

# Pilot 2: Research & innovation Public Private Partnerships (PPPs) in Circular Manufacturing

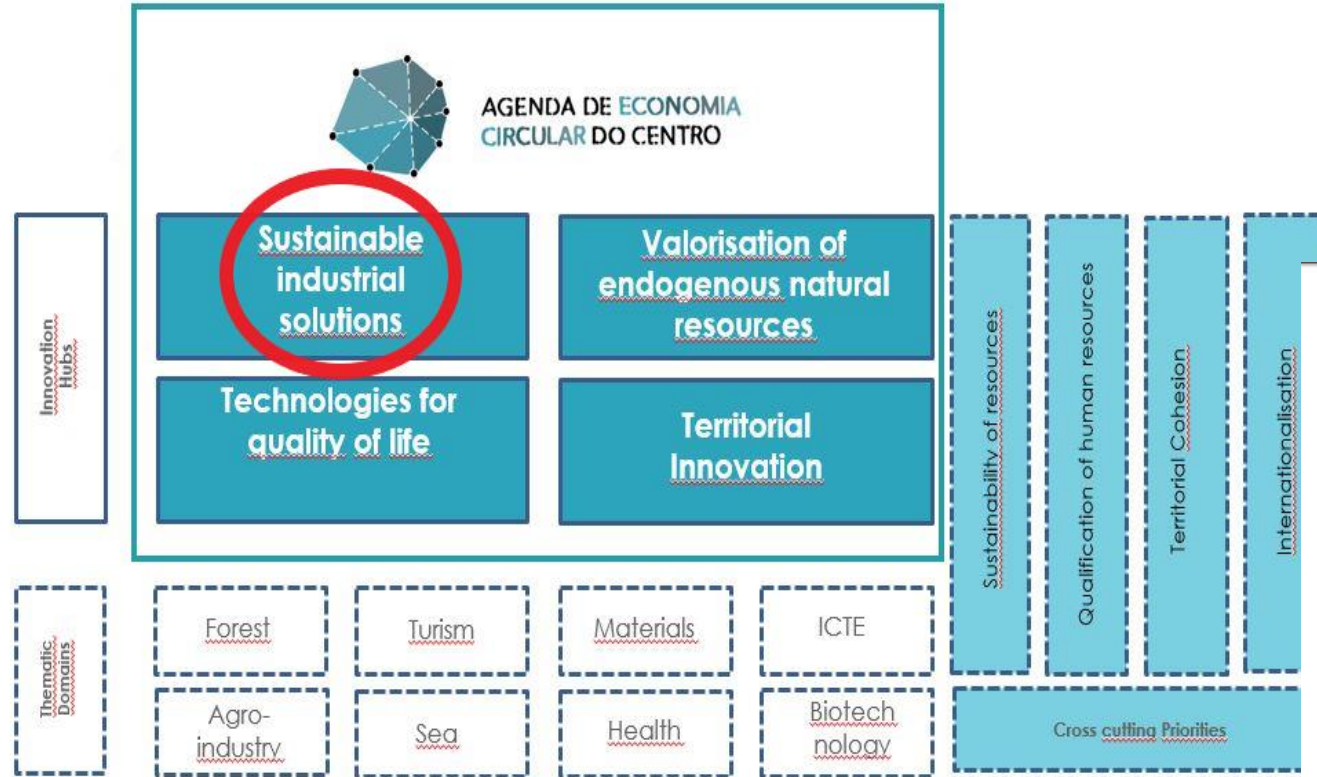
## Context & state of play

Gérard Carat – JRC.B3 Territorial Development

Brussels, 7 February 2020

# Manufacturing <> Circular economy

## → Circular manufacturing



**CENTRO**

**NORTE**



# Two complementary angles

## R&I PPPs (José Caldeira)

### Selection of PPPs among

- European Technology Platforms, Joint Undertakings, Contractual PPPs, European Industrial Initiatives, EIT KICs.
- Also covers selected Public-Public partnerships

### Relevant data for each region + national level

- Policies, programmes & funding instruments,
- RIS3, agenda for circular economy,
- Stakeholders,
- Portuguese participation in European PPPs, National projects on CM ...

