

Smart Specialisation Platform for Industrial Modernisation

Thematic S3 Partnership

ESM - Efficient and Sustainable Manufacturing

Start Date (09.2013)

MONITORING PROGRESS REPORT

Reporting Period: from January 2019 to June 2019

This Report is presented to the relevant Working/Steering Committee.
It contains three parts:

- I. Management Report prepared by the Lead Region(s)***
- II. Progress Report prepared by the Lead Region(s)***

The report is updated every six months.

Confidentiality: this document (part I) will be made available to the public via your Partnership's web page except for chapter *II.E. Self evaluation*.

Based on the monitoring results, the European Commission will decide on the following term's support.

Executive summary (max. 250 words):

The partnership on Efficient and Sustainable Manufacturing was born in the framework of the Vanguard Initiative and it is promoted by Lombardy and Catalonia.

Its focus is on technologies, methods and tools aimed at:

- Increasing throughput, quality, environmental and social sustainability of manufacturing activities while reducing costs;*
 - Reducing energy, emissions, resources and materials consumption,*
 - Increasing the inclusion of humans in the factories*
- Vision: Manufacturing should become efficient and sustainable to enable European reindustrialization and to preserve environment and planet's resources. Manufacturing efficiency and sustainability are two challenges to be addressed in a synergic way and systemic view.*

The idea is to conceive and develop a European network of infrastructure and pilot plants in key-manufacturing areas, where companies can test innovative solutions before the industrial uptake. By exploiting and valorizing available research results, ESM European pilot plants have the potential to support companies' innovation in breakthrough technologies and applications that require manufacturing efficiency and sustainability.

This approach will increase the competitiveness and the development of European value chains, exploiting synergies and complementarities of different regional specialization.

The ESM Vanguard pilot is aimed at overcoming the barriers limiting innovation and the transfer of research results to industry in Europe, through the development of an European synergic network of pilot plants accessible to companies in a logic of Smart Specialization. Each Region will develop and operate pilot plant nodes coherent to regional industry and competences, offering to European companies a "one stop shop" for the industrial uptake of new technologies and innovative business model.

I. Management Report prepared by the Thematic Platform/Lead Region(s)

I.A. Partnership Action Fact Sheet

- **Partnership:** *Vangurd ESM - Efficient and Sustainable Manufacturin*
- **Partnership's web-page:** *http://s3platform.jrc.ec.europa.eu/efficient-and-sustainable-manufacturing*
- **S3 Thematic Platform:** *Industrial Modernisation*
- **Objectives:** *Please enter your objectives...*
- **Lead Region(s):** *list of regions/countries leading this partnership*

<i>Lombardy - IT</i>
<i>Catalonia - ES.</i>
<i>Any other comments</i>

- **Official partner regions:** *list of regions/countries that have officially committed to follow this partnership and have been active in the last six months.*

<i>Auvergne Rhone Alpes - FR</i>	<i>Galicia - ES</i>	<i>Scotland - UK</i>
<i>Baden Wurttemberg - DE</i>	<i>Navarra - ES</i>	<i>Slovenia - SI</i>
<i>Basque Country - ES.</i>	<i>Norte - PT</i>	<i>South Netherlands - NL</i>
<i>Emilia Romagna - IT</i>	<i>Pays de la Loire - ES</i>	<i>Tampere - FI</i>
<i>Flanders - BE</i>	<i>Saxony - DE</i>	<i>Wallonia - BE</i>
<i>Any other comments</i>		

- **Other regions:** *list of regions/countries that have expressed their interest in this partnership but have not signed a commitment letter).*

<i>East Netherlands - NL</i>	<i>Please enter here...</i>	<i>Please enter here...</i>
<i>South Denmark -DK.</i>	<i>Please enter here...</i>	<i>Please enter here...</i>
<i>Ranstad - NL</i>	<i>Please enter here...</i>	<i>Please enter here...</i>
<i>Piedmont - IT</i>	<i>Please enter here...</i>	<i>Please enter here...</i>
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<i>Please enter here...</i>	<i>Please enter here...</i>	<i>Please enter here...</i>
<i>Any other comments</i>		

- **Intentions to join:** *list any regional/national authorities*
(Please list here all other regions that have expressed their interest to join the partnership)

- **Other participants (other than national/regional authorities):**
(Please list here all other (non-region) participants (clusters, institutes, RTOs, etc.))

