sfrido's Plastic-free certificate, which follows the points dictated by the Ministry of the Environment and the latest local and international regulations, companies concretize and communicate their corporate responsibility to customers and stakeholders.</p> <p>SOME DATA: -70 successful business cases -Type of enterprises: SMEs / Large enterprises - Sectors: Engineering, construction, textile, agro-industry -Results: over 4 million euros in savings for businesses</p> <p>https://www.sfridoo.com/</p>	

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

ENABLER ELEMENTS OF THE IMPLEMENTATION PROCESS

- Eliminating disposal costs
- Offering a huge competitive advantage by increasing the profit margins of companies on products
- Allowing to earn from residues by keeping the entire business under control: from raw materials to scrap
- Allowing to earn from inventories and assets, obtaining the maximum economic and reuse value
- Contributing to the creation of a network of virtuous companies that aim for sustainability and a regenerative economy thanks to industrial symbiosis.
- Issue of the Plastic-free certificate.

BARRIERS

- regulatory limits
- lack of trust between companies
- initial distrust of Sfridoo

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

Click or tap here to enter text.

It has not been implemented in our region but it can also offer its services to Molise companies.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

Click or tap here to enter text.

K. Symbiex.es (ES)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Ángel Huertas
Project partner:	Fundecyt-PCTEX
E-mail:	angel.huertas@fundecyt-pctex.es

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	Symbiex.es
Type of the tool:	<input checked="" type="checkbox"/> Platform / website <input type="checkbox"/> Software <input type="checkbox"/> Database <input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	Fundecyt-PCTEX
The tool was developed primarily through:	<input type="checkbox"/> Private funding



	<input checked="" type="checkbox"/> EU funding <input type="checkbox"/> National public funding <input type="checkbox"/> Regional public funding <input type="checkbox"/> Local public funding <input type="checkbox"/> Joint public-private funding <input type="checkbox"/> Other: Click or tap here to enter text.					
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)						
<input type="checkbox"/> To improve / standardise waste valorisation						
<input checked="" type="checkbox"/> To assist in identifying potential synergies						
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes						
<input checked="" type="checkbox"/> To facilitate the territorial management of industrial waste						
<input checked="" type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste						
<input type="checkbox"/> Other Click or tap here to enter text.						
C. Use of the digital tool						
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.						
<p>In the following link you have access to the list of companies in the region of Extremadura that participate in the platform, a total of 14. A business collaboration tool, through which a company incorporates underutilized resources (including waste, by-products, energy, water, etc.) from another company into its production process, with the objective of keeping the resources in productive use for a longer period of time. http://www.symbiex.es/las-empresas/</p>						
C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.						
1 – Not relevant 2 – Somewhat relevant 3 – Relevant 4 – Very relevant 5 – Extremely relevant N / A – Not applicable / No answer						
Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1	2	3	4	5	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1	2	3	4	5	N/A

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

We developed the tool with the help of a specialized company. There were no technical problems, but there were problems when it came to collecting information from the companies, since the distances in our region, where the platform has a reach, are large. It would be a great opportunity to develop the platform to increase the interaction capabilities among the participating companies and to dynamize it with new actions to find synergies.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

It should be more widely disseminated to increase the network of contacts included in the map of entities. Once the financing period for the construction of the platform is over, it should be continued in order to expand the list of participating companies to increase the possibilities of collaboration

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

It is a tool of our region, Extremadura.

L. Zero Waste Map (PL)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Representative of Polish Zero Waste Association
Project partner:	Małopolska region
E-mail:	dorota.lesniak@umwm.malopolska.pl
B. Description of the digital tool	
B.1 Please provide the requested information concerning the digital tool under discussion.	
Name of the tool:	Click or tap here to enter text.
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other:
Developer of the tool (Name of the company):	Common initiative of Polish Association ZERO WASTE and BANK ING
The tool was developed primarily through:	<input checked="" type="checkbox"/> Private funding
	<input type="checkbox"/> EU funding
	<input type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input type="checkbox"/> To improve / standardise waste valorisation	
<input type="checkbox"/> To assist in identifying potential synergies	
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input type="checkbox"/> To facilitate the territorial management of industrial waste	
<input type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input checked="" type="checkbox"/> Other promote conscious purchasing and reduction of waste production	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
Click or tap here to enter text.	
The Zero Waste map allows you to search and add new places in your area that work according to the zero waste idea, e.g. local repair points, reusable packaging stores, second hand stores, etc.	

