

## **WP5**

# **REGIONAL BENCHMARK ANALYSIS FOR THE SUPPLY SIDE**

## **EXECUTIVE SUMMARY**



## Acknowledgements

This study has been realized with the contribution of the following organizations, partnerds of the MARIE project:

- Catalunya Region (Spain)
- Piemonte Region (Italy)
- PACA Region (France)
- Friuli Venezia Giulia Region - Consortium AREA (Italy)
- University of Evora – Alentejo Region (Portugal)
- University of Ljubljana - Slovenija Region (Slovenija)
- Institute IASA – Attiki Region (Greece)

## CONTENTS

Aims .....	4
Methodology .....	5
<b>Survey on Local innovative SMEs .....</b>	<b>15</b>
Analysis of the categories .....	17
Maturity level of innovative solutions .....	22
Present market distribution of innovative solutions.....	23
Potential and future market distribution.....	24
Main purchasers profiles .....	25
Adoption of environmental labels.....	27
<b>Survey on clusters' business models .....</b>	<b>29</b>
Range and field of activity .....	31
Analysis and promotion of the chain of value .....	33
Identification of weaknesses .....	37
Building sector: drivers, barriers and challenges .....	39
Main conclusions .....	46
FOCUS - The position in the EU context of MARIE clusters: a benchmark .....	47
<b>EU clusters and value chains scoreboard .....</b>	<b>47</b>
<b>The MARIE regions cluster specializations.....</b>	<b>48</b>
<b>EU cluster benchmark analysis .....</b>	<b>51</b>
FOCUS - The main environmental labels in the building sector .....	58
<b>European Ecolabel .....</b>	<b>59</b>
<b>ISO 50001 – Energy management systems .....</b>	<b>62</b>
<b>EPD International System.....</b>	<b>63</b>
<b>LEED .....</b>	<b>64</b>
<b>SBMethod .....</b>	<b>65</b>
<b>HQE Batiment.....</b>	<b>66</b>
<b>EUCEB – European Certification Board for Mineral Wool Products .....</b>	<b>67</b>

## Aims

---

WP5 of MARIE project is focused on the support of MED enterprises, to help them participate in their local market of energy refurbishment of buildings, accomplishing also with the local, national and EU expectations and standards. WP5 activities will operate all along the building chain of values (materials, products and services) and Pilot Action 3 will implement specific activities regarding each different level of the chain. The results of the pilot actions will conduct to the elaboration of a SUMP – Support Measure Program to SMEs.

Construction is a sector quite complicate to be analyzed, because it involves many competences and skills, both in industrial and service sectors, and materials, products and services (meaning both components and full buildings) are very diversified at geographical level, being influenced by climate condition and local cultural heritages.

For these reasons, the supply side of construction market (all along the value chain, including services, consultancy and material manufacturing and construction itself) is dispersed, often represented by micro and small enterprises, having a range of activity limited in terms of geographical coverage and, consequently, turnover and market impact capacities.

The cluster policies launched by EU aim to support the creation of organized chains of value at local level, in order to overcome the above mentioned lacks. Regarding the building sector, many Regions have launched initiatives to aggregate and consolidate competences of local enterprises, fostering the creation of synergies between different actors along the value chain, with the goal to ameliorate the quality of their interventions, to introduce an innovative approach with regards to products and services and to increase the competitiveness at EU level of these industrial actors.

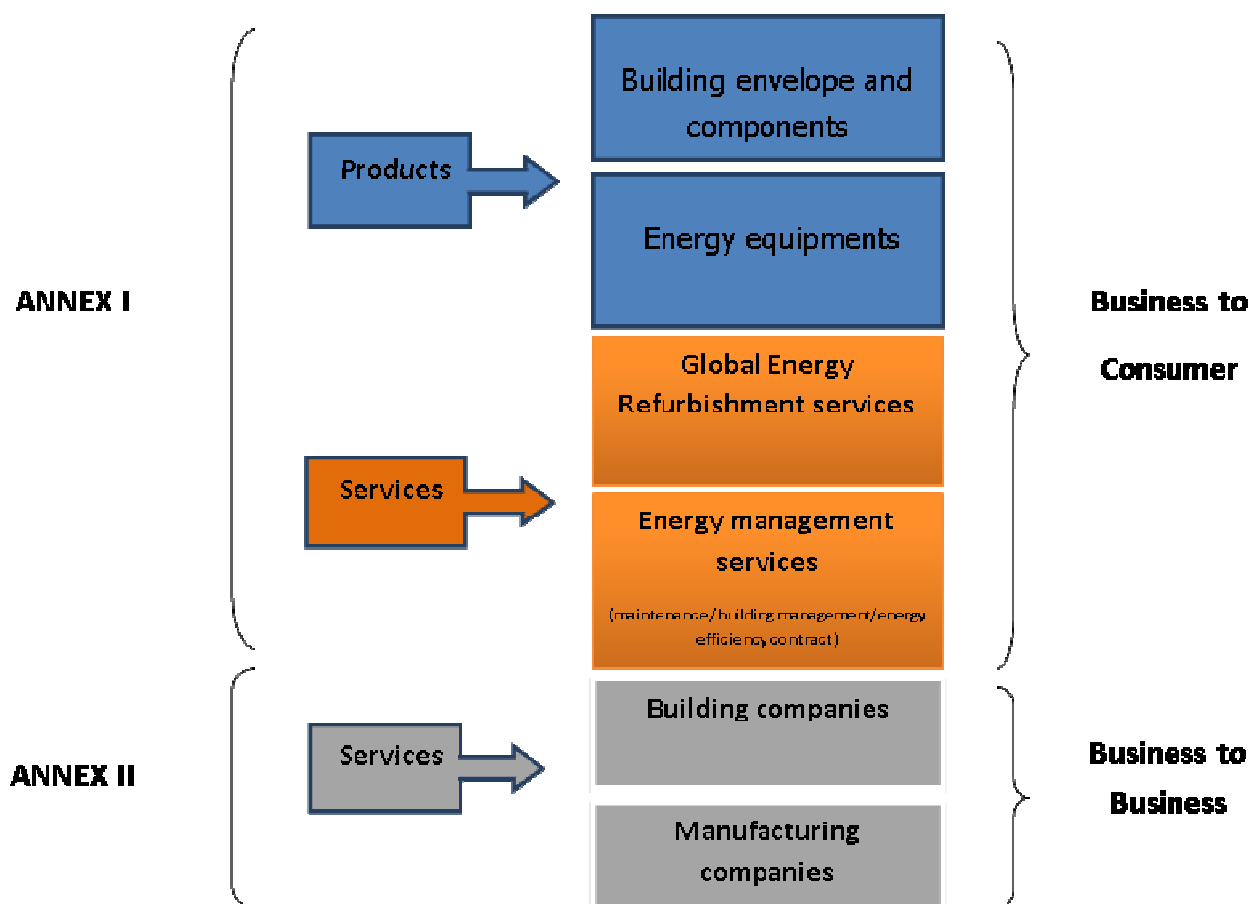
Which are the barriers affecting the construction value chain? How are MARIE regional building value chains are positioned inside EU context?

The Regional Benchmark Analysis (RBA) on the supply side, in the context of MARIE project, aims to position the construction sector of MARIE regions in the framework of EU market and competitive context, analysing the barriers affecting a successful exploitation of market opportunities set up by energy efficiency regulations, programs and incentive schemes launched by Regional, National and EU authorities.

The RBA purpose is to make a survey on products, technologies and services (in a word, “solutions”) that MED enterprises, and in particular SMEs, are offering to the market. This activity made under WP5 is related with WP4 benchmark on “demand” , and the two activities will match giving a “demand – supply” vision on building refurbishment market.

## Methodology

Construction is a complex sector in which the role of the “chain of production” and its organisation is fundamental. So the challenge of a benchmark analysis is to consider that, beside a supply of “goods and services” to consumers, there’s an offer of “integrated services to business” too, that could be organised under a sort of “business organisational model”. It’s a marketing strategy that has been adopted by several company associations around Europe (and in particular by Clusters working on the building sector), with the goal to provide to SMEs all the necessary technologies, competences and skills with the best cost performance and with the most reliable level of organisation.



Picture 1: Structure of Regional Benchmarking Analysis (RBA) on supply side

The methodology adopted for RBA was developed starting from the following considerations:

- Due to the large amount of technologies, materials and services (the “solutions in use”) available on the market, it would be ambitious and hard to collect and organise all the information in MED area in a satisfactory way for MARIE purpose. Furthermore, MARIE should promote and highlight the competencies of MED enterprises that are developing innovative solutions for the MED market, making them more visible and, at the same time, making available to local institutions and market actors the information necessary to support the implementation of public procedures (i.e. innovation procurement) and innovative investments in the energy refurbishment of buildings.
- WP5 is focused on enterprises, and many of its activities foresee to collect information from those actors. The large number of market operators of this sector suggests to contact and involve in surveys not single companies but Building Clusters (known also as Poles, associations or other terms). Moreover, “Building Clusters” have normally adopted their own “business model” to support their members and boost the local energy refurbishment market, and from the analysis of those strategies interesting examples could emerge, useful for the SUMP (SME Support Measure Programme) design.

With the aim to test and develop actions supporting the evolution of regional building value chains in the partnership regions, the first action of the WP5 MARIE project has been the launch of two survey activities focused on:

- Innovative technologies (ANNEX I): identification at MED levels of the most innovative materials, products, technologies and services developed by MED SMEs, in order to disseminate MED competences in the sector to local market actors and institutional decision makers in the adoption of a more innovative approach in building operation. Moreover, another aim is to inform institutional decision makers on the opportunities of using innovative technologies inside their own specific building activities as a support to innovative enterprises and achievement of energy and environmental goals (Innovation Procurement).
- Innovative Cluster Business models (ANNEX II): identification at MED and EU level of the best practices adopted by clusters in term of organization of competitive chain of values, able to offer to the market innovative technical and financial approaches in line with the new market demand and regulation trends.

Annex I analyses four different categories of innovative solutions, trying to represent both the product and the services sector:

- Building and envelope components, including insulation products, doors, windows and transparent envelop components, interiors materials and components (paints, ...) and envelop construction materials other than insulation
- Energy equipment, including heating, cooling, hot sanitary water, electricity, ventilation and energy management equipment
- Energy management services, including heating and electricity management, maintenance of operations and ICT and building automations services
- Global energy refurbishment services, including energy advisors, conception/diagnostic experts, building work companies, turn key building work coordinators and building work/management companies with energy saving commitments (ESCO)

Category	Sub categories
Building envelope and components (Building "skin")	<ul style="list-style-type: none"> <li>• Insulation</li> <li>• Doors, windows and transparent envelope components</li> <li>• Envelope construction materials and components (other than insulations)</li> <li>• Interior materials and components (other than furniture, including paints)</li> </ul>
Energy equipment	<ul style="list-style-type: none"> <li>• Heating</li> <li>• Cooling</li> <li>• Hot sanitary water</li> <li>• Electricity (lightning, apparels, hardware)</li> <li>• Ventilation</li> <li>• Energy management equipment</li> </ul>
Energy management services	<ul style="list-style-type: none"> <li>• Heat management</li> <li>• Electrical management</li> <li>• ICT and building automation</li> <li>• Maintenance / Operating systems</li> </ul>
Global energy refurbishment services (including design and building work services)	<ul style="list-style-type: none"> <li>• Energy advisors</li> <li>• Conception and diagnostic experts (architects, engineers)</li> <li>• Building work professionals (SME, handcrafters)</li> <li>• Turn key building work coordinators</li> <li>• Building work and management with energy savings commitment (ESCO)</li> </ul>

*Categories and sub categories of innovative solutions analysed by the survey*

For each single innovative solution a technical template has been filled by partners, with information regarding the company, the concept, the main innovative aspects of the identified solution and many other data about market targets, presence and availability.

Here follows a brief explanation of each information required in the template:

- **General information** about the identified SME
- **Concept:** Short description of barriers and problems that the product could help to overcome
- **Product/service description**
- **Innovative aspects:** innovative and competitive characteristics of the product/service in comparison with current market offer and business as usual supplied products
- **Maturity degree** of the solution: the maturity of the product/service is related to the maturity of its market; the existence of a mature market is often linked to a poorer level of innovation of the solution
- **Applications** in energy efficient building: a good energy saving performance is a guarantee of the capacity of satisfying the demand of technologies for energy saving and refurbishment projects
- Present **market distribution/availability:** a huge market distribution is and indicator of the wide application of the technology, but the existence of a local market is often the signal of a successful chain of value
- **Potential market distribution:** the perception of having a future market can lead companies to invest in innovation
- **Main purchasers** profile: an analysis of the purchasers, together with the analysis of the product demand, is the first step for the definition of new market strategies or innovation objectives
- **Case studies:** an overview of the main successful applications is important in the following identification of measures to overcome barriers
- **Other information:** all companies had the possibility to describe their choices in the field of environmental label adoption and product/process certification

All information collected by partners through the templates were then consolidated and elaborated into a general and statistical analysis, extracting information about each product/service category in different ways depending on the different purposes of the work.

The sample of identified SMEs can be integrated during the course of the project by filling of more templates by other companies supplying innovative products or services. Integrations to the analysis will allow to confirm and add up new details to the conclusion of the survey.



**Structure of the template used for survey on innovative SMEs**

<b>Category</b>		
<b>Sub category (cross the sub-category selected)</b>		
A	<input type="checkbox"/>	
B	<input type="checkbox"/>	
C	<input type="checkbox"/>	
D	<input type="checkbox"/>	
<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i>	
<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>	
<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>	
<b>Maturity of the product</b>	<input type="checkbox"/> R&D phase	
	<input type="checkbox"/> Prototype	
	<input type="checkbox"/> early market	
	<input type="checkbox"/> mature market	

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )</i>	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )</i>	
<b>Present market distribution/availability</b>	<input type="checkbox"/> local <input type="checkbox"/> regional <input type="checkbox"/> national <input type="checkbox"/> EU <input type="checkbox"/> worldwide	
<b>Potential or future market distribution</b>	<input type="checkbox"/> local <input type="checkbox"/> regional <input type="checkbox"/> national <input type="checkbox"/> EU <input type="checkbox"/> worldwide	
<b>Main purchaser profiles</b>	<input type="checkbox"/> builders <input type="checkbox"/> installer <input type="checkbox"/> ESCO and utilities <input type="checkbox"/> building owners and tenants <input type="checkbox"/> building designers and engineers <input type="checkbox"/> Real estate companies <input type="checkbox"/> Public authorities <input type="checkbox"/> other	



# MARIE

MEDITERRANEAN BUILDINGS  
ENERGY EFFICIENCY  
IMPROVEMENT

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>
<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i>

Annex II analysis was instead focused on the analysis of the most interesting “Building Cluster’s Business Models” in partner regions.

Benchmarks were carried out preferably with contacts and the involvement of Building Clusters, also contacting “non MED” clusters for aspects related to business models and strategies which are not strictly linked to the geographical context.

The template used for the collection of information was so articulated:

- **General information** about cluster (name, location, contact point, managing authority)
- **Cluster description**, including information about creation, main vocation, type of members)
- **Range of activity**: The geographical area of activity reflects the cluster vocation and it often depends on the kind of founders of the initiative (national, regional, local institutions)
- **Field of activity**: describes the main sector of activity of cluster members, including also other different from energy and building (ICT, manufacturing)
- **Specialities and skills**: it gives a more detailed overview of the specialization of the cluster members in the field of activity
- **Organization of a “cluster chain of value”**: the questions aims to identify if the cluster acts and organizes itself to create a chain of value between its members
- **Fields covered** by the chain of value: it describes the representativeness of the cluster compared to the entire chain of value in the field of activity
- **Common label**: sometimes clusters operate with a common label identifying all its members or the initiatives realized by the belonging companies
- **Promotion of the competencies** of the chain of value: the issue regards the adoption of cluster policies and strategies aimed to enforce the chain of value in its own field of activity
- **Main destination customers**: it describes the main purchasers of the cluster’s members
- **Local incentive schemes**: it analyses the presence of energy efficiency and refurbishment supporting programmes, to evidence the role of regulation to foster the growth of enterprises and specifically of the existing clusters
- **Cluster financing**: Clusters’ activity and organization can be paid by different ways
- **Strengthens and weaknesses**: all clusters were asked to identify the main strengthens and weaknesses of their business models

The more significant information were elaborated to describe the actual state of the art of “cluster business models” actually existing on the supply side, analysing the barriers specifically concerning the business organization and capacity of cooperation between SMEs to meet the demand in the energy efficiency building sector.

**Structure of the template used for survey cluster business models**

<b>Name of cluster</b>		
<b>Country</b>		
<b>Region</b>		
<b>Cluster manager</b>	<i>(insert name of institution)</i>	
<b>Contact point</b>	<i>(insert name, position email, web, telephone)</i>	
<b>Short cluster description</b>	<i>(insert information about date of creation, activities, typology of members)</i>	
<b>Range of activity</b>	<input type="checkbox"/> <i>international, national, regional</i>	
	<input type="checkbox"/> <i>national</i>	
	<input type="checkbox"/> <i>regional</i>	
<b>n. of members</b>		
<b>Field of activity</b>	<i>(i.e construction, energy, construction and energy...)</i>	
<b>Specialties and skills</b>	<i>(i.e solar, cogeneration, RES....)</i>	
<b>Has been organized a “cluster chain of value” ?</b>	<input type="checkbox"/> <b>YES</b>	
	<input type="checkbox"/> <b>NO</b>	
<b>Which of the fields are covered by chain of value?</b>	<input type="checkbox"/> <i>Design materials</i>	
	<input type="checkbox"/> <i>installation</i>	
	<input type="checkbox"/> <i>construction</i>	
	<input type="checkbox"/> <i>energy management</i>	
	<input type="checkbox"/> <i>services</i>	
	<input type="checkbox"/> <i>others</i>	
<b>Do the cluster operate on market with a common label? Is it the cluster</b>		

<b>label or a third one?</b>		
<b>How the competences of the chain of value are promoted?</b>		
<b>Who are the main destination customers ?</b>	<input type="checkbox"/> <i>Private: residential</i> <input type="checkbox"/> <i>Private: industrial</i> <input type="checkbox"/> <i>Private: tertiary</i> <input type="checkbox"/> <i>Public</i>	
<b>Do the cluster operate on market with a local incentive scheme or a support program for energy refurbishment? If yes, how does the program works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local program require cluster label to provide incentives or grants)</b>		
<b>How the cluster management is paid back for its promotional and organizational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....</b>		
<b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b>		

## Survey on Local innovative SMEs

Technologies survey is focused on innovative solutions, those able to overcome existing technical and economical barriers, with the aim to promote those excellences at MED and EU level.

In this context, the main aim of this activity has been to map and disseminate those technologies and services made inside MED area in order to begin the creation of a MED catalogue of innovative solutions for:

- Energy refurbishment interventions, with the adoption of “local” MED resources
- Public procurement procedures, in particular for “early market and innovation procurement”.

