

Regional Cluster's development, base on research and innovation

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ABSTRACT

The European Commission aims to ensure coherence between environmental, climate, energy and industrial policy to create optimal business environments for sustainable growth and innovations, in a way that enhances the competitiveness of European industry, while moving towards a more resource efficient, circular economy. Sustainability needs to be mainstreamed into all areas of industrial policy to help European businesses to unlock first mover advantage and gain a competitive edge.

The Dorothy project is inspired by the contents of the “Flagship Initiative for a resource-efficient Europe under the Europe 2020 strategy”.

The Dorothy Project is targeted to develop the potential of innovation and research in the four Regions composing the Consortium in the field of Urban Logistics, which represent the specific application topic of the proposal, and is one of the main focuses of attention of the Flagship Initiative. The industrial environment is the main actor on the research and innovation regional driven Clusters

The Dorothy project has achieved the result of setting up three Regional Innovation Clusters in: Valencia – Spain, Lisbon – Portugal and Craiova – Romania, under the mentoring action of the already existing Tuscany Cluster in Firenze. They operate in the field of Urban Logistics.

Among the other activities carried out by the project, a Memorandum of Understanding (MoU) have been defined and signed among the four Clusters in form of a multilateral and mutual agreement among them.

This paper explain the contents and the importance in the JAP – Joint Action Plan, of the thematic area 3 about regional clusters development, the target of the overall Thematic Area, why has been chosen as a Thematic Area, shortly remind the actions that are contained in the Thematic Area. The action fields and related actions are organized under 6 areas:

1. Innovative ICT solutions to support advanced UL regulation schemes
2. Open data architectures to support urban logistics
3. Proximity delivery areas
4. Cooperation agreement among the Dorothy Clusters
5. Reverse logistics
6. Cooperation with other existing Clusters and networks.

Urban Logistics framework

In order to maintain international competitiveness of European industries while safeguarding strict environmental standards, it is important to work on the international level towards a

more level playing field through **international policy cooperation**.

These cooperation and dialogues aim to share European sustainable and low carbon solutions with other countries and provide an opportunity to promote European technologies on important export markets.

The theme of Urban Logistics represents, in this framework, an important aspect of the efficient use of resources in Europe.

In fact, being the overall supply chain for the movement of goods one of the political priorities of the European agenda, the problem of the “last mile”, directly related in its majority to urban logistics, is one of the most relevant of the overall supply organization. The DOROTHY project has the mission to promote Urban Logistics solutions to improve the distribution process of urban goods by enhancing environmental standards; the project aims to improve the regional competitiveness in the specific field and the quality of life in European cities.

By using the approach of clustering around innovation, DOROTHY project seeks to develop the potential for innovation and research in urban logistics, across the European regions of Tuscany (Italy), Valencia (Spain), Lisbon & Tagus Valley (Portugal) and Oltenia (Romania). DOROTHY project is helping to boost up the competitiveness of all the clusters themselves and strengthen their focus on advanced technological areas, with a high potential for innovation in the Urban Logistics field.

Enhancement of the clusters’ research and development (R&D) capacities will contribute to the regional development of smart specialization strategies (RIS3) for the development and use of resource-efficient technologies, according to the latest European Union/Commission guidelines. [1]

The clusters focus on new developments and on the potential creation of specialization niches.

For pursuing its objectives, the DOROTHY project has defined a Joint Action Plan (JAP) containing a set of coordinated actions that will be implemented gradually after the project termination, having as main players the regional Clusters.

The MoU is the basic tool to achieve the overall goal, and the method to specify the forms of collaboration among partners / parties. In fact the MoU commits all the four clusters participating to Dorothy projects to develop the actions foreseen by the Joint Action Plan and to analyse other future forms of cooperation.

Objectives

A specific Thematic Area devoted to Regional Cluster’s development has been included in the Joint Action Plan for some important reasons:

- Clusters are key drivers of job growth, wage growth, new business formation, and innovation.
- The Regional Cluster’s development within cities is a fundamental aspect of the broader theme of urban mobility, which not only represents a competitiveness factor for cities, but has also a relevant impact on the quality of the urban environment and on transport efficiency and, consequently, costs.

- All urban logistics operators are subject to clustering, competitiveness, innovation, job growth and this strongly affects their operation, their efficiency and costs.
- The Clusters was set-up in different modalities, according the national/regional rules, legislation and interests / experience in national / international partnerships dedicated to the Cluster's.
- The entities involved the cooperation between Clusters and between members of the Clusters are particularly seen as the key resource for reacting to the Parties needs.