This map is for individual users and for companies operating ecologically and in accordance with the 5R principles. The application and maintenance of a point on the map is free of charge. The offers before adding to the map are going through a moderation process and have to fulfil some criteria described in action regulations available on this platform.

During the first month of operation around 300-400 places were added to the map, mainly by individual users.

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

This map is the initiative of the Polish Zero Waste Association created with the support of ING Bank Śląski who allocated the resources for functioning this tool and a wide promotional campaign carried out actually. For the future activities connected with maintaining this map some funds will be needed. For some users the process of verification of the offers is too long. It could happen when there are lots of them submitted at the same time and have to wait for feedback.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

[Click or tap here to enter text.](#)

From the beginning the map was designed in order to cover the whole country. The idea of this tool should be disseminated but individually in each region as this is for users and customers operating locally.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

Click or tap here to enter text.

M. DIADYMA Reuse centres (GR)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Trikoilidoiu Eleni
Project partner:	PP6_Municipality of Kozani
E-mail:	etrikilidou@cityofkozani.gov.gr

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	DIADYMA Reuse Platform (https://reuse.diadyma.gr) (only in Greek)
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	DIADYMA S.A. – Waste Management of Western Macedonia S.A.
The tool was developed primarily through:	<input type="checkbox"/> Private funding



	<input checked="" type="checkbox"/> EU funding												
	<input type="checkbox"/> National public funding												
	<input checked="" type="checkbox"/> Regional public funding												
	<input checked="" type="checkbox"/> Local public funding												
	<input type="checkbox"/> Joint public-private funding												
	<input type="checkbox"/> Other: Click or tap here to enter text.												
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)													
<input checked="" type="checkbox"/> To improve / standardize waste valorisation													
<input type="checkbox"/> To assist in identifying potential synergies													
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes													
<input type="checkbox"/> To facilitate the territorial management of industrial waste													
<input type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste													
<input checked="" type="checkbox"/> Other Enable public on reusing wastes To facilitate the territorial management of municipal waste													
C. Use of the digital tool													
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.													
<i>The end users are the people of the West Macedonia Region, Greece, who can dispose of materials that they do not want to use anymore or find second-hand material for use. The platform is open to the public for getting all the necessary information as well as to register so as to be able to exchange material (purchase or dispose). For the moment there are two Reuse Centres in Western Macedonia (Kastoria and Florina) linked to the platform and it is programmed to be transferred further to Kozani and Grevena.</i>													
C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.													
1 – Not relevant													
2 – Somewhat relevant													
3 – Relevant													
4 – Very relevant													
5 – Extremely relevant													
N / A – Not applicable / No answer													
Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>N/A</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	1	2	3	4	5	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	N/A								
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								

Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)						
<p><i>The platform is open to the public for getting all the necessary information and registering so as to be able to exchange material (deliver or purchase). There are 16 different general categories of material for purchase and by clicking on those of interest, one can see pictures, availability and communication information for making the exchange. If the user wants to deliver a material by clicking on this option, find the necessary information about which materials are accepted and how they can be delivered. Appointments can be made by telephone and by an on-line appointment service. DIADYMA S.A. is an experienced stakeholder on waste management and it was easy for them to design the platform. The barriers met were mostly on how to disseminate the use of the platform, since communication activities in COVID period have many restrictions. Nonetheless, efforts through social media and printed material were quite successful.</i></p>						
D. Transferability						
D.1 If the digital tool has been implemented in <u>your region / country</u>, please briefly discuss if it should be further supported and disseminated to reach a wider audience.						
<p><i>The digital tool is implemented in two of the four counties of the Region of Western Macedonia (Kastoria and Florina) and will also be transferred in the counties of Kozani and Grevena. It is an easily transferred tool for every county and region in Greece and other areas.</i></p>						
D.2 If the digital tool has been implemented <u>in another EU region / country</u>, please indicate if and under which conditions it could be transferred to yours.						
Click or tap here to enter text.						

