SCREEN

Synergic CirculaR Economy across European regioNs

OPERATIONAL PLAN

FUTURE STEPS FOR THE SCREEN NETWORK

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1. INTRODUCTION

We are becoming to aware, on an increasing level, the planetary boundaries around us. The climate change, critical raw materials, plastics in oceans and toxicity are just few examples of the great challenges the humankind is confronting. Just recently, the Intergovernmental panel on climate change (IPCC) released their report on the impacts of global warming and the needed actions to prevent the threats of climate change (IPCC 2018). Based on a comprehensive work by international scientists world wide, IPCC report delivers a clear message to follow, radical changes have to be taken in our current way of living, producing and consuming in order to reduce CO_2 emissions to limit the global warming to a reasonal level.

To adress, this highly topical and serious issue, in Europe circular economy, as a systemic and sustainable approach is seen as one powerful strategy to go forward. Ideally, regions in Europe would transform from a linear economy towards a circular kind, and enable decoupling of the environmental effects from the economical growth.
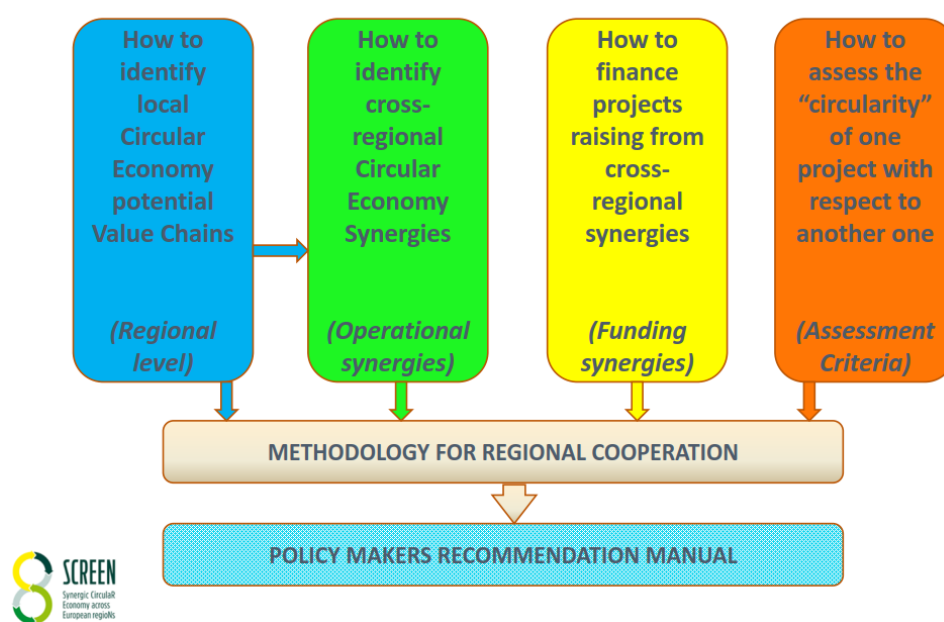

Figure 1: *The four steps of the SCREEN project.*

Synergic Circular Economy across European Regions (SCREEN) aims towards a definition of a replicable framework to promote the transition towards Circular Economy, with a novel emphasis in piloting synergic application of different funds. This, commonly agreed approach in the core of SCREEN network, namely the SCREEN Methodology, builds on Research and Innovation Smart Specialization Strategy (RIS3). In general, the four foundational building blocks of the SCREEN Methodology (fig. 1) are 1) Regional level actions, 2) Operational synergies, 3) Funding synergies between Horizon and other European and regional programmes and 4) Assessment Criteria. These are the elements, which the SCREEN project have been aiming to identify and develop during its journey. The cross-regional journey has just began.

1.1.   SCREEN network

SCREEN recognizes the need for emerging different operational synergies with funding synergies and joins 17 regions from 12 European countries together to facilitate the transition towards circular economy European wide. Each of the region have a specific focus within their local starting point with its unique strengths and challenges. Furthermore, circular economy particularly has an important role in the S3 strategies of the SCREEN partners.

SCREEN network builds on a diverse set of regions across European Union. There are few densely populated urban regions with high levels of service and manufacturing businessess, while the network also involves agriculture intensive peripheral regions. This enables a unique opportunity for synergies such as technology transfer and knowledge transfer, business collaboration and policy development to facilitate the WIN-WIN-WIN opportunity of circular economy.

SCREEN network in a nutshell:

	17	European Regions
	12	European Countries
	+30	International and local workshops
	6	Policy lab meetings
	+20	circular economy value chains
	+200	Ideas for research and development
	+20	Potential operational synergies
	+100	cross-regional funding synergies
	9	Signed Memorandum of understandings and Letter of Intents
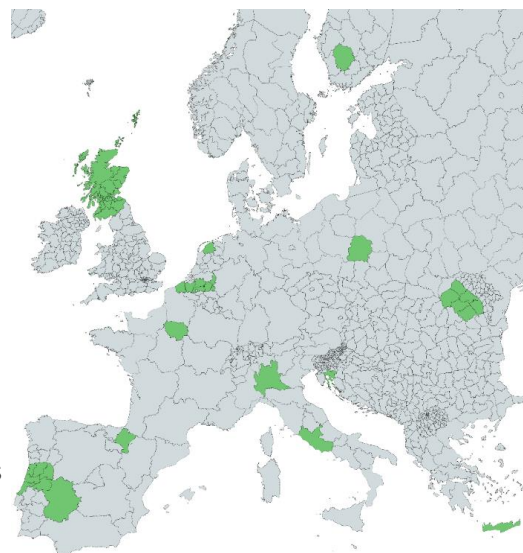
Figure 2: *SCREEN network in a nutshell.*

Together, SCREEN network has already been successful in creating a common set of useful tools, a common forum, namely Policy lab, for the regions and the European Union's Commission to interact and further develop policy instruments in order to facilitate circular economy innovations.

To summarize SCREEN network's actions since the November 2016, over 25 international and local workshops have been organized in different regions engaging hundreds of stakeholders to circular economy actions. Six open policy lab meetings have been held enabling the direct interaction between regional authorities, stakeholders and European Commission. Over 200 ideas for further research and development have been identified within the SCREEN interactive workshops and during the local baseline analyses to facilitate circular economy innovations. Furthermore, over 20 circular economy value chains have been described having the potential to link stakeholders cross-regionally. Over 100 funding instruments enabling cross-regional cooperation in circular economy. Finally, indicating the

high level of commitment by the regional governments for the SCREEN actions 10 regional authorities have signed Memorandum of Understandings and Letter of Intents.