Those information have been collected with a survey launched towards:

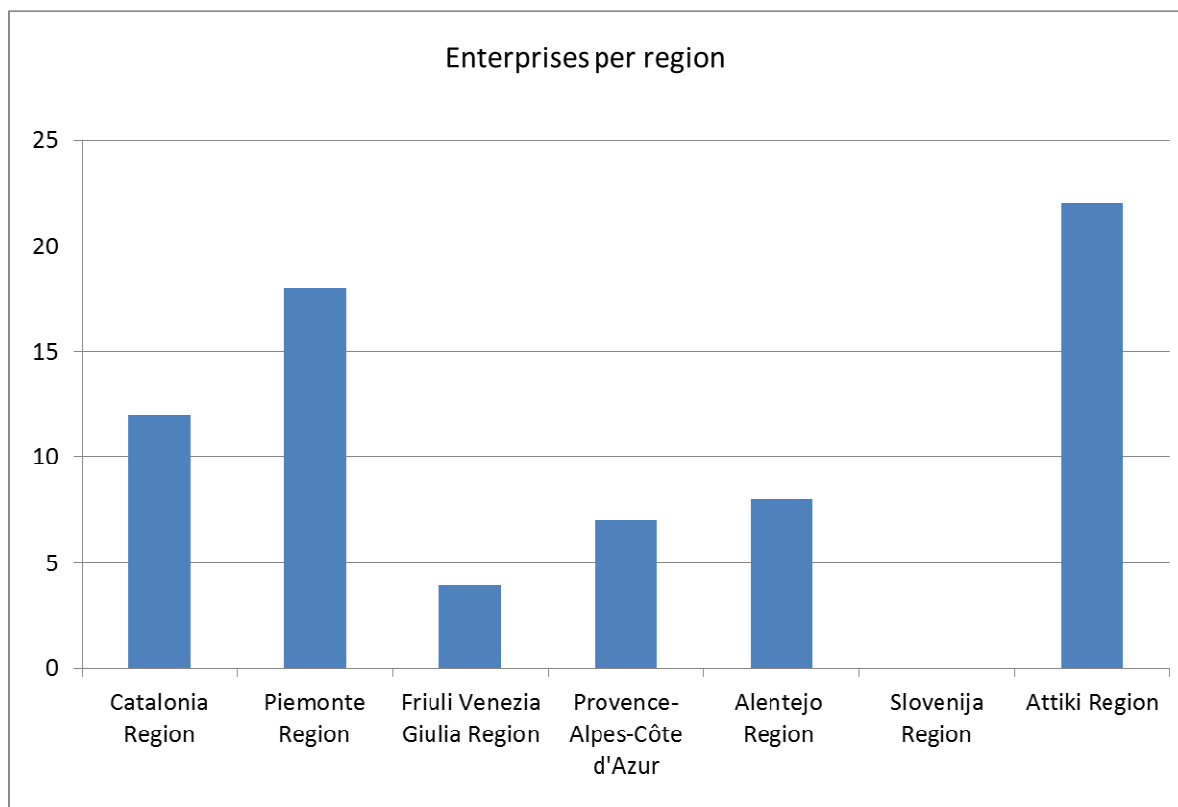
- local industrial R&D clusters (on energy ICT and all building related technologies),
- local building clusters
- incubators and start up companies
- innovative SMEs.
- Innovation support agencies

It would have been difficult to give an evaluation of the “degree of performance” or “innovativeness” of the technologies and services surveyed. In fact, since a solution is able to give the best results only under specific circumstances (i. e. climatic, market, customers habits, raw materials availability and other conditions), a valid and common definition of “innovative solution” for all MARIE regions was not possible.

That’s why the decision was not to give a “score” to the solutions surveyed, but to propose some of them to the larger number of building actors (dissemination of RBA results), letting them to evaluate if those could be useful for their specific needs. Moreover, making this survey in collaboration with Clusters, the information collected was filtered by an association or institution whose mission is to support innovation development.

Regarding the “local level” of the survey, partners decided that closing the survey just at the regional level could be an impasse and a limit in collecting sound and interesting information about interesting technologies, so the horizon of the survey was enlarged up to 2-3 MED regions in the MED national area, in order to collect more information on what local enterprises are developing.

71 templates about innovative SMEs were received, with a peak of 22 solutions identified by Attiki Region and no one proposed by Slovenia Region (picture 2).

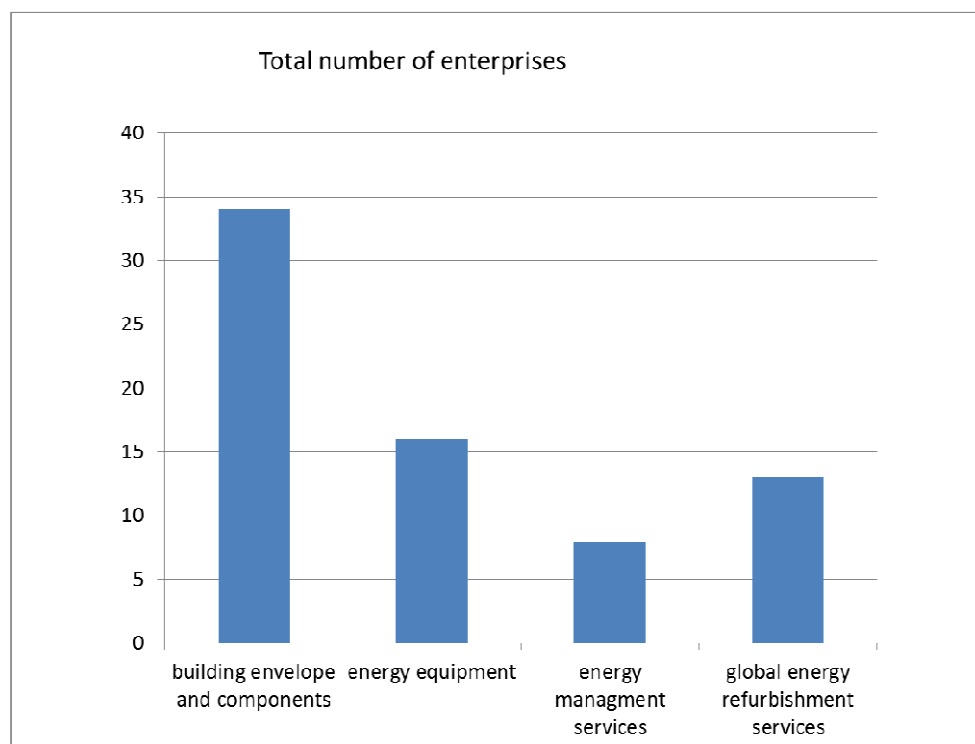


*Picture 2 – Number of innovative SMEs identified by each partner region*

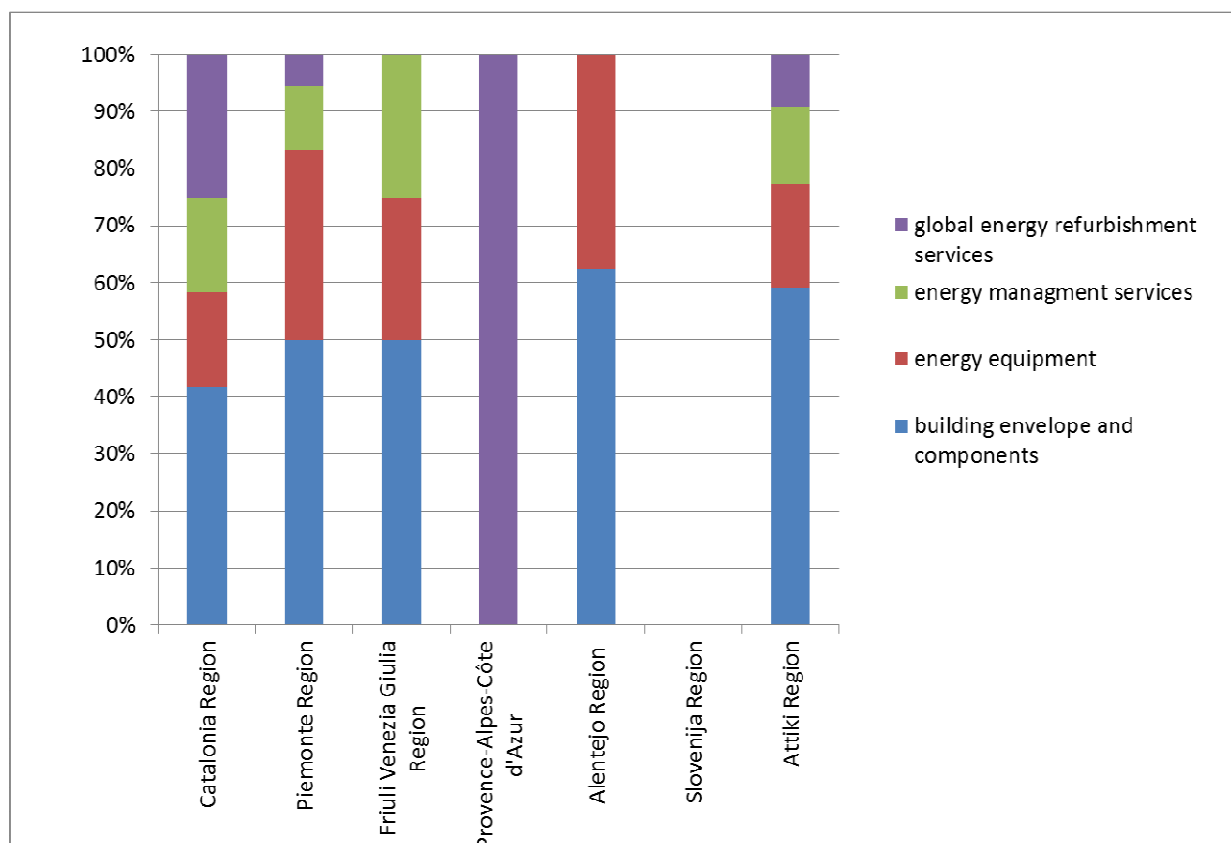


## Analysis of the categories

Building and envelope components seems to be the sub-sector where buildings' sector concentrates its efforts in term of innovation and development of new products (picture 3), followed by energy equipment and energy management services. Just PACA (picture 4) region has identified a dynamic market in the sector of global energy refurbishment services.



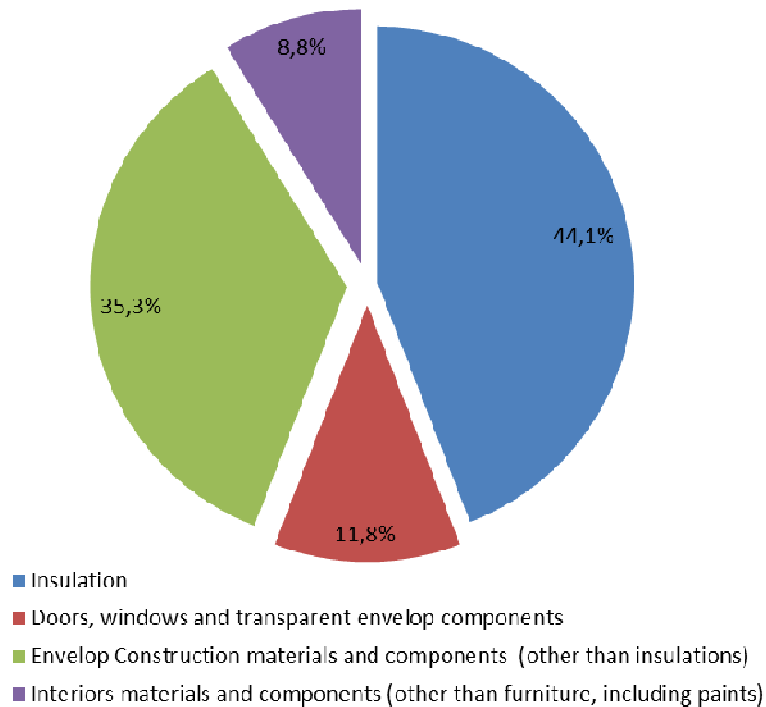
*Picture 3 – Number of innovative SMEs for each identified category*



*Picture 4 – Innovative SMEs: % distribution of 4 categories for each partner*

The most represented sub-category in **building and envelope innovative solutions** (picture 5) is the thermal insulation one (44%), followed by envelope construction materials and components (35%).

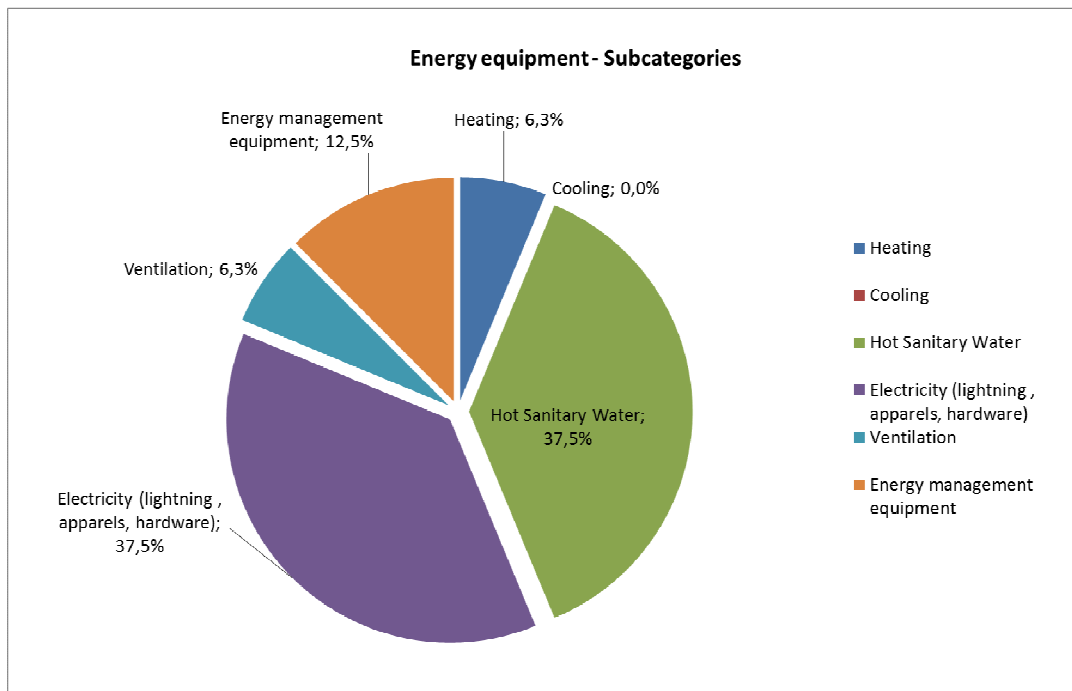
### Building envelope and components - subcategories



*Picture 5 – Building envelope and component: % distribution in subcategories*

In the **energy equipment** category (picture 6) innovative SMEs are more focused on electrical equipment and hot sanitary water innovative solutions, both of them represented by a 37,5% of the total enterprises identified by regional partners.

Heating, cooling and ventilation systems sub-categories evidence a lack of innovative SMEs, partly due to the specific climatic condition of MED regions and a still strong presence of traditional electrical equipments for cooling applications.



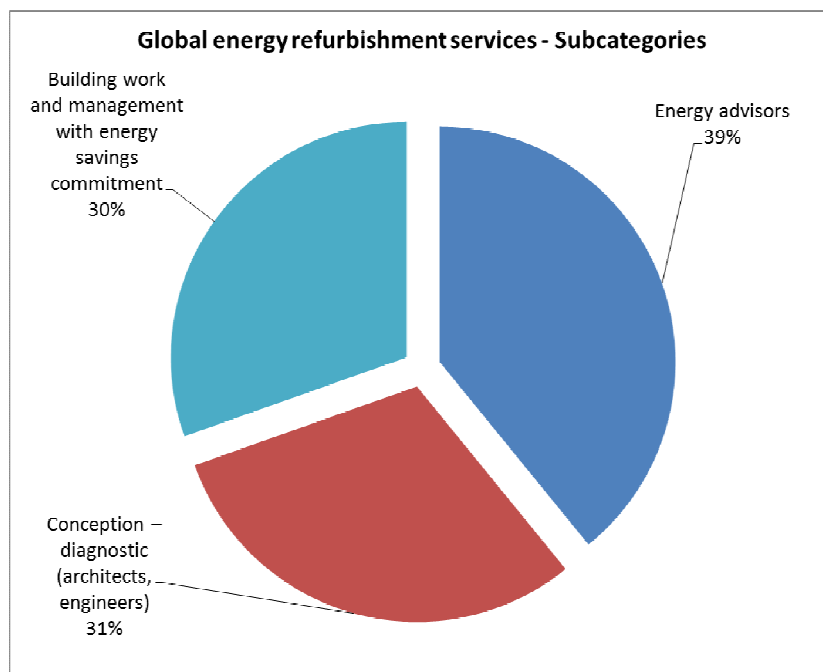
*Picture 6 – Energy equipment: % distribution in subcategories*

The category of **energy management services** is mainly represented by ICT/BACS (Building Automation Control Systems) and electrical management operators, with a lack of innovative SMEs in the field of heating plants and and facility maintenance.

ICT sector is surely more and more connected to building sector, but energy and cost saving opportunities often derive from thermal energy efficient use, where the analysis evidences a lack in innovation efforts.

Finally, the analysis of the category of **global energy refurbishment services** (picture 7) highlights the lack of building enterprises specialised in refurbishment interventions. Data evidence that innovation in the sector is concentrated (30%) on ESCO (Energy Service Companies), which join the building/installation of plants with the management of the same, conception and diagnostic experts (31%) and energy advisors (39%).

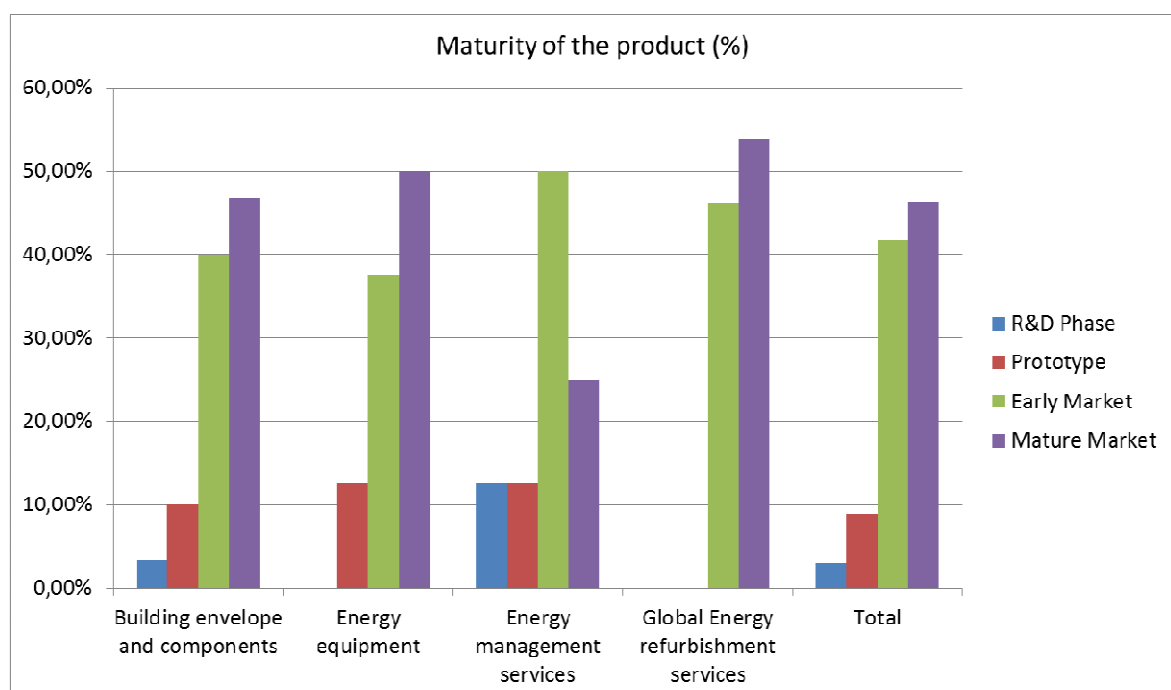
The sector of general services, able to push and assist the final customer and do the global and efficient work, seems lacking at MED regional level.



*Picture 7 – Global energy refurbishment services: % distribution in subcategories*

## Maturity level of innovative solutions

All the analysed innovative product and services categories generally present a quite high level of maturity (picture 8), with all categories presenting always more than 75% of SMEs characterised by an early/mature market solution.



Picture 8 – Maturity level of the products: % distribution for each identified category

No R&D and prototype level solutions were identified in the category of global energy refurbishment services, and no R&D phase products were identified in the energy equipment category.