N. Green Star (SI)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Marjana Dermelj
Project partner:	SVRK
E-mail:	Marjana.dermelj@gov.si

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	Click or tap here to enter text.
Type of the tool:	<input checked="" type="checkbox"/> Platform / website <input type="checkbox"/> Software <input type="checkbox"/> Database <input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	CER Sustainable Business Network Slovenia
The tool was developed primarily through:	<input checked="" type="checkbox"/> Private funding <input type="checkbox"/> EU funding <input type="checkbox"/> National public funding <input type="checkbox"/> Regional public funding <input type="checkbox"/> Local public funding <input type="checkbox"/> Joint public-private funding <input type="checkbox"/> Other: Click or tap here to enter text.

B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)

- To improve / standardise waste valorisation
 To assist in identifying potential synergies

To monitor / manage industrial symbiotic schemes

To facilitate the territorial management of industrial waste

To facilitate a virtual market for secondary materials / by-products / waste

Other

The purpose of the questionnaire is to assess where the company is on the path of green transformation and how ambitiously it has set itself up for green growth. The questions prepare the company for sustainability reporting and set the groundwork for the company's sustainable strategies. The questionnaire is based on international ESG standards and frameworks, different types of questions that are evaluated with regard to the selected answer. You will also need concrete data to answer the questions successfully.

C. Use of the digital tool

C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.

This digital tool has three parts. In the first part it aims at mapping the current ESG status at the company level focusing among others on the aspect of energy, water and raw material use.

The second part is focused on ESG and special climate goals and the third part on ESG and special climate actions.

The idea behind the tool is to support businesses in identifying the areas where environmental pressure could be reduced and can assist companies to set the goals and define the strategies to achieve them. Exchange of waste and/or energy is among them. So despite the fact that the tool per se is not aiming directly at supporting the exchange of energy or resources it can support companies to identify where the potential for such exchange exists.

The tool will help companies detect climate risks and opportunities in the value chains (up and down stream). It will also help companies to develop new circular business models.

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

[Click or tap here to enter text.](#)

The tool was just launched in January 2022, so the relevant information on what type and number of businesses using it is not yet available.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

The tool is based on the international sustainability standards and frameworks and is applicable to the companies worldwide. So it would be useful to extend the base of its users. It is based on established international reporting frameworks and incorporates relevant draft regulatory requirements (United Nations The Sustainable Development Agenda by 2030 – 17 Sustainable Development Goals, Paris Climate Accord, OECD Guidelines, international guidelines for sustainable business conduct, TFCD, CDP, GRI, Integrated reporting, CDSB, 1.5 Supply chain leaders initiative, and European Union development and regulatory documents (EU Green Deal, Circular Economy Action Plan, Biodiversity Strategy to 2030, Corporate Sustainability Reporting Directive Proposal, EU Taxonomy).

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

Not yet.

O. E-SYMBIOZA (SI)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Urška Fric
Project partner:	Faculty of Information Studies in Novo mesto
E-mail:	urska.fric@fis.unm.si

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	E-SIMBIOZA
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	Faculty of Information Studies in Novo mesto, Komunala Novo mesto d. o. o., Association for Developing Voluntary Work Novo mesto
The tool was developed primarily through:	<input type="checkbox"/> Private funding
	<input checked="" type="checkbox"/> EU funding
	<input checked="" type="checkbox"/> National public funding
	<input type="checkbox"/> Regional public funding
	<input type="checkbox"/> Local public funding
	<input type="checkbox"/> Joint public-private funding
	<input checked="" type="checkbox"/> Other: Own funding

B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)

- To improve / standardise waste valorisation
- To assist in identifying potential synergies
- To monitor / manage industrial symbiotic schemes
- To facilitate the territorial management of industrial waste
- To facilitate a virtual market for secondary materials / by-products / waste
- Other Click or tap here to enter text.



