SCREEN
Synergic CirculaR Economy across European regioNs

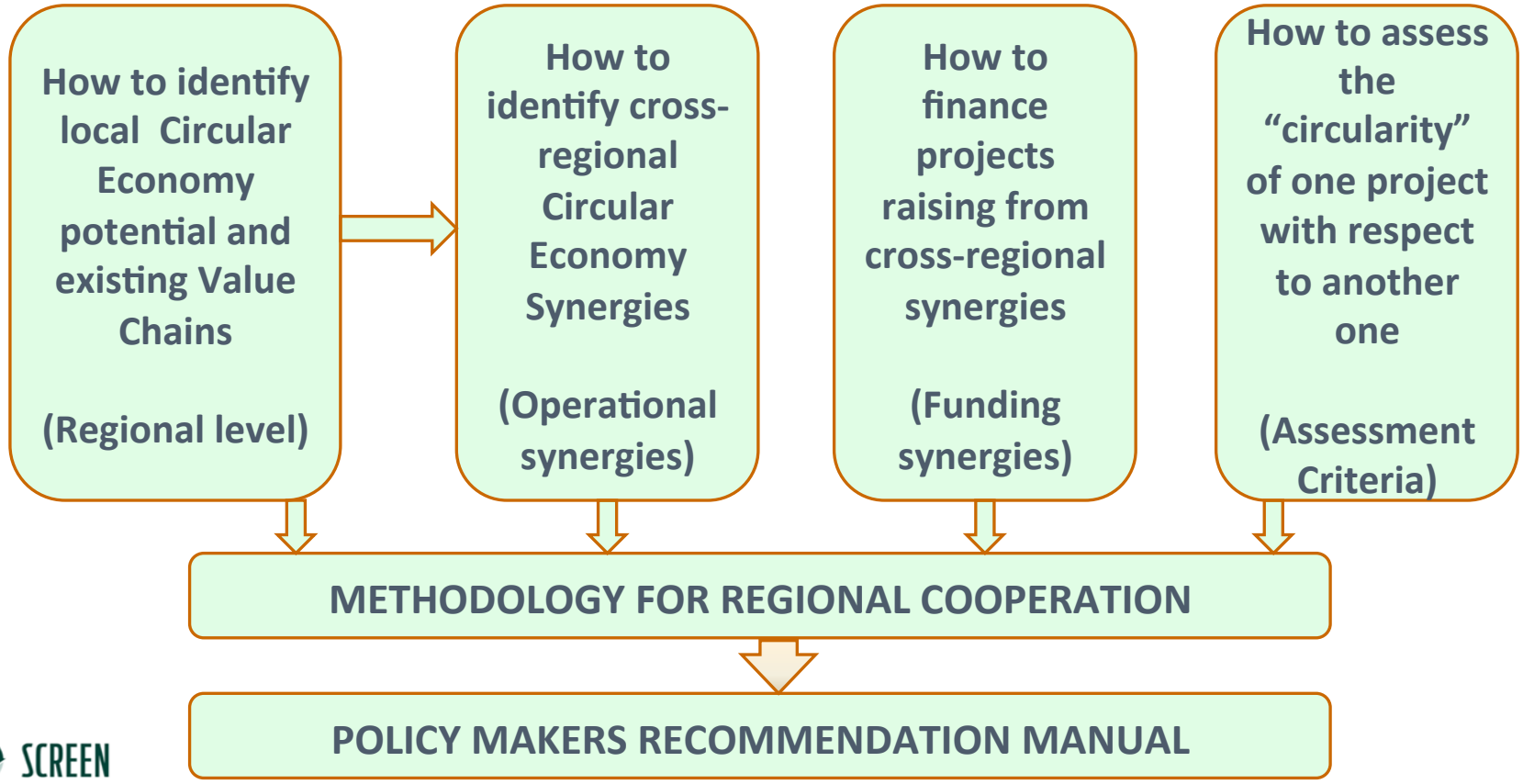
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No730313

Methodology for Regional Cooperation

Marcello Colledani – Politecnico di Milano, AFIL

Maria Grazia Pedrana, Valentina Caimi, Giorgio Gallina, Christian Fabbri – Lombardy Region

The four goals of the SCREEN project



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SCREEN Methodology: From local to cross-regional value-chains

1. ***Data Collection*:** A tool has been designed to collect data about existing capabilities in the Screen Regions, also considering the Smart Specialization Strategies and the key industry sectors.
2. ***Analysis:*** A twofold data-driven and interaction-driven approach has been followed in order to analyse the existing capabilities and identify the existence of regional hotspots and cross-regional opportunities and emerging ideas.
3. ***Synthesis***: The existing cross-regional value-chains have been formalized and specific opportunities that can potentially result in actions to be implemented through cross-regional cooperation have been formalized.
4. ***Implementation***: The identified cross-regional cooperation initiatives are mapped against existing funding instruments to analyze gaps and formalize requirements towards new support instruments.

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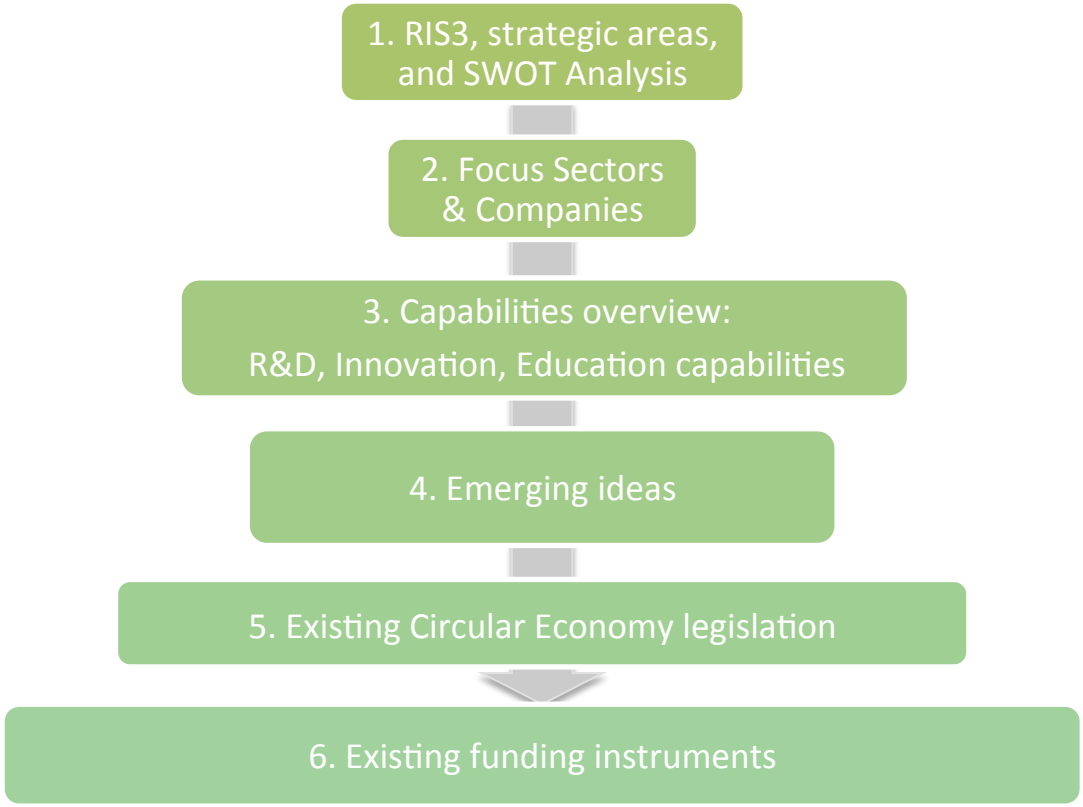
Data Collection: SCREEN Mapping tool



Strategy

Mapping
Baseline Situation

Innovation
Explicit Emerging Actions

Barriers and Funding opportunities

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These steps have been formalized within the SCREEN tool. The Regions have compiled the tool and this has been the basis for the local and cross-regional analyses

Data Collection: SCREEN Mapping tool

Objectives: A questionnaire was prepared to gather feedback from Regions on the effectiveness of the tool.

General comments:

- Useful tool for systematic value-chains identification that can be integrated with other EC initiatives.
- Useful as a continuous review process.
- Triggers practical examples, learning from best practices.
- Strong interaction with stakeholders.
- Support avoiding replication of initiatives.
- Need for new CE KPIs for rating emerging ideas.
- Need for close interaction with data analytics regional offices.

SCREEN Mapping tool KPIs	
Indicator	**Value**
Number of Regions compiling the tool	17
Total Number of records	30,000
Number of companies mapped	300
Number of projects mapped	120
Number of R&D&I stakeholders mapped	50
Number of Emerging Ideas	150
Industrial Value-chains analyzed	13

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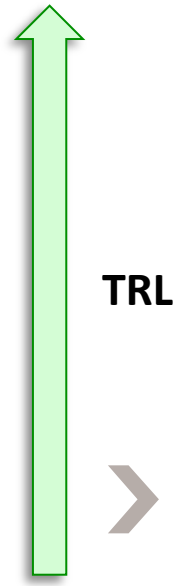
Data Driven Analysis

Starting from the tool inputs a data-driven analysis of the potential cross-regional value-chains (sector-driven, material-driven) has been carried out.