1.2 Motivation for the operational plan

Grounding on the results of the SCREEN project, the idea for this operational plan is to find ways to continue the development of the SCREEN network and work done within the SCREEN project. The aim is to create boost to achieve a WIN-WIN-WIN scenario in emerging the potential operational synergies with the suitable funding synergies to further facilitate the development of circular economy. The document is useful both for the development of the SCREEN network's common future steps and works as a recommendation for SCREEN partners to get the most out of the crossregional collaboration potential when considering their local actions. The plan goes strictly in align with the developed SCREEN Methodology for the regional cooperation and identified recommendations for policy makers. More details about the methodology can be found in project deliverable D5.1 and more on Policy makers recommendation in project deliverable D5.3.
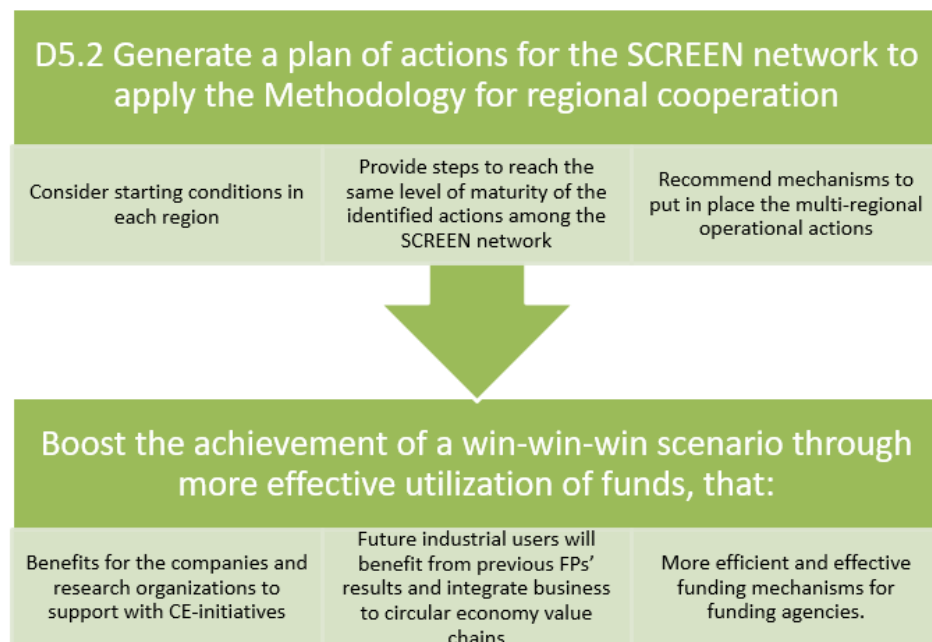
Figure 3: Goals and target for the SCREEN project deliverable D5.2.

Operationalising the SCREEN-project's results is topical. Based on the results from the questionnaire sent to the SCREEN partner regions on the final quarter of the project, already 60% of the partner regions have been using the results of the project elsewhere and are already 40% of the partners are planning local actions inspired by SCREEN in the near future. These already, indicate the importance of finding common, structured future steps for the network, successing from the SCREEN results.

To adress the need for operationalisation of SCREEN project's results, this document is described in the following structure. First the results and actions regarding the operational synergies will be drawn. This builds a baseline for the SCREEN network's collaborative actions. Similarly, an outlook to the funding synergies is made considering the actions to be taken in order to pilot cross-regional funding instruments. As an emerge from these

synergies, an action plan is synthesised. This action plan recommends the future steps for the network considering the feedback received from the partners. Finally, recommendations for developing the SCREEN network towards an open collaboration platform between the regions are described.

2. OPERATIONAL SYNERGIES

SCREEN project has undertaken several actions towards identifying the replicable methodology to be used in regional context. While the development of the SCREEN Methodology and its set of tools for circular economy development have been one of the core aims of the project, the regional partners locally and the SCREEN network commonly have already used the tools in cross-regional context. This has resulted in identifying several operational synergies. Fig. 4 illustrates the SCREEN Methodology steps towards these operational synergies. The circulative nature of the steps indicate the idea for continuous use and update of the methodology and data collected for the benefit of future synergy identifications. Further information from the SCREEN methodology can be found in D5.1.

Figure 4: SCREEN Methodology steps feeding operational synergies.

This chapter looks more deeply into the operational synergies formation to identify next steps for innovation and policy actions. It does so by tracking the steps done during the SCREEN project towards operational synergies and draws a summary of the most promising operational synergies identified in the SCREEN network during the final activities of the project.

SCREEN project started with regional data gathering. Each partner region collected data of RIS3 strategies relevant to circular economy, business capabilities, different circular economy capabilities such as innovation actions, organizations, test beds, services, courses, emerging ideas and funding instruments. This enabled initial data driven analysis to formalize initial points for regional focus points within circular economy. The initial analysis supported also the initial findings for synergic grids, in other words common synergic themes in the SCREEN network (fig. 5) Altogether, based on RIS3 strategies, regional innovation capabilities and emerging ideas, seven common themes linked to circular

economy were identified for potential cross-regional collaboration. This makes explicit the areas of collaboration and possible operational synergies. Given the circular economy framework, these themes cover broadly different aspects of circularity including both biodegradable cycles and technical material cycles. Noticeable is also that these themes overlap with each other and form common interests.
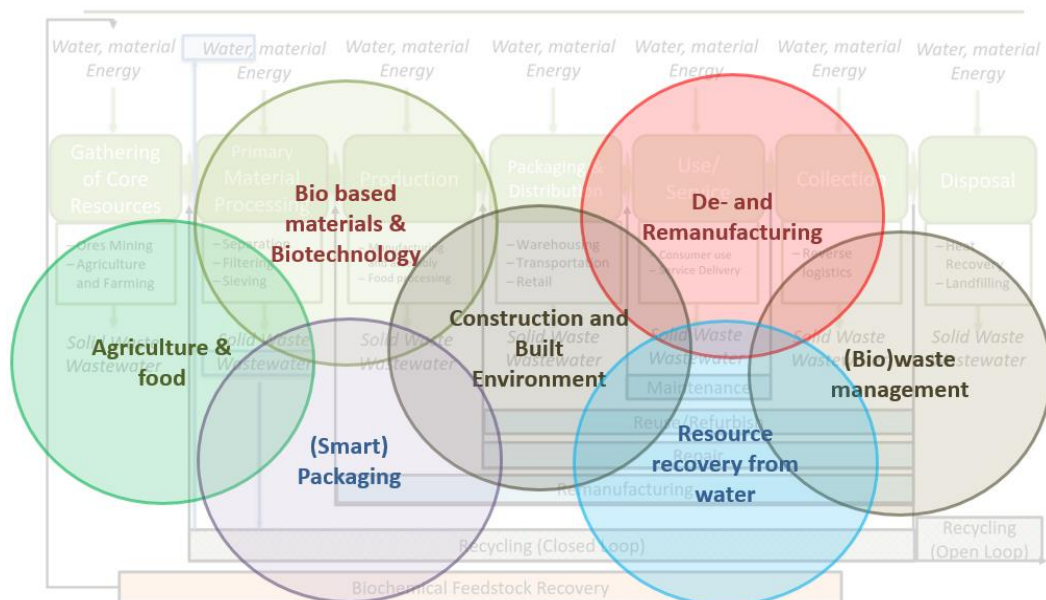
Figure 5: *Identified common synergic themes in circular economy in the SCREEN network.*

As a follow up, while regions organized local workshops, on cross-regional level, several working groups were organized based on the identified synergic themes. This enabled more interaction to deepen the insights of the cross-regional opportunities within the chosen themes. To complement these steps, extended analysis provided more information on the opportunities and starting points in the regions. The biggest contribution from the extended analysis along with local workshops, however, was for the regions to raise their own knowledge base on their region and enable the engagement of relevant stakeholders to the topic.

Working groups had several meeting points during the SCREEN project, especially during the international workshops. These physical meetings were the most productive moments for further clarifying emerging ideas and potential operational synergies. These were contributed by several video conferences and emails between the partners.

