Smart Specialisation Platform for Industrial Modernisation

Thematic Partnership

Efficient and Sustainable Manufacturing

Start Date 09.2013

MONITORING PROGRESS REPORT

Reporting Period: *from* ***09.2013*** *to* ***June 2018***

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)*
III. Previous versions of the Progress Report*; i.e., part II of past reporting periods*

The report is a "cumulative" report, i.e. it is updated annually and covers the entire period of the Partnership.

Confidentiality: the documents will be made available to the public via the Partnership's web page except for chapter *II.E. Self evaluation*.

Based on the monitoring results, the European Commission will decide on the following year'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 Manufacturing*
- **Partnership's web-page:** *http://s3platform.jrc.ec.europa.eu/efficient-and-sustainable-manufacturing*

- **S3 Thematic Platform** *Industrial Modernisation*
  - **Objectives:** *The ESM partnership will 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. These plants will have the following charateristics:*
  - *Their TRL should be higher than 7.*
  - *They should be clearly focused on applicative domains in terms of industry and technology in order to satisfy industrial and societal needs. "Efficient and Sustainable Manufacturing" is a too-wide concept for a pilot plant.*
  - *They should address ambitious industrial applications: the pilot plants will have to enable at industrial scale applications that are currently not diffused or existing.*
  - *They should be motivated and supported by the demand of the industry.*
  - *They should be able to absorb newest technologies. They should be developed according to a "modular approach" where the different elements are linked in a system. Different technologies and pilot should be connected and combined.*
  - *They should be open to companies and should constitute a neutral environment in which companies can setup and test new products, processes and technologies before implementing them for own commercial purpose.*
  - *They should constitute a potential playground for cross-sectorial collaboration.*
  - *Companies, also SMEs, should find in the pilot plants the ingredients they usually lack for implementing innovation: highly innovative testing and process development facilities, but also multi-disciplinary competences and know how. In this sense, pilot plants should be more than facilities. They should create an innovative ecosystem for the valorisation of research and improve industrial competitiveness. Pilot plants should act as the framework where new value chains are created.*
  - *They should not be a "one time experiment", but they should operate in the medium-long term in order to generate several results over time for a multitude of different customers.*
  - *The ownership up to a single company (or to a restricted group of companies) should be considered taking into account the need to guarantee openness and access rights to a wide number of users.*
  - *They should involve a significant number of companies as founders and users in order to have wide industrial impacts.*
  - *They should be grounded on the already available knowledge, including research and innovation infrastructure, which is currently not widely accessible.*
  - *They should find a clear and complementary identity with respect to the other pilot initiatives that are currently on-going in Vanguard, in Spire and in other relevant European initiatives.*

- **Lead Region(s):** *list of regions/countries*

Lombardy
Catalonia

- **Other partner regions:** *list of regions/countries*

Baden Wurttemberg - DE	*Skane - SE*	*Emilia Romagna -IT*
Saxony-DE	*Norte - PT*	*Navarra - ES*
Basque Country - ES	*Scotland -UK*	*Pays de la Loire - FR*
Flanders - BE	*South Netherlands - NL*	*East and West Slovenia - SI.*
Wallonia - BE	*East Netherlands - NL*	*Galicia - ES.*
Tampere - FI	*Ranstad - NL*	*South Denmark - DK.*
Any other comments		

- **Intentions to join:** *list of regions/countries*

- **Other participants (other than regions):** *(Institution Name, Country, Town)*

Active participants supporting the demo-case development:

AFIL - Italy, Lombardy, Milan
EURECAT - Spain, Catalonia, Barcelona
TUT - Finland, Tampere, Tampere
INESC - Portugal, Norte, Porto
PRODUTECH - Portugal, Norte, Porto
Scottish Institute for Remanufacture - England, Scotland
Fraunhofer IWU - Germany, Saxony, Chemnitz
TECNALIA - Spain, Basque Country
University of Leuven - Belgium, Flanders
MUSP Lab - Italy, Emilia Romagna
CTP - Belgium, Wallonia
BRAINPORT - The Netherlands, South Netherlands, Eindhoven
PLASTIPOLIS - France, Auvergne Rhone Alpes, Lyon
Politecnico di Milano - Italy, Lombardy, Milan
University of Bergamo - Italy, Lombardy, Bergamo
ITIA-CNR - Italy, Lombardy Milan
OOST NL - The Netherlands, East Nehterlands
AGORIA - Belgium, Flanders
AIN - Spain, Navarra
Fraunhofer IPA - Germany, Baden Wurttemberg
INEGI - Portugal, Norte
EMC2 - France, Pays de la Loire