Mechanisms for synergies identification:

1. ***Sectorial value-chain analysis*:** identification of cross-regional synergies to be exploited to close the loop within a sector.
2. ***Material-driven value-chain analysis:*** identification of cross-regional synergies to be exploited across multiple sectors.
3. ***Matching capabilities with emerging ideas***: identification of potentials for best practice/capability transfer among sectors (local) and Regions (cross-regional).
4. ***Matching emerging ideas***: Identification of challenge-driven cross-regional synergies opportunities.



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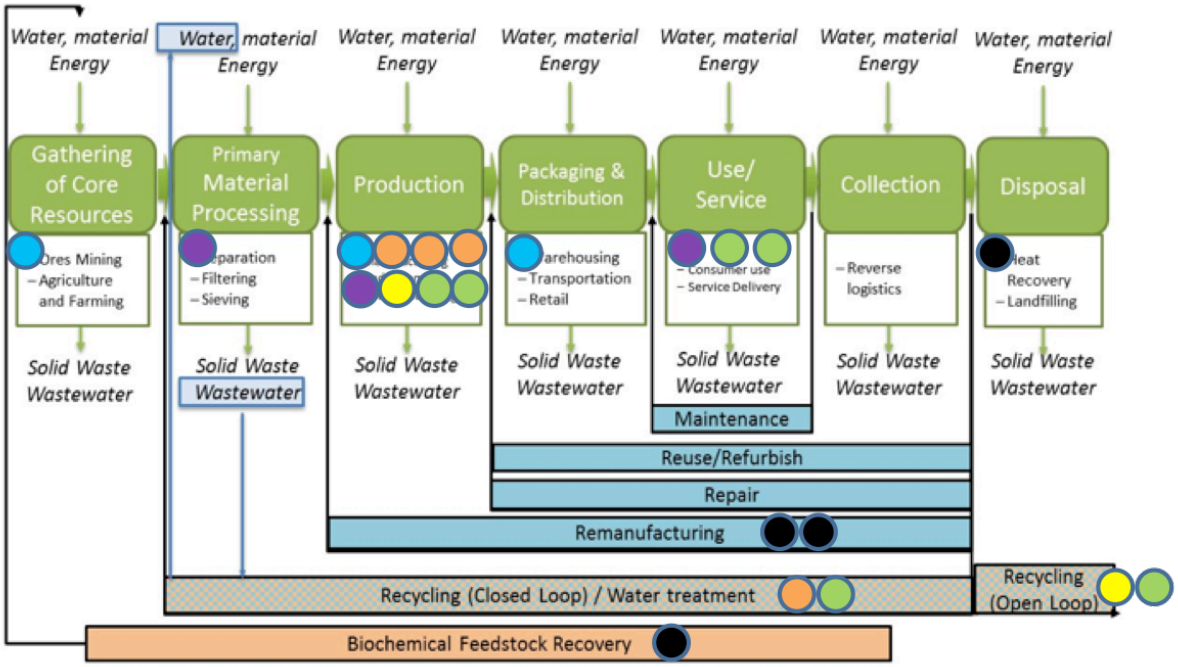

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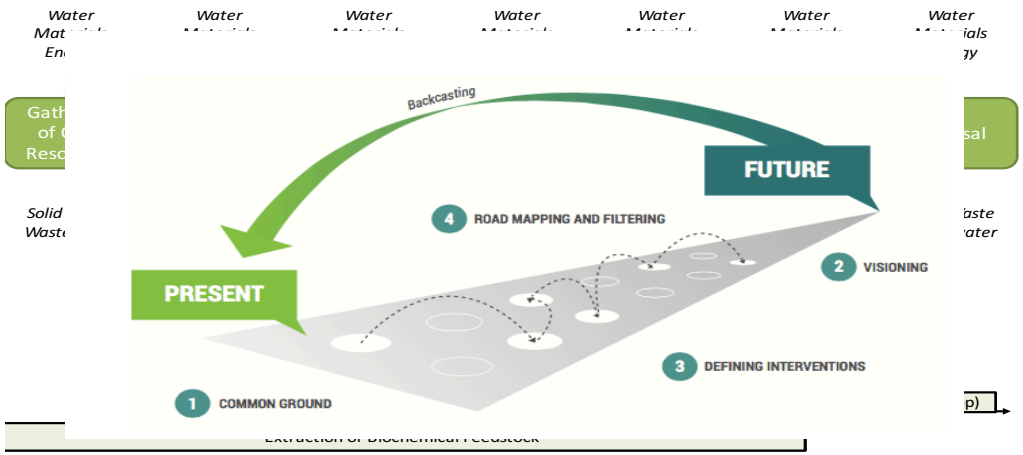
Transport and mobility value-chain.

SCREEN workshops

Starting from the tool inputs and data analysis, value-chains have been further analyzed through international and local workshops.

SCREEN Local workshop held in the Lombardy Region on November 2017, on the "*Circular value chain for the automotive sector*"



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Potential synergies with other Regions have been highlighted

SCREEN workshops

Starting from the tool inputs and data analysis, value-chains have been further analyzed through international and local workshops.

Strategic Line #	Action	Type of action (P=Policy, I=Innovation, C=Communic.)	Involved Stakeholders	Need of a cross-regional synergy
1 Technologies	Development of high throughput size-reduction, separation and reuse technologies, for highly mixed materials. High interests for case studies emerging during the workshop, i.e. Batteries, tyres, steel mill dross.	I	**Research Institutes, Recyclers, Primary Materials Processers**	Yes
2 Waste life cycle data management	Development of a norm to implement product co-design, in order to take into account the technical difficulties of de- and remanufacturing during the product design process.	P	**Normative entities, producers, recyclers**	Yes
	Facilitate the information flow from the producer to the recycler. The norm should point out which subset of data, already owned by producers, could support de-and remanufacturer in the efficient treatment. To do so, the group agrees that is necessary to develop and implement a research project to identify the nature, quantity and quality of such necessary data for the automotive sector.	P+I	**Recyclers, producer of components, producers of systems**	Yes
	Create strategic partnerships between producers and de-and remanufacturers (e.g. in the form of joint ventures, consortia, associations, …), to increase the efficiency of processes by sharing technological knowledge and best practices.	P+I	**Recyclers, producer of components, producers of systems, clusters.**	Yes

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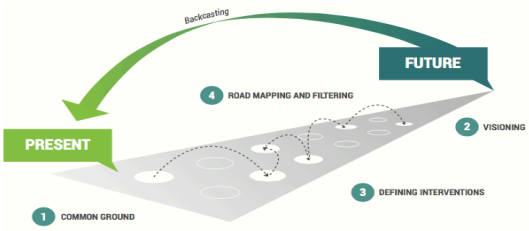
Sectorial Roadmaps for Circular Economy were developed.

SCREEN Cross-regional value chains

Starting from the tool inputs, local and consortium workshops, the cross-regional synergies have been identified.

Example of cross-regional value chain for the "Manufacturing and Remanufacturing" sector among Tampere (Finland), Lombardy (Italy) and Navarra (Spain)



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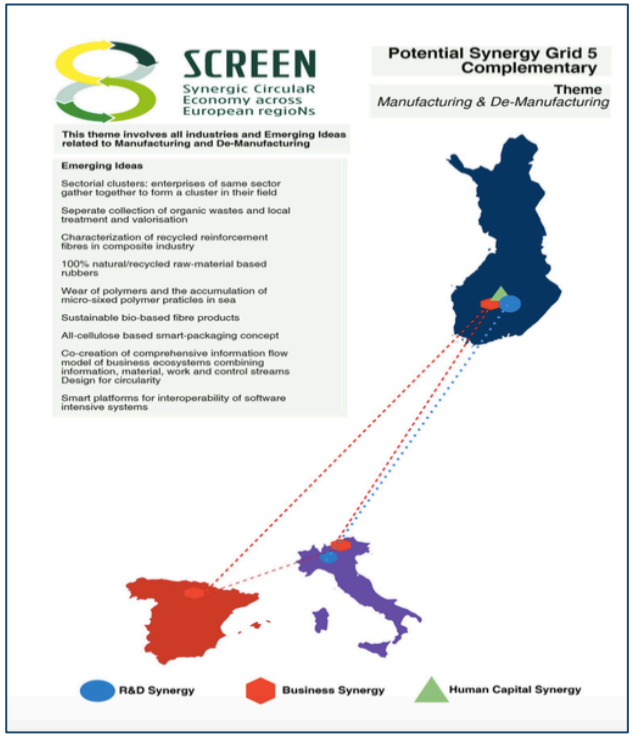
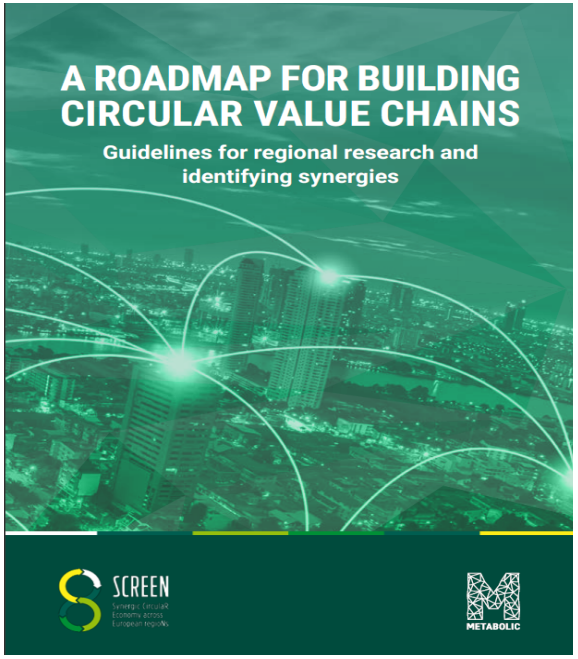