### Case studies on funding synergies

## Potential H2020 partners (Joaquín Azagra)

Identification of projects on Circular Manufacturing in the H2020 projects database

- Explicit Circular Manufacturing: 29 projects
- Implicit Circular Manufacturing: 35 additional projects
- Total Circular Manufacturing: 64 projects
- 603 duplicated participants
- 510 unique participants

Develop criteria to prioritize potential H2020 partners for to the two Portuguese regions stakeholders.

# 1<sup>st</sup> pilot event in Porto (Norte region)

Nov. 4  
2019

9.15	Context of the PPP Pilot, objectives of the workshop, organization for the day - <i>Karel Haegeman, JRC</i>	
9.30	Existing strategies, programmes and initiatives at European, national and regional levels - 10-minute summary pitches - <i>Paulo Santos, CCDR-N; Teresa Jorge, CCDR-C; Anabela Carvalho, ANI.</i>	
10.00	Discussion	
<b>11.00-12.30</b>	<b>Parallel sessions<sup>4</sup>:</b>	
	Session 1 – “ <b>Hard</b> ” synergies: H2020 projects	Session 2 – “ <b>Soft</b> ” synergies: Strategies and programming
	<i>Moderator: k. Haegeman; Rapporteur: P. Neto</i> 11h00: Portuguese and regional participation in H2020 and PPPs (FoF+SPIRE) – <i>Anabela Carvalho, ANI</i> 11h20: Assessing the potential for collaboration with H2020 projects and partners on Circular Manufacturing – <i>Joaquín Azagra</i>	<i>Moderator: A. Santos; Rapporteur: J. Caldeira</i> 11h00: Synergies on Strategies – <i>Raquel Meira, CCDR-N; Teresa Jorge, CCDR-C; Pedro Rocha, PRODUTECH Cluster/FoF PPP</i> 11h30: Discussion 11h55: Synergies on Programming - <i>Miguel Antunes, ANI</i> 12h10: Discussion
<b>13.30-15.00</b>	<b>Parallel sessions</b> (Continuation of the morning parallel sessions)	
	Session 1 – “ <b>Hard</b> ” synergies <sup>5</sup>	Session 2 – “ <b>Soft</b> ” synergies
	<i>Moderator: Karel Haegeman; Rapporteur: Paulo Neto</i> 13h30: Mapping H2020 Circular Manufacturing projects and partners with Norte and Centro stakeholders 14h45: Validation of the main conclusions and lessons learned from Session A (to be reported to plenary)	<i>Moderator: Anabela M. Santos; Rapporteur: José Caldeira</i> 13h30: Case studies on Synergies (3/4) – short presentations (stakeholders) 14h10: Discussion 14h45: Validation of the main conclusions and lessons learned from Session B (to be reported to plenary)
<b>15.30-17.00</b>	<b>Closing session</b>	
15.30	Reporting back from parallel sessions – <i>Rapporteurs</i> & Discussion	
16.00	Discussion on critical success factors for further implementation	
16.30	Next steps for the pilot - <i>José Caldeira, Karel Haegeman</i>	