One of the major challenges to identify the operational synergies purely coming from bottom up emerging ideas, was the late point organization of local workshops. This resulted in slow reactivity from many of the regions, where the engagement of the local stakeholders took more time than originally planned. Another significant challenge was the lack of resources allocated for cross-regional interaction. The SCREEN-project focused relatively more in local interaction and less on cross-regional interaction. On the other hand, this was a compulsory first step to enable bottom up identifications of operational synergies, but also kept regions busy in regional data gathering and local workshop organizing instead of cross-regional interaction.

Still, initial results for operational synergies were identified in the SCREEN network directly

linked to the synergic themes. In fact, tens of opportunities for synergies and more emerging ideas were captured. Here, the many international workshops organized and their interactive and facilitated sessions following the SCREEN methodology were important milestones. To mention a highlight, for example a Clustering workshop in London in November 2017 during the half term of SCREEN project gathered over hundred different stakeholders all around Europe for an innovative and well facilitated match making format format to identify first emerging ideas within the already identified synergic themes and later steered the discussion towards possible project proposals. These potential operational synergies form a good knowledge base for future work in the consortium. A collection of the most promising potential synergies were further clarified during the last international workshop of the SCREEN project. As a result, 12 operational synergies were identified attracting different combinations of regions (fig. 6). Each of the operational synergy is further detailed in appendix 1. Some of the identified synergies highlighted research gaps that need to be filled: such gaps and the proposed research topics are described in the deliverable D5.3 "*Policy Recommendation Manual: overview of barriers and recommendations encountered during the screen-project*"
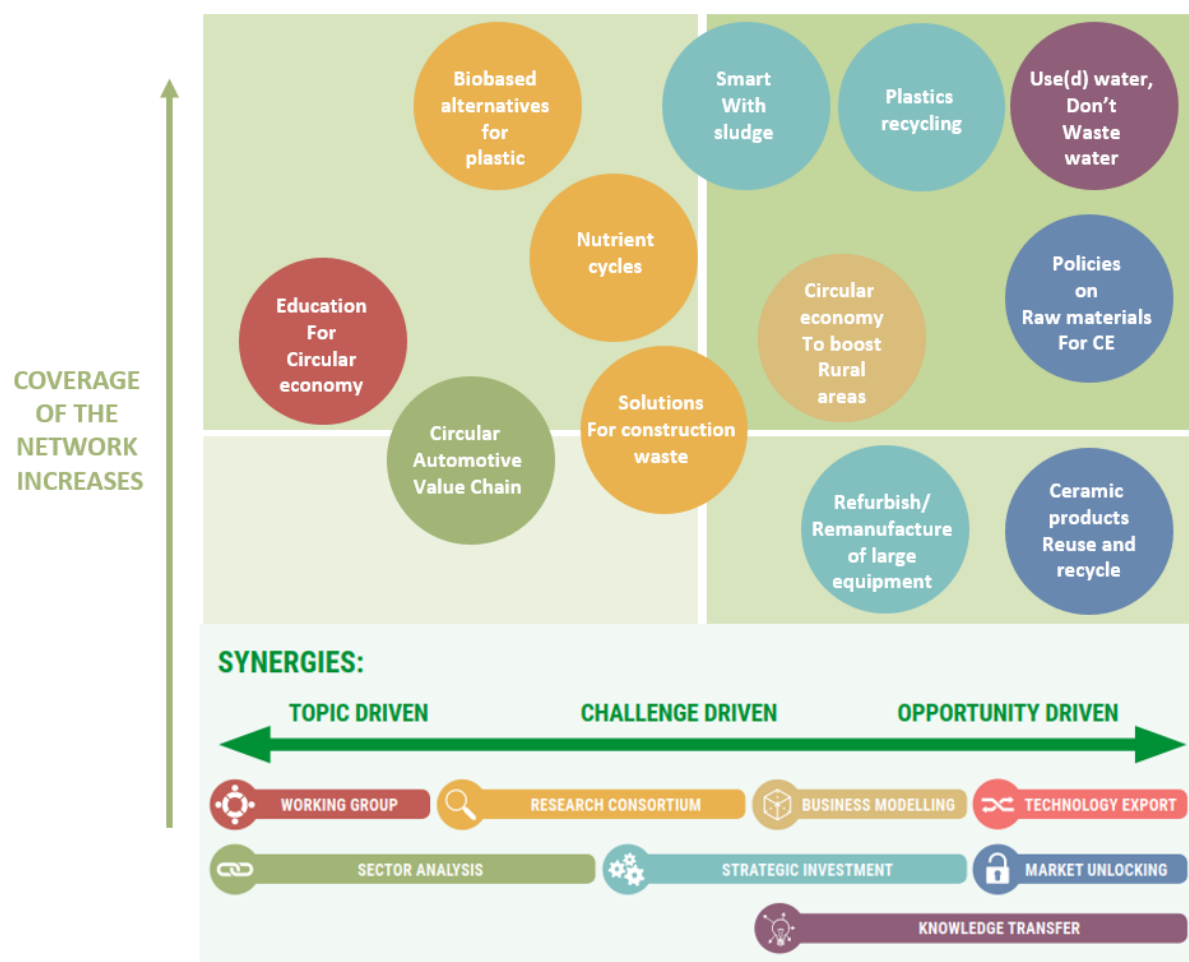
Figure 6: Profile of the operational synergies in SCREEN network

In align with the SCREEN methodology, the initial synergies were categorised based on their synergy type. In addition, the synergies were compared with by the coverage of the SCREEN network's partners. Some of the synergies, such as topics of sludge, plastics, water usage and bio-based alternatives for plastics raise a lot of interests from the partner regions. These synergies can be identified as points of junctions in the SCREEN network

that share interests under several thematic groups, gather a wide spectrum of cross-regional partners and are internationally topical. Then again there are several synergies, where few regions from the network are interested and own specific capabilities. These synergies such as automotive, refurbish/remanufacture and ceramic products reuse/recycle can be identified as more of points of specialisation in the network.

Each of the operational synergy identifies general descriptions for the synergy. These are descriptions for the synergy, barriers, partners, solutions and calls to next actions. These, so called templates for operational synergies form a basis for taking further and more concrete actions within the operational synergy. Such actions are for example preparation of applications for open calls on H2020 or other funding instruments, formalizing working groups on regional and cross-regional levels, organizing an event in the operational synergy, matchmaking stakeholders from different regions under the same topic, or testing the funding synergies in a pilot way with the operational synergy.

Given the fact that the SCREEN project has been productive in identifying a lot of data and opportunities on cross-regional level, a relevant question arises. Where to go from here? This question is approached with an answer by dividing to short term and long term perspectives.

As a short term step, a natural and warmly adviced approach is to look and prepare for funding from H2020 (addressing the research gaps previously mentioned) or other funding instruments. This, as a common action will naturally develop the synergies with those partners involved in the recognised operational synergy. Secondly and most critically, each of the synergy requires a responsible leader that has the ability to coordinate the next actions. It is expected that some of the identified synergies will not find such a responsible leader. Still, in this synergies it is adviced that a leader would be named to take a coordinative, but less resource demanding role, to lead interaction during the future cross-regional physical meetings. This leads to the more long term steps for operational synergies

As a longer term step, operational synergies need more structured routines to be coordinated, measured and linked with other SCREEN methodology parts, especially with the funding synergies and Policy lab activity. The core transformation is needed to take from the identification of synergies, that have been in the core of the SCREEN project towards collaboration and realisation of the synergies. Here, the actions contributing to the SCREEN network development support the work in operational synergies. The top priority here is the added value different regions bring to each other. The benefit of the network has to be such that overcomes the investments the network participants put in in forms of money and human resources. Also, the identification of new operational synergies or updating the old ones, embedded in the SCREEN methodology, will provide a continuity for the work done around operational synergies.