SCREEN Cross-regional cooperation projects



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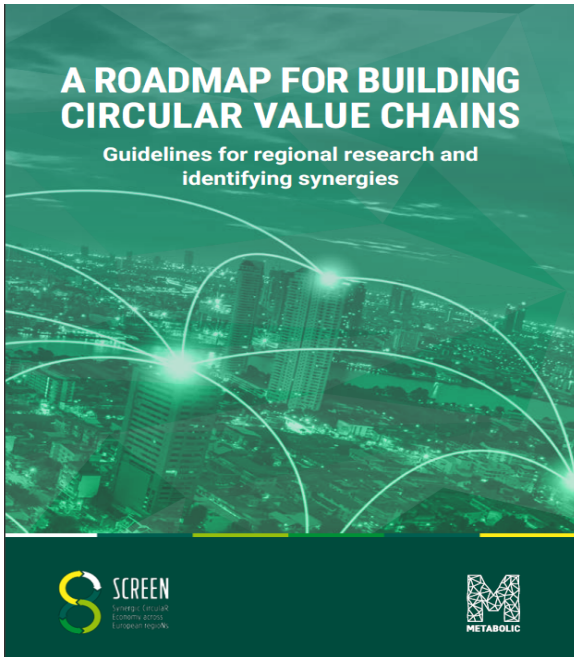
Synergic CircularR Economy across European regioNs

By complementing the previous maps with the outputs of the workshops, specific descriptions of cross-regional collaborative actions and projects are derived.

SCREEN Cross-regional cooperation projects



Sludge recovery and utilization

HOTSPOT

LAZIO AND TAMPERE:

Lazio in Italy and Tampere in Finland face a challenge with the production of sewage sludge that contains important nutrients. Current sewage systems dilute the sludge, making it harder to valorize and there is a lack of technologies to productively extract the valuable materials.

Barriers

1. Lack of filtration
2. Lacking consumer acceptance
3. Absence of specific legislation

Stakeholders

Tech-Marketplace

TAMPERE UNIVERSITY OF TECHNOLOGY

PIRKANMAAN JÄTEHUOLTO OY

UNIVERSITÀ Tuscia

EMERGING IDEAS

FRIESLAND:

Cirtec and KNN Cellulose BV have developed a filtering technology that filters only the cellulose out of the sludge making it possible to use it for example as drainage inhibitor under roads. The extraction of the cellulose also makes the rest of the sludge easier which can lead to a cost reduction of 15-20% for aeration.

KNN Cellulose BV

CIRTEC

Ecophos in Friesland have developed a system that can extract almost 99% of phosphate from incinerated sludge, making it easy to add this highly effective valorization step at the end of the process.

SYNERGY

TECHNOLOGY EXPORT

Because the innovations are so mature in this case, we would suggest a Technology Export, from Friesland to Lazio and Tampere.

TRL 7-8

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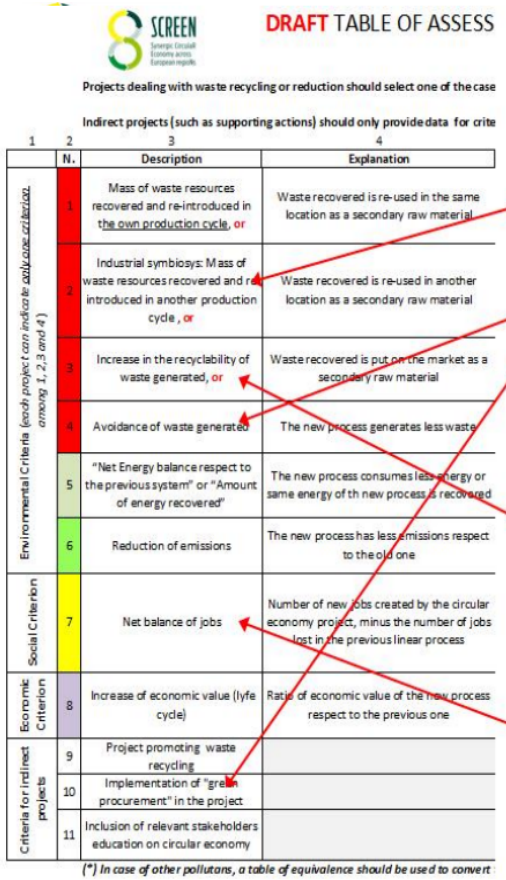
Assessment criteria for circular economy projects

- Conceived to be added to the already existing criteria
- Easy to be used by both applicants and evaluators
- Allows an actual comparison of different types of circular economy projects
- Positively Checked by 165 European stakeholders through an online questionnaire



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DRAFT TABLE OF ASSESS

Projects dealing with waste recycling or reduction should select one of the case

Indirect projects (such as supporting actions) should only provide data for crite

	N.	Description	Explanation
Environmental Criteria (each project can indicate only one criterion, among 1, 2, 3 and 4)	1	Mass of waste resources recovered and re-introduced in the own production cycle, or	Waste recovered is re-used in the same location as a secondary raw material
	2	Industrial symbiosys: Mass of waste resources recovered and re introduced in another production cycle , or	Waste recovered is re-used in another location as a secondary raw material
	3	Increase in the recyclability of waste generated, or	Waste recovered is put on the market as a secondary raw material
	4	Avoidance of waste generated	The new process generates less waste
	5	"Net Energy balance respect to the previous system" or "Amount of energy recovered"	The new process consumes less energy or same energy of th new process is recovered
	6	Reduction of emissions	The new process has less emissions respect to the old one
Social Criterion	7	Net balance of jobs	Number of new jobs created by the circular economy project, minus the number of jobs lost in the previous linear process
Economic Criterion	8	Increase of economic value (lyfe cycle)	Ratio of economic value of the new process respect to the previous one
Criteria for indirect projects	9	Project promoting waste recycling	
	10	Implementation of "green procurement" in the project	
	11	Inclusion of relevant stakeholders education on circular economy	

(*) In case of other pollutans, a table of equivalence should be used to convert

Monitoring Framework -COM(2018) 29 final

No	Name	Relevance	EU levers (examples)
Production and consumption			
1	EU self-sufficiency for raw materials	The circular economy should help to address the supply risks for raw materials, in particular critical raw materials.	Raw Materials Initiative; Resource Efficiency Roadmap
2	Green public procurement*	Public procurement accounts for a large share of consumption and can drive the circular economy.	Public Procurement Strategy; EU support schemes and voluntary criteria for green public procurement
3a-c	Waste generation	In a circular economy waste generation is minimised.	Waste Framework Directive; directives on specific waste streams; Strategy for Plastics
4	Food waste*	Discarding food has negative environmental, climate and economic impacts.	General Food Law Regulation; Waste Framework Directive; various initiatives (e.g. Platform on Food Losses and Food Waste)
Waste management			
5a-b	Overall recycling rates	Increasing recycling is part of the transition to a circular economy.	Waste Framework Directive
6a-f	Recycling rates for specific waste streams	This reflects the progress in recycling key waste streams.	Waste Framework Directive; Landfill Directive; directives on specific waste streams
Secondary raw materials			
7a-b	Contribution of recycled materials to raw materials demand	In a circular economy, secondary raw materials are commonly used to make new products.	Waste Framework Directive; Eco-design Directive; EU Ecolabel; REACH; initiative on the interface between chemicals, products and waste policies; Strategy for Plastics; quality standards for secondary raw materials
8	Trade in recyclable raw materials	Trade in recyclables reflects the importance of the internal market and global participation in the circular economy.	Internal Market policy; Waste Shipment Regulation; Trade policy
Competitiveness and innovation			
9a-c	Private investments, jobs and gross value added	This reflects the contribution of the circular economy to the creation of jobs and growth.	Investment Plan for Europe; Structural and Investment Funds; InnovFin; Circular Economy Finance Support Platform; Sustainable Finance Strategy; Green Employment Initiative; New Skills Agenda for Europe; Internal Market policy
10	Patents	Innovative technologies related to the circular economy boost the EU's global competitiveness.	Horizon 2020