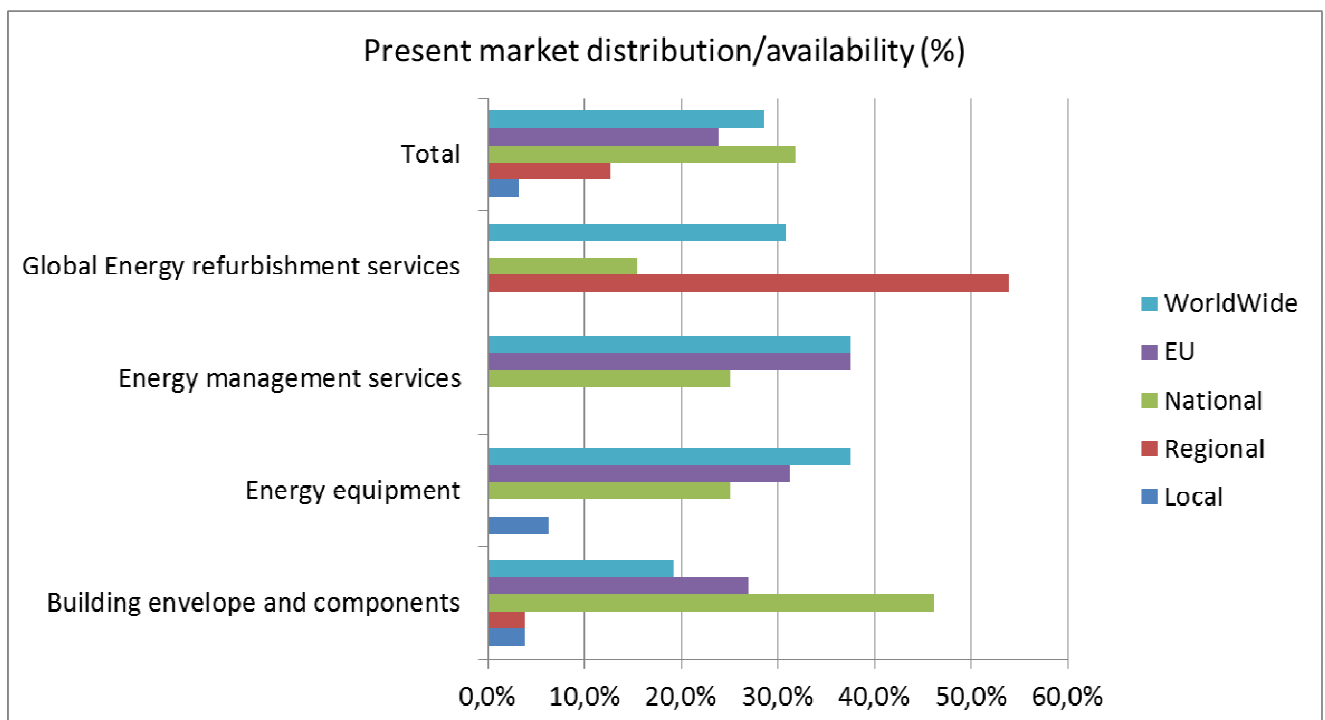
Globally, less than 15% of innovative products and services identified are at a R&D or prototype phase. This reflects a general poor level of actual investment in technical innovation, partly due to a lack of technical skills on R&D processes, all along the building sector.

Potentiality of innovation seems to be still high.

## Present market distribution of innovative solutions

Most of identified innovative SMEs operate at least at a national level, with a good distribution and availability of their products/services on the EU or worldwide market (picture 9) but a poor presence on the local and regional markets.

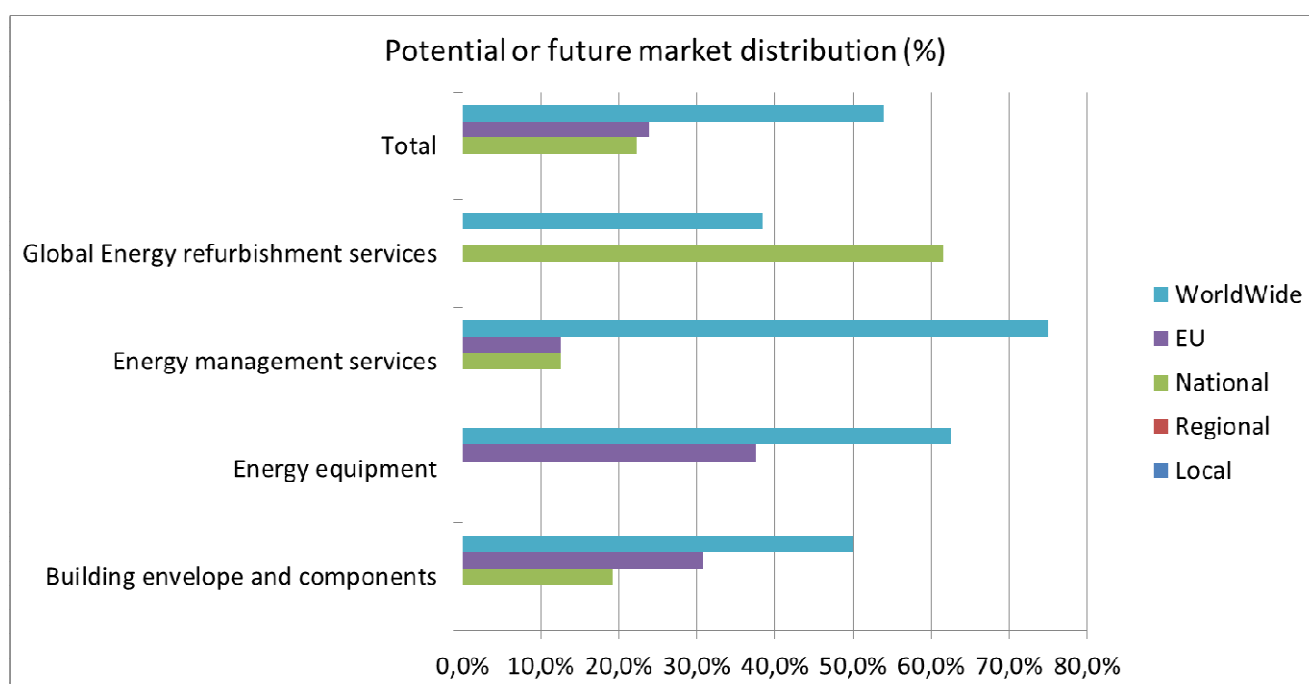
This aspect, particularly evident for energy management services, reflects sometimes in the lack of high added-value local chains able to compete with strong competitors coming from outside MED region.



Picture 9 – Present market availability: % distribution for each identified category

Global energy refurbishment services SMEs mainly operate at a regional level, especially in PACA region, where local authorities set up network and cluster initiatives to help suppliers to meet the energy refurbishment demand. On the contrary there's no innovative SME operating in the sector at the local level, probably due to the difficult from the supply side to drive a change on the demand side about the perception of refurbishment works. Such interventions are in fact often seen as intrusive and complex, in contrast with the MED usual way of living and inhabit low energy efficient buildings.

## Potential and future market distribution



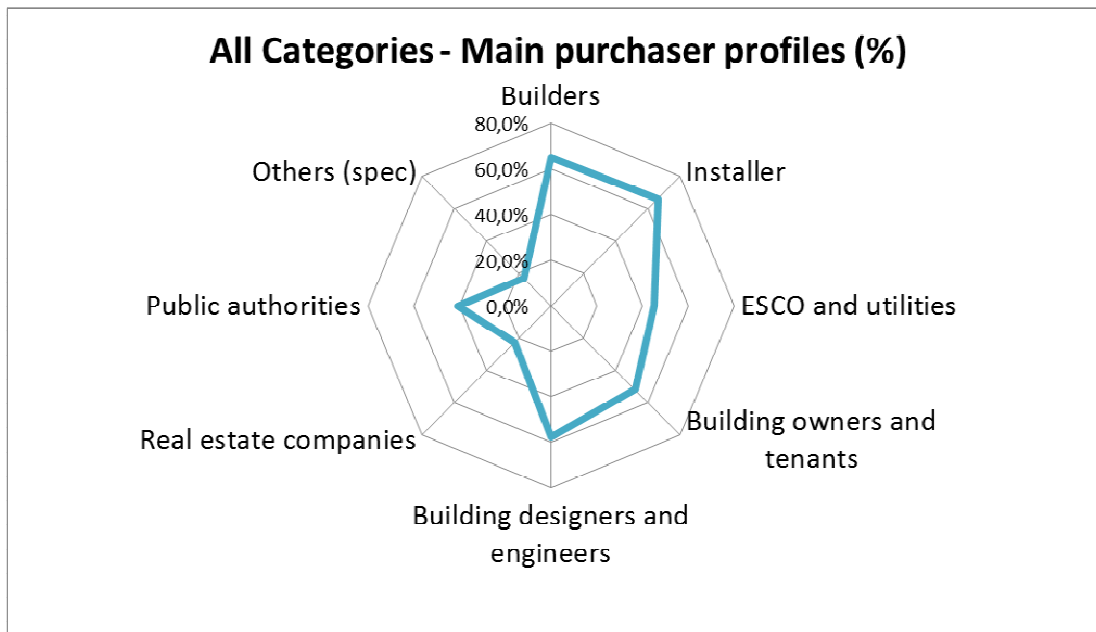
Picture 10 – Potential market distribution: % distribution for each identified category

In SMEs opinion (picture 10) innovative solutions identified have in most cases a worldwide market potential, in particular for categories regarding energy management services and energy equipment. This is an indicator of the big market potential of innovative solutions and of the awareness of enterprises about possibilities connected to efforts for innovation.

It is at the same time an indicator of the need for SMEs and ESCOs to find big refurbishment projects to increase profit and volume of activity, with more opportunities on European and international markets.



## Main purchasers profiles



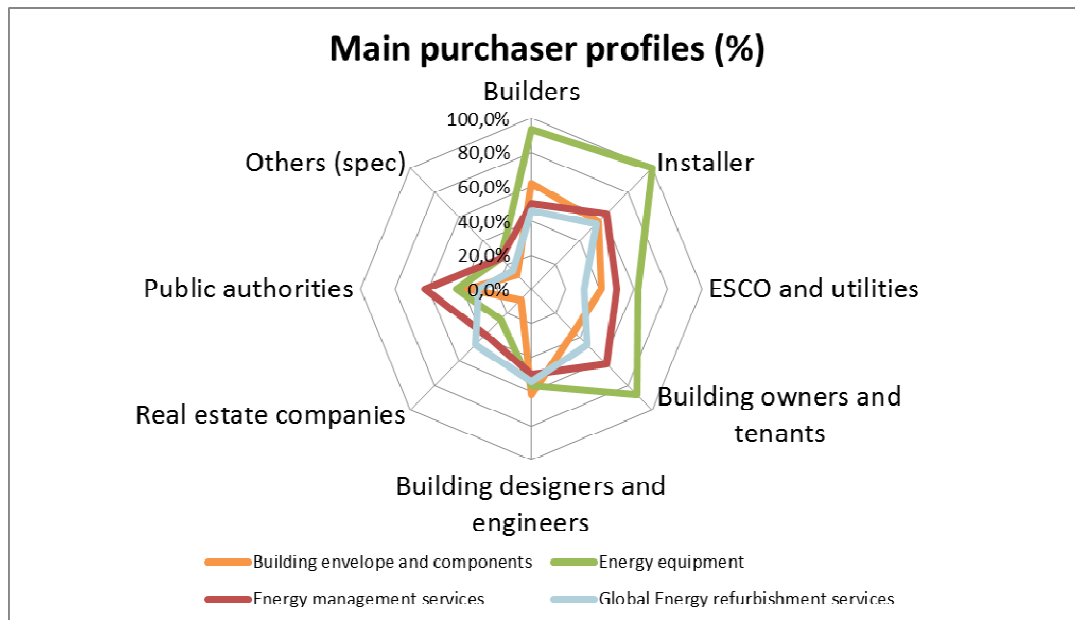
Picture 11 – Innovative solution purchasers

Innovative solutions identified by MARIE regions are addressed to all categories of purchasers analysed, with all market actors representing a potential demand for building sector SMEs (picture 11).

Just the 22,5 % of solutions have a real estate company as a purchaser, while many of identified SMEs address their innovative solutions to private subjects (installers, builders, building designers and engineers).

Public Authorities represent an interesting market for energy management services (picture 12), while energy equipment have a wider market than the other categories.

Real estate companies mainly purchase services (both management and global energy refurbishment services), while building envelope and component solutions still have a more restricted range of purchasers compared to energy equipment.



Picture 12 – Innovative solution purchaser: detail about each category

Public Authorities in MED region still make little use of refurbishment services to improve environmental quality of their buildings and the built heritage on their territory.

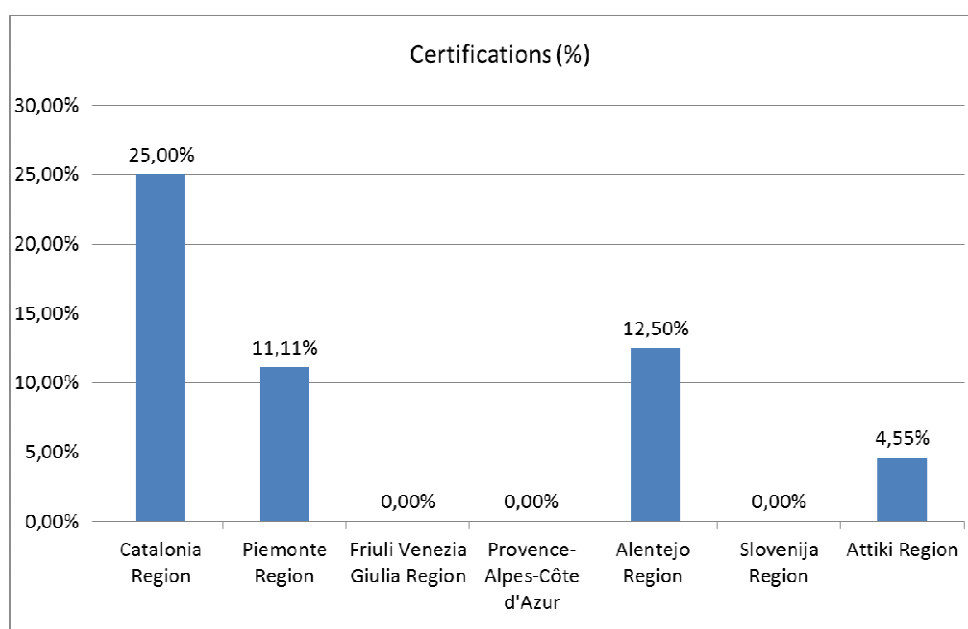
These politics surely affect the development of innovative solutions in the field of energy refurbishment services, which could benefit from the implementation of interventions at a “neighbourhood” scale of public initiative.

The detail about purchasers evidence a still low level of knowledge about innovative solutions and services, and a certain reluctance for collaborative work.

There’s no evidence of a product chain involving both designers, builders and installers; professionals’ category is not the main drive for the diffusion of innovation and know how along the supply chain.

## Adoption of environmental labels

A still limited number of the innovative enterprises identified from partner regions adopted environmental labels as a way to promote and communicate the added value. CE mark and other similar national/regional conformity labels were not considered as an environmental kind of label in the analysis.

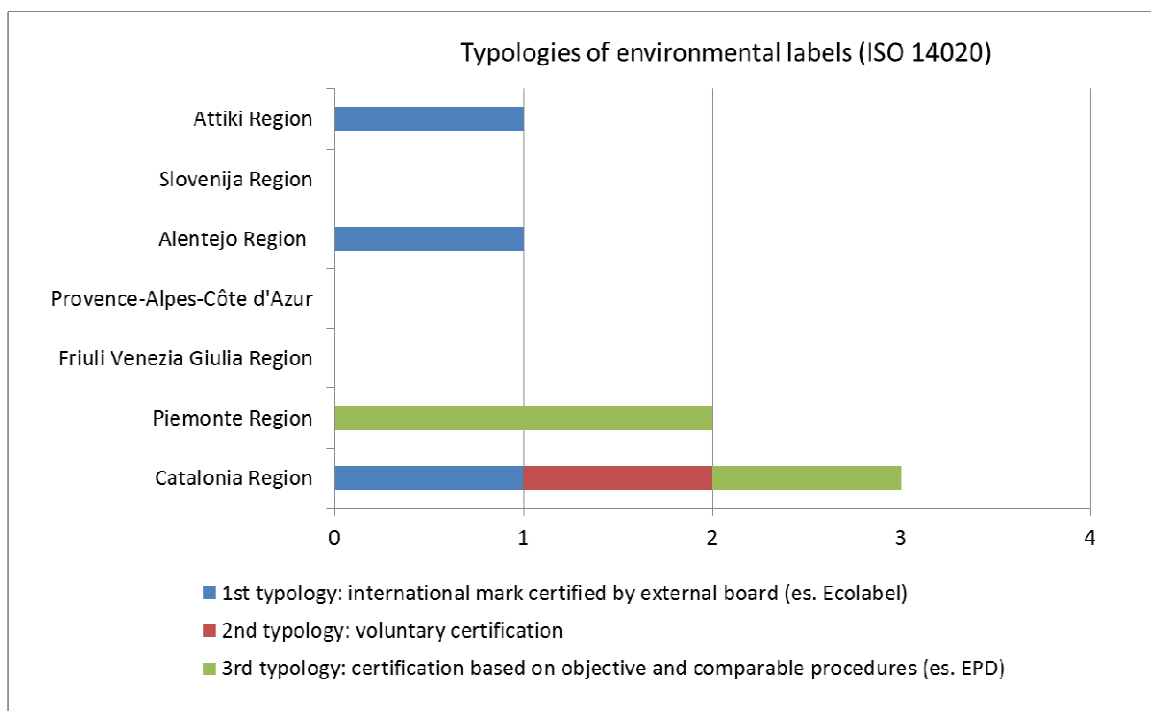


*Picture 13 – % adoption of environmental labels for identified solutions*

Referring to ISO 14020 classification, Type 1 and type 3 labels are anyway the most used (picture 14), but none of the identified products was labelled with a European or international value label (es. Ecolabel or EPD declaration).

Furthermore the use of many different national/regional labels surely represents a barrier to the diffusion of products and services at a European level, creating confusion on the demand side and making more complex the verification of compliance by policy makers and control authorities.

The limited use of environmental labels also reveals a lack of know how about the potentiality of these instruments in terms of access to markets.



Picture 14 – Number and type of environmental labels adopted

## Survey on clusters' business models

Use is made of the NACE Rev.1.1 classification of economic activities and the overall construction sector includes the following subsectors:

- Manufacturing of construction materials: Suppliers of construction products and components;
- Onsite construction: Site preparation, construction of complete buildings, building installation, completion;
- Professional construction services (incl. architects, engineering services, cost controllers and building control bodies);
- Real estate services sector

Clusters are defined as *“geographically close groups of interconnected companies and associated institutions in a particular field, linked by common technologies and skills”*. They normally exist within a geographic area where ease of communication, logistics and personal interaction is possible. Clusters are normally concentrated in regions and sometimes in a single town.

Inside this cluster definition are included “spontaneous” clusters birth around a local chain of value (normally made of a major company and a supply chain). Some national definitions are included too, such as “districts” in Italy, “filiere” and “cluster” in France and so on.

With or without direct financial support programmes issued by local authorities to building owners/ tenants, several EU regions have created clusters of enterprises (also known as Poles or others names), with the aim to create synergies among its members both for the development of innovative products and to provide services (promotion, access to finance, networking services) for successful market exploitation.

This collaborative approach to market is one of the focuses of EU cluster policy, and it is expected that several financial measures that will be made available by EU and national authorities for energy refurbishment of building will give a particular emphasis to cluster organisation.

How clusters can support a “local supply” for energy building refurbishment organizing their members’ skills and capacities so as to enforce their competitiveness? Which is the “business model” of such organisations?

Those are the questions that this part of supply side benchmark wants to answer, analysing and comparing the different experiences collected so as to develop at MED level a business model able to be replied, adapted and consolidated locally.

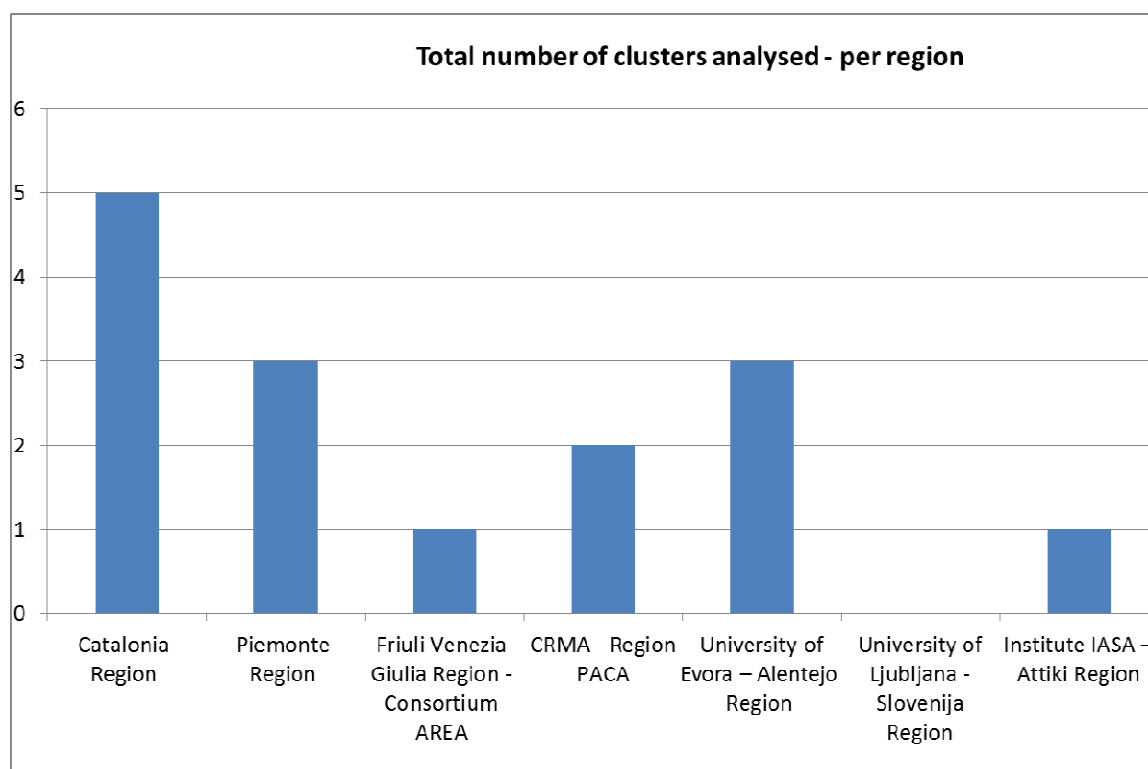


The activity carried on by WP5 partners surveyed existing best practises around EU on “business models”, in particular on best practises in organisation of local competences for the large deployment of energy refurbishment in building sector.