The concluding actions are summarised in the recommended action plan for the SCREEN network in chapter 4.

3. FUNDING SYNERGIES

Along with operational synergies, SCREEN project has worked with the question of how to finance cross-regional synergies. The results have been greatly contributed by the Policy lab work. A summary of these actions are illustrated in figure 7. A Memorandum of understanding (MoU) has been created and signed by several partner regions looking into a pilot action for testing funding synergies of H2020 and ERDF funds using the article 70 for cross-regional cooperation. In addition, a comprehensive study of existing funding instruments in different regions have been done in a form of D3.4 Regional Porfolio, looking into opportunities to support cross-regional cooperation using a combination of funding instruments and finding gaps between cross-regional operational synergies and available funding instruments.
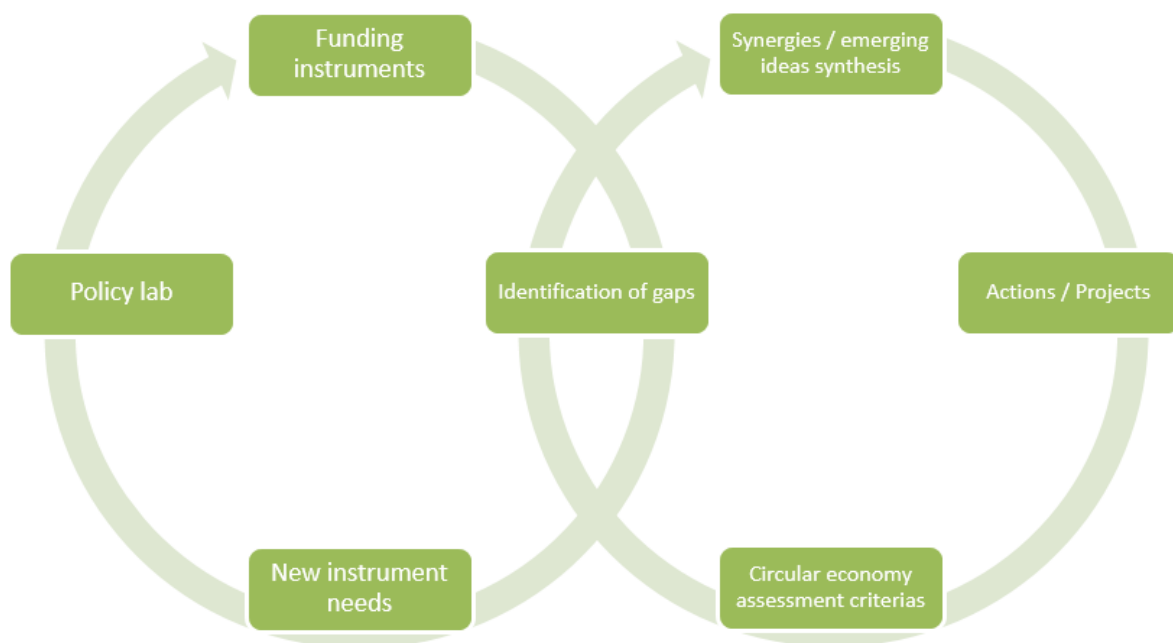
Figure 7: Mechanism for feeding funding synergies in the SCREEN methodology.

A great effort around funding synergies has been done both in finding commitment for taking first pilot actions for cross-regional cooperation according to MoU and promoting the Policy lab discussion to different organizations on EU, national and regional levels. Similarly, the knowledge base gathered for Regional Portfolio of funding instruments has resulted in identification of several gaps in cross-regional cooperation. These build good grounds for taking the identified funding synergies further and develop policy towards a living lab with direct contacts to regional stakeholders.

The next steps for taking funding synergies further are three folded. Firstly, the actions done to continue Policy lab work contribute directly also to the implementation of of identified funding synergies, providing a natural point of interaction for partners. Secondly, the preparation for the first pilot action is important to realise the living lab nature of the Policy lab. In order to find a well ranked above threshold but not financed H2020 call, regions are advised to reach their national contact points for getting more information on possible projects for pilot action. On cross-regional level a preparation work for next policy lab should naturally include the steps to interact with potential pilots and enable suggestion of concrete next steps during the Policy lab. Furthermore, as the European

commission is working with updating article 70, SCREEN project results, especially the D5.3 Policy makers recommendation manual can support the commission's work on making article 70 more applicable.

Thirdly, the comprehensive work done in D3.4 Regional Portfolio needs more examination and plan for implementation. The identified gaps are fruitful to be raised to the next policy lab meetings as single cases. Also, the idea of emerging operational synergies with the funding synergies is a nautral next step to be done in Policy lab's living lab environment.

Finally, it is advised that the preparation for next Policy lab takes place soon after the SCREEN project ends in order to continue work on synergies. Similarly to the next steps of operational synergies, also Policy lab is expected to transform from identification of synergies towards implementation of the identified synergies. This will be truly an important evolution for the Policy lab. The final deliverables of the SCREEN project, D5.1 SCREEN Methodology, D5.2 Operational plan and D5.3 Recommendation manual for policy makers are natural elements to be discussed in the next Policy lab.

Concluding summary of the recommended next actions for funding synergies can be found in the action plan

4. ACTION PLAN FOR THE SCREEN NETWORK

This section lays recommendation for the future steps in the SCREEN network. The action plan is started with a bottom up approach. The SCREEN partner regions and other stakeholders involved during the SCREEN project were asked for recommendations for future steps. These recommendations cover both cross-regional level actions (4.1) and local level actions (4.2). After this a roadmap for the SCREEN Network is synthesised (4.3) based on the findings from the SCREEN project results.

This action plan is intended to be recommendational and builds on the motivation of the SCREEN consortium towards future deeper collaboration. All of the actions suggested here after are identified needs and opportunities in the SCREEN consortium. Many of the actions are already on the course of realisation on local or cross-regional level. However, for the most of the recommended actions funding is necessary to make the action plan effective. Still, many of the recommended actions can be approached initially on a voluntary basis.

4.1 Recommendations for common actions

The common actions are directed primarily to the SCREEN network. In general, the recommendations for actions start from where the SCREEN project ends, contributing with descriptions on future steps to enable the continuity of the network. The identified recommendations are grouped into the table 1.