# PORTO EVENT

## Main outcomes – Session 1

Parallel session on H2020 CM projects

# Porto event– Basic indicators on H2020 CM

510 participants				Type of organisation	N° of CM participants h2020	% of total participants in H2020	H2020 participants who also participated in FP7	FP7/ H2020 participants (by type of org.)			
AR	1	IL	6								
AT	14	IS	2								
BA	1	IT	54	Private for profit (excl. education)	309	61%	115	37%			
BE	49	JP	1	Research organisation	82	16%	77	94%			
BG	1	LT	3	Higher or secondary education	65	13%	62	95%			
BR	1	LU	1	Public body (excl. Research and education)	26	5%	20	77%			
CH	10	LV	1	Others	28	5%	11	39%			
				<b>TOTAL</b>	<b>510</b>	<b>100%</b>	<b>285</b>	<b>56%</b>			
CL	1	MA	1	<b>Project taxonomy / objectives</b>			<b>Participants</b>	<b>%</b>	<b>Projects</b>	<b>%</b>	
CN	3	MK	1	Advanced manufacturing and processing			108	18%	8	13%	
CY	1	NL	25	Advanced materials			47	8%	3	5%	
CZ	3	NO	12	Biotechnology			2	0.3%	1	2%	
DE	46	PL	9	Climate action, environment, resource efficiency and raw materials			272	45%	32	50%	
DK	4	PT	14	Europe in a changing world - inclusive, innovative and reflective societies			1	0.2%	1	2%	
EL	16	RO	2	Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy			117	19%	10	16%	
ES	81	RS	1	Information and Communication Technologies			37	6%	2	3%	
FI	12	SE	12	Innovation in SMEs			2	0%	2	3%	
FR	47	SI	8	Marie-Sklodowska-Curie Actions			8	1%	1	2%	
HK	1	SK	1	Nanotechnologies			1	0%	1	2%	
HR	2	TR	7	Smart, green and integrated transport			8	1%	3	5%	
HU	6	UK	38								
IE	7	ZA	4								
							<b>TOTAL</b>	<b>603</b>	<b>100%</b>	<b>64</b>	<b>100%</b>