The aim has been to analyse and compare the different experiences collected in order to develop at MED level a business model able to be replied, adapted and consolidated locally. The activity has been carried out by WP5 partners contacting and interviewing clusters at their local and at EU level.

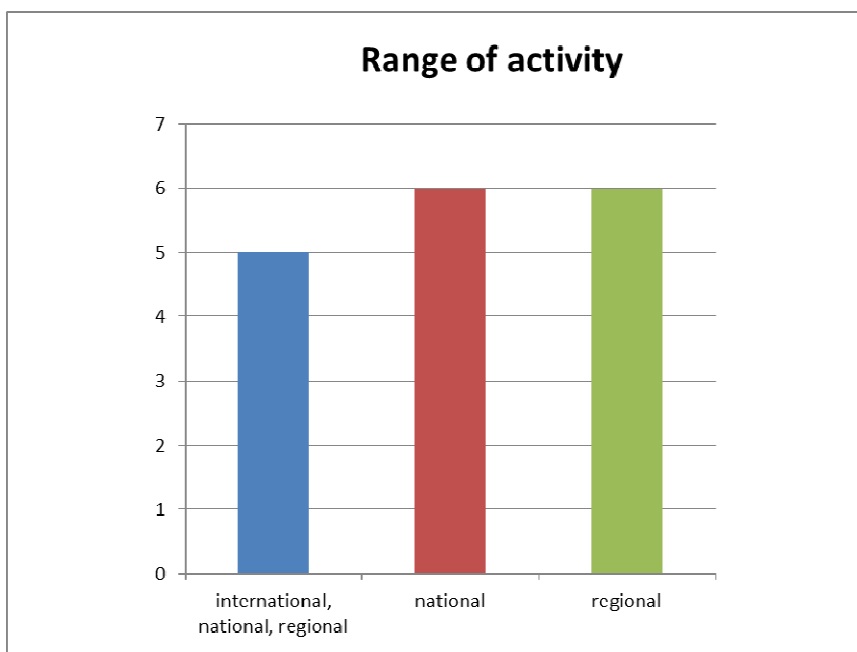
In the analysis Cluster concept was considered close and practically equivalent to “chain of value”, meaning the presence of a self organization or, in the case of institutional supported cluster, a “managing entity” with the prominent or exclusive role of coordinator.

## Range and field of activity



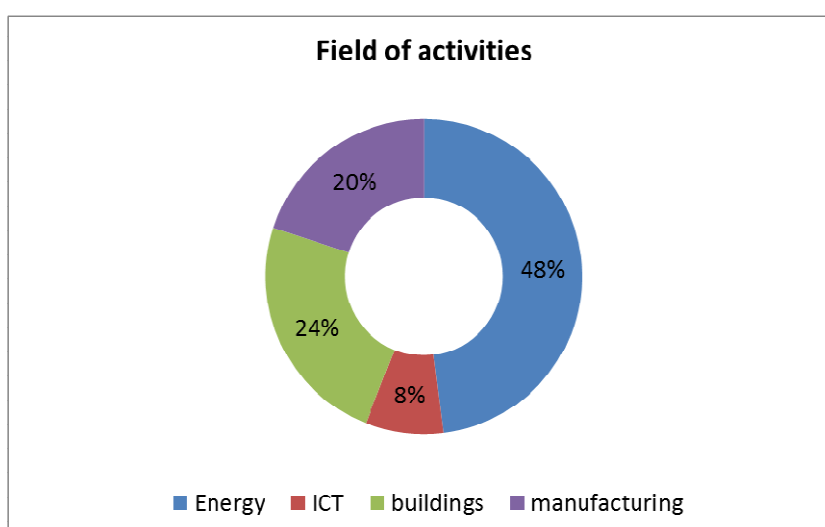
*Picture 15 – Number of clusters analysed per cluster region*

Partner regions (picture 15) identified and analysed 15 clusters. 5 of them (33%) operates at a multi-level range of activity (international/national/regional), while two of the other ones operate both at a national and regional level (picture 16).



*Picture 16 – Range of activity of identified clusters*

Energy is the main field of activity (picture 17), often related to building vocation (many of the identified clusters are specialised in energy efficiency and RES applied to building sector), followed by manufacturing (both building components and product/materials) and ICT.



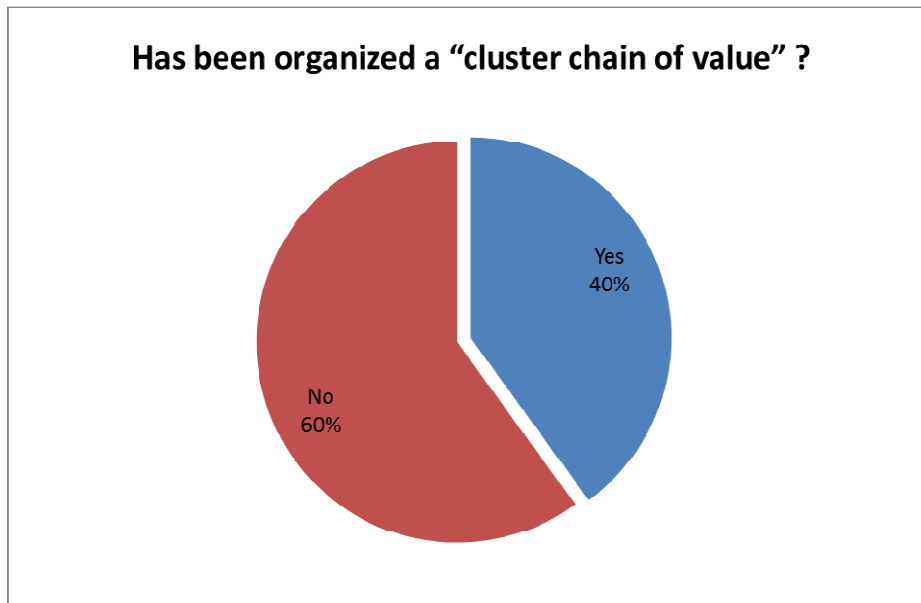
*Picture 17 – Field of activity of identified clusters*



## Analysis and promotion of the chain of value

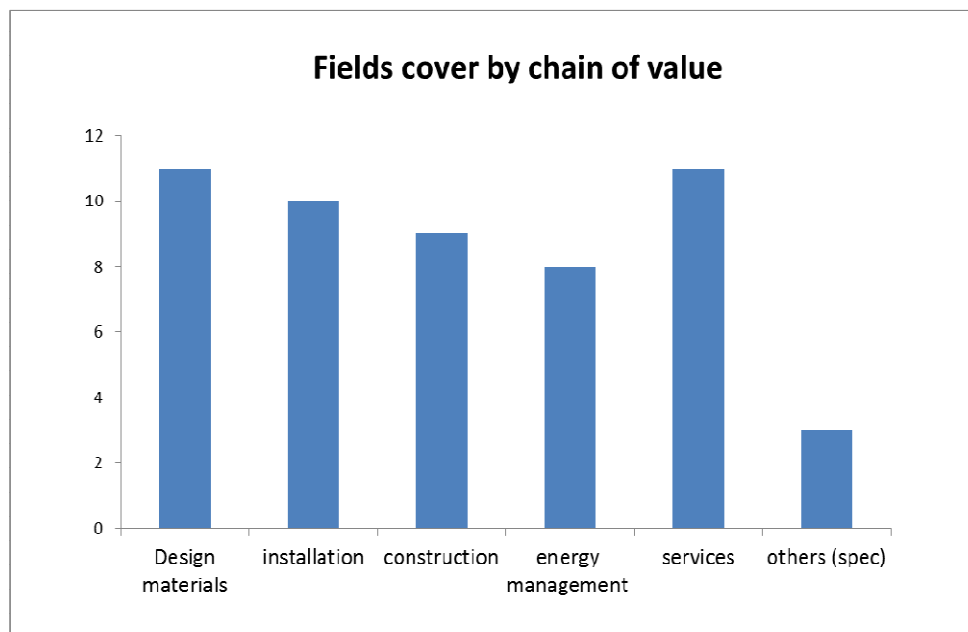
40% of the analysed clusters is organised so to establish and enforce the relations between the subjects along the specific chain of value (picture 18). The quite high percentage (60% of the sample) of clusters that don't implement a cluster chain of value reflects instead the lack of organized chains of SMEs and the fragmented structure of the supply side at all levels.

Clusters could play a significant role in providing actions and services to overcome this barrier.



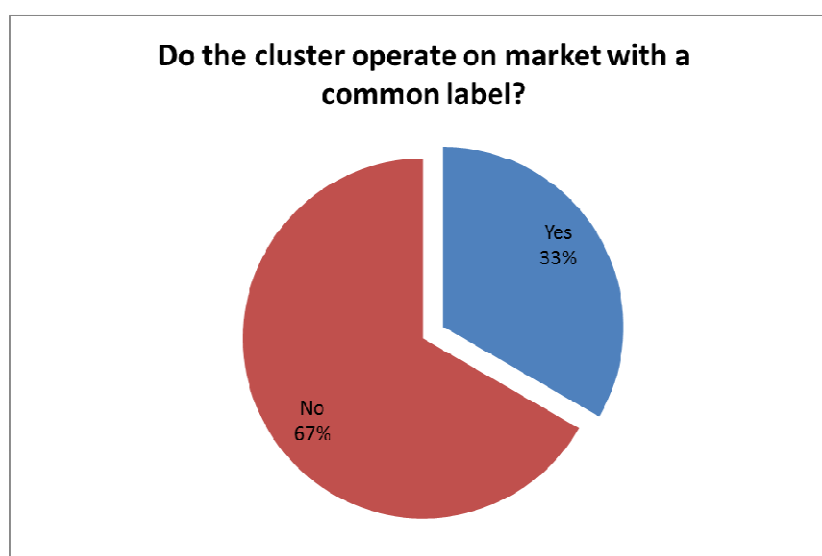
*Picture 18 – % level of organization of “cluster chains of value”*

Most of the clusters (picture 19) represent more than one of the sectors of the chain of value which goes from the research and design activity to the service providers. This aspect is the necessary element to build up a chain of value in to the future.



Picture 19 – Sectors of the chain of value covered by clusters

Sometimes (picture 20) clusters operate under the umbrella of a common label or brand, having a peculiar market strategy in parallel with the ones of its members (non exclusive participation). By the survey carried out contacting clusters at MARIE and EU level, inside the project it has been possible to collect information on their experiences in organizing and offering services, technology and products to local building market.



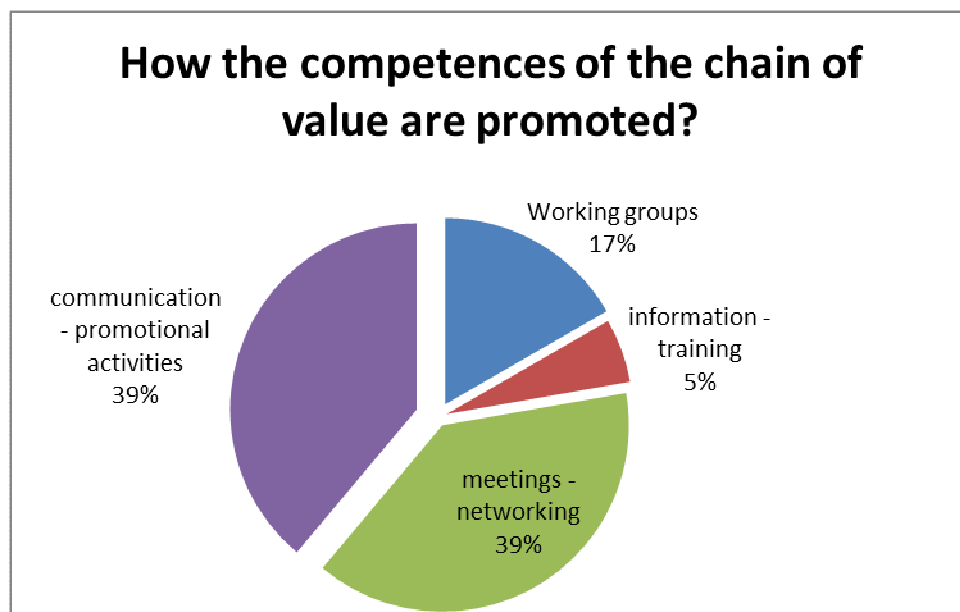
Picture 20 – % of clusters operating with a common label

The competences of SMEs all along the chain of value are promoted by the clusters through different kind of services, in relation to the specific features of the cluster (picture 21).

Networking and promotional activities are the most frequent, in particular where a common brand exists. The promotional activity includes the supply of services to the members (such as verification and testing infrastructures) and other initiatives for the identification and the reinforcement of the cluster role into the identification of the chain of value.

Communication and promotional activities for final consumers or wide information on efficient energy issues is not the main focus of these activities, which are mainly focused on the promotion of members' activities.

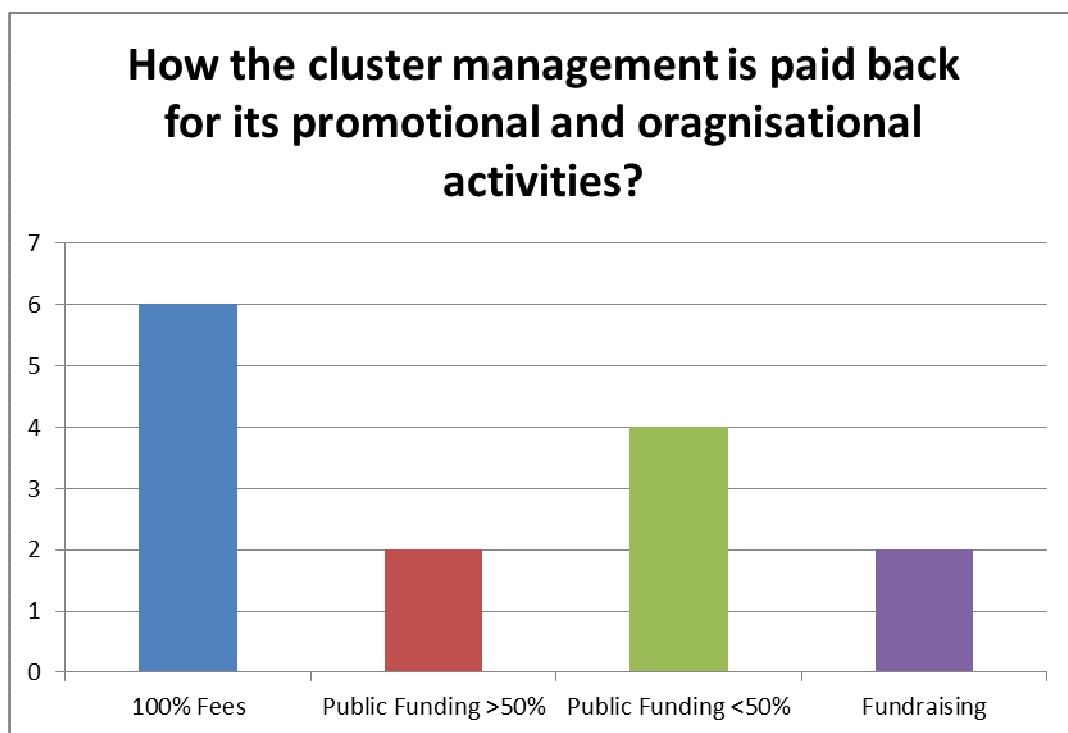
The analysis also shows a lack in training activities, which are instead more and more necessary to face the market challenges on complex issues like the energy refurbishment services one.



*Picture 21 – % distribution of the action adopted for the promotion of the chain of value*

About R&D, those activities are in most of the cases driven by incentives (grants) provided by EU or local/national authorities. The approach to market is only sometimes supported by local programmes, but these initiatives are ideally self organized around the competences of a “cluster management” (sometimes a local agency, but also private institutions or industrial associations) that organise the competences of the cluster and support the “marketing” of the “cluster chain of value” towards local (and international) market, following a specific “business model”.

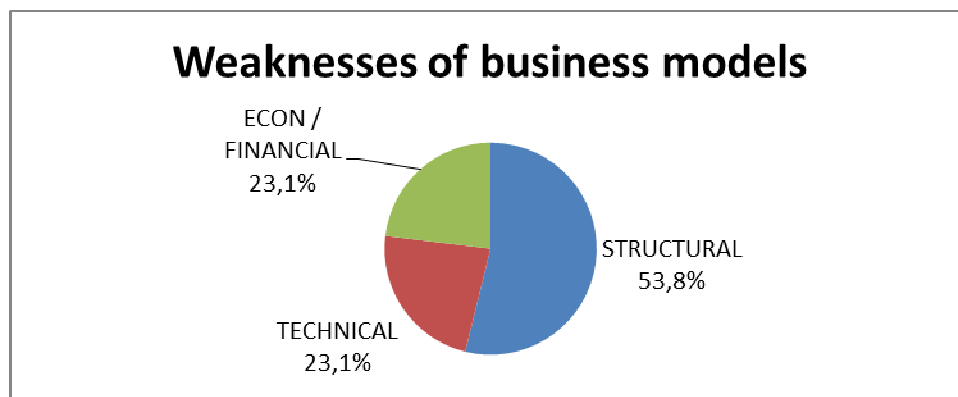
The cluster management is often financed by the members' fee or by a direct fundraising activity. Just for 2 of the analysed clusters the public funding covers more than 50% of financial needs (picture 22).



*Picture 22 – Clusters' management pay back*

## Identification of weaknesses

The results of the analysis evidence some points of weakness declared by the clusters about their business model (picture 23).



*Picture 23 – % distribution of business models' weaknesses*

These weaknesses can be grouped in three categories: economical/financial, structural and technical.

The structural and technical points of weakness regard fundamentally the difficulty in developing capacity of internationalization and innovation, due to the limited size of firms and frequent poor managing capacity and entrepreneurship.

Most SMEs put little emphasis on technological performances and innovation and there's a poor tradition of collaboration with the world of research and academia for the development and use of new technologies and new materials.

Economical issues regard mainly the difficulty to raise the necessary funds for offering services to cluster members and develop projects able to join together all the sectors of the value chain (private firms and research entities) on common activities.

Traditional financial instruments and models are not able to promote and disseminate energy efficiency actions and renovation projects. About this kind of barrier PACA experience presents some interesting good practices in the field of cooperation and organization of coordinated works on the sites and in the valorisation of white certificates market. The energy efficient certificates' market in PACA often represents an opportunity to finance organizing bodies, SMEs networking and marketing tools.



The “ideal model” of a cluster developed, as it has been explained before, around a “complete chain of value”, is mainly absent in the framework of existing clusters working in the building sector for the MED regions analysed by WP5 partners. The present clusters usually address a specific issue and evolve around a specific competence, and that is why the analysis has been spread to involve also clusters of other non-MARIE EU regions, so that it will be possible to understand which are the possible actions that the MARIE project can put in practice to give new market opportunities to local clusters.

## Building sector: drivers, barriers and challenges

---

Building EU market evolution is driven by following major factors:

- Major structural change: there are global challenges able to guarantee a sustainable growth in the medium period, addressing principally to such issues as health and safety, energy efficiency, green building, good indoor climate, and renovation processes and materials, design to fit. If rightly addressed, these challenges could also open new market opportunities in developing countries for the sector.
- Demands for convenience: increasingly clients and users are demanding better performance of constructions. Users expect convenient solutions in the short, medium and long term from the construction sector. Key demands include low maintenance, automation, flexibility, health improving features, optimal environmental integration, etc.
- Regulatory environment: the sector is faced with an increasingly stricter regulatory environment. The challenges concern not only the definition of the regulations but also the effective implementation of these at national level.