Table 1: *Recommendations for common actions.*

Recommendations for funding and policy synergies	Best practices, Mechanisms for the network interaction	Development areas for the methodology	Actions for operational synergies	Topics for Policy lab in the future
Commitment of decision makers	Policy lab's importance as a common forum	ICT deep learning tool set	H2020 SCREENPLAY and its promotion	Exchange of best practices CE policy
Assurance of continuity of Policy lab --> commitment of SCREEN partners	Maintain open access to the future policy lab discussions	Value chain identification platform	Feed the process of building common consortia to proposals to H2020 calls	Method for benchmarking CE policies
Future policy lab funding from DG or similar for European Fundings, to support meetings and representative in an annual basis	Participant regions can see interests and benefits to their region with common synergies	Interregional innovation investment with matching S3 assets --> pan-european clusters in priority sectors	Exploration of opportunities in Component 5 of the proposal of regulation of territorial cooperation for 2021-2027	
Schedule on next policy lab meeting and preparation work for it	Creation of common system to support circular ideas on local level	Thorough research for applying the common methodology	Application for industrial modernization thematic platforms (s3platform)	
Pilot pot trial supervising	More round tables with different actors, openly discuss solutions for the future with CE		Interreg application to continue policy work	
Support for at least one project to help us to showcase piloting results. --> starting point	Strengthen relations of SCREEN project partners jointly looking for opportunities to create projects			
Exchange on policy alive through social media	Regular video-conferences for those interested			
Need to reach every relevant stakeholder in order to collect data for baseline	Description and common discussion on common future actions			

Recommnendations for the funding and policy synergies emphasize on finding commitment both on decision makers side and commitment of SCREEN partners to enable the continuity post SCREEN project. Therefore, also the discussion on funding basis for enabling the future steps in the SCREEN network is topical. Also the development steps improving the connections of relevant stakeholders to the forum is seen important. A natural short term step is to prepare for the first post SCREEN project policy lab and the funding synergy pilot action supervision.

Similarly, best practices support the future collaborative policy work. Especially Policy lab received a lot attention from the recommendations. Recommendations suggest more regularity for the interaction, more group work friendly ways of working to enable effectiveness, activation of different medias supporting the interaction between network partners.

Also, the methodology development received recommendations for actions. These actions are especially for the future development of methodology from the SCREEN network point of view and therefore differ from the recommendations for policy makers described in D5.3. These steps recommend for continuing the methodology especially to improve the ICT platform, further development of value chain description, RIS3 connections descriptions and research on applying the methodology in general.

Recommendations for next actions for operational synergies consisted of lists of relevant upcoming calls especially in H2020 program and interreg. These are seen as an important short term steps for strengthening the concrete collaboration between SCREEN partners within the synergic themens of circular economy complementing the funding synergies. The SCREENPlay project proposal, currently in the process of applying for H2020 call, was separately mentioned several times. The promotion work towards this is seen important. Network is also adviced to apply for thematic platforms on the S3platform provided by the European Commission. For a longer term opportunities, component 5 of the next program period of 2021-2027 is seen worth of exploring. In general, the SCREEN network is well positioned in relation to the next program period.

Several interesting calls and funding opportunities have been identified. The list is complemented with the findings from the SCREEN international workshops. A summary of the promising and interesting future fundings opportunities are summarised in the list below:

- H2020 calls
    - CE-SC5-08-2018-2019-2020: Raw materials policy support actions for the circular economy
    - CE-SC5-04-2019: Building a water-smart economy and society
    - CE-SC5-07-2018-2019-2020: Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes
    - CE-SFS-39-2019: High-quality organic fertilisers from biogas digestate
    - DT-FOF-06-2019: Refurbishment and re-manufacturing of large industrial equipment (IA)
    - H2020-INNOSUP-2018-2020 Peer learning of innovation agencies
    - CE-RUR-10-2019: Circular bio-based business models for rural communities
    - CE-BG-06-2019: Sustainable solutions for bio-based plastics on land and sea
- Erasmus+
    - Capacity building
    - Sector Skill alliance
- Interreg 4th Call
    - Circular economy policy actions

Finally, ideas for interesting topics for future Policy lab work were suggested. In the future, Policy lab is seen as an open forum, extending from the initial focus during the SCREEN project of funding synergies towards more comprehensive approach to circular economy cross regional collaboration. This covers general ideas of regions and their stakeholders changing best practices of policy making. Also, Policy lab is seen as a good arena for exchanging methods complementing to SCREEN methodology and benchmarking circular economy policies between the regions and the Commission.

4.2 Recommendations for local actions

In general, regions in the SCREEN network have been already active in applying the SCREEN project results in their local actions. As a staring point (fig. 8) nearly 60% of the regions have already started local actions contributed by the SCREEN project and nearly 40% are
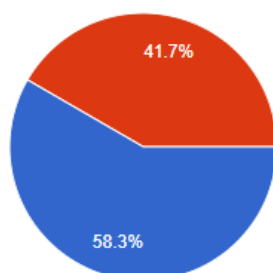
planning for future actions in based on the project results. Although this chapter summarises the regions active and planned actions, these are interpreted in a form of recommendations for local actions. Thus, providing an overview on how to implement and take the full potential of SCREEN results on local level.
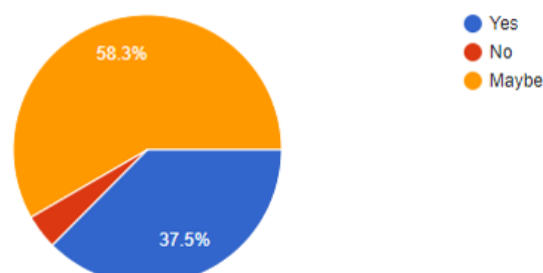
Figure 8: Statistics of local actions already started or planned linking to SCREEN project results.

Regarding to the current actions successing from SCREEN results (table 2), the most actively applied SCREEN results are local workshops and regional baseline analysis. Local workshops, held in each participant regions, have been a source for local stakeholder engagement. The results from the workshops have lead into formations of working groups, action groups, network organisations, further analysis and different follow up actions concluded in workshops. Regional baseline analysis has resulted in further analysis, lead to education initiatives, supported RIS3 strategy development and local database update.

In addition, work on circularity assessment criteria, value chain identification, identification of obstacles and shortcuts have resulted in further actions. To mention few examples, Lombardia region has gathered a working group to find future solutions for sludge Moreover, the work around wood value chain (Cryptomeria japonica tree) in Azores region has motivated the region for continue work with further investigations, while Centro Portugal has collected initiatives for next actions. Respectively, Island of Réunion is taking common assessment tool for circular economy further locally. Regions have also formulated local circular economy policy documents based on the findings of SCREEN project results in general.

Table 2: Active local actions successing from the indicated SCREEN results.

Local workshops	Regional baseline analysis	Circularity assessment criterias	Identification of value chain	Identification of obstacles and shortcuts	Several SCREEN results
Working groups, action groups	Further analysis	Common assessment tool for circular economy actions	Collaboration activities/facilitation activities with stakeholders	Interventions to overcome barriers and hotspots identified for a transition to CE	CE policy document on regional level
Development of network organisations	Education on circular economy, raising awareness	Support for future calls			
Follow up actions	RIS3 strategy development				
Further analysis	Databases update				

Continuing to the planned actions (Table 3), primary emphasis is within the regional strategy development. Regions plan to work on programme development for circular economy actions, update Research and Innovation S3 areas, formulate strategies better aligned with national action plans and formation of transformation programs for different the potential circular economy value chains. Some of the regions have already updated their RIS3 strategies based on the results of the SCREEN project. For example in Tampere region the RIS3 strategy update process used the results of the local baseline analysis to reframe the local focus points in circular economy and used the results also to help their local situational picture work.

Other actions are directed towards innovation facilitation and education support. Already, there are several regions such as Navarra, Lazio and Tampere that are creating university level degrees and set of courses for circular economy and looking for direct actions to lift circular economy competence around practitioners in business and public sector.

Table 3: Planned local actions contributed by SCREEN results.