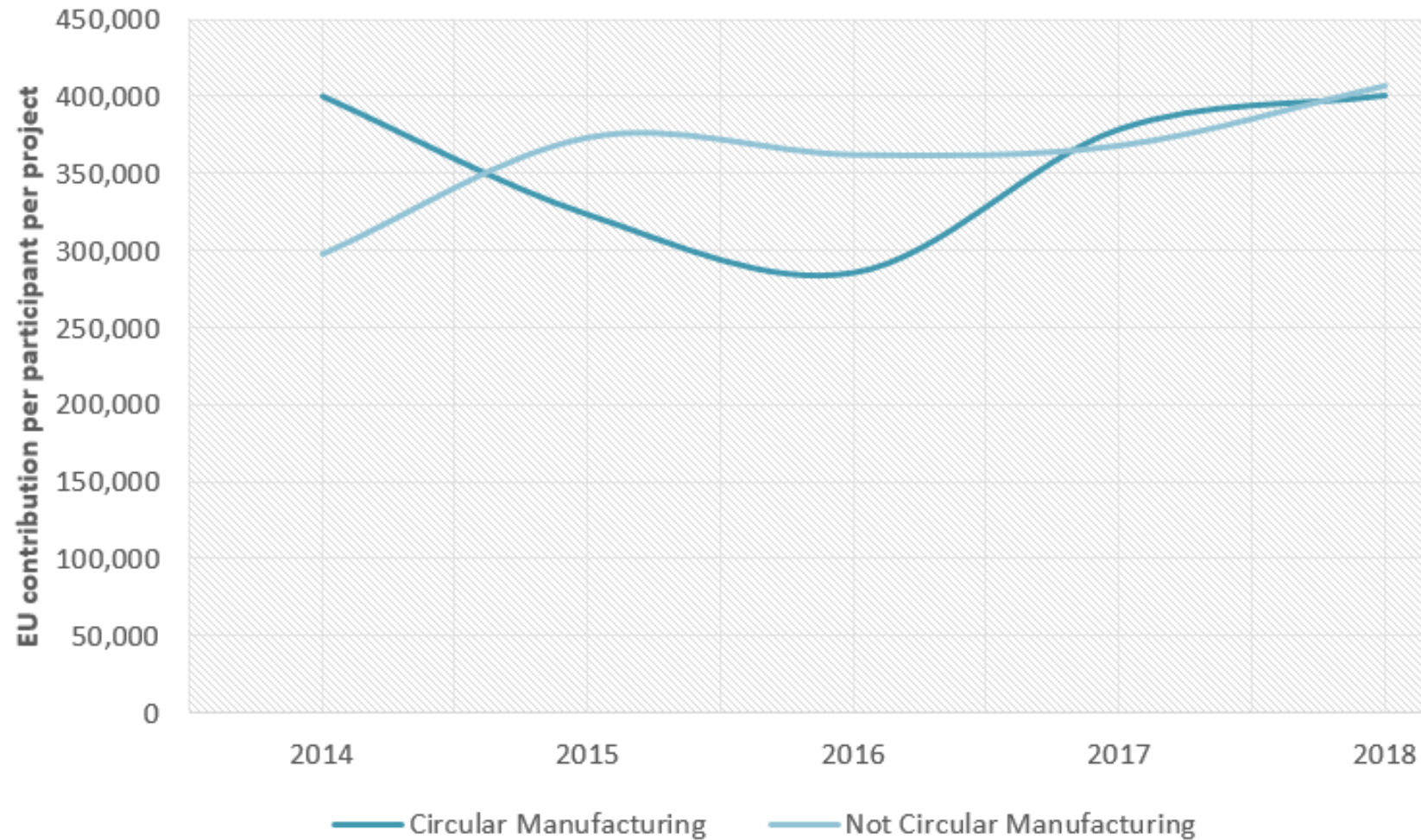


# Porto event– Basic indicators on H2020 CM EU contribution

**Total CM funding: €205 m**

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**Average funding per project: 3.2m€**



# Porto event - Validation of projects list

Project Acronym	Project Title	N partners in project	N partners from Centro and Norte	Project Requested EU Contrib	Project Total Costs	H2020 programme taxonomy	Project Status	Project Abstract	Project Free Keywords
RESYNTEX	A new circular economy concept: from textile waste to	23	0	8,787,749	11,478,762	CLIMATE	SIGNED	The RESYNTEX p	textile waste, chemical/biotechnological tre
CABRISS	Implementation of a CirculAr economy Based on Recy	21	0	7,844,565	9,266,683	CLIMATE	CLOSED	The main vision	Photovoltaics, recycling, critical materials, s
RESLAG	Turning waste from steel industry into a valuable lov	24	0	8,022,007	9,588,622	CLIMATE	SIGNED	The RESLAG proj	steel slag, energy-intensive industry, industr
BAMB	Buildings as Material Banks: Integrating Materials P	21	1	8,858,763	9,918,630	CLIMATE	SIGNED	The aims of BAM	Materials passports, reversible building des
Ultrslag	A new integrated sustainable processing system for '	1	0	50,000	71,429	CLIMATE	CLOSED	Slag is a by-pro	slag ultrasonic metals leaching implosion c
Insuwaste	Recycling of hard-to-treat, post-consumer textile was	1	0	50,000	71,429	CLIMATE	CLOSED	This project, is	Carpet mattress waste recycling insulation a
BIO-OXIDATED S2	BIO-OXIDATED S2: THE SOLUTION TO USE ORGANIC SL	3	0	50,000	71,429	CLIMATE	SIGNED	The project aim	organic sludge, urban green waste, non-haza
DECISIVE	A DECentralized management Scheme for Innovative V	13	0	7,755,102	8,713,971	CLIMATE	SIGNED	The growing att	biowaste; decentralized management networ
URBANREC	New approaches for the valorisation of URBAN bulky	26	1	8,618,970	9,978,982	CLIMATE	SIGNED	URBANREC proje	Keywords bulky waste, mattresses, hard plas
AgroCycle	Sustainable techno-economic solutions for the agric	28	0	6,960,294	7,650,050	FOOD	SIGNED	Continuing pop	Recycling, waste management, agriculture, c
Wallco	Wallco quality modular solid wood furniture	1	0	50,000	71,429	SOCIETAL	SIGNED	Wallco will dev	dynamic tailor-fitting, space saving design, s
REACMIN	RECYCLING ASBESTOS CONTAINING MATERIALS INTO N	2	0	50,000	71,429	CLIMATE	SIGNED	The REACMIN sc	Asbestos, Asbestos Containing Materials, AC
Recyclatrack	100% recovery and RECYCLing of construction vehicle	1	0	50,000	71,429	CLIMATE	SIGNED	Aquablast Limit	UHP Water, Recycling, Rubber, Steel, Raw Ma
InDIRECT	Direct and indirect biorefinery technologies for conv	9	0	1,347,948	2,089,671	FOOD	SIGNED	The aim of the p	biorefinery, side-streams, cascading, insects
VEEP	Cost-Effective Recycling of CDW in High Added Value	17	0	4,929,754	4,929,754	ADVANC MANUF	SIGNED	Around 461 mil	Circular economy, Construction and Demolit
Cellulose recovery	High quality cellulose recovery from AHP: From used	1	0	50,000	71,429	CLIMATE	SIGNED	Every year 7.5M	Cellulose, AHP products, raw materials, inco
TCR	Feasibility Assessment on Thermal Catalytical Reform	2	0	50,000	71,429	BIOTEC	SIGNED	Thor Biocrude (	Thermal Catalytic Reforming; Biobased econ
URBIOFIN	Demonstration of an integrated innovative biorefiner	17	0	10,946,366	15,061,283	FOOD	SUSPENDE	Due to the rapid	municipal solid waste, semi-industrial scale
FENIX	Future business models for the Efficient recovery of N	11	0	3,995,125	3,995,125	ADVANC MANUF	SIGNED	The European U	Circular Economy, Secondary Resources, Add
SCALER	Scaling European Resources with Industrial Symbios	7	0	1,049,481	1,049,481	ADVANC MANUF	SIGNED	Industrial symb	Industrial Symbiosis, Circular Economy, Pro
Madaster	Towards a circular economy: Eliminate waste throug	2	0	2,477,362	3,539,089	ICT	SIGNED	Our planet is a	construction, real-estate, Material Passport
Vegea Textile	Innovative biomaterials production from wine indus	1	0	561,312	801,875	FOOD	SIGNED	Vegea is a youn	Bio-based products; Agricultural waste reco
R3FIBER	Eco-innovation in Composites Recycling for a Resour	1	0	50,000	71,429	CLIMATE	SIGNED	Composite mate	circular economy, waste management, comp
DECOAT	Recycling of coated and painted textile and plastic m	21	1	5,901,708	5,974,458	ADVANC MATER	SIGNED	The main goal o	coated plastics, coated textiles, recycling, de