Facing these drivers, building sector weaknesses are both related to internal factors, characterizing the value and the supply chain, and others connected with external factors, more related to the market conditions and the demand.

At the end of the analysis we can in particular identify the following categories of barriers:

### *Structural barriers*

- Fragmented structure of the supply side: the construction sector is highly fragmented at all levels, with only very few large construction companies. The participation of enterprises in trade organizations is very low in most Member States, making it difficult to spread good practices. Moreover, poor value chain integration has a negative impact on the potentials of spill over innovation effects from collaboration. This is reflected in large differences between Member States in the competitive performance of the sector.
- Regulation and compliance: standards and certifications lack harmonization across Member States. The lack of adherence of competitors to the regulatory environment provides threats as it may unbalance the EU and global playing field for investors, developers and suppliers of construction products and services.

- Scale of renovation projects: policy makers and public owners could play an important role in the definition of renovation programs and interventions at a “neighbourhood” scale, encouraging experimentation of innovative energy efficient solutions at a larger scale than for individual buildings

### *Technical barriers*

- Poor innovation performance in the sector: there is a need to foster R&D participation, technology transfer as well as non-R&D based innovation through market and employee driven innovation, regrouping firms in networks and clusters to address issues of scale.
- Limited skills in large parts of the sector and poor application of innovative technologies may hinder it in becoming more competitive and in meeting new demands for high performance construction products and services in the market.
- Generic skills such as problem orientation, problem solving, communication, design and entrepreneurial skills - are critical for cross-occupational collaboration in work teams and for exploiting value added creation at the firm level.
- Short term point of view: market and employee driven innovation is poorly deployed due to primary focus on the cheapest price for product (in response to products coming from outside MED region) instead of the economically most advantageous proposal, but also because of poor productivity levels due to scarce deployment of enabling technologies and insufficient use of flexible work organization practices. The sector is missing opportunities to add significant value to the economy.

### *Financial barriers*

- Access to finance and profitability: The financial crisis, delayed payments by clients, ineffective financial management and limited profitability of parts of the construction sector have put strains on the access to finance for the sector. The significant decreases in the value of buildings in Europe and elsewhere had an enormous influence on the access to finance and investors for new construction projects.



- Financing of energy refurbishment projects: ESCO energy refurbishment projects are often too small to guarantee the minimum profit margin necessary to implement interventions

#### *Knowledge barriers*

- Lack in communication: suppliers mainly focus on energy efficiency and technical aspects, instead of considering the global context of the building in terms of comfort and communicate the added value of their products/materials in terms of general comfort for the final customers

#### *Behavioural barriers*

- Refurbishment perception: final users and building designers perceive refurbishment works as intrusive, complex and “annoying”
- Use of refurbishes buildings: traditional and “as usual” way of living and inhabit buildings in MED area is poorly compatible with innovative refurbishment and building solutions, such as BACS (Building Automation and Control System) or other technologies aimed to improve building performance
- Reluctance for collaborative work: “Business as usual” culture and traditional building philosophy hardly matches with the born of new professions and the capacity of working SMEs to change practices in cooperation with professionals

More in detail, the following list of barriers has been identified by partners on the basis of the regional benchmarking analysis on the supply side.

Results of the analysis are still open, and contributes about other clusters completing the template will be elaborated to update final results.

ID	Barrier
<b>STRUCTURAL</b>	
S2	Fragmented structure of the supply side at all levels of the chain of value
S6	Difficult implementation, enforcement and verification of compliance with complex regulations
S11	Renovation projects are usually conceived as renovation of individual buildings, while some of the better solutions may arise at community scale
<b>TECHNICAL</b>	
T1	Poor level of technical innovation in building sector (creation and dissemination of new processes and techniques)
T2	Lack of technical skills and know-how at all levels of the supply side
T3	Lack of generic skills and organized leadership among SMEs to address the refurbishment process
T4	Products from outside MED regions are usually cheaper than the local products
<b>FINANCIAL</b>	
F1	Limited profitability for ESCOs in small energy refurbishment projects
F5	Incapacity of conventional financial instruments to make EE renovations feasible and lack of new/alternative financial models
<b>KNOWLEDGE</b>	
K2	Incomplete, unshared, unstable, spread or asymmetric information on EE issues, the best methodology and solutions, providers of services available
<b>BEHAVIOURAL</b>	
B2	Refurbishment works are intrusive, complex and annoying
B3	Distortion between behavioural requirements for use of refurbished building and MED usual way of life (open windows, mobile sun protections, use of technologies like regulation...)
B5	Reluctance for collaborative work

Those limits could be overcome through specific actions, promoted and supported also by local and EU programmes. According with the competitiveness challenges on the sector, by 2020 a sustainable and competitive European construction sector shall:

- Conceptualize, design, build, operate and transform constructions based on life cycle performance (cost/benefit) and high quality models;
- be an attractive sector to work within providing excellent opportunities for job quality, health and safety, remuneration and career development;
- offer constructions (buildings & infrastructure) tailored to the changing social and economic needs of people, businesses and societies (incl. relevant special needs segments of populations);
- supply new and innovative solutions that meet the demands associated with the global grand challenges (climate, security, etc.);
- be instrumental in the EU reaching its 2050 targets for energy efficiency in buildings;
- reach or go beyond the 70% target for waste recycling;
- meet requirements for quality of inner climate in buildings;
- be an attractive partner to clients in existing and emerging growth markets;
- deliver outstanding economic performance

Local Policies, via the use of the competencies of the clusters, can play a prominent role in the achievement of these goals supporting the competitiveness of the sector and improving quality and productivity with specific programmes aiming to support:

- Access to a qualified labour force;
- access to finance and to new financial models;
- closer customer and end user relations and process innovation;
- "professionalisation" of clients and customers ;
- access to applied R&D and tech trans such as new technologies, materials, smart and eco-efficient solutions and buildings;
- new service models to complement present construction, retrofitting and renovation activities;
- coordination across actors to achieve lean construction;
- orientation towards future growth markets outside the EU.

The following measures were identified to overcome the former identified barriers.

General measures	Target Barriers	Sub-Measures	Pilot Action (PA)
<b>M1 AWARENESS AND MARKETING</b> - publicity campaigns	K2, B3	Communication and marketing campaigns for users	PA 4.1 Pilot Awareness Campaigns for users
		Communication and marketing campaigns for owners and real estate agencies (building managers)	PA 4.2 Pilot Awareness Campaign for owners
<b>M2 TRAINING</b> - qualify human resources and improve customers about ERB	T1, T2	Improve the qualification along the chain of value, from experts to artisans through training courses, seminars and workshops	Training Program (WP2.3) + PA 3.3 - It will test a "compass" which may include: Training, Coaching, Consultancy...
	T3, S2	Give training, tools and information to companies to help them create a demand for "better solutions" for EE in buildings through training courses and workshops	Training Program + PA 3.3 - It will test a "compass" which may include: Training, Coaching, Consultancy... PA 3.2 - evolution of measures and policies at Regional, National and European level
<b>M4 PRIVATE PARTICIPATION</b> Facilitate SME's involvement in MEDBEES	S2	Supply new opportunities to the clusters present in MED regions area, taking into account their differences	PA7 Network of Clusters pilot experience
<b>M5 PLANNING</b> Identify and use urban planning model to organize and promote ERB	S11	Design and determine diagnostic and proposal tools for ERB plans at urban scales	PA1.2 Diagnostic and proposal model
<b>M6 LEGISLATION &amp; REGULATIONS</b> adapt legal framework to facilitate ERB	S6	Innovation in legislation: energy certification, project procedures, works management and monitoring impact	PA1.1 Update, adapt, structure and innovate regional and local regulations and specifications in order to facilitate the EU Directive (2010/31/EU) and the energy renovation of buildings

	T3, F5	Stimulate the Public Sector to become a driver for technological innovation with a correct use of public procurement	PA 3.2 - introduction of LCC methodology in the Public Procurement procedures; PA 3.2 - definition of a new catalogue of prices for Regional public tenders in the field of the building sector
<b>M7 FINANCIAL Design and implement new integrated financial schemes for ERB</b>	F1, F5	Stimulate access to finance through private investment mechanisms at building scale	PA 2.1 Third Party Financing (TPF) mechanisms
	F5	Develop regional investment plans for Energy Building Renovation based on Public-Private partnership mechanisms	PA 2.2 Public Private Partnership (PPP) mechanisms
<b>M8 COMPETITIVENESS</b> - improve the competitiveness of enterprises dealing with ERB	T1, T2, T4	Give SMEs access for applied R&D such as new technologies, materials, smart and eco-efficient solutions for buildings	PA 3.1 - Improve competitiveness and market quota of MED origin cork and wood in the refurbishment sector. PA 3.2 - Use of the LCC for the qualification of the products supplied sector PA 3.2 - Tests in real conditions of innovative products for the building sector
<b>M9 SERVICES-</b> offer better services for enterprises dealing with EE	S2, T3, K2	Dinamization of new and integrated service models to complement present construction, retrofitting and renovation activities, favouring cooperative work and "global" retrofitting (= supply new typologies of services, from "Business to Business" to "Business to Consumer")	PA 3.3 - favouring of a concentration of "B to B" support services (laboratory experience / playfield); PA3.3 linked with PA1.1 and other specific local incentives, communication (on "demand")

## Main conclusions

---

The regional benchmarking analysis on the supply side evidenced a great potential for building products, materials and services related to energy efficiency in the building sector.

As described in the paragraph about drivers, barriers and challenges, innovation processes are certainly more frequent for products and materials than for services, in particular for energy refurbishment services which could represent an important driver for innovation all along the building sector.

Cultural barriers are fundamental in the difficulties to overcome traditional building solutions and products, especially in the sector of heating and cooling more than in the field of electricity.

Numerous already existing public and private initiatives to support SMEs in positioning themselves on the energy renovation and efficiency market for building sector could benefit from a cluster business model approach, capable of organize enterprises along the chain of value and promote supply through commons initiatives and communication instruments (brands).

The results of this analysis could benefit from an enlargement of the network and of the sample of companies participating to the survey, which is desirable all along the project to integrate the Support Measure Program.

## FOCUS - The position in the EU context of MARIE clusters: a benchmark

---

### EU clusters and value chains scoreboard

The following information of building cluster organizations have been extracted from the European cluster observatory (<http://www.clusterobservatory.eu>): the purpose is to compare the situation of MARIE region clusters within the EU context.

European Cluster Observatory measures the degree of agglomeration, which is one driver behind the knowledge spillovers, labor pooling, inter- and intra-industry trade that characterize dynamic and competitive clusters.

Each regional cluster – a combination of a sector and a region – is assigned 0, 1, 2 or 3 stars depending on how many of the criteria below are met. Criterion are the following:

- **Size Star:** if employment reaches a sufficient share of total European employment, it is more likely that meaningful economic effects of clusters will be present. The size measure shows whether a cluster is in the top 10% of all clusters in Europe within the same cluster category in terms of the number of employees.
- **Specialization Star:** if a region is more specialized in a specific cluster category than the overall economy across all regions, this is likely to be an indication that the economic effects of the regional cluster have been strong enough to attract related economic activity from other regions to this location, and that spill-over and linkages will be stronger. The specialization measure compares the proportion of employment in a cluster category in a region over the total employment in the same region, to the proportion of total European employment in that cluster category over total European employment. The minimum degree of specialization is 1.5 (meaning the region is at least 50% “overrepresented” in the industry), and the region must have at least 500 employees in the industry (in order to eliminate high specializations in very narrow industries). The measure needs to be at least 2 to receive a star.
- **Focus Star:** if a cluster accounts for a larger share of a region's overall employment, it is more likely that spill-over effects and linkages will actually occur instead of being drowned in the economic interaction of other parts of the regional economy. The focus measure shows the extent to which the regional economy is focused upon the industries comprising the cluster category and relates employment in the cluster to total employment in the region. The top 10% of

clusters which account for the largest proportion of their region's total employment receive a star.

The scoreboard assigns a value of “specialization” to each cluster in the specific industrial field. These indicators represent the weight and impact of the industrial sector in the region and the degree of organization of the chain of value, in terms of completeness, intra-industry collaboration and market capacities.

### **The MARIE regions cluster specializations**

Construction and building is rarely the main industrial and economical field of activity of MARIE regional clusters.

In a recent publication, the Cluster observatory has created a rank of smart specializations of all existing clusters in all EU regions. For each region, a specific rank of existing cluster organization has been made. In the following table, for each MARIE region are given the following data:

- The main industrial cluster (industrial field in which a chain of value is better organized)
- The position inside the regional rank of building chain of value
- The number of “stars” given by European cluster Observatory (excellence at EU level)
- The sector of building value chain in which each region has more industrial competences and capacities or more representative and organized clusters
- The degree of specialization indicator of the value chain sector (internal organization quality, minimum value 1.5 in a scale up to 30)



Region	#1 cluster	Regional Building cluster		Prominent activity inside building value chain (NACE definition)	Score
		Rank	# of “stars”		
<b>ALENTEJO</b>	construction	1 <sup>st</sup>	2	Cutting, shaping and finishing of ornamental and building stone	5,73
<b>SLOVENIA</b>	metal	2 <sup>nd</sup>	2	Wood manufacuring	2,52
<b>ANDALUCIA</b>	building	1 <sup>th</sup>	2	Building of complete constructions or parts thereof; civil engineering	2,19
<b>CATALUNYA</b>	building	1 <sup>st</sup>	2	Building of complete constructions or parts thereof; civil engineering	2,2
<b>PACA</b>	aerospace	5 <sup>th</sup>	1	Real estate activities on a fee or contract basis	2,2
<b>CYPRUS</b>	tourism	2 <sup>nd</sup>	1	Building of complete constructions or parts thereof; civil engineering	2,13
<b>BASILICATA</b>	automotive	2 <sup>nd</sup>	1	Architectural and engineering activities and related technical consultancy	2,04
<b>D. MACEDONIA</b>	leather	4 <sup>th</sup>	1	Manufacture of articles of concrete, plaster and cement	2,03
<b>PIEMONTE</b>	automotive	6 <sup>th</sup>	2	Building completion	1,95
<b>FRIULI</b>	furniture	2 <sup>nd</sup>	2	Building installation	1,56
<b>LIGURIA</b>	logistics	3 <sup>rd</sup>	1	Architectural and engineering activities and related technical consultancy	1,75
<b>UMBRIA</b>	apparels	4 <sup>th</sup>	1	Building installation	1,7
<b>MALTA</b>	Apparels	5 <sup>th</sup>	1	Manufacture of articles of concrete, plaster and cement	1,82
<b>ATTIKI</b>	building	1 <sup>st</sup>	2	Architectural and engineering activities and related technical consultancy	1,82



## EU cluster benchmark analysis

In the following tables are listed the top EU “three stars ” clusters, as listed by Observatory.

The best organization is represented by an Italian cluster, the Marche footwear district. The average specialization index of the top 100 clusters is 4.41, whilst the median value is around 3.1.

Only 3 cluster have a specialization score higher than 20 points (together with Marche footwear one, a pharmaceutical in Brabant, an aerospace in Midi Pyrenees and Oil in Scotland). Those could represent an ideal model in term of market supply organization, but they don't represent a benchmark useful to position construction sector clusters.

Considering the average score of each economic sector, building is far from the top. Considering the median distribution value (3.1) as a benchmark, building is positioned under this value.

Sector Value chain/cluster	Average score	Sector Value chain/cluster	Average score
Footwear	27,5	Farming and animal husbandry	3,6
Oil and gas	25,2	Metal manufacturing	2,8
Pharmaceuticals	22	Financial services	2,8
Aerospace	17,6	Media and publishing	2,8
Maritime	13,1	Telecom	2,8
Apparel	7,7	Education and knowledge creation	2,5
Furniture	7,6	<b>Building fixtures, equipment and services</b>	<b>2,5</b>
Paper products	6,9	Business services	2,4
Textiles	6,5	Processed food	2,4
Plastics	5,7	Construction	2,4
Tourism and hospitality	5,3	Transportation and logistics	2,4
Production technology	4,6	Distribution	2,3
Automotive	3,9	<b>Whole average score</b>	<b>4,4</b>
IT	3,9	<b>whole average median</b>	<b>3,1</b>

The following table shows the data that have been extracted regarding the “three star clusters” operating in building sector. It is evident that the specialization index is quite far from the overall median and average values of the full cluster sample, and it’s quite similar to the one which characterizes MARIE regions, even if only Alentejo and Slovenian value chain reach an assessment comparable with the top EU building clusters.

Top “three star clusters” in EU – building sector			
country	Region	Sector	Score
Czech Republic	Jihozapad	Building fixtures, equipment and services	2,68
Czech Republic	Severovychod	Building fixtures, equipment and services	2,3
Germany	Detmold	Building fixtures, equipment and services	2,33
Lithuania	Lietuva	Building fixtures, equipment and services	2,4
Portugal	Centro	Building fixtures, equipment and services	2,74
Portugal	Centro	Construction	2,44



The previous figures show the lack of organization of MARIE regional clusters inside the construction market. In comparison with other industrial sectors, the dispersion of competences is high and organization at local level of structured aggregation is weak.

But in comparison with general EU scenario centred on building clusters, the position of MARIE regions seem to be in line with the level of organization of EU “three star” Clusters. Consequently, the low level of organization seems to be more linked to factors affecting the sector itself rather than due to geographical or internal regional ones. For these reasons, following are further investigated barriers that are affecting the creation of organized and structured value chains in this sector.