Strategy development	Innovation facilitation actions	Education
Strategy development - programme for CE	Tailoring calls for H2020	Education: Master in CE
Strategy development - RIS3	Follow up actions	
Strategy development - regional agenda linking to national action plan		
Implemenation of value chain transformation program --> actions		

In overall, the SCREEN results have activated positively SCREEN regions and their local stakeholders. However, the implementation level of SCREEN results differs greatly between the regions. The future steps are anticipated to more strongly link to strategical development in different regions. Already, we have seen several initiatives originating from the discussion around the SCREEN network on local and cross-regional level. It is expected that many of these follow up initiatives are realised in the near future.

4.3 SCREEN roadmap

Based on the results from the SCREEN project and recommendations for future steps, a roadmap for the SCREEN network can be formulated. Already, results can be seen effecting positively networks stakeholders. However, continuing work in the network and for the network is needed. Next, a roadmap is structured for the future steps (fig. 9), which aims towards a functioning network of regions to facilitate the development actions towards circular economy goals.
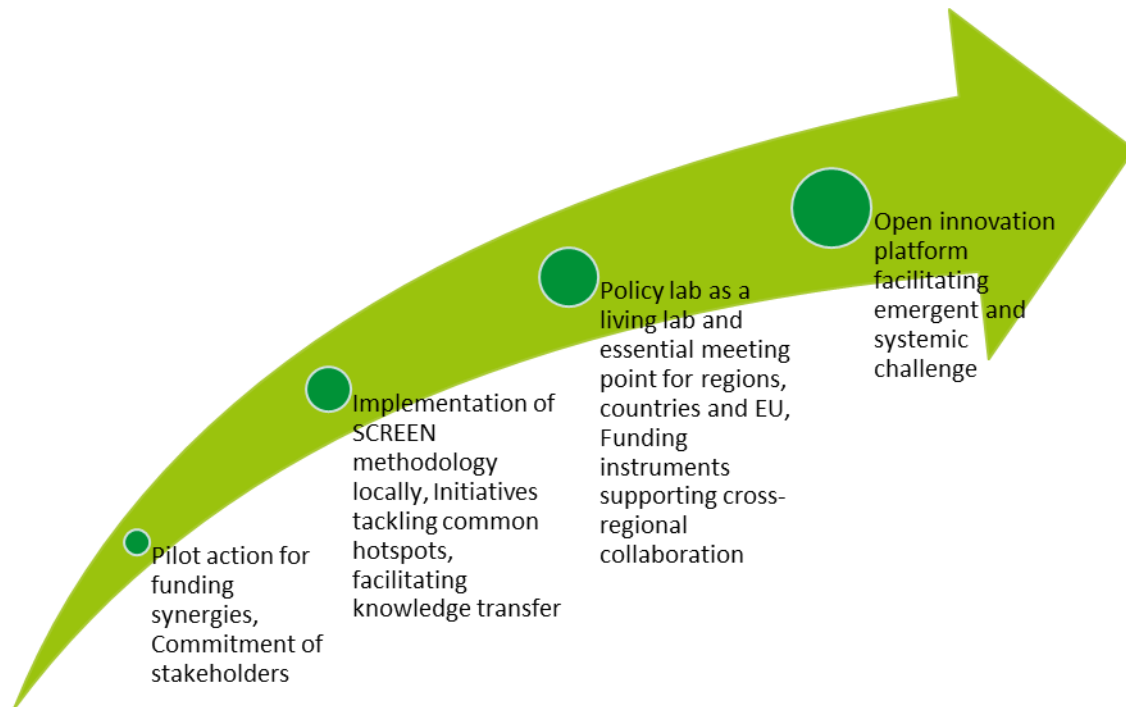
Figure 9: Roadmap for SCREEN network.

In the short term future, work for pilot action to test funding synergies especially between the H2020 and ERDF funding instruments as described in MoU is important. Also, the commitment of the key stakeholders of the SCREEN network is critical for the continuity of the network. Thus, during the first phase of the SCREEN network's next steps, work should be invested in finding commitment especially from the regional partners and the European Commission. On local level regions are recommended to continue the work around the identified value chains, engage stakeholders on a regional level. Until a funding structure for the network is found, the network continues on voluntary basis.

At the second phase, it is anticipated that the work on embedding SCREEN results and the SCREEN methodology both on cross-regional and local level continues. SCREEN methodology helps as a routine and regular set of tools, regional development and cross-regional interaction. Already, the SCREEN results indicate strong support on regional strategical support and it is natural to work on this. This would also mean, that the cross-regional interactions seen during the SCREEN project in the forms of Policy lab meetings and international workshops will continue on regular basis. Annually, there could be a need for 1-2 meetings with a structured agenda and meanwhile working groups would interact through video conferences based on their needs. The routinized use of SCREEN methodology would keep the information on regional capabilities up todate with the help of robust data base.

In the longer-term future, Policy labs are seen as working living labs and meeting point for policy and innovation on regional, national and EU-levels, connecting stakeholders from micro, meso and macro levels. Based on the excerience received from funding instruments pilot actions during the short-term phases, the Policy lab is seen as a natural point for tackling gaps found from cross-regional cooperation. This especially is in the interest of both regions and European Commission. At its best, the Regional portfolio, would get feed from new identified operational synergies and funding synergies and the idea of a true living lab continues with the identification of gaps and pilot actions for testing new solutions on a coordinated basis.

Finally, the SCREEN network is seen an open innovation platform especialy fitting to the needs of facilitating challenges in emergent and systemic phenomena such as circular economy is. The uniqueness of the platform comes from its idea of connecting regions from very different starting points, and enabling cooperation between regions that have not been able to cooperate before on such a level. This means that regardless of the starting point of the region, also the most rural, remote and peripheral regions can connect with the regions that are more advanced in certain knowledge and technology. In a functioning collaboration platform, the system is more than the sum of its parts. In SCREEN network this would means, that the regions gain more value from the network than what they invest in maintaining and building the connections and the hotspots tackled are such, where individual region or a country is not enough.

In the above roadmap, we can identify many actions to be executed parallel in order to approach the commonly set circular economy goals. There are four levels, where actions have to be done. The basic mechanism is that the SCREEN methodology is used embedded to these actions on different levels. Methodology feeds in new synergies for cooperation.
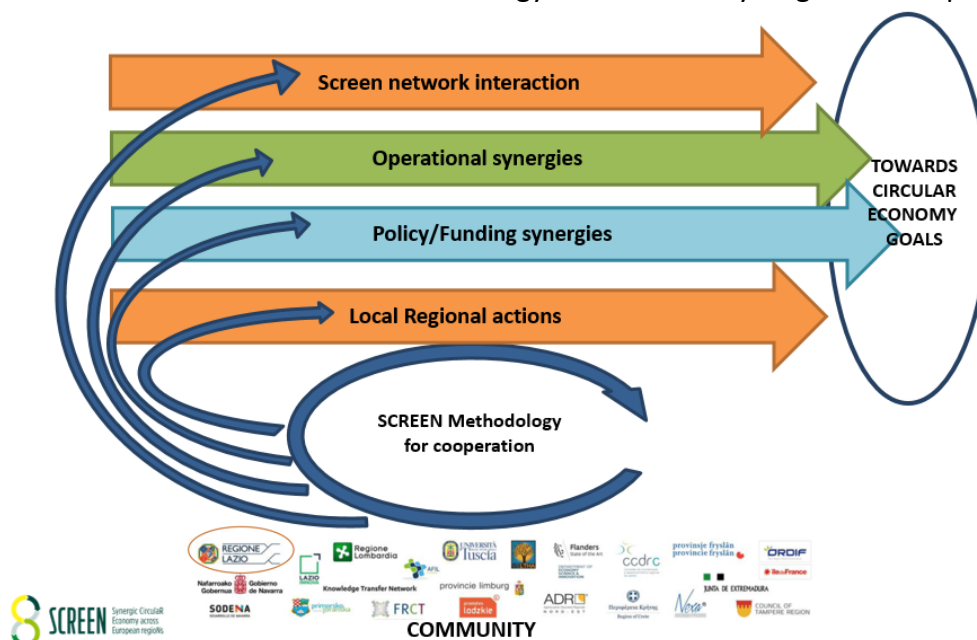

Figure 10: Action plan for the SCREEN network

The action plan happenes on four levels. Firstly, there is the SCREEN network interaction, where the meetings, events and synergies are structured on a regular basis. Secondly, there is the essential work on operational synergies. This refers to the continuous routines

described in chapter 2 to both identify new operational synergies and to work on existing ones.

