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Best Practice Report

***Corallia Clusters Initiative – An initiative
for the development of innovation
clusters***

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Good Practice Report

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Everybody please state revision index and short description of what has been done + partners involved and date.

Final approval	Name	Partner
Reviewer		

1. Best Practice Title

Corallia Clusters Initiative – An initiative for the development of innovation clusters

2. Location of Best Practice

Country, region, town

Greece, Region of Attica. Corallia is a unit of the Research Centre ATHENA located in Athens, Greece.

3. Best Practice Executive Summary

Describe briefly (max 10 lines) the GP context (partnership, funding, objectives, approach followed, results)

Corallia Clusters Initiative is an initiative that aims at the development of innovation clusters in high technology sectors that present high potential to increase their competitiveness, improve their position in the global market and adopt a model for the provision of high added value services.

Taking into account that clusters provide a powerful tool for economic development, Corallia has placed its emphasis in the transformation of the Greek economy from the “low labour cost economy” model to the “high added value service” model focusing on knowledge economy.

Corallia has been funded under the Greek Operational Programme Competitiveness and has already led to the development of mi-Cluster, a cluster in the sectors of nano/micro electronics and embedded systems with over 100 organizations coming from the industry, academia and research world all over Greece.

Voted as one among 40 Best Practices in the priority sector “Empowering SMEs with reference to their technological excellence” by the EC DG Industry, it presents also a good practice in the field of innovation.

4. Best Practice Classification

Best Practice Theme

- Research Transformed to Innovative Product*
- Research Transformed to Innovative Service*
- Research Transformed to Innovative Methodology*
- Research Transformed to Innovative Production Process*
- Financial Mechanism for Transformation of Research to Innovation*
- Support Mechanism for Transformation of Research to Innovation*
- Other (describe)*

Best Practice Research / Application Areas

- Industrial / Manufacturing Systems*
 - Industrial Informatics and Communications*
 - Intelligent Devices*
 - Distributed Control Systems*
 - Flexible Manufacturing Systems*
- Embedded Systems*
 - Industrial Embedded Systems*
 - Nomadic Environments*
 - Private Spaces*
 - Public Infrastructures*

5. Description of Best Practice

5.1 Best Practice Context

Overall background of the Best Practice. Location, socio-economic, technical & policy background of the BP (max 10 lines)

Corallia - the Hellenic Technology Clusters Initiative is a public-private partnership, aiming at boosting competitiveness, entrepreneurship and innovation, in knowledge-intensive and exports-oriented technology segments, where Greece has the capacity to build a sustainable innovation ecosystem and can attain a worldwide competitive advantage.

Corallia portrays the mutual vision of all innovation ecosystem actors, including industry, academia, research labs, VCs, business angels and regional and central government.

The target of Corallia is the development of innovation clusters in different research areas. Innovation Clusters are "groupings of independent undertakings (innovative start-ups, small, medium and large undertakings as well as research organizations), operating in a particular sector and region and designed to stimulate innovative activity by promoting intensive interactions, sharing of facilities and exchange of knowledge & expertise and by contributing effectively to technology transfer, networking and information dissemination among the undertakings in the cluster".

A first research area of strategic importance for Greece is the area of microelectronics and the first cluster created by Corallia is the mi-Cluster, a cluster in the sectors of nano/micro electronics and embedded systems with over 100 organizations in Greece.

Innovation clusters are knowledge-intensive, focusing on R&D of innovative, state-of-the-art, highly competitive products, are export-oriented, capable of attracting investments, SME-oriented, exhibit pre-existing formation and leverage top-tier human capital.

5.1.1 Policy Elements

What are the policy initiatives that have influenced the contextual environment of BP: innovation promotion policies, research funding policies, certification ect as well as relevant tools (max 10 lines)

In an increasingly competitive world collaboration has become a necessity. Cross-industry synergies and research collaboration is becoming a core competency in order to create the necessary critical mass for the development of a research area and for increasing the visibility of an area in a specific research direction.

Innovation Clusters are "groupings of independent undertakings (innovative start-ups, small, medium and large undertakings as well as research organizations), operating in a particular sector and region and designed to stimulate innovative activity by promoting intensive interactions, sharing of facilities and exchange of knowledge & expertise and by contributing effectively to technology transfer, networking and information dissemination among the undertakings in the cluster".