EU Three Star clusters rank									
Rank	Country	Region	Sector	Score	Rank	Country	Region	Sector	Score
1	IT	Marche	Footwear	27,48	26	SE	Stockholm	IT	4,23
2	UK	NE Scotland	Oil and gas	25,22	27	BE	Brussels	Financial services	4,16
3	BE	Brabant Wallon	Pharmaceuticals	21,96	28	CZ	Stredni Cechy	Automotive	4,07
4	FR	Midi-Pyrénées	Aerospace	17,55	29	DE	Niedersachsen	Automotive	4,02
5	ES	Galicia	Maritime	13,13	30	DE	Oberbayern	Automotive	3,95
6	AT	Tirol	Tourism and hospitality	7,75	31	DE	Niederbayern	Automotive	3,85
7	SE	Norra Mellansverige	Paper products	7,71	32	DE	Kassel	Automotive	3,82
8	PO	Lodzkie	Apparel	7,69	33	DE	Detmold	Production technology	3,75
9	IT	Friuli-Venezia Giulia	Furniture	7,56	34	IT	Emilia-Romagna	Production technology	3,75
10	DE	Tübingen	Production technology	7,32	35	DE	Mittelfranken	Production technology	3,7
11	BE	West-Vlaanderen	Textiles	7,26	36	ES	Galicia	Farming and animal husbandry	3,6
12	PO	Lodzkie	Textiles	6,71	37	ES	Castilla y León	Farming and animal husbandry	3,53
13	SE	Västsverige	Automotive	6,35	38	IR	Ireland	IT	3,43
14	DE	Unterfranken	Production technology	6,13	39	DE	Unterfranken	Automotive	3,39

15	FI	Länsi-Suomi	Paper products	6,1	40	CZ	Severovychod	Automotive	3,36
16	DE	Mittelfranken	IT	6,03	41	DE	Oberbayern	IT	3,35
17	DE	Stuttgart	Automotive	5,97	42	SL	Slovenija	Metal manufacturing	3,34
18	DE	Oberfranken	Plastics	5,74	43	UK	Berks, Bucks and Oxon	Education and knowledge creation	3,32
19	DE	Stuttgart	Production technology	5,59	44	DE	Arnsberg	Production technology	3,31
20	CZ	Severovychod	Textiles	5,44	45	DE	Karlsruhe	IT	3,29
21	FR	Frache-Comté	Automotive	5,41	46	IT	Piemonte	Automotive	3,21
22	DE	Schwaben	Production technology	5,17	47	SE	Stockholm	Telecom	3,17
23	DE	Arnsberg	Metal manufacturing	4,89	48	DE	Karlsruhe	Automotive	3,15
24	DE	Freiburg	Production technology	4,56	49	ES	País Vasco	Metal manufacturing	3,15
25	DE	Karlsruhe	Production technology	4,31	50	AT	Wien	Transportation and logistics	3,08

**EU Three Star clusters rank (follow)**

Rank	Country	Region	Sector	score	Rank	Country	Region	Sector	score
51	DE	Freiburg	Metal manufacturing	3,07	76	UK	E Scotland	Education and knowledge creation	2,39
52	DE	Münster	Production technology	3,04	77	PO	Mazowieckie	Telecom	2,38
53	UK	Inner London	Financial services	3,04	78	FR	Île de France	Financial services	2,37
54	FR	Bretagne	Processed food	3,01	79	DE	Berlin	Education and knowledge creation	2,37
55	UK	Berks, Bucks and Oxon	IT	3,01	80	LT	Lietuva	Construction	2,36
56	FI	Etelä-Suomi/Åland	Telecom	2,96	81	UK	E Anglia	Education and knowledge creation	2,36
57	PO	Lisboa	Business services	2,92	82	DE	Detmold	Metal manufacturing	2,35
58	SE	Stockholm	Business services	2,91	83	UK	Inner London	Education and knowledge creation	2,35
59	IR	Ireland	Tourism and hospitality	2,86	84	DE	Detmold	Building fixtures, equipment and services	2,33
60	UK	Inner London	Media and publishing	2,8	85	UK	Beds and Herts	Business services	2,31
61	PO	Centro	Building fixtures, equipment and services	2,74	86	CZ	Severovychod	Building fixtures, equipment and services	2,3



62	DE	Darmstadt	Financial services	2,69	87	UK	W Midlands	Automotive	2,3
63	CZ	Jihozapad	Building fixtures, equipment and services	2,68	88	ES	Valencia	Distribution	2,29
64	AT	Wien	Telecom	2,64	89	DE	Hamburg	Distribution	2,27
65	PO	Mazowieckie	Education and knowledge creation	2,64	90	IT	Veneto	Metal manufacturing	2,26
66	UK	Inner London	Business services	2,59	91	FR	Pays de la Loire	Processed food	2,24
67	IT	Lombardia	Metal manufacturing	2,55	92	UK	Hants and Isle of Wight	Business services	2,1
68	AT	Wien	Financial services	2,54	93	UK	Outer London	Business services	2,07
69	DE	Düsseldorf	Metal manufacturing	2,47	94	DE	Stuttgart	Metal manufacturing	2,05
70	IT	Marche	Metal manufacturing	2,46	95	UK	E Scotland	Financial services	2,05
71	PO	Centro	Construction	2,44	96	UK	Outer London	Transportation and logistics	2,04
72	UK	Berks, Bucks and Oxon	Business services	2,44	97	IT	Lazio	Transportation and logistics	2,02
73	IT	Piemonte	Metal manufacturing	2,43	98	UK	Surrey, E and W Sussex	Business services	2,02
74	FR	Lorraine	Automotive	2,4	99	UK	W Yorks	Education and knowledge creation	2,01
75	LT	Lietuva	Building fixtures, equipment and services	2,4	100	LT	Lietuva	Processed food	2

## **FOCUS - The main environmental labels in the building sector**

---

As part of its ISO 14000 series of environmental standards, the International Standards Organisation (ISO) has drawn up a group of standards specifically governing environmental labeling.

The ISO 14020 family covers three types of labeling schemes:

- Type I: multi-attribute labels developed by a third party;
- Type II: single-attribute labels developed by the producer (see ISO 14021);
- Type III: eco-labels whose awarding is based on a full life-cycle assessment.

Certification standards for obtaining labels can also be divided in two different groups:

- “Threshold” type standards: the certification body establishes the minimum requirements to get the environmental label
- “Score” type standards: the certification body defines a number of factors which are verified and checked to obtain the score necessary to get the label

This focus aims to describe some of the main environmental labels adopted in the building sector, as a way to promote innovative, sustainable and environmentally performing products and services provided by SMEs.

The review includes the labels adopted by SMEs identified in WP5 RBA by regional partners.

## **European Ecolabel**

**ISO 14020 Type:** 1

**Website:**

[http://ec.europa.eu/environment/ecolabel/ecolabelled\\_products/product\\_categories\\_en.htm](http://ec.europa.eu/environment/ecolabel/ecolabelled_products/product_categories_en.htm)

**Geographical level:** European, according with Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009



**Scope:** Light bulbs, Heat Pumps. Criteria are under development for the following product groups: buildings, heating systems

## **Main features of the label**

### **Light bulbs Ecolabel**

The product group "light sources" shall comprise all light sources of a luminous flux  $\geq 60$  and  $\leq 12000$  lumens for general lighting applications with direct or indirect connection to the public electricity supply equipped with a lamp cap listed in EN 60061 and made in order to produce a visible radiation.

The Ecolabelled product must respect the following criteria:

- The product has a life span of between 5 and 9 years (10,000 hours), i.e. ten times longer than incandescent light bulbs
- It will consume five times less electricity than an incandescent light bulb
- It will not flicker when switched on
- It contains very little mercury
- It uses at least 65% recycled packaging
- It is guaranteed to light at 70% or 90% after 10,000 hours depending on type of bulb

For more information:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011D0331:EN:NOT>

### Heat pumps Ecolabel

The Ecolabelled product must respect the following criteria:

- The product has improved energy efficiency during heating and cooling modes.
- The product reduces or prevents the risks for the environment and for human health related to the use of hazardous substances.
- The product has a lower global warming impact.
- It contains instructions for correct environmental use.

For more information:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0742:EN:NOT>

### Buildings Ecolabel

EU is currently implementing a pilot study on developing an EU Ecolabel and Green Public Procurement (GPP) criteria for "Buildings". This study is being carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS).

The purpose of this pilot project is to develop an EU Ecolabel that awards the best environmental performance buildings and GPP criteria to promote an environmentally-friendlier public consumption. The EU Ecolabel for buildings will allow consumers to identify the officially kinder environmental products easily and manufacturers to show and communicate to their costumers that their products respect the environment, giving a competitive advantage and overcoming barriers to trade at a European level.

The EU Ecolabel and GPP criteria for Buildings will consist on environmental criteria. The criteria will be based on scientific assessment studies of the environmental impacts of the building for each part of its life cycle (e.g. LCA studies) and consider different environmental aspects such as air quality, water quality, soil protection, waste reduction, energy savings, natural resource management, GWP, ozone layer protection, environmental safety, noise and biodiversity. Moreover, the EU Ecolabel and GPP criteria should be agreed at European level, following wide consultation with experts.

For more information:

<http://susproc.jrc.ec.europa.eu/buildings/>



### Heating Systems Ecolabel

A pilot study is being carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS). The work is being developed for the European Commission's Directorate General for the Environment.

The purpose of this pilot project is to develop a joint evidence base from which EU policy making in the area of heating systems can be developed. In this project, EU Ecolabel and Green Public Procurement criteria will be devised for heating systems. In addition, the evidence base will gather information and data to assist the potential future development of other environmental policy instruments such as Implementing Measures under the Ecodesign Directive.

The development of a joint evidence base to inform the development of the three different policy instruments (Ecolabel, GPP and Ecodesign) is in line with the approach of the European Commission to ensure policy coherence and compatibility and to improve efficiency.

For more information:

<http://susproc.jrc.ec.europa.eu/heating/>

## **ISO 50001 – Energy management systems**

**ISO 14020 Type:** 1

**Website:** [www.iso.org](http://www.iso.org)

**Geographical level:** International

**Scope:** ISO 50001:2011 is applicable to any organization wishing to ensure that it conforms to its stated energy policy and wishing to demonstrate this to others

### **Main features of the label**

ISO 50001:2011 specifies requirements for establishing, implementing, maintaining and improving an energy management system, whose purpose is to enable an organization to follow a systematic approach in achieving continual improvement of energy performance, including energy efficiency, energy use and consumption.

It specifies requirements applicable to energy use and consumption, including measurement, documentation and reporting, design and procurement practices for equipment, systems, processes and personnel that contribute to energy performance.

It applies to all variables affecting energy performance that can be monitored and influenced by the organization. ISO 50001:2011 does not prescribe specific performance criteria with respect to energy.

ISO 50001:2011 has been designed to be used independently, but it can be aligned or integrated with other management systems.

## **EPD International System**

**ISO 14020 Type:** 3

**Website:** [www.environdec.com](http://www.environdec.com)



**Geographical level:** International

**Scope:** Construction products and construction services

### **Main features of the label**

An environmental declaration, is defined, in ISO 14025, as quantified environmental data for a product with pre-set categories of parameters based on the ISO 14040 series of standards, but not excluding additional environmental information.

To be able to fulfill high market expectations for a number of practical applications, EPDs have to meet and comply with specific and strict methodological prerequisites. These expectations include the possibility to add up LCA-based information in the supply chain and to compare different EPDs. To achieve this goal, common and harmonized calculation rules have to be established to ensure that similar procedures are used when creating EPDs.

Groups of products usually differ in their inherent environmental performance requiring specific rules to the product group, so-called Product Category Rules (PCR) to be prepared. The PCR documents shall be regarded as complementary to general requirements of EPD programs.

PCR and a PCR Basic Module actually exists for construction products and construction services. These documents can be used as a basis for the development of the PCR for specific products/services.

A PCR for buildings is actually under development.

Creating an EPD in the international EPD®system includes the following steps:

1. Consider available PCRs and prepare PCR document
2. Collecting LCA-data to be included in the EPD
3. Compiling environmental information into the EPD reporting format
4. Verification
5. Registration

## **LEED**

**ISO 14020 Type:** 1

**Website:**

<http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>



**Geographical level:** International

**Scope:** Building projects

### **Main features of the label**

LEED certification provides independent, third-party verification that a building, home or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

LEED points are awarded on a 100-point scale, and credits are weighted to reflect their potential environmental impacts. Additionally, 10 bonus credits are available, four of which address regionally specific environmental issues. A project must satisfy all prerequisites and earn a minimum number of points to be certified.

The Green Building Certification Institute (GBCI) administers LEED certification for all commercial and institutional projects registered under any LEED Rating System. USGBC administers the development and ongoing improvement of the LEED rating systems. USGBC is also the primary source for LEED and green building education and resources for project teams, such as reference guides, rating system addenda, workshops, online trainings and other tools to help you achieve success on your LEED project.

Building types that are eligible for certification include – but are not limited to – offices, retail and service establishments, institutional buildings (e.g., libraries, schools, museums and religious institutions), hotels and residential buildings of four or more habitable stories.

Although USGBC does not certify, promote, or endorse products and services of individual companies (products and services do not earn projects points), products and services do play a role and can help projects with credit achievement.

A credit interpretation ruling that sets precedent for LEED rating systems prior to LEED 2009 determined that products certified under the Institute for Market Transformation to Sustainability's rating system may qualify a project for an Innovation in Design credit.



## **SBMethod**

**ISO 14020 Type:** 1

**Website:** <http://www.iisbe.org/sbmethod>

**Geographical level:** International

**Scope:** Building projects

### **Main features of the label**

SBMethod is a multicriteria evaluation methodology developed and managed internationally by iiSBE.

SBMethod fundamental principle is to quantify, through a score of performance, the level of sustainability of a building than the typical construction practices in the region geographical reference, defined as a benchmark.

The method provides a framework for the structuring of hierarchical levels: areas of assessment categories and criteria. Each of these is also equipped with a weight that determines its importance relative to others.

The SBMethod provides for the aggregation of the scores of the criteria through a weighted sum, in order to obtain a final value that allows the classification of the building on a scale from -1 to +5. The weighted scores obtained with respect to each criterion are added together to determine that those in categories, in turn combined to determine those areas and performance. The weighted sum of the latter determines the final score of the building.

To make the assessment of a building, SBMethod takes shape in an instrument, **SB Tool**, which is the operational realization.

## **HQE Batiment**

**ISO 14020 Type:** 1

**Website:** <http://assohqe.org/hqe/>

**Geographical level:** National

**Scope:** Building projects



### **Main features of the label**

The aim of “HQE Batiment” label is to improve the environmental quality of new and existing buildings, that is to say, to offer safe and comfortable works whose impacts on the environment, assessed on the entire life cycle, are the most HGV possible. This is a multi-criteria optimization approach that relies on a fundamental: a building must meet before any use and provide a suitable living environment for its users.

The HQE has three inseparable components:

- An environmental management system of the operation (EMS) where the client sets its objectives for the operation and the precise role of different actors.
- 14 targets which help to structure the answer technical, architectural and economic objectives of the client.
- Performance indicators

Principles of the HQE:

- Targets are set by the client as part of its program.
- The management system can mobilize all stakeholders to achieve the objectives.
- No architectural and technical solution is required: the choice is justified and appropriate to the context.
- Creating a healthy and comfortable indoor environment while minimizing environmental impacts is sought.
- The performance is evaluated.



## **EUCEB – European Certification Board for Mineral Wool Products**

**ISO 14020 Type:** 1

**Website:** <http://www.euceb.org/index.cfm>

**Geographical level:** European, according with REGULATION (EC) No 1272/2008 of the European parliament and of the council

**Scope:** mineral wool insulation products manufactured by EUCEB members

### **Main features of the label**

EUCEB is a voluntary initiative by the mineral wool industry. It is a certification authority that guarantees products meeting the exoneration criteria for any carcinogenicity classification (Note Q of Regulation (EC) No 1272/2008). To ensure that fibres comply with the exoneration criteria, all tests and supervision procedures are carried out by independent and qualified experts and institutions.

The following steps have to be accomplished before the EUCEB Trademark can be awarded:

- Initial application for the right to use the Trademark
- Legal Undertaking
- Manufacturers Declaration
- Contract with Sampling Institute on test material sampling and monitoring of self-control
- Exoneration certificate of the Biopersistence test
- Short term Biopersistence test report
- Confirmation of scientific expert that the fibre complies with EUCEB-exoneration criteria of 15-04-2005
- Report of Analysis Institute on initial conformity inspection
- Confirmation of scientific expert that initial conformity inspection complies with EUCEB range of exonerated fibres

## **WP5**

### **REGIONAL BENCHMARK ANALYSIS FOR THE SUPPLY SIDE**

#### **ANNEX 1**

#### **SURVEY ON LOCAL INNOVATIVE SMEs**

#### ***CONTRIBUTIONS BY PARTNERS***

## CATEGORY

### BUILDING ENVELOPE AND COMPONENTS

Partner	Sub category	SME's denomination
Catalunya Region	Insulation	Texlosa Ursa
	Envelope construction materials	Greentex Extensive Systems MecanoGumba Facanes Intel-ligentes
Regione Piemonte	Insulation	Nesocell STP
	Doors, windows and transparent components	Fresia Alluminio
	Envelope construction materials	Denaldi Legnami Gallina VASS TEchnologies
	Interior materials and components	AT Marmo Service BUZZI Unicem Vimark
AREA Trieste	Insulation	PATT
	Envelope construction materials	Pontarolo Engineering
IASA	Insulation	ALUMIL GK Rizakos Fibrex Hellas ISOMAT Dow Hellas Polykem Viopol
	Doors, windows and transparent components	Machos glass Thermoglass
	Envelope construction materials	Nano4life Abolin co. Egreen
University of Evora	Insulation	Isocor Lusomapei
	Doors, windows and transparent components	Macica
	Envelope construction materials	Neoturf Secil

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	TEXSA S.A.
	C/ferro, 7 Pol.ind. Can Pelegrí -08755 Castellbisbal, Barcelona
	Spain
	(34) 936351400
	www.texsa.com
	info@texsa.com

<b>Concept</b>	TEXLOSA / GREENTEX SYSTEMS: -Thermal Insulation aportation - Rain water control, redution of water flow in evacuation urban system
----------------	--

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> Service: advisory and selling products.
--------------------------------------	---

<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Easy application, allows future jobs without complications, accept small and medium solar instalations (fotovoltaics/solar water)
---------------------------	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i> Ciudad de la Justicia - Barcelona Centro del diseño de Barcelona Centro Cultural Ágora - Coruña Centro CIES - Madrid Santiago Airport - Coruña
	Facultad de Educación Universidad de Alicante
	Biblioteca municipal de Tres Cantos - Madrid

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
--------------------------------------	--

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )

<b>Present market distribution/availability</b>	X	local
	X	regional
	X	national
	X	EU
		worldwide

<b>Potential or future market distribution</b>		local
		regional
		national
		EU
	X	worldwide

<b>Main purchaser profiles</b>	X	builders
	X	installer
		ESCO and utilities
		building owners and tenants
	X	building designers and engineerss
		Real estate companies
		Public authorities
	X	others (spec): distributors

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information ) TEXLOSA: Instituto Eduardo Torrojade la construcción - DIT Tests on drainages: Institute de recherche hydraulique

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	TEXSA S.A.
	C/ferro, 7 Pol.ind. Can Pelegrí -08755 Castellbaisbal, Barcelona
	Spain
	(34) 936351400
	www.texsa.com
	info@texsa.com

<b>Concept</b>	TEXLOSA / GREENTEX SYSTEMS: -Thermal Insulation aportation - Rain water control, redution of water flow in evacuation urban system
----------------	--

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> Service: advisory and selling products.
--------------------------------------	---

<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Easy application, allows future jobs without complications, accept small and medium solar instalations (fotovoltaics/solar water)
---------------------------	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i> Ciudad de la Justicia - Barcelona Centro del diseño de Barcelona Centro Cultural Ágora - Coruña Centro CIES - Madrid Santiago Airport - Coruña
	Facultad de Educación Universidad de Alicante
	Biblioteca municipal de Tres Cantos - Madrid



<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
--------------------------------------	--

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )

<b>Present market distribution/availability</b>	X local
	X regional
	X national
	X EU
	worldwide

<b>Potential or future market distribution</b>	local
	regional
	national
	EU
	X worldwide

<b>Main purchaser profiles</b>	X builders
	X installer
	ESCO and utilities
	building owners and tenants
	X building designers and engineerss
	Real estate companies
	Public authorities
	X others (spec): distributors

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )
	TEXLOSA: Instituto Eduardo Torrojade la construcción - DIT
	Tests on drainages: Institute de recherche hydraulique

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	URSA Ibérica Aislantes	
	Avda. de la Vega, 15, bloque 2, 2º	
	Spain	
	+34 915 949 000	
	<a href="http://www.ursa.es">www.ursa.es</a> <a href="mailto:webmaster.ursaiberica@uralita.com">webmaster.ursaiberica@uralita.com</a>	
Concept	URSA GLASSWOOL is suitable to avoid the energy loss through the building envelope. Especially indicated to buildings without insulation, with condensation problems or in the cases with thermal and acoustic problems	
Product/ service descriptions	Glasswool is an inorganic substance used mainly for insulation. The unique set of properties of glasswool products provides an incomparable combination of thermal and acoustic insulation, coupled with outstanding fire protection	
Innovative aspects	Glasswool is an insulation material that provides thermal and acoustic insulation	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	Different projects in Spain and Portugal with a high level of insulation to achieve a high energy efficiency .	
Specific answer to MED aspect	The Glasswool is a material with high thermal and acoustic performances. With the same product the buildings obtains thermal and acoustic confort.	
Applications in Energy efficient building	Insulation in facades, pitched roofing, ceilings, internal walls...	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<p>Reference to buildings with URSA Glasswool:  <a href="http://www.ursa.es/obra-referencia-lana-mineral-de-vidrio-ursa.htm">http://www.ursa.es/obra-referencia-lana-mineral-de-vidrio-ursa.htm</a> and in the URSA catalogues:  <a href="http://www.ursa.es/Documentaci%C3%B3n_catalogos.htm">http://www.ursa.es/Documentaci%C3%B3n_catalogos.htm</a></p>
---------------------	--

<b>other information</b>	<p>CE Mark  Aenor Certificate  EUCEB (European Certification Board for Mineral Wool Products)  Declaración Ambiental Tipo III DAPc to Panel Fieltro P0051  Ecoetiqueta Tipo I</p>
--------------------------	---