C. Use of the digital tool

C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.

20 companies
Slovenia, SME and LE

C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool.

1 – Not relevant

2 – Somewhat relevant

3 – Relevant

4 – Very relevant

5 – Extremely relevant

N / A – Not applicable / No answer

	1	2	3	4	5	N/A
Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other Click or tap here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other Click or tap here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

Lack of financial resources to promote the tool through personal presentations to potential stakeholders who could use the tool.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

The tool should certainly be supported, as it is currently the only one of its kind in Slovenia, well-known by some and recognised as an example of good practice at EU level (the Pan-European Good Practice Report from 2018, with the participation of gurus in the field of industrial symbiosis, International Synergies and others). The tool is designed according to the user experience design methodology (including steps from identification of potential stakeholders, through testing prototype of the tool to implementation) and the necessary personalised promotion.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

/

P. EUROCIRCULO (ES)

Questionnaire

This questionnaire has been developed in the context of Activity 4, as part of the extended SYMBI project. It aims to identify digital tools that have been deployed to facilitate industrial symbiosis in partnership regions as well as across the EU.

Project partners are invited to fill it in after conducting relevant desk research. Should partners need clarifications, they can contact the responsible partner, SVRK.

Estimated completion time: 10-15'

A. Contact Information

A.1 Please provide the following contact information.

Name of respondent:	Maika Diaz Aguilar
Project partner:	FUNDECYT-PCTEX
E-mail:	maika.diaz@fundecyt-pctex

B. Description of the digital tool

B.1 Please provide the requested information concerning the digital tool under discussion.

Name of the tool:	Click or tap here to enter text.
Type of the tool:	<input checked="" type="checkbox"/> Platform / website
	<input type="checkbox"/> Software
	<input type="checkbox"/> Database
	<input type="checkbox"/> Other: Click or tap here to enter text.
Developer of the tool (Name of the company):	General Secretariat for Population and Rural Development. Government of Extremadura.
The tool was developed primarily through:	<input type="checkbox"/> Private funding



	<input checked="" type="checkbox"/> EU funding <input type="checkbox"/> National public funding <input type="checkbox"/> Regional public funding <input type="checkbox"/> Local public funding <input type="checkbox"/> Joint public-private funding <input type="checkbox"/> Other: Click or tap here to enter text.
B.2 Please indicate what is the primary function of the digital tool. (You can select more than one option.)	
<input checked="" type="checkbox"/> To improve / standardise waste valorisation	
<input type="checkbox"/> To assist in identifying potential synergies	
<input type="checkbox"/> To monitor / manage industrial symbiotic schemes	
<input type="checkbox"/> To facilitate the territorial management of industrial waste	
<input type="checkbox"/> To facilitate a virtual market for secondary materials / by-products / waste	
<input type="checkbox"/> Other Click or tap here to enter text.	
C. Use of the digital tool	
C.1 If available, please briefly provide information regarding the end-users of the digital tool, including data such as type and number of involved businesses.	
<p>It is a digital tool, "Eurocírculo". It does self-diagnostics on green and circular economy. This application helps to measure the circularity and to know the starting point of companies for the implementation of circular economy standards. It is addressed to small and medium-sized enterprises in the Euroace Region (Extremadura – Spain), Alentejo and Centro- Portugal). Its main function is to allow a company to evaluate its production processes separately and to offer, with a final results report, the company's situation based on circularity criteria. The main sector is the agri-food sector, but it is addressed to all companies of the three regions. It is expected that 250 companies will be registered.</p>	
C.2 According to the desk research you conducted and / or end-users' perspective (if applicable), please indicate on a scale of 1 – 5 the extent that each of the following statements describes more closely the implementation experience of the digital tool. 1 – Not relevant 2 – Somewhat relevant 3 – Relevant 4 – Very relevant 5 – Extremely relevant N / A – Not applicable / No answer	