Corallia represents a Greek policy for the promotion of clustering in knowledge intensive and exports oriented technology segments, where Greece has the capacity to build a sustainable innovation ecosystem and can attain a worldwide competitive advantage.

Corallia is a policy co-funded by the European Regional Development Fund and National Funds, within the framework of the Operational Program "Competitiveness and Entrepreneurship 2007-2013" and Regional Operational Programs 2007-2013.

5.1.2 Socio-economic & Other factors

Other contextual factors such as customer / target market addressed, international validity, customer density, economic conditions, customer values, research area addressed (max 10 lines)

Corallia performed in March 2006 a Preparatory Study – Mapping of Thematic Area. The aim of this study was to study relevant initiatives in the world, identify the necessary legal transformations, and develop a business plan for the creation of High Technology knowledge-intensive and export oriented

Innovation Clusters.

In April 2006 a decision was taken by the Ministry of Development to focus on microelectronics and embedded systems sector for the Pilot Phase of Corallia. This decision was taken on the ground of an existing ecosystem of companies in Greece with important research and development results. The Ministry of Development decided to fund the creation of a first cluster in this research direction namely mi-Cluster, a cluster of actors in nano/microelectronics and embedded systems.

In the above context Corallia was a combined bottom-up and top-down approach, since the ecosystem of SMEs and academic actors already existed, having research and development work and results in the selected sector of activity, yet they did not move on their own to create mi-Cluster. Corallia provided the missing glue for this cluster to be created.

5.2 Objectives

Aim of the project, specific objectives & strategies to achieve these objectives (max 10 lines)

Corallia acts as a one-stop-shop, through which the entire innovation network gains access to unique business opportunities and added-value services. It supports new venture creation, where students and entrepreneurs "to-be" can apply innovative ideas and set-up start-ups. It expands the innovation-knowledge horizon with a thorough training program, through which members of the clusters gain best-in-class on topics ranging from technical skills on project management, to negotiation tactics and business plan development. It eases the innovation gap through complementarities and partnerships among cluster-members as well as between cluster-members and national and international organizations, including world-class innovation centers of excellence, in Europe, USA, Japan. It sponsors actions to establish strong ties with universities and research centres, in order to enhance technology transfer and R&D commercialization in the thematic technology areas of the clusters. It provides incentives for VCs and Business Angels to invest, especially at the early stages, by creating a favorable environment. It leverages the top-tier Hellenic human capital (in Greece and abroad), which possesses a solid base in sciences and engineering and promotes the "Innovation Made in Greece" branding.

Corallia structures its objectives and actions according to the following strategic axes:

- Competitiveness through the development of co-operation between competitive companies ("co-opetition").
- Critical mass and geographical hyper-concentration in the thematic areas in the technology segments of focus.
- IPR protection and patent submission.
- Network with and ease repatriation for human capital.
- Economies-of-scale and economies-of-scope.
- Sustainable growth based on the principles of corporate social responsibility.

6. Process

Describe the project including key concepts and the overall approach followed. Indicate project end users, target market, main project phases, problems encountered and solutions, problem resolution (max 10 lines)

The Corallia Initiative undertook three phases. Phase 0 was relevant to a "Preparation Study / Mapping of the Thematic Area". This phase studied the successful good practices worldwide relevant to clustering as well as the necessary legal transformations for the creation of a cluster in Greece. This phase was completed in March 2006 and its results were presented in the Greek Ministry of Development.

Phase 1 was relevant to the establishment of the first cluster in Greece. The area of

nano/microelectronics and embedded systems was chosen by the Greek Ministry of Development as the thematic area of the first cluster to support, taking into account the export orientation of the sector and the existence of an ecosystem of SMEs and academic / research organizations relevant to this research area. A call for phase 1 was issued on July 2006 and the Microelectronics Innovation Centre was established in Marousi, Athens, Greece on January 2007.

Phase 2 is relevant to strengthening of mi-Cluster, the Greek cluster in nano/microelectronics and embedded systems through a number of collaborative projects funded under ERDF with a maximum public funding of 33 MEuros.

6.1 Project Design

Project design based on targeted market complete understanding, project structure, policies and procedures, management and implementation actions (max 10 lines)

The project was designed in three Phases: Phase 0 or Preparation Phase, Phase 1 or Pilot Phase for the Creation of a First Cluster in Greece and Phase 2 for Strengthening the Pilot Cluster.