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	URSA Ibérica Aislantes	
	Avda. de la Vega, 15, bloque 2, 2º	
	Spain	
	+34 915 949 000	
	<a href="http://www.ursa.es">www.ursa.es</a> <a href="mailto:webmaster.ursaiberica@uralita.com">webmaster.ursaiberica@uralita.com</a>	
<b>Concept</b>	URSA Terra is suitable to avoid the energy loss through the building envelope. Especially indicated to buildings without insulation, with condensation problems or in the caseds with thermal and acoustic problems.	
<b>Product/ service descriptions</b>	Mineral Wool is an inorganic substance used mainly for insulation. The unique set of properties of mineral wool products provides an incomparable combination of thermal and acoustic insulation, coupled with outstanding fire protection	
<b>Innovative aspects</b>	Mineral Wool is an insulation material that provides thermal and acoustic insulation	
<b>maturity of the product</b>	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
<b>Applications in Energy efficient building</b>	Different projects in Spain and Portugal with a high level of insulation to achieve a high energy efficiency	
<b>Specific answer to MED aspect</b>	The Mineral Wool is a material with high thermal and acoustic performances. With a single product the buildings obtains thermal and acoustic confort.	
<b>Applications in Energy efficient building</b>	Insulation in facades, pitched roofing, ceilings, internal walls	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	Reference to buildings with URSA TERRA in the URSA TERRA catalogue: <a href="http://www.ursa.es/Documentaci%C3%B3n_catalogos.htm">http://www.ursa.es/Documentaci%C3%B3n_catalogos.htm</a>
---------------------	--

<b>other information</b>	CE Mark
	Aenor Certificate
	EUCEB (European Certification Board for Mineral Wool Products)
	Declaracion Ambiental Tipo III DAPc to Panel Fieltro P0051 Ecoetiqueta Tipo I

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	URSA Ibérica Aislantes
	Avda. de la Vega, 15, bloque 2, 2º
	Spain
	+34 915 949 000
	<a href="http://www.ursa.es">www.ursa.es</a> <a href="mailto:webmaster.ursaiberica@uralita.com">webmaster.ursaiberica@uralita.com</a>

<b>Concept</b>	URSA Air is suitable to avoid the energy loss through the air conditioning ducts
----------------	--

<b>Product/ service descriptions</b>	URSA Air is a mineral wool product used to insulate metal ducts or to make mineral wool ducts. The unique set of properties of mineral wool provides an incomparable combination of thermal and acoustic insulation, coupled with outstanding fire protection.
--------------------------------------	--

<b>Innovative aspects</b>	The mineral wool duct URSA AIR provides thermal and acoustic insulation in the air distribution, with one of the best absorption acoustic in the market
---------------------------	---

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )
--	--

<b>Specific answer to MED aspect</b>	The mineral wool duct URSA AIR is a material with high thermal and acoustic performances, it's not necessary to insulate the duct as in a traditional metal ducts that lose energy
--------------------------------------	--

<b>Applications in Energy efficient building</b>	Different projects in Spain and Portugal with URSA AIR ducts to achieve a high energy efficiency in the air conditioning instalation
--	--

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<p>Reference to buildings with URSA AIR : <a href="http://ursa.es/obras-referencia-conductos-ursa-air.htm">http://ursa.es/obras-referencia-conductos-ursa-air.htm</a> and in the URSA catalogues: <a href="http://ursa.es/Documentaci%C3%B3n_catalogos.htm">http://ursa.es/Documentaci%C3%B3n_catalogos.htm</a></p>
---------------------	---

<b>other information</b>	<p>CE Mark Aenor Certificate EUCEB (European Certification Board for Mineral Wool Products) Ecoetiqueta Tipo I</p>
--------------------------	--

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	URSA Ibérica Aislantes	
	Avda. de la Vega, 15, bloque 2, 2º	
	Spain	
	+34 915 949 000	
	<a href="http://www.ursa.es">www.ursa.es</a> <a href="mailto:webmaster.ursaiberica@uralita.com">webmaster.ursaiberica@uralita.com</a>	
Concept	URSA XPS is suitable to avoid the energy loss through the building envelope. Especially indicate to buildings without insulation, with condensation problems or in the cases with thermal and acoustic problems.	
Product/ service descriptions	URSA XPS is the insulation material that exclusively combines high thermal insulation, exceptional compressive strength, excellent resistance to water and freeze thaw cycles, and easy installation	
Innovative aspects	XPS is a material with very good thermal insulation, very high resistance to moisture penetration, very low vapor permeability, very high resistance to freeze thaw cycles, very high compressive strength, very easy to use and install, proven long term performance and is resistant to mold and corrosion.	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input type="checkbox"/> mature market	
Applications in Energy efficient building	Inverted roof, Insulation in the perimeter in contact with the ground, ETICS Systems	
Specific answer to MED aspect	URSA XPS is a material with high thermal performance and high compressive strength	
Applications in Energy efficient building	Different projects in Spain and Portugal with a high level of insulation to achieve a high energy efficiency	



<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	Reference to buildings with URSA XPS: <a href="http://www.ursa.es/obras-de-referencia-xps-ursa.html">http://www.ursa.es/obras-de-referencia-xps-ursa.html</a> and in the URSA catalogues: <a href="http://www.ursa.es/Documentaci%C3%B3n_catalogos.htm">http://www.ursa.es/Documentaci%C3%B3n_catalogos.htm</a>
---------------------	---

<b>other information</b>	CE Mark AENOR Certificate EPD to EXIBA (Extruded Polystyrene Foam Insulation)
--------------------------	---

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	<b>MecanoGumba</b>	
	C/Facundo Bacardí, 19-21. 08100 Mollet del Vallès	
	Spain	
	935 707 227	
	<a href="http://www.mecanogumba.com/">http://www.mecanogumba.com/</a> <a href="mailto:cjarque@mecanogumba.es">cjarque@mecanogumba.es</a>	
<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i>  Ventilated façade system brand KARRAT S-7, energy saving inside the building	
<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>  Ventilated chamber tempers the outer walls of the building protecting from the direct outer environment conditions.	
<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>  watertight, easy access, very easy to repair.	
<b>maturity of the product</b>	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> <b>mature market</b>	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>  in Winter heating system saving in Summer Climate cold system saving	
<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>  Winter : temperatures up to -10°C and Summer: up to +45°C	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>  	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>	
	tested according Technical Building Code - CTE part I and II	
	tested according Guide DITE 034 (ETAG) for building	
	www.itec.cat - Mecanogumba Certification of Idoneity	
	D.A.U link	

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class.), LCA, Others relevant infos )</i>	
	Certification of Product DAU number 10/065 -A	
	certification of Product DIT number 353-R	

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name "FAÇANES INTEL·LIGENTS"
	address Josep Pla 2. B3. P.Baixa. 08019 Barcelona
	nation España
	telephone 34 933 560 980
	web site <a href="http://www.clustereficiencia.org">www.clustereficiencia.org</a>
	email <a href="mailto:info@clustereficiencia.org">info@clustereficiencia.org</a>

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>Improving energy efficiency in the envelopes of the new or refurbished buildings, with implementation of passive systems and / or active systems automating their operation and adapting to external and internal conditions of building.</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>Working group, consisting of several companies seeking transversality and complementarity (engineering, product and systems companies, builders, installers control systems) for integred studies where they can develop innovative projects.</p>
--------------------------------------	--

<b>Innovative aspects</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>It includes a process which contain, energy prediagnosis and diagnosis of existing building, viability studies, simulations, projects, support management and subsidies, pilot testing, monitoring and analysis, knowledge management</p>
---------------------------	---

<b>maturity of the product</b>	<input checked="" type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i></p> <p>Projects for energy refurbishment of existing buildings or new buildings of energy high efficiency.</p>

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) Integrated service
--------------------------------------	--

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
<input type="checkbox"/> others (spec)	

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: NESOCELL Srl
	address: Via Banna, 33
	BALANGERO (TO)
	nation: Italy
	telephone: +39 0123 323489
	web site: <a href="http://www.nesocell.it">www.nesocell.it</a>
	email: <a href="mailto:info@nesocell.it">info@nesocell.it</a>

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i>
	<p>Nesocell production process uses cellulose scraps from paper mills and offers an innovative and environment-friendly product: insulating cellulose flakes, auto-extinguisher and durable, used to improve the thermal and acoustic insulation of your home and reach high levels of energy savings. With the use of Nesocell insulating material blown in the cavity walls of existing buildings it's possible to obtain significant energy savings that can reach up to 60-70% of the costs of winter heating.</p>

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>
	<p>cellulose coming from paper-mills scraps.</p> <p>The production process is internationally patented and allows Nesocell to propose a natural and recycled product characterized by excellent performances even beyond the level reached by synthetic products.</p> <p>Nesocell is a Spin-Off of the Politecnico di Torino, Technical University with which collaborates closely for researches in the area of sustainability and waste to energy applications.</p> <p>Nesocell cellulose flakes can be used to insulate walls, roofs and attics, both in new constructions and in the retrofit of existing buildings.</p> <p>The installation is a fast, clean and not-invasive operation that can be carried out from the inside or the outside face of the building.</p> <p>Nesocell insulating materials are natural and, due to the patented production process, are composed by high-quality and high-purity cellulose. Nesocell cellulose flakes are guaranteed 50 years and are free from Boron compounds and press inks.</p> <p>The Nesocell carbon-foot-print is definitively positive: each 1 Kg o</p>

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
	Easy installation	
	Fast installation	
	Thermal insulation and energy efficiency, with lower energy consumption in both summer and winter	

<b>maturity of the product</b>	<input type="checkbox"/>	R&D phase
	<input type="checkbox"/>	Prototype
	<input checked="" type="checkbox"/>	early market
	<input type="checkbox"/>	mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )	
	Thermal insulation in cavity wall	

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
	Insulation in new construction as an alternative to wood wool in the vast existing building in cavity wall	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineerss
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )



<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: STP S.r.l.
	address: Via XX Settembre, 17
	10121 Torino
	nation: Italy
	telephone: +39 0113 716745
	web site: <a href="http://www.stpellegrini.com">www.stpellegrini.com</a>
	email: <a href="mailto:stpellegrini@stpellegrini.com">stpellegrini@stpellegrini.com</a>

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>The proposed system, called "Cappotto Attivo" (active external wall insulation), is the use of heat pumps with a distribution system for heating / cooling built into the external wall insulation, precisely "active", not only stopping the activities of ination. In fact the system is designed so that an innovation to the function of thermal and acoustic insulation combines the heating and cooling the building.</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>The proposed system, called "Cappotto Attivo" (active external wall insulation), is the use of heat pumps with a distribution system for heating / cooling built into the external wall insulation, precisely "active", not only stopping the activities of ination. In fact the system is designed so that an innovation to the function of thermal and acoustic insulation combines the heating and cooling the building.</p> <p>The "Cappotto Attivo" allows you to consolidate all situations of heat loss in a simple and economical, as it has the distinction of being the more powerful the more dispersive the building is to heal. Working from outside to inside, plays both a function of thermo-acoustic insulation, equal to the solutions currently on the market but the value added, is the complete elimination of traditional heating and cooling systems.</p> <p>The system can save energy and money by far superior to the technologies available on the market.</p> <p>The basic product consists of a classical system of thermal insulation made of prefabricated panels to be applied to vertical surfaces dispersants external opaque building. At the surface in c</p> <p>The system works, in conjunction with thermorefrigerator central, In winter the average temperature of the fluid, equal to about 25 ° In summer, the plant offers the possibility to cool the environment</p>
--------------------------------------	--

<b>Innovative aspects</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <ul style="list-style-type: none"> <li>• Complete renovation of the plant without the need for building operations within the building;</li> <li>• ease of installation without the need for very specialized workforce;</li> <li>• high efficiency of heat pumps in both summer and winter (COP&gt; 6)</li> <li>• drastic reduction in the proportion of winter losses (-35%) and summer heat loads (-25%) due to the reduction of heat transfer through the walls opaque vertical external dispersants;</li> <li>• Elimination of thermal bridges;</li> <li>• Environmental benefits on comfort with the attenuation of thermal spikes due to changes in external climate;</li> <li>• Competitive cost of the "Cappotto Attivo", quantifiable among those ventilated coat, about 120 € / m<sup>2</sup> and those of the conventional insulation around 25 € / m<sup>2</sup></li> <li>• ability to apply outside of the "Active Coat" means any coating as a function of specific architectural requirements;</li> <li>• strong impact on employment in terms of production and installation of the system.</li> </ul>
---------------------------	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )</i></p> <p>external wall insulation</p>

<b>Specific answer to MED aspect</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>The "Cappotto Attivo" allows you to consolidate all situations of heat loss in a simple and economical, as it has the distinction of being the more powerful the more dispersive the building is to heat.</p>

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<p><i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i></p>
	<p>A first prototype of this innovative technology is being developed in Trieste, Padriciano Campus in AREA Science Park, use of a building used as guest quarters and laboratories.</p> <p>In the calculations performed, the application of the "Cappotto Attivo", the current situation will lead to reductions of more than 35% of heat loss in winter and 25% of summer heat loads. The annual saving of thermal energy is equal to 53% primary, while on the environmental front we see a 100% reduction of CO2 emissions and at the local level. This is due to the replacement of traditional boilers with heat pumps at very low temperature, about 25 °C.</p>

<b>other information</b>	<p><i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i></p>

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Fresia Alluminio SpA
	address: Via Reiss Romoli, 267
	TORINO
	nation: Italy
	telephone: +39 011 2250243
	web site: <a href="http://www.fresiaalluminio.it">www.fresiaalluminio.it</a>
	email: <a href="mailto:info@fresiaalluminio.it">info@fresiaalluminio.it</a>

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i>
	NEO62 Planet, the first frame that is constructed entirely with recycled aluminum and polyamide bars. ITACA and LEED® certified.

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>
	<p>The NEO Planet 62 is a sustainable product, which retains its outstanding performance and durability and reliability, using recycled aluminum, reclaimed and bars polyamide thermoplastic to replace EPDM gaskets.</p> <p>Particular attention is paid to energy saving: Neo Planet 62 has last generation coplanar tubular polyamide bars able to maximize the performance of thermal insulation.</p> <p>The bars of polyamide regenerated ECOGRIP are the first product made with 70% of industrial waste material and 30% of virgin polymer.</p>
	<p>Neo Planet 62 is the first window twice which has been certified sustainable traceability of blood components as the regulatory requirements contained in the protocols of GBC (Green Building Council) LEED ® certification for the building and the ITACA 2011Protocol.</p> <p>The product was tested by an external advisor, which has carried out a test, compared with a specification previously communicated by the company.</p> <p>At the same time is able to provide credits MR4 (Materials Recycling), arising from the use of recycled products, according</p>

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	High thermal insulation
	Possibility of improving the thermal insulation thanks to a dedicated polyethylene gasket to be inserted in the seat area of the glass
	Thermal insulation of window normalized with two doors Uw value of 1.6 W/m2K with glass Ug 1.0 W/m2K

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )
	Doors and windows frame

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
--------------------------------------	--

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input checked="" type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input checked="" type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input checked="" type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Denaldi legnami s.a.s.
	address: Strada San Giovannino 2/D
	15033 Casale Monferrato AL
	nation: Italy
	telephone: 800.217031
	web site: <a href="http://www.denaldi.it">www.denaldi.it</a>
	email: <a href="mailto:info@denaldi.it">info@denaldi.it</a>

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>A growing environmental awareness requires the search for <b>new types of human settlement</b>, which have to be <b>ecological, temporary, stand-alone</b>, reversible, perfectly integrated in the <b>landscape</b> with a <b>zero life cycle impact</b> on the territory. An eco-settlement Woodbox is the flexible answer to a new way of living, working, relaxing and have holidays.</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>Woodbox is a design studio and production laboratory of eco-settlements.</p> <p>Woodbox system is entirely prefabricated and consists of interior wooden modules, and external parametric surface made up of wooden frames. Internal units are modular and combinable in different ways, varying their structure and skin according to design data (climate data, site, ecc). Flexible series of modules and external surface determine the final configuration of the interior spaces. Thanks to the users personalization is possible to define claddings, interior and exterior facilities.</p> <p>All the components are entirely prefabricated and delivered to the final site by the transport.this allow a fast installation and activation, even in extreme locations such as settlements on the trees, water or rock. Modules foundations are completely reversible and made up of metal supports or trailer truck.</p> <p>Woodbox system may be implemented to design tree houses. Unit, made up of internal living modules and external deck, is functionally and structurally integrated to the existing tree.</p> <p>Woodbox system is performed using a parametric design technique</p>
--------------------------------------	--

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	MODULARITY
	HIGH PREFABRICATION
	INTEGRABILITY
	EASY OF TRANSPORT
	QUICK SET-UP AND DISASSEMBLY
	CUSTOMIZATION

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )
	building prefabbrication

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	With few adjustments, a woodbox unit fits on many different uses, being configured internally according to specific functions and being placed in the most suggestive places.

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide



<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineerss
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input checked="" type="checkbox"/>	Private customers

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Dott. Gallina
	address: Strada Carignano, 104
	LA LOGGIA (TO)
	nation: Italy
	telephone: +39 011 9628177
	web site: www.gallina.it
	email: info@gallina.it

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>Modular system of polycarbonate panels with 7 coextruded walls (thickness of 40mm), aluminium profiles, accessories and opening windows, designed for simple and versatile use</p>
----------------	--

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>arcoPlus®347-547 is a modular system of polycarbonate panels with 7 coextruded walls (thickness of 40mm), aluminium profiles, accessories and opening windows, designed for simple and versatile use</p> <p>arcoPlus® 347-547 can be used for roofing applications with a minimum slope of 7%.</p> <p>Vertical transparent walls/roofing composed of modular multiwall coextruded polycarbonate panels, U.V. protected on the outside; 40mm thick on the entire section. Thermal transmission coefficient <math>K=1,1 \text{ W/m}^2\text{K}</math>, obtained through air chambers inside the panel (six).</p> <p>The polycarbonate used for modular panels and sheets is a thermoplastic techno-polymer obtained by polycondensation of bisphenol and phosgene. Our products are obtained through an extrusion process and feature excellent mechanical properties (crash resistance), optical properties (transparency) and thermal properties (heat insulation).</p>
--------------------------------------	---

<b>Innovative aspects</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <ul style="list-style-type: none"> <li>Easy and low-cost installation</li> <li>Light transmission</li> <li>Solar factor</li> <li>Resistance to U.V. rays and to hail</li> <li>Heat insulation</li> </ul>
---------------------------	---

maturity of the product	<input type="checkbox"/>	R&D phase
	<input type="checkbox"/>	Prototype
	<input type="checkbox"/>	early market
	<input checked="" type="checkbox"/>	mature market

Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )
	building envelope

Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	Products arcoPlus®347-547 are obtained through an extrusion process and feature excellent mechanical properties (crash resistance), optical properties (transparency) and thermal properties (heat insulation).

Present market distribution/availability	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

Potential or future market distribution	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

Main purchaser profiles	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<p><i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i></p> <p>"Palazzo Vallecas 51" –MADRID – Spain</p>

<b>other information</b>	<p><i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i></p> <p>Avis Technique (CSTB - France)</p> <p>Allgemeine bauaufsichtliche Zulassung DIBt Z-10.1-480 (Germany)</p>

<b>Identification of SME settled in</b>	SME name: Vass Technologies
	address: Via Sommariva 35/5 Carmagnola (TO)
	nation: Italy
	telephone: +39 011 0767541
	web site: <a href="http://www.vasstech.it">www.vasstech.it</a>
	email: <a href="mailto:info@vasstech.it">info@vasstech.it</a>

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i>
	High-tech roofing for buildings. Puzzlerooft is standardized, modular and prefabricated

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>
	<p>Vass Technologies offers a modular solution for roofing, Standardized and Prefabricated, whose basic was introduced in market under the brand Puzzle Roof TM . Each module is complaint to the layers of a traditional roof from matchboard to wooden strips that hold roof tiles, and also includes a technical housing .</p> <p>On site roof installation is made fixing modules on the bearing structure, like pieces of a jigsaw puzzle, therefore PuzzleRoofTM , simply coupling modules and fixing screws.</p> <p>Design is thought to go beyond traditional roofing idea, offering modules versions, besides the basic one, with embedded functionalizations, like: photovoltaic panels, solar thermal system, roof window, lighting system, audio speakers, current taps, switches and much more under development.</p> <p>Since roof deeply affects thermal features of the building, it has been spent lot of attention during module design and development , especially concerning energy saving. Company's goal is the greatest adaptability and reliability under varying environmental conditions.</p> <p>Up to now the most insulated basic module has a 0.15 W/mqK the</p>

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	Fast implementation
	Flexibility
	Integration with renewable energy: photovoltaics, solar thermal
	Integration with functional elements: lighting, skylights, speakers, electrical outlets
	Sustainability

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )
	solution for roofing

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )

<b>Present market</b>	<input checked="" type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i>

<b>Identification of SME settled in</b>	SME name: A.T. MARMO SERVICE srl
	address: Via Motto Scarone 14 Suno (Novara)
	nation: Italy
	telephone: 3356156424
	web site: <a href="http://www.atmarmoservice.it">www.atmarmoservice.it</a>
	email:

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i>
	Paint coating for internal and external, structured to achieve with a single incident energy savings and a good quality of life at extremely competitive costs.