# Porto event – Validation of partners list

## Criteria for the prioritization of potential partners

Criterion	Measure	Weight
<b>Social proximity</b>	Number of CM projects in which the partner has participated	10%
	Number of participants per project	10%
<b>Institutional proximity</b>	% of Portugal Centro and Norte participants	10%
	% of participants from other intermediary R&I regions	10%
<b>Organizational proximity</b>	Closeness to the average business participation	10%
	Closeness to the average research organisation participation	10%
<b>Geographical proximity</b>	Average distance to Portugal Centro and Norte	10%
	Average distance between partners in the projects in which a given partner has participated	10%
<b>Power</b>	Number of projects coordinated	10%
	Average amount of individual funds allocated per project	10%

# Porto event – Validation of partners list

## Criteria for the prioritization of potential partners

### Top 2% in Proximity & Power

Organization name	Country	Org. type	SP	IP	OP	GP	Power	P&P
Fraunhofer-Gesellschaft	Germany	Research	1.0	0.2	0.9	0.6	0.9	1.0
Agencia Estatal CSIC	Spain	Research	0.4	0.7	0.9	0.8	0.7	0.9
Industrias Mecanicas Alcudia	Spain	Business	0.3	0.5	0.9	0.7	1.0	0.9
Ecofrag-Mentation Europe	Spain	Business	0.5	0.8	0.9	0.8	0.3	0.9
Sintef	Norway	Research	0.7	0.2	0.9	0.5	1.0	0.9
Blueplasma Power	Spain	Business	0.5	0.8	0.9	0.8	0.2	0.9
Aimplas	Spain	Research	0.6	0.4	1.0	0.8	0.3	0.8
Urbaser	Spain	Business	0.3	0.6	1.0	0.8	0.5	0.8
Nova Id	Portugal	Research	0.4	1.0	0.8	0.9	0.1	0.8
Eurospuma	Portugal	Business	0.5	0.8	0.9	0.9	0.1	0.8
Average Top PP			0.5	0.6	0.9	0.8	0.5	0.9
Average Non-Top PP			0.3	0.3	0.7	0.6	0.1	0.5

# Porto event - Validation and new perspectives

- **Validation: Confirmation of interest in half of the projects in the list**
- **Validation: Confirmation that top 2% prioritized potential partners are indeed the leaders in the field**
- **New perspectives: eg. need for a more systemic view of circular manufacturing (bias in favour of materials recycling)**