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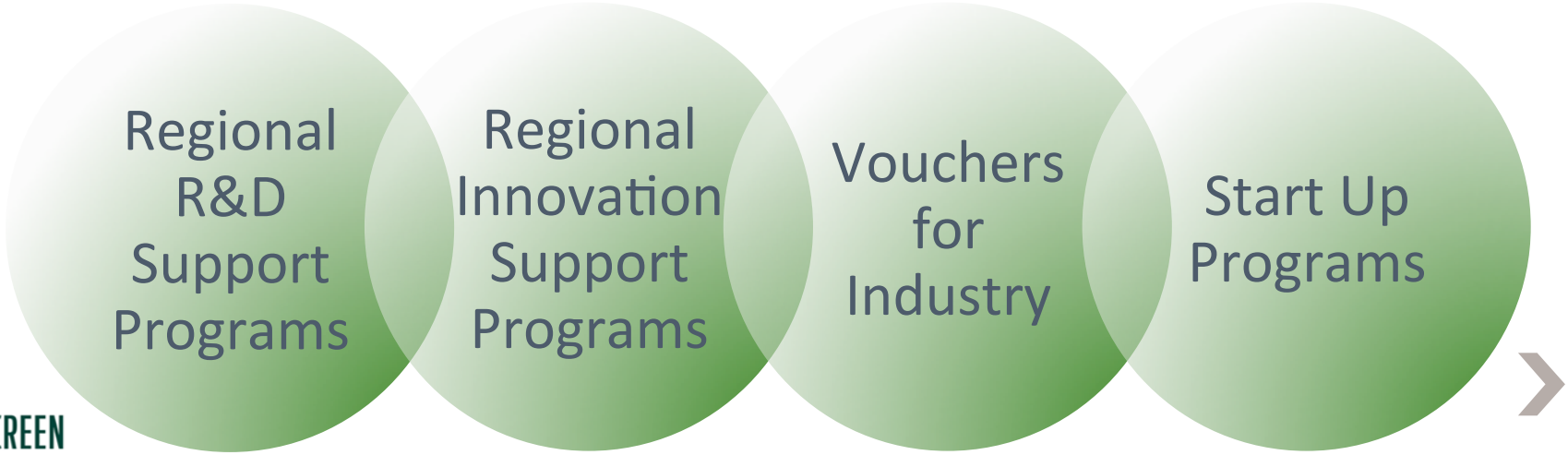
www.screen-lab.eu/Step4.html

Existing financial instruments

"Existing financial Instruments" have been revised including the instruments already available in the regions which are mapped to:

1. *Further develop **the emerging ideas**, stemming from the results of the previous steps within Screen.*
2. *Gather **best practices** and hints which can fuel the policy lab, created within the project.*



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Existing financial instruments

Existing support instruments belonging to each regional portfolio of SCREEN Partners have been collected through a specific format.

- Dedicated to Circular Economy activities;
- Dedicated to other sectors (e.g. transport, smart cities, energy) with potential to be transferred to Circular Economy.

Support Instrument Description Format	
Field	**Possible values**
Investment instrument name	Free
Brief description of the instrument	Free
Scope of the instrument	Free
Destination area(s) of funds (if any)	Free
Category of beneficiaries	Large Enterprise, SME, RTO, University, Other
Type of financing	Loan, subsidy requiring co-financing, subsidy without co-financing, other
Rate of financing	Free
Eligible Costs	Personnel, Equipment (depreciation), R&I Infrastructure (investment), Consumables, Overheads, Travel, other
Source of funding (ERDF, ESIF, etc.)	Regional, National, European, International, mix (specify), other.
Supported TRL level	[1,2]; [3,4]; [5,6]; [7,8]

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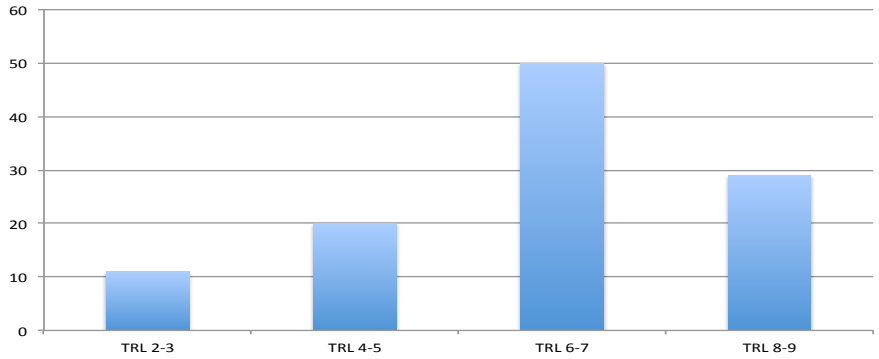
Existing financial instruments

Region	Total n° of instruments	Processed Data	Instruments potentilly supporting cross-regional cooperation [art 70]	Instruments also targeting CE	Instruments dedicated to CE	TRL 2-3	TRL 4-5	TRL 6-7	TRL 8-9
CCDRC	33	32	25	31	13	-	7	16	9
Extremadura	3	3	3	3	-	-	1	1	0
Fryslan	5	5	2	5	1	1	1	2	1
Scotland	9	8	5	7	2	1	3	5	2
La Reunion	4	4	4	4	-	-	1	2	4
Lombardia	4	4	4	4	-	1	1	3	1
Tampere	1	1	1	1	-	-	-	1	-
Lazio	4	3	3	1	2	-	-	2	3
PGKC	2	2	-	2	-	2	-	-	-
Limburg	11	10	3	9	1	3	1	6	-
Flanders	8	8	4	8	-	-	-	5	3
Navarra	4	4	4	4	-	-	1	2	1
NE Romania	3	3	3	1	-	-	1	-	2
Lodzkie	10	7	3	7	-	3	3	6	3
Total	**101**	**94**	**64**	**87**	**19**	**11**	**20**	**51**	**29**



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Existing funding instruments: Lombardy Region example

Successful example of Vouchers for Industry: *Bando Innodriver – S3 – edizione 2017* - 11MEuro to finance the following technological innovation measures:

- Measure A – vouchers in support of cooperation among SMEs and RTOs;
- ***Measure B* – vouchers for the Lombardy companies that have obtained the "Seal of Excellence" in the "SME Instruments" phase 1 of Horizon 2020, but they are not financed by the EU due to limited resources;**
- Measure C – vouchers in support of patenting for industrial uptake.

The vouchers of the Lombardy Region come from the ESIF-ERDF Funds and they are already compliant with the Art. 70 of the ESIF Regulation

Regione Lombardia

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http://www.fesr.regione.lombardia.it/wps/portal/PROUE/FESR/Bandi/DettaglioBando/Agevolazioni/bando-innodriver-2017

TRL 6-7
Subsidy requiring co-financing

Existing funding instruments: Circular Economy Investment Fund - Scotland

£18 million Circular Economy Investment Fund, administered by Zero Waste Scotland, for SMEs based in Scotland that will deliver circular economy growth. It is supported by the European Regional Development Fund through the £73million Resource Efficiency Circular Economy Accelerator Program

1. Funding applications of £50,000 to £99,999.
2. Higher value applications from £100,000 to £1,000,000.

<u>R&I infrastructure (investment costs) are eligible.</u>

TRL 6-7
Subsidy requiring co-financing

The Fund has been established by Zero Waste Scotland (ZWS), funded in part with European Regional Development Fund (ERDF).

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http://www.zerowastescotland.org.uk/circular-economy/investment-fund

Existing funding instruments: Circular Economy and Energy fund - Lazio

Destination Area: Instrument targeted to SMEs innovating in the area of circular economy and energy – 10M€.

Circular economy and energy fund - was created to support the development of new value-chains and boost the competitiveness of the local eco-system, in line with the Smart Specialization Strategy of Regione Lazio through the support to thematic projects in the area of circular economy and energy.

http://www.lazioinnova.it/bandi-post/circular-economy-ed-energia/

ROP ERDF- 2014-2020-(50% EU 35% national 15% regional). TRL 6-7.
Subsidy Requiring co-financing
Rate of financing: 10%-80%

Existing funding instruments: Success stories

GreenCoat

Regione Lombardia

FiberEUse

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Success Story Title: "SuperEcoPlast"
Funding instrument: Research&Development line for aggregations
Region: Lombardy
Starting Date – End Date: 6 December 2016 – 6 December 2018
Involved Stakeholders: enterprises and university
Description of the action: The technological innovations of Superecoplast are devoted to the **metallization (chrome plating) of plastic materials, and then to the final applications related to the components for cars, furniture and devices, consumer goods**. Surface metallization gives the molded piece high aesthetic and functional properties, such as scratch resistance and cleanability. Project's goal: • integrate technologies with low environmental impact such as solventless UV coating and physical vapor coating deposition (PVD) of metal chromium (therefore free of Cr6 + ions); • develop cycles of metallic finishing of highly innovative, high performance and low environmental impact plastics materials, as they are free from Cr6 + and from the release of organic solvents.
Achieved results: • setting of the metallization of the plastic substrates (UV curing cycle of the varnish, cycle of deposition of metal chromium by PVD); • diversification and expansion of classes of treatable plastic materials (extending to materials not commonly treated such as polypropylene); • performance improvement of metallized products, with particular reference to their mechanical surface behavior (hardness, scratch resistance, wear resistance, adhesion). **The company obtained the additional 5% funding thanks to the participation in the project "FiberEUse" funded by Horizon 2020**. This project concerns a large scale demonstration of new circular economy value-chains based on the reuse of end-of-life fiber reinforced composites. The project involves the participation of subjects (companies, universities, research centers) belonging to 7 european countries.
Support material: http://www.greencoat.it/?page_id=237, http://fibereuse.eu/

Matching local emerging ideas, and cross-regional value chains with instruments

2. Match the Circular Economy emerging and the cross-regional value-chains towards the existing instruments, at regional and European levels.
3. Identify the *gaps* existing among investment instruments and promising Circular Economy Initiatives.

	Investment Instrument type 1	**Investment Instrument type 2**
CE Initiative 1	X	
CE Initiative 2		X
CE Initiative 3	X	X
CE Initiative 4		

GAP

4. Identify recommendations for the definition of specific regional and *multi regional measures,* to be applied in support of Circular Economy initiatives.