Phase 0 ended in March 2006 when Corallia presented to the Greek Ministry of Development a Preparation Study that took into account the international Best Practices in the area of Clustering and identified the legal transformations needed in Greece. This study also included a business plan for the support of clustering formations in Greece.

Phase 1 was relevant to the Creation of a First Cluster in Greece. The thematic area of nano/microelectronics and embedded systems has been chosen by the Greek Ministry of Development taking into account the existence of an ecosystem of SMEs and academic / research actors in the thematic area in Greece and the fact that the thematic area is knowledge intensive and export oriented. A call for the creation of the 1st Cluster in Greece namely mi-Cluster was issued in July 2006.

mi-Cluster demonstrates a continuous increase of members since its foundation in 2006. Having about 100 Greek innovation companies in the fields of nano/microelectronics and embedded systems and about 40 academic labs and research institutions all over Greece, it comprises the entire ecosystem in the selected thematic area in Greece.

The Microelectronics Innovation Centre is located in Marousi, Greece providing a reference point for all interested stakeholders involved in Nano/Microelectronics & Embedded Systems, who wish to obtain services in an organised manner, on issues such as:

- Legal & Accounting start-up support
- Intellectual Property
- Networking
- Transfer of know-how and promotion of partnerships
- VC support
- Attraction of highly specialised human capital

The Microelectronics Innovation Center constitutes a unique landmark for mi-cluster members and acts as a facilitating hub for business relationships, common research activities, and collaborations among entrepreneurs and investors.

Geographical concentration and sharing of common premises at the Microelectronics Innovation Center (μ IC) in the district of Maroussi, Athens, offers tangible benefits:

- Strengthening of the production chain of the ecosystem
- Increase of business co-operations
- Significant economies-of-scale [common suppliers and product promotion channels]

- Activation of business relationships and common research programs, thus creating economies-of-scope

Phase 2 of the project was relevant to strengthening mi-Cluster through collaborative projects funded under ERDF. A call for this phase was issued on October 2008 with a total public funding of 33 MEuros and 5 different Actions.

Action I is relevant to the support of new and very small innovative enterprises. The aim of this action is to support through “seed-financing”, very small enterprises (start-ups, spin-offs, spin-outs) in projects that focus on the development of a fully functional prototype in the field of nano/microelectronics and embedded systems. Strategic aims of this Action is the enlargement of the business base of mi-Cluster, the creation of new and viable enterprises, the increase of the critical mass of people inside mi-Cluster and the attraction of co-funding by strategic partners / customers. Ten (10) projects are being funded in Action I with a total public funding of about 2,7 MEuros.

Action II is about collaborative state-of-the-art research by partnerships of industries, academic and research institutions. This action focuses on collaborative research performed by industry and academia in the fields of microelectronics and embedded systems. The strategic aim of this action is the orientation of collaborative research in Greece towards end customers at an international level, the strengthening of the liaison between industrial and basic research and the attraction of medium co-investments by strategic partners / customers. Three collaborative projects are being funded under Action II.

Collaborative project I – MEMSENSE is about the development of innovative sensor systems and new generation architectures that will provide distributed intelligence in the home, industry and healthcare environment. The relevant sensors will be designed using MEMS technology, resulting in limited weight, volume and cost and advanced characteristics. Fourteen (14) enterprises and academic / research institutions participate in this collaborative project with a total public funding of about 6 MEuros.

Collaborative project II – NEXGENMILIWAVE is about the development and demonstration of the operation of an experimental millimeter wave radio modem with a substantial decrease in cost. This reduction in cost is achieved thanks to the high degree of integration of radio modem functionalities in two chips of a technology lower of equal 90nm. The first chip comprises all high frequency analogue and millimeter wave functionalities (RFIC & MMIC), while the second comprises all digital functionalities of a baseband modem. Twelve (12) enterprises and academic / research institutions participate in this collaborative project with a total public funding of about 4,1 MEuros.

Collaborative project III - Lab-On-Chip is about the design, development and pilot implementation of advanced IP blocks of integrated circuits and sensors, to be used by measurement and control subsystems specialized for genetic and other medical applications (Point of Care Systems). The proposed IPs will incorporate innovative arrays of biosensors as well as specialized integrated circuit IPs that will lead to higher precision, lower cost and size. Eleven (11) enterprises and academic / research institutions participate in this collaborative project with a total public funding of about 2,6 MEuros.