# PORTO EVENT

## Main outcomes – Session 2

**Anabela SANTOS**

Economic Data Analyst

**José Carlos Caldeira**

Expert

Brussels, 7 February 2020

EIT House - Rue Guimard, 7, Brussels, Belgium

# Session B – Soft Synergies Rational (JCC)

- 18 participants: Managing authorities, ANI, Clusters and Interface Organizations
- Open debate/discussion + Questionnaire (importance, barriers and solutions)

## STRATEGIC LEVEL

- Regions collaborating with PPPs to define and align roadmaps for RIS3
- Regional stakeholders collaborating with PPPs to define and align roadmaps

## PROGRAMME LEVEL

- Regional programmes, instruments and call are defined to incentivize and support synergies

# Session B – Soft Synergies

## Rational

- **Why are synergies important?**
  - Complementarity
  - Leverage effect
  - Added value
  - Efficiency
  - Regional development
  - Improvement of RIS3



# Session B – Soft Synergies

## State of Play

- **Synergies at the level of strategies**

- The development processes of the current RIS3 had no direct influence from European PPPs (only indirect, via stakeholders). Regional bodies were not “engaged” with PPPs (this is a “function” implemented at national level)
- There were synergies regarding strategy setting among EU PPPs and national cluster initiatives (particularly FoF and, more recently, EIT Manufacturing).
- Since then, both regions are investing more in this objective and the ongoing RIS3 revision processes are considering already the EU level more explicitly.

# Session B – Soft Synergies

## State of Play

- **Synergies at programming level**

- In the current FP, some instruments were developed to support synergies, namely:
  - Demonstrators and pilot lines (integrating also results from EU projects).
  - Support to co-fund programmes (EUREKA, EUROSTARS, etc.), using structural funds
  - Support to SME Instrument phase II (Seal of Excellence)
- Several stakeholders are using these instruments to develop and support synergies.

# Session B – Soft Synergies

## State of Play

- **Synergies at project level**

- Examples of different types of (bidirectional) hard synergies were identified and briefly presented, covering the most relevant stages:
  - Capacitation
  - Research and development
  - Test, validation and demonstration
  - Dissemination
  - Cross fertilization
- Most of this “effort” was made by stakeholders. MA still don’t pay a lot of attention to these dynamics.

# Session B – Soft Synergies

## Main outcomes (Anabela)

- **Main challenges and barriers for a higher level of collaboration - POLICY SIDE**
  - Lack of alignment (national *versus* EU financing instruments)
  - High bureaucracy / complex process (resource intensive)
  - Long time to receive decision (sometimes >1 year)
  - Disperse information on funding opportunities
  - Lack of information on existing PPPs (results/beneficiaries)

# Session B – Soft Synergies

## Main outcomes

- **Main challenges and barriers for a higher level of collaboration - DEMAND SIDE**
  - Weak entrepreneurial culture in private-public collaboration
  - Weak awareness of the importance of partnerships / synergies
  - Lack of demand for PPP

# Session B – Soft Synergies

## Main outcomes

- **What can be done to improve the current situation?**
  - Higher concentration and dissemination of information (funding / results)
  - Reduction of administrative burdens
  - Reduction of time to receive financing decision
  - Design more appropriate financial instruments
  - Alignment of national regulatory framework to European



# Session B – Soft Synergies

## Main outcomes

- **What can be done to improve the current situation?**
  - Redesign the intervention and actions of managing authorities (lack of autonomy)
  - Reinforce the linkage/articulation of clusters and managing authorities
  - Development of more information sessions on PPP results and the available financing instruments

# Pilot 2: Research & innovation Public Private Partnerships (PPPs) in Circular Manufacturing

## Next steps

Anabela Santos and Gérard Carat

Brussels, 7 February 2020

# Study on synergies effect between EU & national funds

**Study** on “Synergies effect between EU and national funds. The case study of Portugal”

- **Research question:**

- *Which kind of synergies can be observed in Portugal?*
- *Do synergies have an "added value" and, if so, under what circumstances?*