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Matching local emerging ideas, and cross-regional value chains with instruments

Lazio - Circular Economy and Energy fund: Instrument targeted to SMEs providing subsidies requiring co-financing, with a funding rate between 10%-80%, at TRL 6-7, on the ROP ERDF-2014-2020 fund, with a funding mix 50% EU, 35% national, 15% regional.

Fryslan- Circulair Economy Call Fryslân: instrument targeted to SMEs providing subsidies requiring co-financing, with a funding rate of maximum 40%, at TRL 6-7, on regional funds.

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Considerations and recommendations

- Although ”Existing financial Instruments” at regional level are usually applied in isolation, even if they could be partially used to support cross-regional initiatives, there exist recently developed instruments favouring a cross-regional cooperation (e.g. Fund of funds).
- In general, cross-regional cooperation is not reflected in the evaluation of projects.
- The transfer of technologies and solutions from one region to another, among sectors, is usually not supported by specific instruments.
- The “Seal of Excellence” approach is currently only applied only to the SME Instrument.
- Only few instruments support the development of innovation infrastructures through ERDF to de-risk by demonstration future industrial investments in circular economy.
- The establishment of a ERA-NET like fund for circular economy would support the development of focused projects originated by the identified SCREEN synergies.
- A cross regional open innovation initiative may be useful to promote the systematic identification of inter-regional actions, extending the SCREEN methodology beyond the project life.

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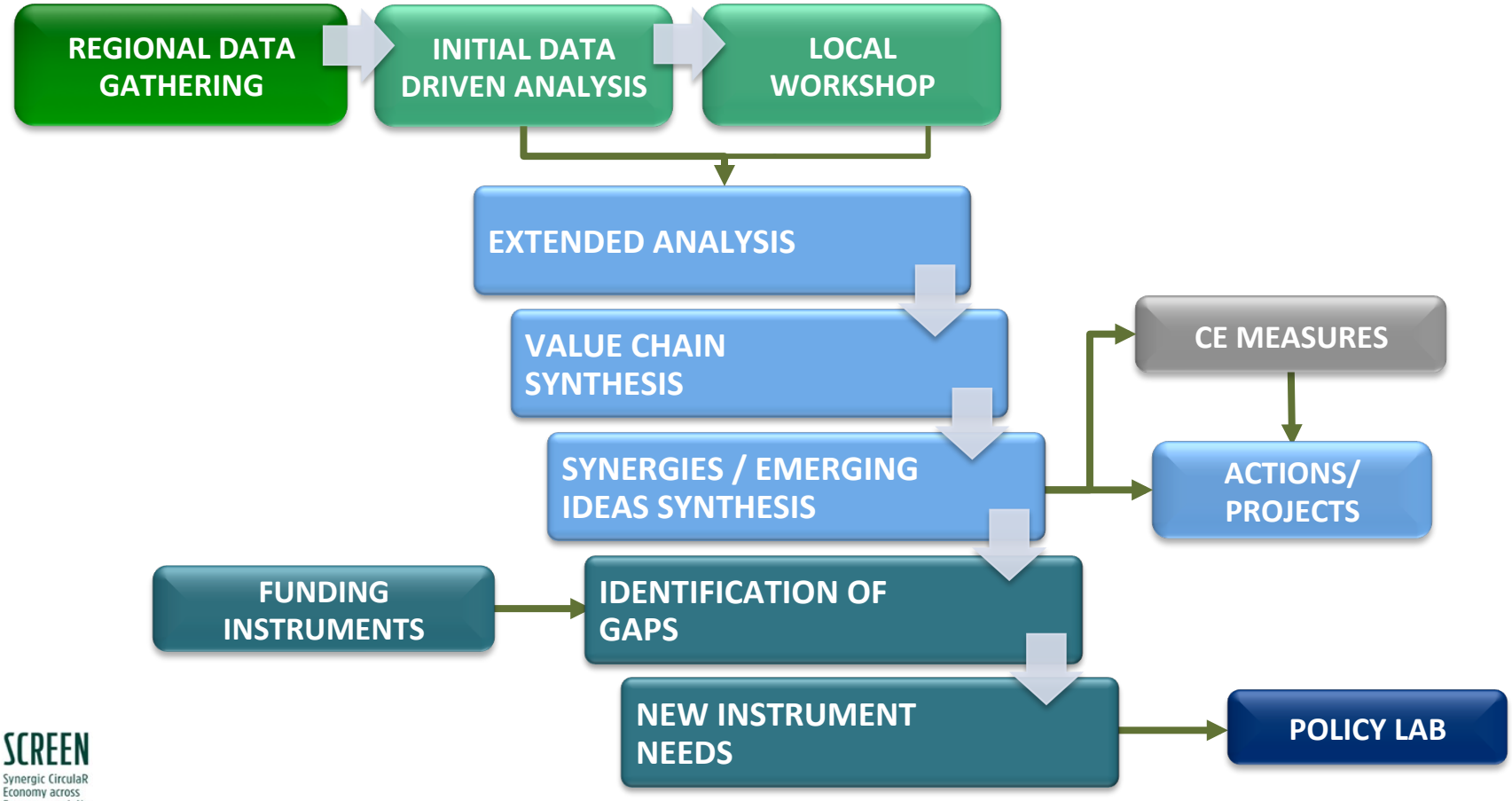
SCREEN Methodology: From local to cross-regional value-chains



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The SCREEN Project outcomes in synthesis

Data Collection:

- SCREEN Mapping tool compiled by all the 17 Regions.
- More than 30,000 records included.
- More than 300 companies mapped.
- More than 100 Circular Economy projects and more than 150 emerging ideas mapped.

Analysis:

- 13 Sectorial and cross-sectorial innovative value chains identified.
- 27 local workshops organized, including about 500 stakeholders, of which 200 from industry.

Synthesis:

- About 40 synergies identified.

Implementation:

- 101 funding instruments mapped and analyzed.
- 22 funding instruments best practices derived.

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The SCREEN Project methodology: future directions

The SCREEN methodology has been validated within the network of SCREEN Regions and can be easily replicated to European Regions at large scale.

Data Analytics: By applying semantic data analytics, data mining and AI techniques, more systematic emergence of synergies can be triggered.
Roadmapping and policy making: Regions can use the SCREEN Mapping tool systematically for supporting roadmapping and policy making.
Extension to new Regions: New Regions can be supported in the completion of the tool to extend the data set available for analysis.
Training programs for Regional authorities: specific training programs should be designed for regional representative for enhancing their capability to exploit the SCREEN methodology.
Link to open innovation platforms: by linking the tool with open innovation platforms a continuous data update can be achieved.

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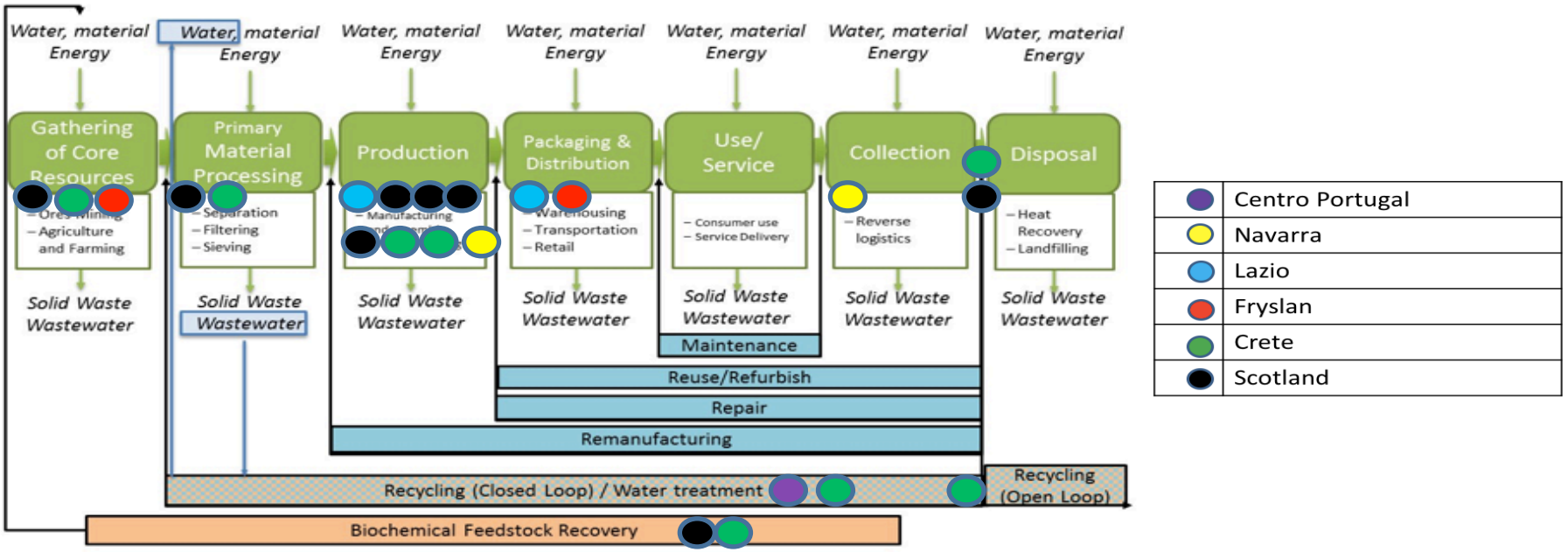

Food and beverage value-chain.