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By using the approach of clustering around innovation, DOROTHY project seeks to develop the potential for innovation and research in urban logistics, across the European regions of Tuscany (Italy), Valencia (Spain), Lisbon & Tagus Valley (Portugal) and Oltenia (Romania). The entities that assured the model of Dorothy Clusters are:

- Business companies and operators (Including ICT, Electronics / Business consulting and Agencies)
- Local / Regional / National Administration
- University / Research-Development and Innovation entities
- Associations / NOGs

A Joint Action Plan should

- analyze the development needs and objectives justifying the joint action plan,
- information on the geographic coverage and target groups of the joint action plan
- identify the partners, activities (what to do) responsibilities (who does what) and schedule for trans-national and cross-regional cooperation.
- present the framework describing the relationship between the general and specific objectives of the joint action plan, the milestones and the targets for outputs and results, and the projects or types of projects envisaged
- set out a business plan, defining how to finance the Joint Action Plan by using possibilities available at national/local level, including from the private sector, or at Community level
- the expected implementation period of the joint action plan
- make clear the complementarities between the proposed actions and the EC regional policy programs of the region(s) concerned.
- consider the use of financial instruments such as the Horizon 2020, the Competitiveness and Innovation Programme, the Structural Funds, as well as national and regional resources and financing from the private sector, to implement the Action Plans.
- an analysis of the effects of the joint action plan on the promotion of sustainable development, where appropriate

The analysis of the Regional Smart Specialisation Strategies (S3) has been a concern in the

process of defining suitable actions for the JAP, compliant not only with the industrial vocation of the productive tissue, the vision and demand for innovation expressed by the regions, but also to the strategic development lines defined by the regional governments in the framework of the S3 European framework.

The outputs and results of the JAP shall be agreed between the Regional/Local Administration and the Stakeholders (Clusters) and shall contribute to specific objectives of the operational programmes and form the basis of support from the Funds.

Action fields and related actions:

Innovative ICT solutions to support advanced UL regulation schemes

Starting from the huge interest shown in this action by several Companies of different Clusters, the objective of this action is to define interregional cooperation in this specific field; to identify a possible class of products to be developed at the benefit of the Clusters' companies; to push regions to include this specific subject in UL planning; to push regions for launching specific tenders for the implementation of this kind of initiatives; to identify other possible funding sources;

Open data architectures to support UL

To better define Clusters interests within this field, to start interregional cooperation in this specific field; to identify a possible class of products to be developed at the benefit of the Clusters' companies; to push Regions to include this specific subject in their planning; to identify other possible funding sources;

Proximity delivery areas

To define Cluster interests in this kind of action setting up, interregional cooperation; to identify a possible class of products to be developed at the benefit of the Clusters' companies; to identify possible funding sources, including the use of UE or Regional funds; [2]

At the moment there is an industrial interest just from the Tuscany Cluster. The interest of the Clusters in the field is not clear and has to be defined.

Cooperation agreement among the Clusters

Definition and signature of a cooperation agreement among the Clusters for JAP implementation and to define further collaborations after DOROTHY end.

The cooperation agreement contains some specific theme and some first form of cooperation envisaged.

Reverse logistics

The improvement of reverse logistics could be identified as a field of specialisation of the Regional Clusters. The specific objective is twofold:

- To develop some specific product and/or skill in the Clusters that could go on the market as specific specialisation
- To define some measure to develop the weight of reverse logistics in the regions

Both objectives could be pursued, as well as a single one or none of them.

Cooperation with other Clusters and networks

The aim is to identify already existing Clusters and European or international networks or platforms to connect with. This at the purpose of easing future set up of research consortia for R&D funding or other initiatives. [3]

This action would have a strong relation with the one about UL observatory.

The four Clusters signed the Memorandum of Understanding (MoU), on 28th October 2015, in Valencia. Scope of the MoU is to commit all the four clusters participating to Dorothy projects to develop the actions provided by the JAP. In the next step, the partners intend:

- To collaborate as Clusters and as members of the Clusters
- To participate in joint research and innovation projects on urban logistics to be self financed or for which funding sources/programs will have to be sought
- To support members of the Clusters to participate in joint projects for research – innovation and Structural Funds for development, growth and competitiveness under the Urban Logistics topic.

Stakeholders and beneficiaries of the action

The stakeholders of the action are the Clusters themselves and the main beneficiaries will be the single entities belonging to the Clusters that will be in the future the main players of the initiatives carried out within the framework of the cooperation agreement.

JAP's characteristics

The JAP must be composed of a set of actions:

- ✓ Exhaustive: capable of involving all the stakeholders and addressing all the elements of the mentioned scheme
- ✓ Integrated and complementary: to maximize the effects
- ✓ Compliant with the structure and the interests of the Cluster
- ✓ In line with the smart specialisation of the Region
- ✓ Effective: capable of significantly improve the state of UL long its whole chain.