- **Data source:** ANI, JRC – H2020 database and ORBIS

# Study on synergies effect between EU & national funds

## 1) Understanding the beneficiaries of synergies

- Which kind of beneficiaries receive/use several types of funds together (PT2020, H2020 and R&D tax credit)
- Mapping the probability to receive/use several types of funds together (PT2020, H2020 and R&D tax credit) and linked the findings with framework conditions of the regions

# Study on synergies effect between EU & national funds

## 2) Measuring the effect of synergies (\*)

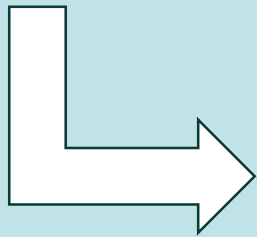
- Estimating the effect of synergies on innovation (proxied by intangible fixed assets) and growth (employment)
- Mapping (at regional level) the effect of synergies and linked the findings with framework conditions of the regions

(\*) Methodology: Counterfactual analysis

# Study on synergies effect between EU & national funds

## 3) Extracting lessons for policy

- Extracting conclusions about the most suitable environment to develop synergies and improve their effect



- Help Portuguese managing authorities to raise awareness of the importance of partnerships / synergies (on the demand side)



# Next steps

- Study on synergies effect between EU & national funds
- 2<sup>nd</sup> Pilot event (Centro region, Coimbra). Dissemination

# Formatting of the 2<sup>nd</sup> pilot event – Centro region (Coimbra) - April 2020 (tbc)

- Matchmaking event? Prioritize H2020 partners to invite in 2<sup>nd</sup> pilot event in Centro region (Coimbra, foreseen in April 2020)
- Learning Lab format? Exchanges of best practices / thematic roundtables
  - top 2% CM H2020 project partners/coordinators, NCPs ...
  - European / National / Regional instruments, RIS3 implementation, monitoring, evaluation ...

# Next steps

- Study on synergies effect between EU & national funds
- 2<sup>nd</sup> Pilot event (Centro region, Coimbra). Dissemination
- Exploitation of the synergies questionnaire

# Exploitation of synergies questionnaire (Porto participants)

## Parallel session 1 "hard synergies"

1. Which are the most important types of funding synergies?
2. Which are the main challenges and barriers?
3. What can be done to improve the current situation?
4. Do you have or know about other examples of synergies? Which types?

## Parallel session 2 "Soft synergies"

Strategies	Programming	Projects case studies discussed
1. Why is this type of synergies important?	1. Why is this type of synergies important?	1. Which are the most important types of funding synergies?
2. Which are the main challenges and barriers for a higher level of collaboration?	2. Are the current policies and instruments suitable to promote and support synergies?	2. Which are the main challenges and barriers?
3. What can be done to improve the current situation?	3. Which are the main challenges and barriers for a higher level of collaboration?	3. What can be done to improve the current situation?
4. Do you have or know about other examples of synergies of this type?	4. What can be done to improve the current situation?	4. Do you have or know about other examples of synergies? Which types?
	5. Do you have or know about other examples of synergies of this type?	

# Next steps

- Study on synergies effect between EU & national funds
- 2<sup>nd</sup> Pilot event (Centro region, Coimbra). Dissemination
- Exploitation of the synergies questionnaire
- Final version of the experts reports

# Final version of the experts reports

**H2020 projects** (Joaquín): a more systemic view of circular manufacturing

**PPPs** (José): Address the analytical part, including:

- Analysis of the funding synergies questionnaires
- Recommendations to address barriers for better H2020/RIS3 synergies.  
In which stage of the innovation cycle?  
How to have access to project results?...
- Identify opportunities to promote new projects, building on synergies between PPPs and RIS3 strategies and instruments
- Mapping gaps & bridges between R&I agendas of the PPPs and national projects
- Evolution & comparison of CM in funding programmes (national & H2020)

# Next steps

- Study on synergies effect between EU & national funds
- 2<sup>nd</sup> Pilot event (Centro region, Coimbra). Dissemination
- Exploitation of the synergies questionnaire
- Final version of the experts reports
- Technical brief describing pilot methodology for possible replication in other regions/countries/sectors
- Reporting to the “H2020 for RIS3” working group

# Thank you for your attention

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Time for feedback from CCDR-Centro and Norte, and the working group