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

I.B. Thematic Working Areas

- **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	Lombardy, Scotland, Saxony, Tampere, Norte, Basque Country, Flanders and Emilia Romagna; Wallonia Interested Regions: Catalonia;South Netherlands;East Netherlands; Pays de la Loire	AFIL - Italy, Lombardy, Milan EURECAT - Spain, Catalonia, Barcelona TUT - Finland, Tampere, Tampere INESC - Portugal, Norte, Porto PRODUTECH - Portugal, Norte, Porto Scottish Institute for Remanufacture - England, Scotland Fraunhofer IWU - Germany, Saxony, Chemnitz TECNALIA - Spain, Basque Country University of Leuven - Belgium, Flanders MUSP Lab - Italy, Emilia Romagna CTP - Belgium, Walloniather actors
Advanced sustainable surface and coating manufacturing technologies on polymer materials	Catalonia	Lombardy, Auvergme Rhone Alpes Interested Region: Slovenia	AFIL - Italy, Lombardy, Milan EURECAT - Spain, Catalonia, Barcelona PLASTIPOLIS - France, Auvergne Rhone Alpes, Lyon Politecnico di Milano - Italy, Lombardy, Milan
Smart and Adaptive manufacturing	Lombardy - South Netherlands	Tampere, Norte, East Netherlands, Basque Country, Emilia Romagna, Ranstad, South Netherlands, Flanders, Slovenia	AFIL - Italy, Lombardy, Milan TUT - Finland, Tampere, Tampere INESC - Portugal, Norte, Porto PRODUTECH - Portugal, Norte, Porto OOST NL - The Netherlands, East Nehterlands AGORIA - Belgium, Flanders
Digital and virtual factory	Lombardy South Netherlands Tampere	Lombardy Catalonia Saxony Norte Navarra Pays de la Loire Galicia	AFIL - Italy, Lombardy, Milan TUT - Finland, Tampere, Tampere INESC - Portugal, Norte, Porto

		South Denmark	*PRODUTECH - Portugal, Norte, Porto* *OOST NL - The Netherlands, East Nehterlands*
Energy-flexible and resource-efficient factory operation (EFREFO) *Saxony and Norte (Coordinators)* *Basque Country* *Lombardy* *Navarra* *Baden Wurttemberg* *Pays de la Loire*			

I.C. Overview of past activities (past six months, the 1st half of 2018)

Past Meetings

Title	Date	Place
SC Meeting.	19.02.2018	Virtual Meeting
SC Meeting.	03.05.2018	Virtual Meeting
Restricted demo-case meeting	28.06.2018	Milan, IT
In 2018 action plan, it was decided to organise a SC meeting every 2 months. The following ones will be in September and November		

Past Workshops

Title	Date	Place
ESM - Mid term event	29.06.2018	Milan. IT
De-and Remanufacturing visit to Polymer Science Park	29.05.2018	Zwolle, NL
Any other comments		

Past Dissemination Activities

Title	Date	Place
Presentation to SMART SPACE project.	09.04.2018.	Milan, IT
Presentation to GREENOMED community in France	30.01.2018	Lyon, FR
Presentation to GREENOMED community in Croatia - 20.03.2018 - Varazdin Presentation to GREENOMED community in Greece - 20.02.2018 - Thessaloniki Presentation of ESM progresses to S3Platform SC meeting - Rovaniemi 12.04.2018 Presentation of 2017 results and 2018 action plan during Brussels Network Meeting - Brussels 24.04.2018 Presentation at CIRP Conference - 11.04.2018 Milan		

I.C. Overview of future activities (the next 6 months – the 2nd half of 2018)

Future Meetings

Title	Date	Place
SC Meeting	TBD - September	Virtual Meeting..
SC Meeting .	TBD - November	Virtual Meeting
Please enter title here...	Please enter date here...	Please enter place here...
Any other comments		

Future Workshops

Title	Date	Place
Final ESM Event	13.12.2018	Brussels
Please enter title here...	Please enter date here...	Please enter place here...
Any other comments		

Future Dissemination Activities

Title	*Date*	*Place*
European Congress on eco-plastics	*05.07.2018*	*Lyon*
Please enter title here...	*Please enter date here...*	*Please enter place here...*
Any other comments		