Objectives of the Dorothy's JAP

For Dorothy Project, the objective is to define the technological part of a JAP for innovation and research in the Regions.

The target is to identify the technological development lines for R&TI in the specific application area in the four Regions, taking into account different factors such as the local specializations, the specific market demand etc. but defining an integrated JAP.

In fact another relevant and specific objective is to define possible technological and research areas for co-operation among the Project Clusters or specific partners of the Clusters.

The Dorothy JAP is an open structure and a “work in progress” that must receive contribution by all the partners and must be updated according to the evolution of the Clusters' needs, situations and interests.

Clusters must expand including new players. After Dorothy the JAP will be the planning instruments of the Clusters for their development.

Dorothy is open from now until the end of the project to receive all the suggestions by the Local Clusters for updating and enlarging the scope and the actions of the JAP and apart it, the support to the Clusters for giving them a long lasting and stable structure.

Starting from the detailed analysis carried out from the starting of the project, all the specific innovation and research (R&TI) areas potentially interesting for the Clusters was defined.

The analysis focused on:

- the local specialisation of each Cluster and its potentialities
- the local conditions and the local potential demand of innovation
- the possibility to exploit the innovation outside the territorial environment, at national/international level

From the technological point of view, the main sectors which will be investigated was the ones related to:

- ICT systems to support urban logistics, both from the side of the logistics operators support systems and from the side of the cities, in supporting the implementation of access regulation and control schemes
- new distribution systems and concepts using innovative vehicles (with a special attention to electrical vehicles) and loading/unloading equipments, and small warehousing systems
- new distribution schemes to be applied in the urban environment and the related support systems.

The analyse defined additional elements which was considered in defining the R&TI lines and areas:

- economic, social, environmental and urban benefits expected by the exploitation of the R&TI actions
- framework conditions to be implemented to exploit at best the analysed R&TI actions.

The definition of the actions to be included in in the JAPs and their priorities carried out taking considering all these elements at the purpose of selecting actions which will have not only a good scientific interest, but also a high potential impact on the economic local structure and on the level of local services.

Memorandum of Understanding

The main objective of the MoU is to define a cooperation framework among the four regional Innovation Clusters coming from the Dorothy Project, not only as a strategic perspective, but also for exploiting short and medium term cooperation opportunities based on complementarities or common interest on the existing innovation initiatives. [4]

The main purpose of the MoU is to engage the four Clusters and the participating entities in cooperating on common areas of interest for:

- finding and exploiting funding opportunities by European and/or National R&TI

Programmes focused on specific projects of common interest

- fostering the cooperation not only among the Clusters themselves but also among the companies members of the Clusters in the four Regions, for achieving agreements on specific industrial plans
- launching joint research and innovation projects on urban logistics to be self financed or for which funding sources/programs will have to be sought
- coordinating the efforts of the Regions and of the members of the Clusters for using innovation and Structural Funds for the development, growth and competitiveness of the Urban Logistics in the regions
- favouring the exchange of knowledge and information among the Cluster's and their members
- creating a common understanding of the problems of Urban Logistics and of the possible actions to improve its state.

The MoU represents an agreement among the Parties in cooperating for the implementation of the Dorothy Joint Action Plan (JAP) and to promote other future common actions coming from the joint analysis and work in the field of Urban Logistics. [5]

The JAP contains not only the plans for the future R&TI actions to be funded by the Regional Governments and Agencies, but the indications of concrete actions of coordination, exchange and common development among the different Clusters.

The MoU specifies, the relationship among the Parties, in particular concerning the organisation of the work between the Parties, the management and the rights and obligations of the Parties concerning inter-alia-liability, access rights and dispute resolution. This scope shall be pursued either involving the Clusters' organisations or single or several Clusters partners.

In the MoU two levels of cooperation are foreseen:

- Among the four DOROTHY clusters
- Entities to entities

If all or some of the partners wish to carry out specific projects, all terms and conditions relating to such specific projects shall be agreed upon separately in individual written agreements, only between those partners which are included into the project.

The MoU doesn't imply any financial obligation on either Party. Each Party shall bear its own - internal and external - costs in connection with this MoU, except if otherwise stipulated between the partners. Neither Party is required to obligate funds pursuant to this MoU. The MoU specify in same time, the role of the partners for:

- Modality to implement the MoU
- Entry into force, duration and termination,
- Methodology for international co-operation on the existing innovation lines
- Roles and responsibilities of the partners
- Management of Intellectual Property in knowledge transfer activities
- The possibility of third parties to subscribe

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