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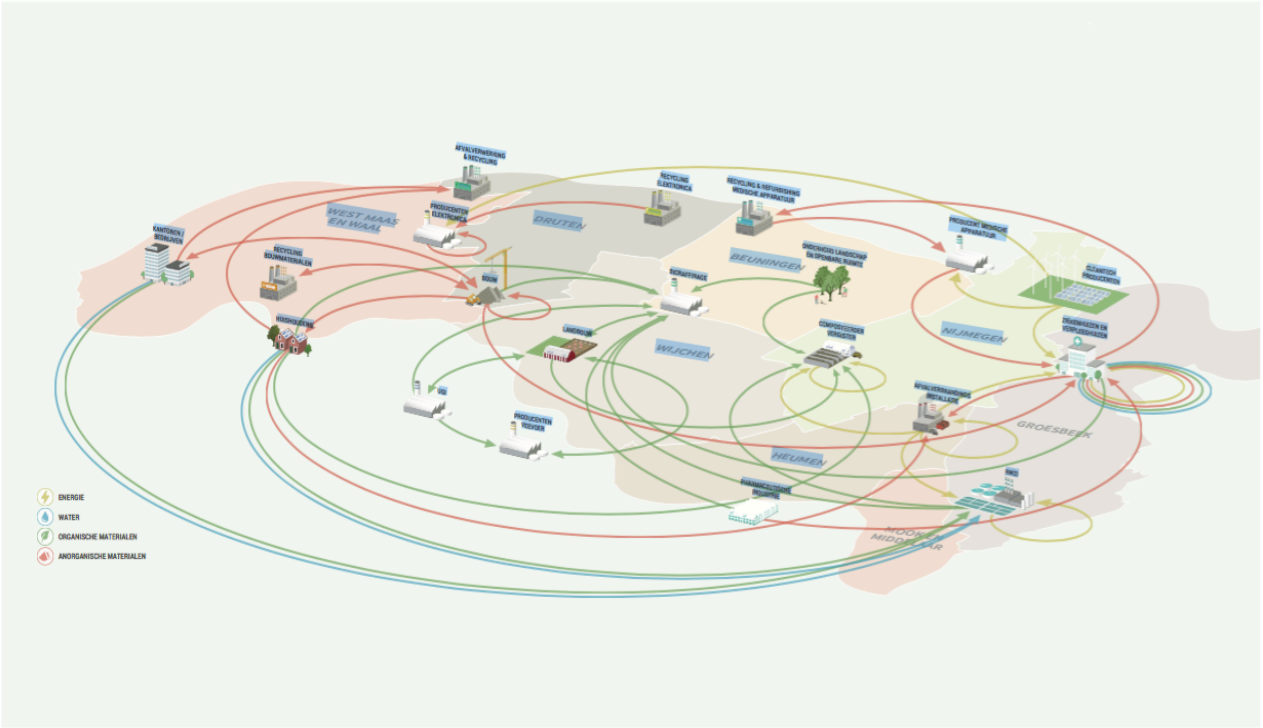

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Focus Sectors

NACE - Sectors	Lazio	Lombardia	Fryslan	Crete	Tampere	Scotland	Navarra	Centro	La Reunion
A1 - Crop and animal production, hunting and related service activities									
E36 - Water collection, treatment and supply									
C32 - Other manufacturing									
J61 - Telecommunications									
C20 - Manufacture of chemicals and chemical products									
B8 - Other mining and quarrying									
C26 - Manufacture of computer, electronic and optical products									
E38 - Waste collection, treatment and disposal activities; materials recovery									
M74 - Other professional, scientific and technical activities									
C23 - Manufacture of other non-metallic mineral products									
A2 - Forestry and logging									
C30 - Manufacture of other transport equipment									
C29 - Manufacture of motor vehicles, trailers and semi-trailers									
H52 - Warehousing and support activities for transportation									
F42 - Civil engineering									
E38 - Waste collection, treatment and disposal activities; materials recovery									
A3 - Fishing and aquaculture									

Emerging Idea	**Nutrient recovery from wastewater**							
Synergy potential exists with regard to	**Fryslân**	**Navarra**	**Lazio**	**Crete**	**Tampere**	**Scotland**	**Centro**	**Lombardia**
1.R&D-Capabilities	2	2	2	1	3	2	3	2
2.Companies	3	1	2	1	3	2	2	2
3.Education Capabilities	2	2	1	1	2	3	1	2

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SCREEN Cross-regional value chains

The most relevant value-chains have been identified and analyzed:

Material-driven value-chains

- Paper and forest-based industry
- Water and wastewater
- Biobased materials & biotechnology
- Manufacturing & de-manufacturing
- (Bio)waste management

Business driven sectorial value-chains

- Electrical and Electronic Equipment
- Energy
- (Smart) Packaging
- Textile
- Agriculture
- Transport and mobility
- Food and beverage
- Construction/Build Environment

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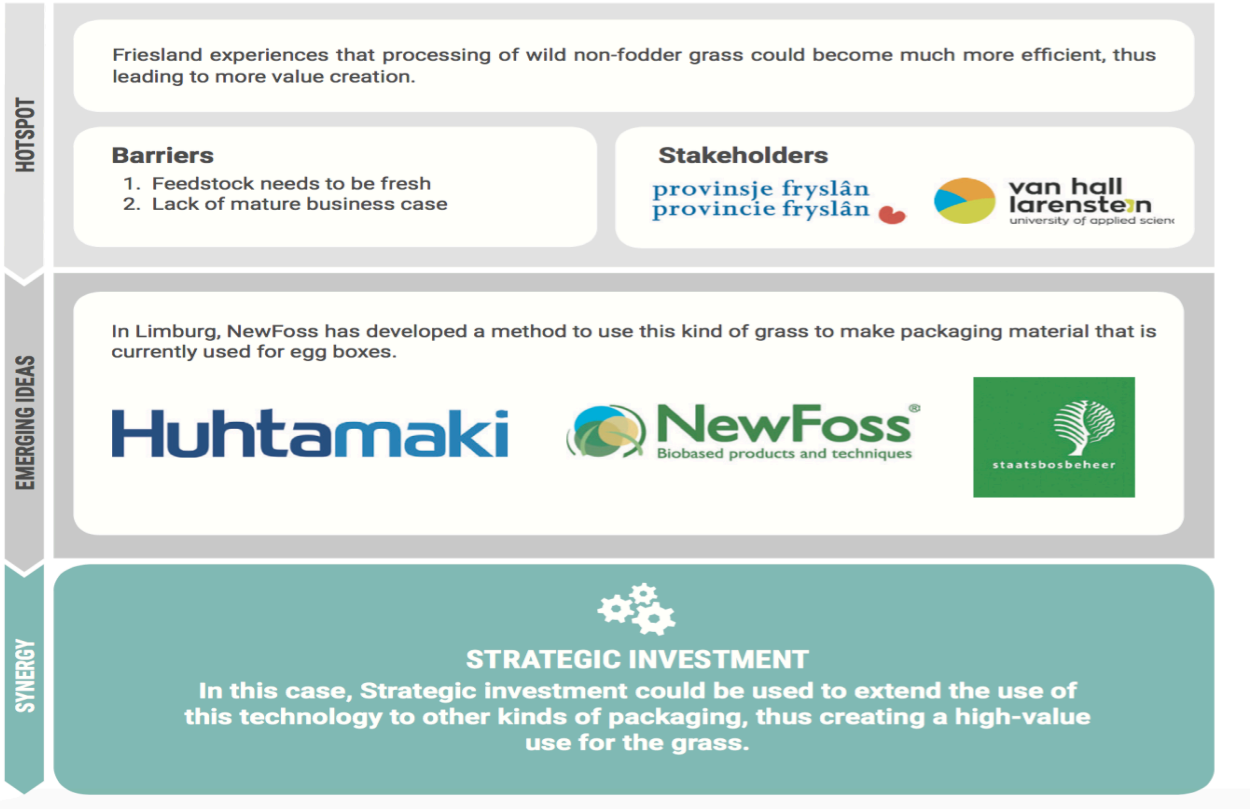
Matching local emerging ideas, and cross-regional value chains with instruments

Valorization of grass



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TRL 6-7

Matching local emerging ideas, and cross-regional value chains with instruments

Sludge recovery and utilization

HOTSPOT

LAZIO AND TAMPERE:

Lazio in Italy and Tampere in Finland face a challenge with the production of sewage sludge that contains important nutrients. Current sewage systems dilute the sludge, making it harder to valorize and there is a lack of technologies to productively extract the valuable materials.

Barriers

1. Lack of filtration
2. Lacking consumer acceptance
3. Absence of specific legislation

Stakeholders

Tech-Marketplace

TAMPERE UNIVERSITY OF TECHNOLOGY

Tuscia

EMERGING IDEAS

FRIESLAND:

Cirtec and KNN Cellulose BV have developed a filtering technology that filters only the cellulose out of the sludge making it possible to use it for example as drainage inhibitor under roads. The extraction of the cellulose also makes the rest of the sludge easier which can lead to a cost reduction of 15-20% for aeration.