Funding synergies builds the context for Policy lab's living lab environment and enables the use of cross-regional funding instruments as described in chapter 3. ALthough Funding synergies are seen distinctive from operational synergies, the essence of a living lab is the inseparable nature of these two. Thus, looking in fit between the innovation actions and the available set of funding instruments.

On the fourth parallel level, the local actions in regional context takes place. Examples of these actions are described in chapter 4.1. The actions on regional level are critical, as they transform both the results gained from the network into added value in regions and then again the regional stakeholders feed in new needs and actions for the network.

To conclude, recommendations for the action plan are summarised in figure 11.

Recommendations for action plan

SCREEN network interaction
- Create regularity in meetings, Policy lab, WSs, video conferences. Annual structure for activity and network development requires planning.
- Develop Policy lab concept to enable more flexibility on shared topics and effectiveness of interactive sessions.
- Create meeting points for regional stakeholders and connection points from regional to the network level

Local regional actions
- Apply and promote the different tools introduced in SCREEN project
- Use results in regional strategical work, Research and Innovation S3.
- Involve and engage local stakeholders to the topic and link to SCREEN network.
- Promote SCREEN network.

SCREEN methodology and network development
- Database development for improved access, measurability and up to date information of common circular knowledge base.
- Develop SCREEN consortium towards a network and a collaboration platform.
- Promote the methodology and its tools for new regions.

Operational synergies
- Formalize working groups around themes and identified operational synergies.
- Decide on responsible leaders.
- Structure goals, work division and roles in the planned actions.
- Prepare for common projects.
- Organize open forums linked to operational synergies to enable more visibility and link to Policy lab.

Funding synergies
- Plan for implementation steps for the Regional portfolio.
- Describe common agenda and action plan for funding synergies between Horizon and other programmes.
- Prepare for first pilot actions for testing funding synergies.
- Collaboration with European commission to further develop article 70 cross-regional collaboration possibilities.

Figure 11: Recommendations for next actions

5. COLLABORATION PLATFORM

A project consortium to become a network beyond single projects requires a development of a collaboration platform or open innovation platform specifically designed for the network purpose. When the SCREEN project ends, the network development is just starting. Therefore, a critical examination for the starting point of the network development is important.

It is the network effect, where partners create value for each other make platform attractive to each other that makes a network flourishing and continuous. This kind of situation brings forward the basic idea of synergies, where the system becomes more than the sum of its parts. Based on the promising experience during the SCREEN project, the SCREEN consortium is well positioned in becoming a network. Thus, the goal for the

SCREEN consortium is clear. To become a functional collaboration platform to add value for its community, namely the regional organizations as well as the European Commission.

In this chapter, a structure for the network is drawn to support the future network and its collaboration platform development. First, a general core elements of the network are described. Then a maturity model of the network is analysed and based on the analysis future steps for the SCREEN network development are suggested. Here, the long experience on platform development strategy from Tampere Region is used. The elements examined follow Handbook for open innovation platforms developed for the special purpose of regional platform development in Tampere Region and five other Finnish regions (Raunio et al. 2016).

5.1 Core building blocks of the network

SCREEN drives for its multifaceted group of regions, third parties and increasingly the regional stakeholders from business, research and public organizations. Together, these build the essential **COMMUNITY** in the center of the network, which is a combination of developers, customers and facilitators.

The most explicit part of the network has been the several policy labs and cross-regional interactive workshops that have been organized during the SCREEN project. Along with the common knowledge base for circular economy development, these elements form the **SPACE** for interaction and enable the identification of new opportunities, barriers and synergies between the network partners. In general, some of the designer interaction points used are physical meetings, but the digital base for interaction and knowledge share are also important in a network where cross-regional geographical distances can be long.

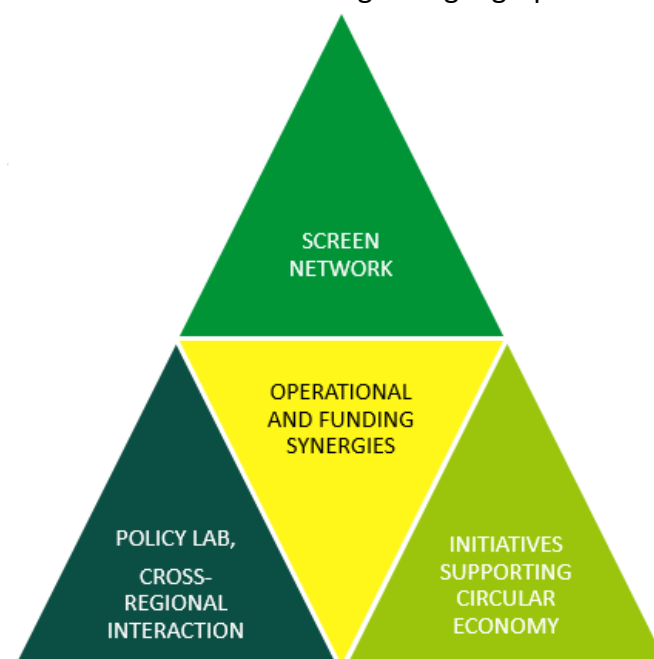*Figure 12: Core building blocks of SCREEN network as a collaboration platform*

The initiatives supporting circular economy, where common hotspots and interests of regions are served form the core **ACTIVITIES** in the network. Ideally, the network would connect several funded innovation action and policy development projects and other coordination and support action projects. The activities feed in new opportunities, barriers

and maintain the desired network effect. Activities are the point for value creation and added value for individual regions.

As a central glue for linking these three previous building blocks are operational and funding synergies that bring forward the common **INTENTION** of the network and enables the network being more than the sum of its parts. During the SCREEN project several synergies and research needs were found and even more emerging ideas and opportunities. Together the intention builds an important fuel for the consortium to take the first concrete steps towards forming a functional network.

5.2 Starting point for the network development and recommendations for actions

In order to identify further development steps for networks platform orientation, understanding the starting point becomes crucial. Here, maturity assessment model (Raunio et al. 2016) is used to support the future planning phase of strategic development of the platform. Noticeable is that the assessment is made at the point when no platform exists yet and decisions for preparing such platform is under examination. Therefore, maturity assessment model has the ability to provide initial requirements for entering a process for platform development.