Action III is about industrial state-of-the-art research of innovative enterprises with co-investment from private investors. The aim of the action is to highlight state-of-the-art projects of Greek companies that have substantial research and business sufficiency that is internationally recognized and presents significant success perspectives. Action III is characterized by the project potential to become successful experiences and promote the extroversion of the country. The strategic aim of the action is the attraction of substantial funding by private investors (VCs, Business Angels, strategic partners). Seven such projects have been selected and are being funded with a total public funding of about 11 MEuros.

Action IV is about horizontal support of entrepreneurial development. The aim of the action is to support the modernisation and reengineering of enterprises through the support of critical development actions, such as the submission of patents, professional training, and participation in international fairs. Strategic aim of the action is interventions of structural character in the enterprise

operation for the sustainable business development of mi-Cluster. Thirty four (34) actors have taken advantage of this action with a total public funding of about 5 MEuros.

Finally, action V is about special support actions for mi-Cluster. The aim of the action is to support Mi-Cluster through consulting actions, services and studies, contributing to its business operation and development, and in the long term to the attainment of the overall programme goals. Eight (8) special actions are funded under action V with a total public funding of about 0,8 MEuros.

6.2 Project Management

Activities relevant to project coordination and management, project documentation and reporting, quality control, validation and verification (max 10 lines)

The main management body of Corallia is a three member executive board that deals with the day to day management and coordination of the Corallia activities.

Corallia from an organizational point of view is a Unit of the ATHENA Research Centre. In this context the Corallia executive board falls under the Board of Directors of ATHENA Research Centre, that is in turn an organization of the General Secretariat of Research and Technology of the Greek Ministry of Education, Lifelong Learning and Religious Affairs.

With reference to the different projects funded under Phase 2 of Corallia the roles of Project Coordinator, Project Partner, Task Manager, and Task Working Group apply.

6.3 Project Implementation

Main elements associated with the project implementation. Realization of new idea, or new technological realization or improvement / novelty to known technology and means to achieve this. Innovation associated with the project realization in terms of new products, services, methodologies. Marketing, advertising and customer service. (max 10 lines)

The overall project comprises three phases of development

- Phase 0 : Preparation Phase
- Phase 1 : Pilot Implementation Phase, Creation of mi-Cluster
- Phase 2 : Support of mi-Cluster through R&D projects

The project is currently undergoing phase 2. The different R&D projects that are being implemented are the following:

Action I : Support of New and Very Small Innovative Enterprises

- DAQPAKS: APIX SME will develop innovative prototypes in three categories. The first comprises integrated embedded subsystems (Daqpaks) so that customers may integrate complex control functionalities directly on their board. The second comprises prototypes of the type "DIN modules" so that the real cost per channel is 30% less than competitive products with substantially better performance. The third category comprises communication units that enable the connection of several "DIN modules" in standard industrial networks like Modbus, Profibus & Ethernet.
- POLYKADRO: The aim of the project is the design and development of an operational prototype digital frame for the reproduction of multimedia, like photos, music and video (Digital Picture Frame), with innovative technical characteristics, using Microsoft .NET Micro Framework.
- SmartCam80: DIAPLOUS SME will develop a smart camera. The design of the camera and the range of applications that use it are based on the company expertise in machine vision.
- ART: The aim of ART is the design and development of a fully operational prototype at Silicon

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level as well as its laboratory validation through measurements. An integrated circuit will be developed for point-to-point telecommunication systems in the range of 24GHz.