Technical expertise does not seem to be / was not a requirement for the implementation of the digital tool.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Resources and instructions regarding the operation of the tool are public / were provided publicly prior to its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Technical support does not seem to be / was not extensively required during its implementation.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Unexpected operational issues have not been reported during the implementation process.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>
Other Click or tap here to enter text.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	N/A <input type="checkbox"/>

C.4 If further information regarding the deployment of the digital tool is available, please briefly describe the overall implementation process regarding the encountered / reported barriers and enablers. (max. 5-7 lines)

It is a tool developed in the framework of a European project and supported by the Government of Extremadura. It is currently being disseminated in the media and social networks.
It is a recent implementation, we do not have data on initial problems.

D. Transferability

D.1 If the digital tool has been implemented in your region / country, please briefly discuss if it should be further supported and disseminated to reach a wider audience.

This is being implemented in our region. It is in an initial phase of implementation. Currently, the diagnostic is about the potential for circularity and connections between regional companies.

D.2 If the digital tool has been implemented in another EU region / country, please indicate if and under which conditions it could be transferred to yours.

[Click or tap here to enter text.](#)

Annex B⁸

A. Data analysis per tool

Case 1: CYRKL platform (PL)

#CYRKL platform - PL	Functionality		Usability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	
1	0	0	0	0			
2	2	4	6	12			
3	10	30	6	18			
Sum/criteria		34		30			
N = 12							
Average per criteria		2.833333333		2.5			
#CYRKL platform - PL	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average with transferability correction
1	0	0	0	0	1	1	
2	2	4	3	6	1	2	
3	10	30	9	27	10	30	
Sum/criteria		34		33		33	
N = 12						2.75	
Average per criteria		2.833333333		2.75		3	13.91666667

Case 2: SYNERGie 4.0 (SI)

#SYNERGie 4.0 - SI	Functionality		Usability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	
1	1	1	1	1			
2	1	2	4	8			
3	11	33	8	24			
Sum/criteria		36		33			
N = 13							
Average per criteria		2.769230769		2.538461538			
#SYNERGie 4.0 - SI	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	0	0	0	0	1	1	
2	2	4	6	12	5	10	
3	11	33	7	21	7	21	
Sum/criteria		37		33		32	
N = 13						2.461538462	
Average per criteria		2.846153846		2.538461538		3	13.69230769

⁸ The cases are presented in the order of the final results.

Case 3: Materialitori (FI)

##Materialitori - FI		Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses				
1	0	0	0	0				
2	2	4	4	8				
3	11	33	9	27				
Sum/criteria		37		35				
N = 13								
Average per criteria		2.846153846		2.692307692				
##Materialitori - FI		Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average	
1	0	0	0	0	1	1		
2	2	4	6	12	8	16		
3	11	33	7	21	4	12		
Sum/criteria		37		33		29		
N = 13								
Average per criteria		2.846153846		2.538461538		2.230769231		13.15384615

Case 4: Syner (ES)

#Syner - ES		Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses				
1	0	0	1	1				
2	4	8	5	10				
3	9	27	7	21				
Sum/criteria		35		32				
N = 13								
Average per criteria		2.692307692		2.461538462				
#Syner - ES		Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average	
1	0	0	0	0	2	2		
2	3	6	7	14	7	14		
3	10	30	6	18	4	12		
Sum/criteria		36		32		28		
N = 13								
Average per criteria		2.769230769		2.461538462		2.153846154		12.53846154

Case 5: Biomass Atlas (FI)

#Biomass Atlas - FI	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	0	0	0	0			
2	5	10	5	10			
3	8	24	8	24			
Sum/criteria		34		34			
N = 13							
Average per criteria		2.615384615		2.615384615			
#Biomass Atlas - FI	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	0	0	0	0	0	0	
2	11	22	8	16	5	10	
3	2	6	5	15	8	24	
Sum/criteria		28		31		34	
N = 13							
Average per criteria		2.153846154		2.384615385		2.615384615	12.38461538