KNN Cellulose BV

CIRTEC

Ecophos in Friesland have developed a system that can extract almost 99% of phosphate from incinerated sludge, making it easy to add this highly effective valorization step at the end of the process.

SYNERGY

TECHNOLOGY EXPORT

Because the innovations are so mature in this case, we would suggest a Technology Export, from Friesland to Lazio and Tampere.

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TRL 6-7

Matching local emerging ideas, and cross-regional value chains with instruments

Making bioplastic competitive

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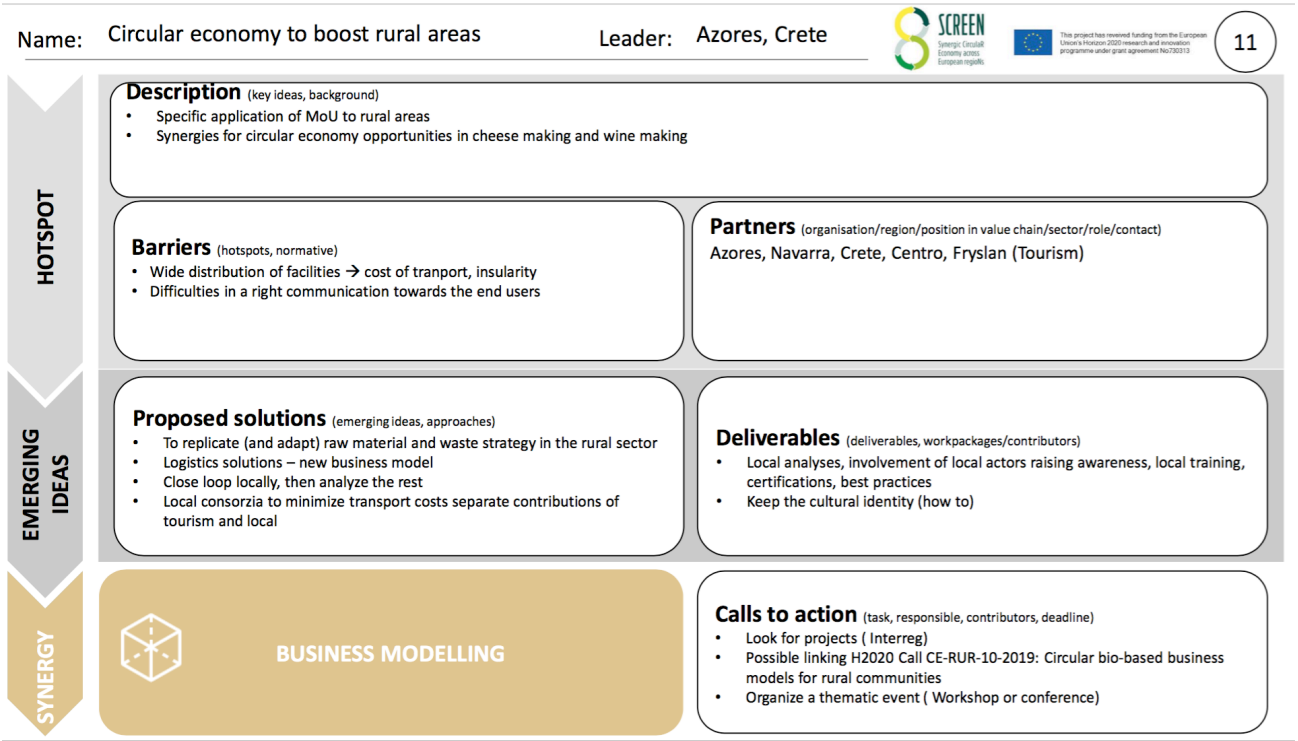
Synergic CirculaR Economy across European regioNs

TRL 8-9

Matching local emerging ideas, and cross-regional value chains with instruments



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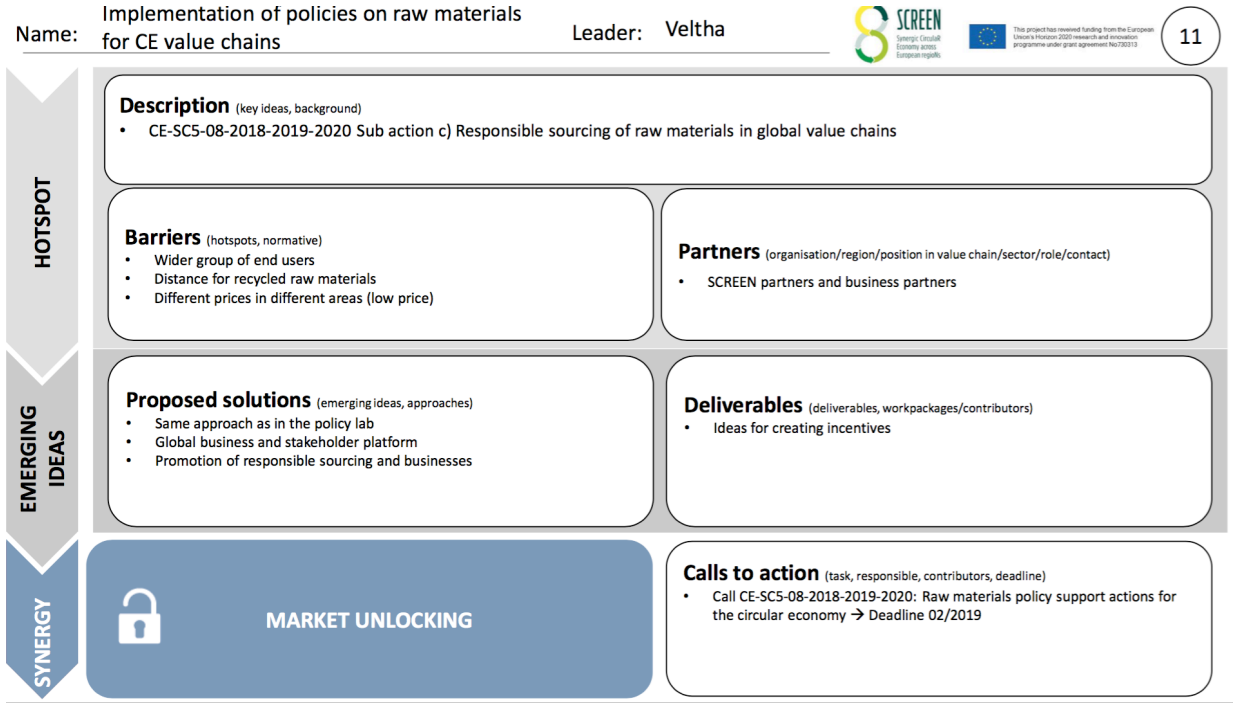
TRL 3-4

Matching local emerging ideas, and cross-regional value chains with instruments



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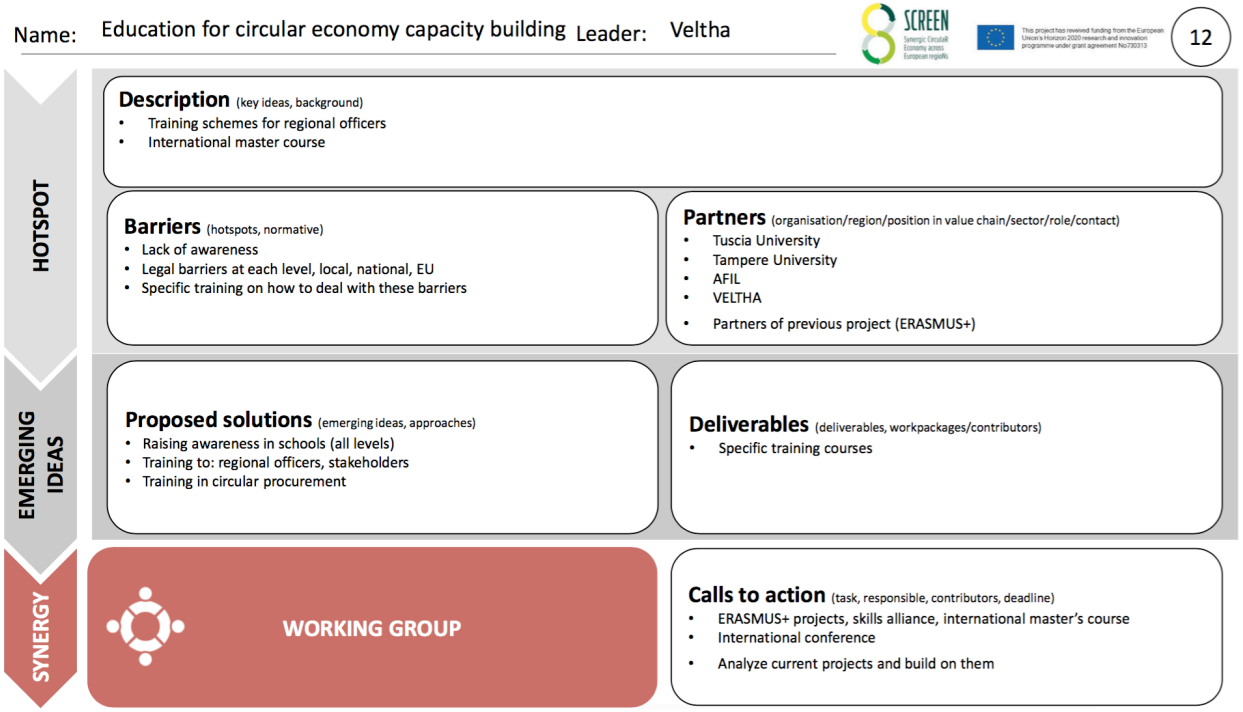
TRL 8-9