- FASMARADIO: The project aims at developing new innovative products in the electromagnetic radiation measurement sector, and more specifically a radio mapping system and a system for standardised manufacturing of antenna and electromagnetic radiation emission control.
- SYNTHESIS: Aim of the project is the design and development of a chip-set (initially as IP cores and then as ASIC) that will perform information fusion at different levels. This chip-set comprises a Data Fusion Chip and a Decision Fusion Chip.
- BIOSENS: The aim of the project is the development of a prototype array of biosensors for electronic hybridization sensing in special packaging that includes a hybridization chamber, that will comprise the biosensors and the special I/O for the biological fluid specimen that will be controlled for antibodies and mutations.
- AEEAS: NANOCHRONOUS has developed already Electronic Design Automation systems that face the problem of vendor dependence. Aim of this project is the design and development of two new EDA tools. The first will be a high abstraction level (RTL) tool and the second will cover the lower implementation level.
- TSi ThinkVG: The project aims at the design and development of a Vector Graphic Accelerator. It will be developed on chip according to OpenVG standard of Khronos team.
- SEE-VISS: The main objective of this project is an innovative system that will implement the functionality of characterizing and searching in video through specialised hardware. The optimal distribution between hardware and software will be investigated.

Action II : Collaborative Research and Development Projects

- MEMSENSE is about the development of innovative sensor systems and new generation architectures that will provide distributed intelligence in the home, industry and healthcare environment. The relevant sensors will be designed using MEMS technology, resulting in limited weight, volume and cost and advanced characteristics.
- NEXGENMILIWAVE is about the development and demonstration of the operation of an experimental millimeter wave radio modem with a substantial decrease in cost. This reduction in cost is achieved thanks to the high degree of integration of radio modem functionalities in two chips of a technology lower of equal 90nm. The first chip comprises all high frequency analogue and millimeter wave functionalities (RFIC & MMIC), while the second comprises all digital functionalities of a baseband modem.
- Lab-On-Chip is about the design, development and pilot implementation of advanced IP blocks of integrated circuits and sensors, to be used by measurement and control subsystems specialized for genetic and other medical applications (Point of Care Systems). The proposed IPs will incorporate innovative arrays of biosensors as well as specialized integrated circuit IPs that will lead to higher precision, lower cost and size.

Action III: State-of-the-art industrial research of innovative enterprises with co-investment from private investors

- ANAPHY: The aim of the project is the design and development of an integrated circuit that will support the physical layer of protocol USB 3.0. The integrated circuit will become an silicon proven intellectual property IP.
- 4GQoSS: The project aims at the modeling, design and implementation of effective solutions for resource distribution in fourth Generation wireless networks based on OFDMA technology. The principal aim is the development of high performance scheduling units, that will exploit the capabilities presented by OFDMA in an optimal way.
- NGIG: The project aims at the research, design and development of a Next Generation

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Intelligent Gateway Platform that will provide the capability for convergence in the telecommunications sector. The term convergence is used to describe the full and totally seamless to the end-user access to high speed internet through wire and wireless media as well as handoff to all types of devices, ranging from laptops to smartphones and mobile phones.

- HEL-NG-EDA: Research in this project is relevant to the technological development of tools for the design of integrated circuits that will face the problem of RF-Signal Integrity. Helic will build on existing technologies in order to develop this technology that will help its further development.
- POROS: The aim of this project is the design, development and verification of a System on Chip that unifies all necessary digital and analog elements for wireless interconnection of portable devices, according to 802.11n standard.
- Solar Windows: The project aims at the development and demonstration of the operation of technology for mass production of photovoltaic panels, that are semi-transparent and may be used as windows in homes and office windows.
- PARNITHA: The project aims at the development of an innovative and flexible integrated circuit (RFIC) that will provide to telecommunication services providers increased capabilities for high quality performance and reliability while resulting in significant cost reduction.

Action IV: Horizontal support of entrepreneurial development

- 34 enterprises benefiting from Action IV for actions like submission of patents, professional training, and participation in international fairs.

Action V: Special Actions for the support of mi-Cluster

- High Risk Capital Observatory: the project aims at enhancing the international financing capacities of Greek cluster in microelectronics and embedded systems.
- IPR-Protect: The project aims at the provision of legal support services to mi-Cluster members. Such services include support at a strategic level, as well as for solving specific problems of the Greek and legal market.
- MIN-EPB: the aim of the project is to undertake different actions for connecting research effort in Greece in microelectronics and embedded systems with enterprises of mi-Cluster. Such actions include creation of a database of relevant academic specialised equipment and relevant theses. It will also comprise summer schools for bringing academia and industry closer.
- MIKROJOBDATA: the project aims at the design and development of a database with job offerings by mi-Cluster companies as well as job searches of students at a graduate or post graduate level. The relevant application will perform a first matching and will help in the staffing of Corallia and mi-Cluster.
- MICRO-EXPLO-RE-R: The aim of the project is to support mi-Cluster so that the successful commercial exploitation of its research activities is enhanced. The support from the research concept to the actual project implementation will follow Gate2Start model. The project will also organise meetings of mi-Cluster with Venture Capitalists in an effort to attract investment to mi-Cluster.
- DISKOS: The project addresses the need of mi-Cluster companies to have cheap access to measurement equipment and software tools so that their competitiveness is increased. In this context the relevant equipment of public bodies that mi-Cluster can have access to will be recorded, as well as training in EDA software will be promoted.
- Qu_MiC: The project aims at dynamic mapping of mi-Cluster with reference to quality policy adoption and application, detailed search of relevant policies at an international level – with a focus to Silicon Valley-, and training of mi-Cluster members on quality issues.