The maturity model is used tries to identify maturities within three primary dimensions of an open innovation platform, openness, innovativeness and platform orientation. Openness refers to characteristics such as eaze of access, role-freenes and neutrality of the environment. Innovativeness than again refers to co-creation and value creation capabilities of the platform. Finally platform orientation refers to

Table 4: Maturity assesment of SCREEN network as a collaboration platform.

		MISSING	STARTED-INCOMPLETE	COMPLETE-ADVANCED
OPENNESS	**CUSTOMERS** Has the customer group been recognised and clearly defined? Who can be a customer of the platform?	The customer group has not been defined.	The customer group has been recognised, but definition is still incomplete.	The customer group has been learly defined.
	DEVELOPERS Has the developer group been recognised and engaged in the platform's activities?	The platform has no external developers.	The platform has some developers.	The platform has adequate number of developers and their number is rising.
	CUSTOMER INTERFACE Is there a planned route for customers to the platform, which is recognised by the customers?	The customer interface is not recognisable.	There is an existing interface, but it is not firmly established.	There is a clear and recognisable route to the platform.
	ENGAGEMENT OF DEVELOPERS WITH THE PLATFORM Is there a clearly planned and visible route to the platform?	There is no clear access or route to the platform, and participation in the platform's activities is occasional.	There is a somewhat recognisable route to the platform, but the activities are not firmly established. There is no clear person whom to ask about platform's activities.	There is a recognisable and firmly established route to the platform. Participation is planned and the application project, etc., is clearly planned.
INNOVATIVENESS	**VALUE CREATION FOR THE PLATFORM'S CUSTOMER** Does the platform offer its customers added value?	The platform does not offer added value.	The platform occasionally produces added value.	The platform produces added value with established practices.
	AGREEMENT AND IPR PRACTICES Does the platform have agreements and defined IPR practices?	No thought has been given to contractual matters.	Thought has been given to contractual matters, but the agreements are not at a level required for the activities.	Agreements documents have been drawn up and their use is established practice.
	THE PLATFORM'S TECHNOLOGY ENVIRONMENT Does the platform enable the development of a special technology (such as studios, laboratory environments or living labs)?	No special technological capabilities.	One or a few environments.	The test environment is widely available (national and international).
PLATFORM ORIENTATION	**CO-CREATION PROCESS** Is the co-creation process modelled, measurable and scalable?	The platform has no defined process but brings people together.	The development of a platform-based process is in the planning stages.	The co-creation process is scalable and clearly defined.
	REVENUE GENERATION MODEL What is the platform's revenue generation model?	The activities are not viable without project-based funding, another organisation or the organisation's basic funding.	Maintained by a few key organisations (such as the city/university) and partial own revenue generation.	The platform has sufficient own revenue generation and it covers the platform's activities.
	INTERNAL DEVELOPMENT OF THE PLATFORM How does the platform develop its activities?	The platform has no clear endeavours or direction to develop its operating model.	The platform is developed using random methods.	The platform is developed systematically.
	THE PLATFORM AS A PART OF THE PLATFORM NETWORK How is the platform connected to other platforms?	Functions separately from other platforms.	The platform is sporadically connected into the wider platform network.	The platform is systematically connected to other platforms.
	PLATFORM COMMUNITY Does the community support the platform's activities?	The platform has no clearly recognisable community.	The platform has a recognisable social group/community.	The platform community supports development activities and provides support without money transactions.
	NETWORK EFFECT Do the platform's users create value for each other by using the platform? Do the existing users attract new users to the platform?	The users do not create value for each other.	The users create some value for each other.	The users create value for each other, and the value creation depends on other users.

Initial results of SCREEN collaboration platform's maturity are described in table 4. In general, SCREEN consortium has a relatively good starting ground for becoming a collaboration platform. Thanks to the focus in finding synergies during the SCREEN project, the network effect between partners already is creating value. Furthermore, there are several aspects of the platform development that the consortium has already started. Then

again, there are several dimensions still missing or not yet started, which is understandable before the platform development begins. What is notable is that some of the questions of platform maturity assessment may be too early to be fully examined.

When looking into the platform maturity more carefully, the openness dimensions of the platform indicate that work has already started although the platform development has not been the focal point during the SCREEN project. During the project, the regional authorities, and increasingly to the end of the project the regional stakeholders from business, research and other public organizations are seen one group of customers for the network. At the same time, given the interest received by the European Commission, customers within the Policy lab have been greatly DG Regio, DG Environment and DG RTD. Still, the definitions require more clarification.

Innovativeness in SCREEN network has been strongly on policy actions. This has been the strenght of the consortium during the SCREEN project. However, from platform development point of view the innovativeness seen as the results of the project needs to be further detailed for platform development. The potential of innovativeness already seen in the different deliverables and different interactive workshops have to be made explicit. Naturally, when the platform development gets started, agreements, contractual matters and decisions on technology environment becomes topical.

SCREEN network has good orientation towards platform development. Several co-creation processes have been tested during the SCREEN project, the project has been strongly linked with external stakeholders, organizations, events and networks. Also, the community has had already two years to build basis for collaboration. This has resulted in added value for the SCREEN partners. Considering this starting point, an overall plan for platform development needs to defined. Naturally early stage support for funding is positive for the more long term development of the network. In addition, next steps for improving Policy lab towards a living lab and development of SCREEN methodology require description. To support the early development of the network, benchmarking other networks such as the Vanguard Initiative supports the development process and enables to identify the differentiating aspects of the SCREEN network.

To conclude, the recommended actions for platform development to support the transformation of the SCREEN consortium towards SCREEN network are described in figure 13.
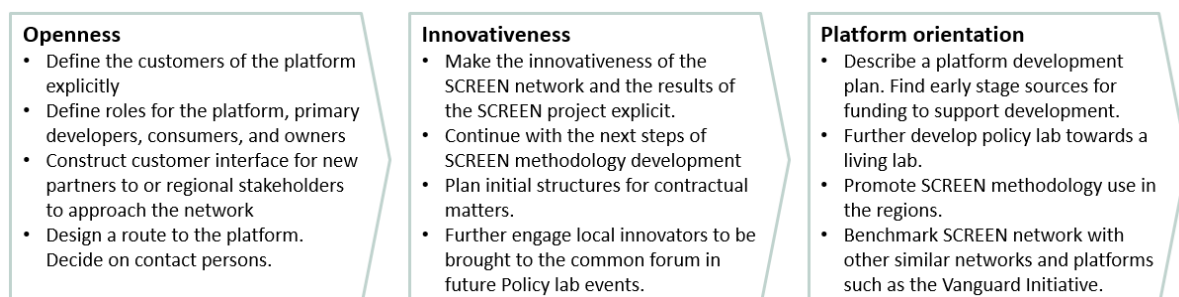
Openness	Innovativeness	Platform orientation
• Define the customers of the platform explicitly • Define roles for the platform, primary developers, consumers, and owners • Construct customer interface for new partners to or regional stakeholders to approach the network • Design a route to the platform. Decide on contact persons.	• Make the innovativeness of the SCREEN network and the results of the SCREEN project explicit. • Continue with the next steps of SCREEN methodology development • Plan initial structures for contractual matters. • Further engage local innovators to be brought to the common forum in future Policy lab events.	• Describe a platform development plan. Find early stage sources for funding to support development. • Further develop policy lab towards a living lab. • Promote SCREEN methodology use in the regions. • Benchmark SCREEN network with other similar networks and platforms such as the Vanguard Initiative.

Figure 13: Recommended actions for platform development.

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