<i>AFIL - Italy, Lombardy, Milan</i>	<i>PRODUTECH - Portugal, Norte, Porto</i>	<i>University of Leuven - Belgium, Flanders.</i>
<i>EURECAT - Spain, Catalonia, Barcelona</i>	<i>Scottish Institute for Remanufacture - England, Scotland</i>	<i>MUSP Lab - Italy, Emilia Romagna.</i>
<i>TUT - Finland, Tampere, Tampere</i>	<i>Fraunhofer IWU - Germany, Saxony, Chemnitz</i>	<i>CTP - Belgium, Wallonia.</i>
<i>INESC - Portugal, Norte, Porto</i>	<i>TECNALIA - Spain, Basque Country.</i>	<i>BRAINPORT - The Netherlands, South Netherlands,</i>

	Eindhoven
<p>PLASTIPOLIS - France, Auvergne Rhone Alpes, Lyon</p> <p>Politecnico di Milano - Italy, Lombardy, Milan</p> <p>University of Bergamo - Italy, Lombardy, Bergamo</p> <p>STIIMA-CNR - Italy, Lombardy Milan</p> <p>OOST NL - The Netherlands, East Netherlands</p> <p>AGORIA - Belgium, Flanders</p> <p>AIN - Spain, Navarra</p> <p>Fraunhofer IPA - Germany, Baden Wurttemberg</p> <p>INEGI - Portugal, Norte</p> <p>EMC2 - France, Pays de la Loire</p> <p>TECOS - Slovenia</p>	

<p>Representative of Lead Region 1: (name, institution, address, phone, e-mail)</p> <p>Giacomo Copani - AFIL, Via E.Oldofredi 23, Milan giacomo.copani@afil.it</p> <p>Roberta Curiazzi - AFIL, Via E.Oldofredi 23, Milan - roberta.curiazzi@afil.it</p>	<p>Representative of Lead Region 2 (if applicable): (name, institution, address, phone, e-mail)</p> <p>Joan Guasch - EURECAT, joan.guasch@eurecat.org</p>
<p>European Commission Coordinator: (name, e-mail)</p> <p>Please enter here...</p>	<p>Any other relevant information:</p> <p>Please enter here...</p>

I.B. Thematic Working Areas (WA)

- **Thematic Working Areas** (if any, please list of WAs, region(s) in charge of it, names and affiliations of involved regional/national authorities, and other actors)

Working Area	Region in Charge	Involved regions	Other actors
De- and Remanufacturing	Lombardy	<p>Lombardy, Scotland, Saxony, Tampere, Norte, Basque Country, Flanders and Emilia Romagna; Wallonia</p> <p>Interested Regions: Catalonia;South Netherlands;East Netherlands; Pays de la Loir</p>	<p>AFIL - Italy, Lombardy, Milan</p> <p>EURECAT - Spain, Catalonia, Barcelona</p> <p>TUT - Finland, Tampere, Tampere</p> <p>INESC - Portugal, Norte, Porto</p> <p>PRODUTECH - Portugal, Norte, Porto</p> <p>Scottish Institute for Remanufacture - England, Scotland</p> <p>Fraunhofer IWU - Germany, Saxony, Chemnitz</p> <p>TECNALIA - Spain, Basque Country</p>