- HSIA-HOR: The participation of the Hellenic Semiconductor Industry Association in this action aims at the development of new services towards the members of the association and the better organisation of already existing services. The aims of the project is the increase of mi-cluster members, the internationalisation of mi-cluster, strengthening the bonds among members and absorbing new research staff.

6.4 Project Evaluation

Project feedback mechanisms and evaluation mechanisms. (max 10 lines)

The evaluation of Corallia is quite positive both at a national (Greek) and European level. More specifically Corallia has the following distinctions:

- Greek Operational Programme Competitiveness Best Practice - 2009
- European Best Practice in the "European Charter for Small Enterprises 2008 good practice selection" formulated under the initiative of European Commission, General Secretariat of Enterprise and Industry – 2008. Corallia was one out of 40 Best Practices at a European Level.
- Finalist in the RegioStars2009 awards, organized by European Commission, Inforegio.

7. Description of Research team/Institution

Short description of R&D team and institution (max. 10 lines)

Corallia Clusters Initiative is hosted at the Research Center "Athena", under the auspices of the General Secretariat for Research and Technology of the Hellenic Ministry of Education, Lifelong Learning and Religious Affairs and the Ministry of Economy, Competitiveness and Navigation and it is co-funded by the European Regional Development Fund and National Funds, within the framework of the Operational Program "Competitiveness and Entrepreneurship 2007-2013" and Regional Operational Programs 2007-2013.

The core team of Corallia also comprising the executive board of the organization comprises

- General Director Vassilios Makios who is a Professor Emeritus at the Dept. of Electrical and Computer Engineering of the University of Patras, Greece and at the Dept of Electronics of the Carleton University in Ottawa, Canada, and has been involved in numerous scientific projects, has a lengthy publication record and was influential in the establishment of prototype development companies in the telecommunication industry in Greece and abroad.
- Strategy and Cluster Development Director Jorge-A. Sanchez-P who holds Dipl.-Ing. & Dr.-Ing. degrees in Electrical and Computer Engineering and a Master's Certification in Program & Project Management, and has participated in numerous research and development projects while in the academia, research labs and industry both in Greece and abroad.
- Technology and Cluster Operation Director Nikos Vogiatzis who holds a Ph.D. in Communication Electronics & Information Systems, a Masters certificate in Professional Project Management, and a Diploma in Electrical and Computer Engineering, has accumulated international experience in managing high-risk R&D projects and has been instrumental in forming alliances among industrial and research partners.

8. Applied Financial Mechanism

Describe financial mechanisms applied in transformation of research into innovation within BP, as well as means of connecting scientific research team and financiers (max. 1000 char.)

The Corallia Clusters Initiative is funded in the framework of the Greek Operational Programme Competitiveness and Regional Operational Programs 2007-2013 as a facilitator of innovation clusters.

The 1st cluster that is created by Corallia is the mi-cluster, a cluster in the areas of micro/nano electronics and embedded systems. Corallia represents the intermediate organization for the management and formation of this cluster. The funding for mi-cluster came from the Greek Operational Programme Competitiveness under Axis 1: Innovation Supported by Research and Technological Development. The selection of microelectronics and embedded systems as a strategic sector for Greece took place in June 2006, while the preparation and launching of the call for the creation of mi-cluster took place on October 2008 and the conventions were signed on May 2009. The public co-financing of the cluster amounts to 33 M€.

9. Impact and benefits

Describe achieved benefits of R&D team and/or enterprise implemented innovation, as well as impacts on institutional and policy levels. (max. 1000 char.)