Case 6: Clean Way (HU)

#Clean Way - HU	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	0	0	0	0			
2	6	12	9	18			
3	7	21	4	12			
Sum/criteria		33		30			
N = 13							
Average per criteria		2.538461538		2.307692308			
#Clean Way - HU	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	0	0	0	0	0	0	
2	6	12	9	18	9	18	
3	7	21	4	12	4	12	
Sum/criteria		33		30		30	
N = 13							
Average per criteria		2.538461538		2.307692308		2.307692308	12

Case 7: Symbiosis Platform (IT)

#Symbiosis Platform - IT	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	0	0	0	0			
2	3	6	8	16			
3	10	30	5	15			
Sum/criteria		36		31			
N = 13							
Average per criteria		2.769230769		2.384615385			
#Symbiosis Platform - IT	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	1	1	1	1	3	3	
2	5	10	7	14	9	18	
3	7	21	5	15	1	3	
Sum/criteria		32		30		24	
N = 13							
Average per criteria		2.461538462		2.307692308		1.846153846	11.76923077

Case 8: CAS 2.0 (SI)

#CAS 2.0 - SI	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	3	3	0	0			
2	6	12	7	14			
3	4	12	6	18			
Sum/criteria		27		32			
N = 13							
Average per criteria		2.076923077		2.461538462			
#CAS 2.0 - SI	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	3	3	4	4	1	1	
2	7	14	6	12	6	12	
3	3	9	3	9	6	18	
Sum/criteria		26		25		31	
N = 13						2.384615385	
Average per criteria		2		1.923076923		3	11.46153846

Case 9: Oils & fats digital platform (GR)

#Oils & fats digital platform - GR	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	3	3	0	0			
2	3	6	6	12			
3	6	18	6	18			
Sum/criteria		27		30			
N = 12							
Average per criteria		2.25		2.5			
#Oils & fats digital platform - GR	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	2	2	0	0	0	0	
2	7	14	9	18	11	22	
3	3	9	3	9	1	3	
Sum/criteria		25		27		25	
N = 12							
Average per criteria		2.083333333		2.25		2.083333333	11.16666667

Case 10: SFRIDOO (IT)

#SFRIDOO - IT	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	3	3	1	1			
2	5	10	7	14			
3	5	15	5	15			
Sum/criteria		28		30			
N = 13							
Average per criteria		2.153846154		2.307692308			
#SFRIDOO - IT	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	1	1	1	1	3	3	
2	7	14	7	14	8	16	
3	5	15	5	15	2	6	
Sum/criteria		30		30		25	
N = 13							
Average per criteria		2.307692308		2.307692308		1.923076923	11

Case 11: Symbiex.es (ES)

#Symbiex .es - ES	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	2	2	3	3			
2	7	14	6	12			
3	4	12	4	12			
Sum/criteria		28		27			
N = 13							
Average per criteria		2.153846154		2.076923077			

#Symbiex .es - ES	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	1	1	5	5	5	5	
2	9	18	5	10	6	12	
3	3	9	3	9	2	6	
Sum/criteria		28		24		23	
N = 13							
Average per criteria		2.153846154		1.846153846		1.769230769	10

Case 12: Zero Waste Map (PL)

#Zero Waste Map - PL	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	5	5	1	1			
2	6	12	9	18			
3	2	6	3	9			
Sum/criteria		23		28			
N = 13							
Average per criteria		1.769230769		2.153846154			

#Zero Waste Map - PL	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	6	6	3	3	2	2	
2	4	8	8	16	6	12	
3	3	9	2	6	5	15	
Sum/criteria		23		25		29	
N = 13							
Average per criteria		1.769230769		1.923076923		2.230769231	9.846153846

Case 13: DIADYMA Reuse centre (GR)

#DIADYMA Reuse centres - GR	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	5	5	1	1			
2	3	6	7	14			
3	4	12	4	12			
Sum/criteria		23		27			
N = 12							
Average per criteria		1.916666667		2.25			
#DIADYMA Reuse centres - GR	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	4	4	5	5	2	2	
2	8	16	3	6	8	16	
3	0	0	4	12	2	6	
Sum/criteria		20		23		24	
N = 12							
Average per criteria		1.666666667		1.916666667		2	9.75