Matching local emerging ideas, and cross-regional value chains with instruments



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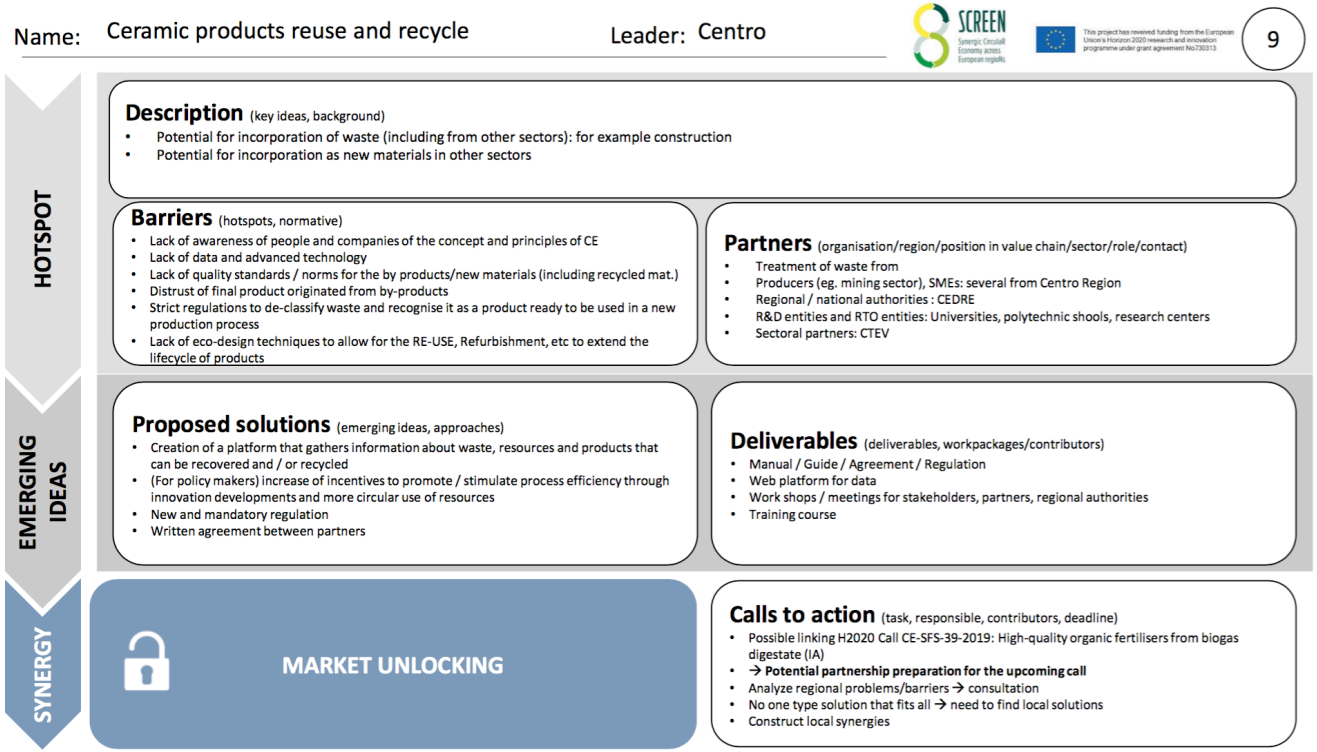
TRL 3-4

Matching local emerging ideas, and cross-regional value chains with instruments



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TRL 8-9

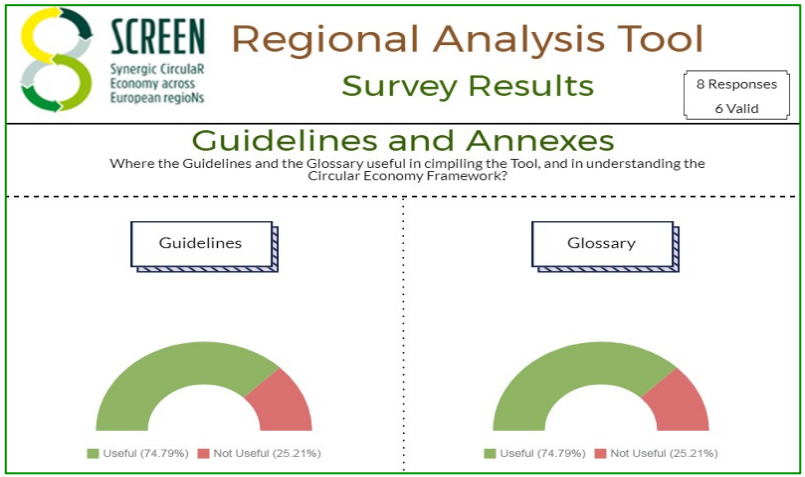
Survey on the data collection process.

There is a need to clarify the terms and ways of transforming the data that are available at the regional level.

It is difficult to assess the potential of emerging ideas; thus a methodology to do this could add value to the overall tool

Referring to the emerging ideas, it is very hard to gather the data from the stakeholders

There is a need for definitions, that are understandable by those regional stakeholders who do not know that they are working with the circular economy



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Existing funding instruments: “Fund of Funds” the Financiere - Region Reunion

Launched by a cooperation between the Regional Council of La Reunion and the European Investment Bank. **Funding mix: ERDF (24 M€), Regional funds (6 M€), EIF (20 M€)**

Following an ex-ante analysis of the financial needs of local SMEs, the 50 M€ capital constituted by ERDF, Regional and EIF resources, is divided into two kind of instruments managed by intermediaries:

- **An equity co-investment instrument**
- **A funding/loan instrument.**

http://www.eif.org/what_we_do/resources/la_financiere_region_reunion/index.htm

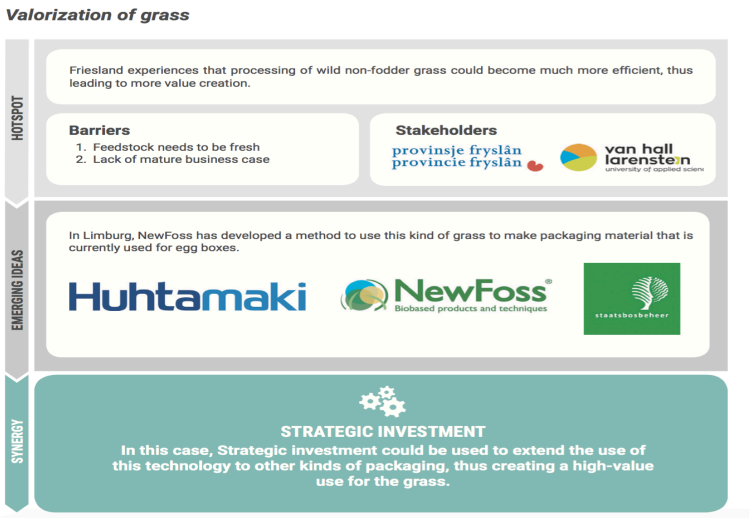
TRL 4-5, TRL 6-7, TRL 8-9
Funding rate: Depending on the addressed TRL

Existing funding instruments: Success stories

"By combining existing and innovative mechanical and chemical recycling technologies, project Beacon boosts the local economy and enables household and large rigid plastics to be recycled instead of incinirated",Chief Executive Officer of Recycling Technologies.

Success Story Title:
Funding instrument: Circular Economy Investment Fund
Region: Scotland
Starting Date – End Date: 2018
Involved Stakeholders: Ferguson's PI-Polymer Recycling, Recycling Technologies Ltd and Impact Recycling Ltd
Description of the action: Project Beacon, a big solution to a big problem which combines existing and **innovative mechanical and chemical recycling to create a world-first Advanced Plastics Reprocessing facility at Binn Eco Park, Perthshire**. Beacon has been supported by Zero Waste Scotland, the Circular Economy Investment Fund (backed by Scottish Government and European Regional Development Funding) has just awarded funding of £1.7million in Perthshire. By locating state-of-the-art recycling technologies together, significantly more plastic is kept in the economy and diverted from landfill and incineration, contributing towards Scotland's ambitious recycling targets. Activity: The system being developed at Project Beacon combines the latest material separation combined with a chemical feedstock recycling process. The key element is said to be a patented process based on thermal cracking which has been developed to cope with difficult to recycle end-of-life plastic waste such as mixed, laminated, black, film, hard and contaminated streams. The process produces a range of chemical constituents that can be used to create new virgin plastics, or other chemical products.
Achieved results: **The facility will process between 15,000 and 25,000 tonnes of plastics per annum and create over 70 new jobs.**
Support material: https://www.zerowastescotland.org.uk/case-study/project-beacon

Matching local emerging ideas, and cross-regional value chains with instruments



Limburg- Energy fund: Instrument targeted to industry providing loans and subsidies requiring co-financing, at TRL 6-7, using a mix or Regional and EIB funds, focused on nergy savings and circular economy.

Fryslan- Circulair Economy Call Fryslân: instrument targeted to SMEs providing subsidies requiring co-financing, with a funding rate of maximum 40%, at TRL 6-7, on regional funds.

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