The team of the Corallia Clusters Initiative succeeded in efficiently promoting the innovation clustering idea towards national authorities in Greece and more specifically the Ministry of Development. The effort started on 2006 with a vision of creating a competitive advantage for Greece in high technology highly competitive high added value sectors such as the microelectronics and embedded systems sector. Corallia Clusters Initiative made it possible to actually influence policies of the Ministry of Development through a specific activity “Innovation Clustering” in Operational Programme Competitiveness. It furthermore became the institution that managed the formation of the 1st innovation cluster, launching a call of 33 M€ public funding and succeeding to formulate a cluster of over 100 organisations in Greece active in the field of micro/nano electronics and embedded systems.

10. Sustainability

Provide information on sustainability of innovation after financial aid within implemented financial mechanisms, and some multiplier effects as replication and extension of the action performed in BP. Expected use of Best Practice and lifecycle considerations. (max. 1000 char.)

Corallia Clusters Initiative represents an innovation cluster facilitator. It provides a mechanism for the creation of innovation clusters, regarding clustering as a very efficient tool for the promotion and support of innovation in different sectors of the economy. The vision of Corallia is the promotion of “Innovation made in Greece” and its values comprise extroversion, dedication, constant progress and knowledge orientation, provision of added value services. The first result of Corallia, mi-cluster, has been established on 2009 aiming at the promotion of innovation in the micro/nano electronics and embedded systems sector. Independently of the highly successful first result of Corallia, the initiative by itself is sustainable and replicable since it is based on a solid methodology: selection of a promising innovative sector with a significant critical mass and pre-existing formation, promotion of this sector towards the national authorities in order to attract funding, establishment and management of a cluster in the new sector.

11. Repeatability and transferability

Lessons learned from the project implementation team. Repeatability and transferability of the project. (max. 1000 char.)

Corallia represents a fine example of how to formulate a cluster in a specific sector. The overall idea behind Corallia starts from the identification of a research ecosystem in a country in a specific thematic sector. The thematic sector should be characterized by international competition so that the ecosystem feels the need to increase collaboration among companies and academia in order to promote innovation. It is not possible to enforce a top-down approach in formulating a cluster. If such an approach is followed the cluster will most likely dissolve when the glue money ends.

After determining the thematic area, it is quite important to have a funding to promote the clustering members and help their R&D efforts so that they may withstand international competition. This is a critical element for repeatability and transferability especially in times of economic crises and turmoil. Yet, if public money is ascertained, then a right mix with private money and private investors will be feasible.

Phase 2 of Corallia showcases that the cluster should take care of all its members, both new and very small industries that want some funding to develop their new innovative products, as well as well established innovation companies that lead collaborative research in specific thematic areas and that perform research co-funded by private investors. Finally some money should be allocated to both horizontal support and special support actions.

12. Evaluation

Describe reasons and evaluation criteria why the described example is a best practice. (max. 1000 char.)

Corallia Clusters Initiative is a successful cluster formation mechanism that has been elaborated for the creation of a cluster in a highly innovative sector in Greece. Within the framework of the Operational Program "Competitiveness" of the Hellenic Ministry of Development, two Corallia "best practices" were selected: a) The establishment of the Microelectronics Innovation Centre (µIC) in Athens and, b) The design and implementation of the "Career Days" in Greece. At European level, Corallia was hailed as a "Best Practice" by DG Enterprise & Industry, within the framework of the European Charter for Small Enterprises 2008 (p.46) - Best Practice Selection among 151 cases from all over Europe in 2008, in the category "Strengthening the technological capacity of small enterprises". Within DG REGIO's RegioStars 2009 Awards, Corallia has been short-listed among the final classification (finalists) in the category "Research, Technological Development and Innovation". On the subject of Corallia's participation in RegioStars, Danuta HÜBNER, the European Commissioner responsible for Regional policy, in her speech "Towards third generation of regional innovation policy", pointed out that "Corallia Clusters Initiative is a thriving microelectronics cluster, which is showing impressive early results. "Over the last 2 years, participating companies have increased their revenues (60%) and exports (110%), while jobs almost doubled (93%) and the number of patents filed is 138% higher."

13. Contact of research team/institution

Name, address, tel., fax, e-mail, URL

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14. Contact of financial mechanism facilitator

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