			<p>University of Leuven - Belgium, Flanders</p> <p>MUSP Lab - Italy, Emilia Romagna</p> <p>CTP - Belgium, Walloniather actors</p>
<p>Polymer Based Functional Products</p>	<p>Catalonia - Auvergne Rhone Alpes</p>	<p>Lombardy</p> <p>Navarra</p> <p>East Netherlands</p> <p>In talks with other potential participants:</p> <p>Baden Wurttemberg</p> <p>Norte</p> <p>Pays de la Loire</p> <p>Slovenia</p>	<p>EURECAT - Catalonia, Spain</p> <p>PLASTIPOLIS - Auvergne Rhone Alpes, France</p> <p>University of Lyon, Auvergne Rhone Alpes, France</p> <p>AIN, Navarra, Spain</p>
<p>Digital Transformation</p>	<p>Lombardy - South Netherlands - Tampere</p>	<p>Norte</p> <p>Saxony</p> <p>Basque Country</p> <p>Flanders</p> <p>Slovenia</p> <p>Emilia Romagna</p> <p>East Netherlands</p> <p>In talks with</p> <p>Friuli Venezia Giulia</p> <p>Randstad</p> <p>Catalonia</p> <p>Friuli Venezia Giulia</p> <p>Wales</p> <p>Pays de la Loire</p>	<p>Politecnico di Milano, Lombardy, Italy</p> <p>STIIMA-CNR, Lombardy, Italy</p> <p>Brainport</p> <p>Developement, South Netherlands</p> <p>TUT, Tampere, Finland</p> <p>INESC, Norte, Portugal</p> <p>PRODUTECH, Norte, Portugal</p> <p>TECNALIA, Basque Country, Spain</p> <p>University of Modena and Reggio, Emilia Romagna, Italy</p>
<p>Energy-flexible and resource-efficient factory operation (EFREFO)</p>	<p>Saxony - Norte</p>	<p>Basque Country</p> <p>Lombardy-Navarra</p> <p>Baden Wurttemberg - Pays de la Loire</p>	<p>Fraunhofer IWU, Saxony, Germany</p> <p>STIIMA-CNR, Lombardy, Italy</p> <p>INEGI, Norte, Portugal</p>
<p>Any other comments</p>			

I.C. Overview of past activities (past six months, the 1st half of 2019)

Past Meetings

Title	Date	Place
SC Meeting	14.03.2019	Virtual
SC Meeting	08.04.2019	Virtual

<i>SC Meeting</i>	<i>11.06.2019</i>	<i>Virtual</i>
<i>Any other comments</i>		

Past Workshops

<i>Title</i>	<i>Date</i>	<i>Place</i>
<i>De and Remanufacturing for Circular Economy (demo-case meeting+DGRegio partnership meeting)</i>	<i>02.04.2019</i>	<i>Brussels</i>
<i>Visit to EURECAT functional products plant</i>	<i>12.04.2019</i>	<i>Cerdanyola, Spain</i>
<i>Digital Transformation demo-case workshop planned on the 20-21 June 2019 in Eindhoven</i>		

Past Dissemination Activities

<i>Title</i>	<i>Date</i>	<i>Place</i>
<i>Entrepreneurial Discovery Focus Group on Industrial Modernization</i>	<i>18.04.2019</i>	<i>Sibiu, Romania</i>
<i>Towards a better economic convergence and competitiveness within EU macro-regions</i>	<i>21.05.2019</i>	<i>Bucharest</i>
<i>Boosting Innovation for EU Industry: Industrial Infrastructures & Open Innovation Ecosystems 03.04.2019 - Ljubljana</i>		

I.C. Overview of future activities (the next 6 months – the 2nd half of 2019)**Future Meetings**

<i>Title</i>	<i>Date</i>	<i>Place</i>
<i>SC meeting</i>	<i>September 2019</i>	<i>Virtual</i>
<i>SC meeting</i>	<i>November 2019</i>	<i>Virtual</i>
<i>Please enter title here...</i>	<i>Please enter date here...</i>	<i>Please enter place here...</i>

Future Workshops

<i>Title</i>	<i>Date</i>	<i>Place</i>
<i>ESM Plenary meeting</i>	<i>December 2019</i>	<i>Brussels</i>
<i>Please enter title here...</i>	<i>Please enter date here...</i>	<i>Please enter place here...</i>
<i>Each demo-case is planning a workshop for the second half of the year. We will collect update by the end of June 2019</i>		

Future Dissemination Activities

<i>Title</i>	<i>Date</i>	<i>Place</i>
<i>World Remanufacturing Summit</i>	<i>2-4 October</i>	<i>Milan</i>
<i>EU BATCircle seminar under Batteries Europe - ETIP</i>	<i>13-14 June</i>	<i>Milan</i>
<i>GREENOMED Interreg MED Transfer event</i>		

II. Progress Report prepared by the Lead Region(s) of the partnership, describing **results achieved during this period**, in no more than 3 pages (the report is “cumulative”). All items listed in Sections A, B, and C, below, must be addressed.

Additional documentation such as extended technical reports and/or proceedings of workshops may be provided separately as an annex to this report (and should be referenced in the report).

II.A. Innovative results

- Innovative results and achievements that could be attributed to the Partnership. (Specific examples of Results vs. Objectives).