Case 14: Green Star (SI)

#Green Star - SI	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	1	1	2	2			
2	11	22	8	16			
3	1	3	3	9			
Sum/criteria		26		27			
N = 13							
Average per criteria		2		2.076923077			
#Green Star - SI	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	5	5	4	4	3	3	
2	5	10	5	10	10	20	
3	3	9	4	12	0	0	
Sum/criteria		24		26		23	
N = 13							
Average per criteria		1.846153846		2		1.769230769	9.692307692

Case 15: E-SYMBIOZA (SI)

#E-SYMBIOZA - SI	Functionality		Usability				
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses			
1	1	1	5	5			
2	10	20	5	10			
3	2	6	3	9			
Sum/criteria		27		24			
N = 13							
Average per criteria		2.076923077		1.846153846			
#E-SYMBIOZA - SI	Added Value		Sustainability		Transferability		
points	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	No. of responses	Points * no. of responses	Sum average
1	3	3	6	6	5	5	
2	10	20	7	14	8	16	
3	0	0	0	0	0	0	
Sum/criteria		23		20		21	
N = 13							
Average per criteria		1.769230769		1.538461538		1.615384615	8.846153846

Data per criterion

Functionality

Functionality	
Tool	Score
Symbiosis Platform	2.8
SFRIDOO	2.2
DIADYMA Reuse centres	1.9
Materiaalitori	2.8
Symbiex .es	2.2
Biomass Atlas	2.6
Syner	2.7
E-SYMBIOZA	2.1
CAS 2.0	2.1
Clean Way	2.5
Zero Waste Map	1.8
Oils & fats digital platform	2.3
Green Star	2
SYNERGie 4.0	2.8
CYRKL platform	2.8

Usability

Usability	
Tool	Score
Symbiosis Platform	2.4
SFRIDOO	2.3
DIADYMA Reuse centres	2.3
Materiaalitori	2.7
Symbiex .es	2.1
Biomass Atlas	2.6
Syner	2.5
E-SYMBIOZA	1.8
CAS 2.0	2.5
Clean Way	2.3
Zero Waste Map	2.2
Oils & fats digital platform	2.5
Green Star	2.1
SYNERGie 4.0	2.5
CYRKL platform	2.5

Added-value

Added Value	
Tool	Score
Symbiosis Platform	2.5
SFRIDOO	2.3
DIADYMA Reuse centres	1.7
Materiaalitori	2.8
Symbiex .es	2.2
Biomass Atlas	2.2
Syner	2.8
E-SYMBIOZA	1.8
CAS 2.0	2
Clean Way	2.5
Zero Waste Map	1.8
Oils & fats digital platform	2.1
Green Star	1.8
SYNERGie 4.0	2.8
CYRKL platform	2.8

Sustainability

Sustainability	
Tool	Score
Symbiosis Platform	2.3
SFRIDOO	2.3
DIADYMA Reuse centres	1.9
Materiaalitori	2.5
Symbiex .es	1.8
Biomass Atlas	2.4
Syner	2.5
E-SYMBIOZA	1.5
CAS 2.0	1.9
Clean Way	2.3
Zero Waste Map	1.9
Oils & fats digital platform	2.3
Green Star	2
SYNERGie 4.0	2.5
CYRKL platform	2.8

Transferability

Transferability	
Tool	Score
Symbiosis Platform	1.8
SFRIDOO	1.9
DIADYMA Reuse centres	2
Materiaalitori	2.2
Symbiex .es	1.8
Biomass Atlas	2.6
Syner	2.2
E-SYMBIOZA	1.6
CAS 2.0	3
Clean Way	2.3
Zero Waste Map	2.2
Oils & fats digital platform	2.1
Green Star	1.8
SYNERGie 4.0	3
CYRKL platform	3