DISCp – Call for Proposals – COS–CLUSINT-2016-03-01

Methodology , tools and target

Overall concept of the project

The overall concept of the project is to put together both ICT and industrial / manufacturing technologies clusters in order to form a "European Strategic Cluster Partnerships – Going International (ESCP-4i)" covering the cross-sectorial value chain of the digital technologies for the manufacturing and industrial domain.

Beside the definition of Joint International Strategy, members from each clusters, and in particular SMEs, will jointly promote their offer "made in Europe" to industrial customers (industrial companies, factories looking to implement smart production tools) in foreign countries outside Europe. The figure below illustrates the concept of the project.
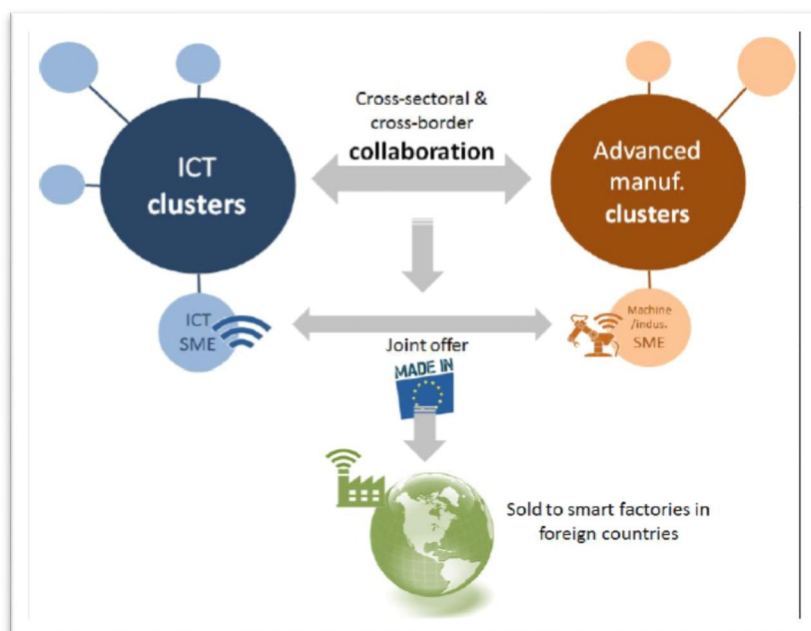
The *smart factory / Industry 4.0* concept

Many think tanks in the individual EU countries and at the European level like the EFFRA (European Factories of the Future Association) are converging about the vision of the Smart Factory of the Future, its benefits and challenges. These factories will be designed to optimize competitiveness together with sustainable and service oriented business. Independently from the type of manufactured products and used process technology, the factories will be more and more aiming at increased flexibility (customers demand), adaptability and self-adaptability, fault tolerance, real time control for risk management, lean integration in a network of suppliers and customers, and last but not least

adaptation and empowerment of their human work forces. The merging of virtual (data and simulations) and physical worlds are enablers for these needs. The IoT, sometimes named Connected Cyber Physical Systems in certain countries, are key technologies to make this evolution possible. All these examples can be summarized in a concept of cost and resources efficient, flexible and reconfigurable, human friendly factory, as illustrated in the figure below (*The connected / smart factory - source: localgridtech.com*).

Methodology

The overall methodology of the project follows a systemic approach and strategic focus and it will be accomplished with the following:

Learning and monitoring activities
WP1 includes a relevant set of tasks that will allow the consortium to assess the current situation of the digital industry value chain in each of the participating countries as well as to analyse current market and technology needs in this domain.
Along this WP, participant clusters will also perform a strategic analysis, including a SWOT matrix, to better cope with weaknesses and threats and to how to maximize existing strengths
and foreseen opportunities. WP1 will also contribute to a preliminary identification of SMEs needs and willingness in what concerns to internationalisation, for instance, relevant markets outside EU area and detected gaps in the global value chain that can be tackled by jointly and cross-sector cooperate.
In WP2, foreseen study visits and mentoring activities will help less developed regions/clusters to share experience and knowledge with more mature initiatives, namely in what concerns to definition and implementation of regional/cluster Smart Specialization Strategies.

Partnership building
WP2 seeks to enhance and build stable cooperation relationships not only between cluster organizations but also at each regional level. To attain this objective, the consortium will organize regional workshops to increase cross-fertilization and cross-knowledge within each regional ecosystem, including all the triple helix actors.