Identification of interlinks among demo-cases:

- "Smart&Adaptive" and "Digital&Virtual" demo-cases officialy joined into "Digital Transformation" and they are working on the consolidation of the concept exploiting the opportunities coming from next ICT and FOF calls.

Boost the progress of the demo-cases

- De and Remanufacturing demo-case is receiveing the support of DGRegio expert who is providing reccomendation to overcome the bottolnecks envisaged by the demo-case in elaborating the Business plan and the Investment Strategy of the demo-case.

- The other demo-cases are in a less mature stage and they are focusing on the consolidation of the concept trying to expand the network of Regions involved and aggregating a relevant number of industrial stakeholders

Raise awareness on the partnership

- The ESM Pilot has been invited to several conference to present Vanguard Initiative (in particular ESM) as an opportunities for companies to access innovation through interregional networks. These events were mainly organised in less developed Regions with the intent to raise awarenedd on the Vanguard Initiative and involve them in this innovative network.

- Tangible short- and medium-term socio-economic impacts achieved or expected. (Specific examples).

More than 15M€ mobilized through EU projects (reported below) by the stakeholders involved in ESM network, some of them are directly impacting on companies activities since they are main partners of the projects, which are generated from ESM use-cases.

In case of a positive feedback from the submitted INNOSUP-01proposal, we will go through Stage 2 with the aim to obtain additional 5M € of which 75% will be dedicated to companies through open calls

II.B. Inter-regional and inter-partnership collaborative results

- Additional results obtained from working with other partnerships under the thematic S3 Platforms. (Specific examples).

Considering the complementary objectives and contents of the parterships, we are collaborating with Bioeconomy pilot in the framework of GREENOMED project focusing on the topics of circular economy applied in Bio and Manufacturing sectors.

For what concern the new demo-case topics we would like to propose within ESM pilot, we had some interactions with the Textile Innovation partnership with the aim to better define the scope of the two initiatives avoiding overlapping.

Another synergy has been established with the "Advanced material for batteries" since "E-mobility batteries remanufacturing for re-use" is one of the use-cases developed within De-and Remanufacturing demo-case

- Evaluation of the involvement of relevant business sector (clusters, SMEs, business associations, chambers of commerce, Digital Innovation Hubs (DIHs), etcetera) in the Partnership activities. *(Specific examples)*

The different demo-cases have identified heterogeneous groups of stakeholders composed of research centers, universities, associations, clusters and companies. Considering the latest opportunities emerged in the framework of DIH, we are trying to establish connections with the regional organisations recognised as DIHs to further support the development of the demo-case concepts.

- Evaluation of whether **the level of inter-regional cooperation is sufficient** to potentially provide **practical and relevant socio-economic impacts**. *(Specific examples)*

The ESM pilot established a cooperation among more than 20 EU Regions and it is expanding its network toward new less developed regions thanks to the opportunities generated by INTERREG projects (i.e. GREENOMED)

Thanks to this cooperation we are establishing regional working groups focused on specific topics able to gather regional stakeholders and connect them at interregional level facilitating the creation of innovation pilot plant projects.

II.C. New activities

- Involvement of regions from EU13 Member States in the Partnership, in particular with respect to scoping, mapping and/or matchmaking. *In addition, justification should be provided if no EU13 regions are involved.*

Thanks to the GREENOMED project we succeeded in involving Slovenia in the partnership and we are working to support Croatia and Region of Central Macedonia in accessing the partnership, sharing with them a structured methodology and guiding them in the implementation of the different steps. This is contributing to the creation of regional working groups on specific topics of interest and establish the link among these groups with the already established network.

Moreover, thanks to the participation to strategic events in Romania, we are spreading the idea and the objectives of the partnership also in this Region.

- Involvement of regions/countries from outside of EU28 Countries. *(Number of participants from non-EU countries. Specify their contribution).*

No non-EU countries involved.

- Advancement and promotion of the Partnership through publications and other communication/outreach activities. *(Number of outreach activities that resulted from the Partnership. A complete list with references and web-links should be given in an annex).*

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- Activities and projects with partnerships working under other S3 Thematic Platforms (*Agri-Food, Energy and Industrial Modernisation*).

Considering the idea of expanding the thematics developed under ESM we would approach Agrifood Platform to understand how to deal with the Food Manufacturing topic.