Along with regional cross-fertilization activities, participants will promote knowledge and experience exchange at transnational level to promote partnerships not only within the existing clusters actors but also seeking partners outside their established networks, for instance, with other clusters (EU and international) and with European Technology Platforms. These will promote cooperation projects along and outside project timeframe.

WP3 will include the preparation of foundational documents, including Partnership Agreement, and extension rules, roles and commitments of the participant clusters.

Strategic Partners Identification

Once clusters are considered real "springboards" to access global markets, during WP1, partners will also identify other European clusters and relevant initiatives with whom it's relevant to establish cooperation agreements. These partnerships will be further developed in WP2 and, eventually, in WP3, when preparing the initial partnership agreement.

Joint Communication/Marketing and Branding Strategy

In order to approach global markets, the consortium will develop a communication strategy during WP4. These strategy, including a common branding, with be an important component of the Joint Internationalization Strategy that will be built during WP3.

Intelligence Gathering

WP1 objectives include an initial assessment of clusters' status (technology offer and demands, required skills, presence in foreign markets) and a strategic analyse of studies and market intelligence to better define target countries and relevant actions to include in the Joint

Internationalization Strategy. Among this preparation tasks, market and technology development opportunities will arise as well as information about competitors, positioning and trends. This will be determinant to clear define goals, necessary resources, cooperation and funding opportunities.

Joint Action Planning

This project core deliverable is the preparation of the Joint Internationalisation Strategy, Business and Financial Plans as well as possible funding mechanisms that can contribute to ensure the Partnership Sustainability after project ends.

Dissemination Activities

WP4 is fully dedicated to plan and implement dissemination activities including tools definition, events organization and target definition. Among the most relevant media, the project will implement a dedicated website, social media pages and will channels all the information also through the European Cluster Collaboration Platform website.

Target / Audience

If most of the actions that will be undertaken in the project will involve mainly cluster organisations, the final beneficiaries of the project actions will be SMEs willing to go international, therefore sell their products and services in the international target markets selected in the project.

Therefore, the target groups of the project are twofold:

● **clusters** of the consortium, additional clusters (from less developed regions of Europe) and from target market countries that belong or complement the project value chain (digital technologies for manufacturing and industry). Within these clusters, we can differentiate two different sectors:

○ the ICT sector, including mobile communications, embedded systems, IoT, Cyber-Physical Systems, digital security, Cloud Computing, Big Data, artificial intelligence

○ the manufacturing and industrial sectors, including plasma technologies e.g. dealing with surface modifications, Smart Systems Integration, system automation, digital manufacturing, Human Machine Interface e.g Operator interaction monitoring system, micro and nano technologies applications e.g. Devices for the production of carbon nanotubes, photonics and additive manufacturing e.g laser welding system, sustainable production, simulation and industrialisation of new products.

● **SMEs** from these clusters, fitting in the project value chain, willing to collaborate with other SMEs from the other sector and to go international in the defined target markets.

Once more, we can differentiate two types of SMEs there:

○ those of the ICT clusters, for instance, providers of IoT devices for the smart industry, Big Data tools for predictive maintenance, security technologies for industrial systems, etc.

○ those of the manufacturing and industrial clusters, for instance, advanced robotics producers and automated material handling system (including automated picking) to allow flexibility and performance in advanced manufacturing solutions; augmented reality vision systems to help the operator in carrying out daily activities. Additive production systems that increases the efficiency of materials use and reducing prototyping times. Sharing systems for production capacity.

In addition, the project will also address the following stakeholders, with a lower priority though:

● large companies and RTOs (Research and Technology Organisations) that will also be surveyed to understand what are their priorities in terms of international markets and that also may want to benefit from the outcome of the project, including the future international missions. The presence of larger companies and RTOs in such international mission, on their own costs, is always a plus, and this encourages SMEs to get involved.

● public authorities, starting with

○ regional policy makers and internationalisation agencies, to communicate about the actions so that they articulate with the Regional Smart Specialisation Strategies of each consortium cluster and additional clusters and to claim funding for the internationalisation actions to be implemented following this project

○ national policy makers, to communicate and find synergies with their actions to help SMEs go international. For instance, in France, DG Enterprise organisesmissions at both institutional and company levels on ICT topics in countries like Korea, Japan, Israël, and the US. They also sponsorise thematic missions organised by the French Pôles de Compétitivité and Business France in countries outside Europe, dedicated to SMEs.

○ the European commission, to link and find synergies with other funded ESCP-4i, build upon MoU signed between the European commission and policy makers from foreign countries outside the EU, and piggyback on the international missions organised by the European Cluster Collaboration Platform (ECCP).