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>
	<p>ECOTHERMO PAINT is a painting ecoattiv insulation, natural anti-mold, sanitizing air ionizer.</p> <p>ECOTHERMO PAINT is a paint coating for internal and external, structured to achieve with a single incident energy savings and a good quality of life at extremely competitive costs.</p> <p>This painting is the result of many studies in the field of nano materials and includes many technologies that make it a revolutionary product.</p> <p>Through the use of ceramic hollow ECOTHERMO PAINT lets you conserve energy from 3 to 6%, reduces thermal bridges and distributes heat evenly and indoors.</p> <p>ECOTHERMO PAINT decontamination, clean air and avoid the fouling of the surface with the ability and antibacterial ionizing the minerals that create a barrier against the adhesion to the surfaces of all organic and inorganic particles.</p> <p>Surfaces treated with ECOTHERMO PAINT function as heat shield, sound, antibacterial and prevent the deposition of dirt, are self-cleaning, ionize and maintain clean air / clean.</p>



<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	Energy saving
	Riduction of thermal bridge of building
	Antibacterial surface
	Air cleaning by natural ionisation

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )
	protection, recovery and restoration of buildings

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	recovery of historic buildings

<b>Present market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input checked="" type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

<b>Identification of SME settled in</b>	SME name: BUZZI UNICEM S.p.a.
	address: Via Luigi buzzi,6 CASALE MONFERRATO (AL)
	nation: Italy
	telephone: +39 0142 416111
	web site: www.buzziunicem.it
	email: info@buzziunicem.it

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i>
	SACEMENT is an hydraulic binder based on sulfo-aluminate cement with low environmental impact and reduced CO2 emissions

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>
	<p>SACEMENT is a hydraulic binder consists entirely of clinker ground-based sulfur-calcium aluminate (CSA or Yeliminite). And 'characterized by features such as high performance development of the initial mechanical strength and a very low shrinkage.</p> <p>Compared to the production of portland cement (the main hydraulic binder used in the world), the production cycle of SACEMENT allows a reduction of CO2 emissions, and lower energy consumption, by virtue of the lower firing temperatures and a more favorable grindability sulfo aluminate clinker.</p> <p>SACEMENT is particularly suitable for construction works that require a fast finishing works (roads, railways), but also for the precast concrete industry, where it can be completely avoided the ripening of hot objects and can be drastically reduced all processing times resulting in increased productivity.</p> <p>SACEMENT is a solution for those who wish to use a profitable solutions with low environmental impact and high performance and extended durability</p>

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	low environmental impact
	reduced CO2 emissions
	Initial development of high mechanical strength
	low hygrometric shrinkage

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	Compared to the production of portland cement (the main hydraulic binder used in the world), the production cycle of SACEMENT allows a reduction of CO2 emissions, and lower energy consumption, by virtue of the lower firing temperatures and a more favorable grindability

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

<b>Present market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos)</i>

<b>Identification of SME settled in</b>	SME name: VIMARK Srl
	address: Strada Spartafino, 2
	12016 PEVERAGNO (Cn)
	nation: Italy
	telephone: +39 011 383800
	web site: www.vimark.com
	email: info@vimark.com

<b>Concept</b>	(Short description of energy efficiency problems or barrier that this product could help to overcome)
	Creation of macroporous dehumidifying for the restoration of walls subject to the phenomenon of rising damp

<b>Product/ service descriptions</b>	(What is , how does it work and a brief technical specification )
	<p>Risancalce is a natural macroporous plaster, steel fiber, made from pure natural hydraulic lime, designed for the protection, recovery and restoration of masonry also breathable heterogeneous brick, tufa rock, natural stone, subject to the phenomenon of humidity to rise capillary. This is a specifically formulated, ready to use, with high permeability to water vapor diffusion and suitable for the realization of restoration cycles of walls marred by rising damp.</p> <p>For its properties and natural colors, ranging from light beige to brown, is a product particularly suitable for work on buildings of historical interest and artistic interventions or environmentally friendly green building.</p>

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	Is a product particularly suitable for work on buildings of historical interest and artistic interventions or environmentally friendly green building

<b>Present market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> building owners and tenants
	<input type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )
	Palazzina di Caccia, Stupinigi (TO) Castello Sforzesco Visconteo, Novara Sinagoga, Cherasco (CN) Torre medievale, Montefano (MC) Castello di Sinio, Sinio (CN) Palazzo Chigi, Siena

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Category	Global Energy refurbishment services : design services, building work services
Sub category	
	<input type="checkbox"/> Energy advisors
	<input type="checkbox"/> Conception – diagnostic (architects, engineers)
	<input checked="" type="checkbox"/> Building work (SME, handcrafters)
	<input type="checkbox"/> Turn-key building work coordinator
	<input type="checkbox"/> Building work and management with energy savings commitment
Identification of main innovative solutions used in MED area (products and services)	1. Heat recovery ventilation systems
	2. Domotics systems
	3. Shading devices
	4.
	5.
	6.
Identification of SMEs which produce these innovative solutions specifying the geographical context (MED area-UE-extra UE)	1. Clivet (Italy), Hoval (Liechtenstein), Pluggit (Germany)
	2. Bticino (Italy), Nice (Italy)
	3. Griesser (Italy)
	4.
	5.
	6.
Brief sum up of Business as Usual in MED AREA for the category in a refurbishment context	1. EPS insulation
	2. Stone wool insulation
	3. Wood fibre insulation



# Technical Report

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: <b>Pontarolo Engineering spa</b>
	Address: Via Clauzetto, 20 Z.I. Ponte Rosso San Vito al Tagliamento (PN)
	Nation: Italy
	Telephone: +39 0434 857010
	web site: <a href="http://www.pontarolo.com">www.pontarolo.com</a>
	email: <a href="mailto:lineaverde@pontarolo.com">lineaverde@pontarolo.com</a>
<b>Concept</b>	<p><b>Climablock</b></p> <p>The construction technology is based on expanded polystyrene (EPS) formwork blocks, which are just 2% material and 98% air. The system replaces the common brick, making it possible to cast the concrete inside the disposable formwork within a very short space of time. It has been calculated that 1 square metre of masonry can be completed in around 32 minutes, including the casting, reinforcement and scaffolding.</p> <p>The system consists of various elements (linear, angular, curved, height adjusters) comprised of two expanded polystyrene (EPS) panels facing each other and connected by webs so as to create an air gap (a gap between the surfaces) suitable for receiving the concrete casting. The polypropylene (PP) webs have been specifically developed and tested so that they can withstand the concrete casting. They are positioned at regular intervals in order to prevent the polystyrene panels from being subjected to excessive compression and deformation. The webs have specific spaces for positioning the horizontal reinforcement, on which the vertical reinforcement is connected, as per the building design. This makes it possible to create monolithic reinforced concrete structures, ideal for meeting the requirements of the Seismic Regulation Decree 3274/2003.</p> <p>The top of the panels feature a number of teeth (grooves) for facilitating and guiding the joints between the various panels: the particular design ensures that none of the cement mortar leaks out between the joints during the casting phase. The system is therefore based on a number of elements which can be joined together rapidly to form a polystyrene formwork able to receive the cast concrete and allow it to set. By remaining in place, these elements also ensure that the wall has a high degree of thermal insulation.</p> <p>The system guarantees a high standard of thermal insulation and is even able to ensure a U-value (thermal transmittance) of 0.14 W/m<sup>2</sup>K, so as to meet even the strictest requirements imposed by new legislation in the sector, following the adoption of the Kyoto Protocol (February 2005). "Thermoneutrality" of the walls is thus obtained, creating comfortable conditions and restricting irritating hot and cold sensations indoors.</p> <p>The precise and effective connection between the blocks, achieved thanks to the numerous interlocking plugs, and the presence of particular elements that complete the range of components, ensure that insulation is continuous even at the wall/roof junction, thereby preventing the formation of thermal bridges within the structure. The system also guarantees a high standard of soundproofing, exceeding the levels required by current legislation.</p>
<b>Product/ service descriptions</b>	A construction technology that can be used to construct buildings, including multistorey buildings, for residential and public use, designed to meet high energy efficiency criteria in order to save resources, both during construction and during the maintenance and management of the building.

	<p>Use of this construction system is quick and not overly demanding for construction workers due to the fact that each block weighs around 3 kg and is grey in colour to help prevent reflections that could tire the eyes. In addition, it also allows a significant reduction in energy consumption in both summer and winter. Buildings constructed with this device offer both passive insulation (thick insulation, excellent at reducing heating consumption in winter) and thermal inertia (solid masonry, guaranteed by the presence of concrete, thereby permitting excellent performances during summer when energy consumption for air conditioning purposes is reduced thanks to the phase shift action, which lasts up to 9 hours, and the damping of the thermal wave by the masonry). The construction system also makes it possible to eliminate steps in the construction process, as it comprises both a formwork for containing the concrete casting as well as insulation of the structure. Main characteristics:</p> <ul style="list-style-type: none"> <li>• Thermal insulation and energy efficiency</li> <li>• Lightweight</li> <li>• Quick to install</li> <li>• No thermal bridges</li> <li>• Anti-seismic</li> <li>• Excellent soundproofing</li> <li>• High perceived levels of living comfort</li> <li>• Long-lasting</li> <li>• Low maintenance</li> </ul>
<b>Innovative aspects</b>	<p>The construction system can be used to construct buildings in reinforced concrete, with insulation in both walls, in order to achieve passive insulation and thermal inertia, using a single block of smaller dimensions than that which can be achieved using traditional construction systems. This construction method permits considerable time/cost savings in installation, savings in the materials used, adaptability of the product to the project, high-performance insulation, variable thicknesses, and simple finishing and plant engineering processes. In particular, it is characterised by:</p> <ul style="list-style-type: none"> <li>• Easy installation: the system is extremely easy to install manually. It does not require the use of specialist labour or specific equipment. The individual blocks connect effectively and with precision, thanks to the numerous interlocking plugs.</li> <li>• Lightweight: for safe and easy movement by hand, with no need for problematic unloading and loading operations as required by other systems.</li> <li>• Speed of installation: very fast device handling and installation times.</li> <li>• Thermal insulation and energy efficiency that exceed levels guaranteed by traditional systems, with lower energy consumption in both summer and winter.</li> <li>• No thermal bridges.</li> <li>• Soundproofing power, with high noise-reducing capacity of the walls.</li> <li>• Anti-seismic.</li> </ul>
<b>Maturity of the product</b>	R&D phase
	Prototype
	<input checked="" type="checkbox"/> Early market
	Mature market

<p><b>Applications in Energy efficient building</b></p>	<p>The EPS formwork system has been used in various different constructions. Below are two buildings which have received the energy certification “Classe A di CasaClima” (Climate House Class A).</p> <p>Detached house in the municipality of Sesto al Reghena (Pordenone): This detached dwelling is formed of two intersecting volumes, which make it possible to optimise the relationship between the internal and external spaces, including as a function of sun exposure. The configuration of the volumes creates areas shaded by protruding and overhanging sections of the structure itself, while also providing for large windows so as to maximise the capture of solar energy. Thanks to the high level of insulation (the wall insulation is 24 cm thick), the warmth from the sun and the internal heat are never dispersed, making it possible to heat the house with a small low temperature heating system. The structure of the house is made from reinforced concrete, using the EPS formwork block technique (Innovation Award 2007), which reduces both installation times and costs.</p> <p><b>MASONRY AND FORMWORK BLOCKS</b></p> <p>Any kind of construction system can be used to build a “CasaClima” (ClimateHouse), using either traditional or innovative technology. The formwork blocks are hollow modular elements made from insulating material (EPS), into which the reinforced concrete is cast, directly on site. A wall of this type has an internal and external layer of insulating material which, together with the use of special connecting and joining elements, helps to prevent thermal bridges within the construction. THERMAL INDEX OF THE BUILDING: 25 kWh/m2a</p> <p>Residential complex in Opicina (Trieste): "A Klass Residence" is a small estate of detached and semidetached houses with a “CasaClima A” certification. The estate is located on the Trieste karst plateau, not far from the town of Opicina. From an architectural point of view, the characteristic elements of the rural karst setting interact with modern features, which are also designed to save energy, such as the compact forms of the buildings and the large windows that characterise the main facades. The buildings make the most of the solar energy available through the windows that characterise the main facades. The buildings make the most of the solar energy available through the windows, whilst also restricting thermal dispersion thanks to the thermal insulation provided by the EPS formwork blocks, of between 12 and 24 cm thick, and the heat recovery provided by the controlled ventilation system. THERMAL INDEX OF THE BUILDING: from 18 to 25 kWh/m2a</p>
<p><b>Specific answer to MED aspect</b></p>	<p>The construction system can be used to construct buildings in reinforced concrete, with insulation in both walls, in order to achieve passive insulation and thermal inertia, using a single block of smaller dimensions than that which can be achieved using traditional construction systems. This construction method permits considerable time/cost savings in installation, savings in the materials used, adaptability of the product to the project, high-performance insulation, variable thicknesses, simple finishing and plant engineering processes.</p>
<p><b>Applications in energy efficient building</b></p>	
<p><b>Present market distribution/availability</b></p>	<p><input type="checkbox"/> local</p>
	<p><input type="checkbox"/> regional</p>
	<p><input type="checkbox"/> national</p>
	<p><input checked="" type="checkbox"/> EU</p>

	<input type="checkbox"/> worldwide
<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	EU
	<input checked="" type="checkbox"/> worldwide
<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> buidels
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> Building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)
<b>Case studies</b>	<p>The product applied on site was tested by means of a Blower-Door Test carried out at a detached house built in Sesto al Reghena (Pordenone).</p> <p>Results obtained: Air change rate (n50) achieved at 50 pascal</p> <p>In accordance with the European Standard UNI EN 13829, Method A N50 = 0.77 1/h; Sound testing performed on the same building</p> <p>SOUND TESTING PERFORMED BY MR ABATE</p> <p>Standard facade sound insulation index equivalent to D2m,nT,w 47dB &gt; 40 dB required by law for residential buildings</p> <p>Apparent sound proofing power of the roof equivalent to R'w 56 dB &gt; 50 dB required by law for residential buildings</p> <p>Thermographic surveys carried out by internal personnel using a thermal imaging camera.</p>
<b>Other information</b>	<p>The product has a CE marking and has also undergone fire resistance tests, compression tests, thermal conductivity tests and screw extraction tests that are needed to test the brackets making up the block (<a href="http://www.pontarolo.com/GBR/pro-cbk02da.html">http://www.pontarolo.com/GBR/pro-cbk02da.html</a>).</p> <p>The company is currently working towards ETA certification for the product. (Certification (i.e. ecolabels, energy efficiency class, etc.), LCA, other relevant info)</p>

Category	Building envelope and components
Sub category	<input checked="" type="checkbox"/> Insulation
	<input type="checkbox"/> Doors, windows and transparent envelop components
	<input type="checkbox"/> Envelop Construction materials and components (other than insulations)
	<input checked="" type="checkbox"/> Interiors materials and components (other than furniture, including paints)
Identification of main innovative solutions used in MED area (products and services)	1. Radiant plasterboard
	2. Radiant metal
	3.
	4.
	5.
	6.
Identification of SMEs which produce these innovative solutions specifying the geographical context (MED area-UE-extra UE)	1. Permasteelisa Impianti srl- FCC Planterm Division (Italia)
	2. Giacomini spa (Italia)
	3.
	4.
	5.
	6.
Brief sum up of Business as Usual in MED AREA for the category in a refurbishment context	1. Foam insulation
	2. Insulation with stone wool systems
	3. Insulation with wood fibre systems

# Technical Report

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: <b>Patt spa</b>
	Address: Via Udine, 40 33040 Attimis (UD)
	Nation: Italy
	Telephone: +39 0432 976259
	web site: <a href="http://www.pattspa.it">www.pattspa.it</a> email: <a href="mailto:ap@pattspa.it">ap@pattspa.it</a> , <a href="mailto:info@pattspa.it">info@pattspa.it</a>
<b>Concept</b>	<p><b>Climacustic</b></p> <p>Climacustic® is a modular ceiling system consisting of 60x60 cm or 60x120 cm panels. The modules are made from an MDF panel with melamine facing in a range of colours, an internal coil made from PeRT tubing, an aluminium sheet and a 35 mm thick EPS insulating layer, coupled to the MDF panel. Ceiling installation is quick and easy. Unlike traditional radiant air-conditioning systems, Climacustic® improves comfort levels thanks to its sound-deadening properties.</p> <p>Often we are plunged into an atmosphere so noisy that conversation is made very difficult, if not impossible. In order to avoid this discomfort, the main parameter to be kept under control is reverberation, which is the sound tone that lasts for a certain period of time in the environment even after the source has ceased emitting sound. Climacustic® panels make it possible to contain the reverberation time within optimum levels, on the basis of the requirements of the various places of use (offices, theatres, restaurants, schoolrooms), guaranteeing an ideal level of communication and acoustic comfort.</p>
<b>Product/ service descriptions</b>	<p>Radiant system for heating in the winter, cooling in the summer and an optimal acoustical environment: all in a single panel. Improved comfort thanks to an even temperature distribution and an almost total absence of thermal stratification, resolving the problem of acoustic pollution extremely effectively.</p> <p>The radiant system inside the panel makes it possible to heat the room more evenly than with traditional systems, without an unhealthy circulation of air, and with very significant energy savings.</p> <p>The same radiant system can be used to cool the room in summer, without creating draughts, and again with significant energy savings.</p> <p>Sound-deadening design.</p> <p>Laboratory-tested acoustic performance in a reverberation chamber constructed in accordance with the international standard ISO 354, which provides a precise and highly detailed series of parameters and prescriptions relating, above all, to the physical characteristics of the test environment (volume, proportions and finish of the surfaces).</p>
<b>Innovative aspects</b>	<p>The first panel in the world to combine the functions of a radiant system with those of a sound-deadening system, reducing noise pollution and improving levels of comfort and communication in the room.</p> <p>Reverberation under control.</p> <p>A clean, distinct sound.</p> <p>Greater comfort with reduced consumption:</p> <ul style="list-style-type: none"> <li>-Better heating: running costs are reduced due to the low temperature of the thermal carrier fluid and a low thermal inertia that allows fast run-up times. The</li> </ul>

	<p>average temperature of the surfaces surrounding room occupants is more even than that obtained with air-based systems.</p> <p>In traditional convection systems, on the other hand, the continuous upward movement of air carries heat up to the ceiling and causes dust and bacteria to circulate. The temperature in the room is not even and the level of thermal comfort is lower.</p> <p>-Room cooling during summer months, in conjunction with a system for controlling the humidity of the air, providing advantages similar to those of winter operation. Energy is largely exchanged by means of radiation and without any movement of air. The average temperature of the surfaces surrounding room occupants (floor, walls and ceiling) is lower than that obtained with air-based cooling systems, leading to direct benefits in terms of comfort.</p> <p>Controlled ventilation.</p>
<b>Maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> Early market
	<input type="checkbox"/> Mature market
<b>Applications in Energy efficient building</b>	The system is used in buildings that have been conceived and designed with radiant systems and therefore with low temperature water production, such as geothermal probes, solar and photovoltaic panels.
<b>Specific answer to MED aspect</b>	Radiant system for heating in the winter, cooling in the summer and an optimal acoustical environment.
<b>Applications in energy efficient building</b>	
<b>Present market distribution/ availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide
<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide
<b>Main purchaser</b>	<input checked="" type="checkbox"/> installer

<b>profiles</b>	<input checked="" type="checkbox"/> buidelrs
	<input checked="" type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> Building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec): SMEs which produce domotics systems and appliances
<b>Case studies</b>	
<b>Other information</b>	



Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	ALUMIL S.A.	
	Kilkis Industrial Area, Stavrochori, P.O. 611 00	
	Greece	
	(+30 23410) 79300-306	
	<a href="http://www.alumil.com">http://www.alumil.com</a> <a href="mailto:info@alumil.com">info@alumil.com</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Protects against thermal losses and condensation, increasing thermal comfort and reducing energy consumption</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>KELYFOS is a product of collaboration among POLYKEM, DOW, ALUMIL and ISOMAT. It is a total External Thermal Insulation Composite System (ETICS) for existing and new buildings. It consists of the following components: Kelyfos Wall, Kelyfos Rooftile, Kelyfos Doors &amp; Windows and Kelyfos Energy Glass. It fortifies the building's shell and Impedes the formation of thermal bridges and vapour condensation within the building</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Provides a full external renovation of the building with minimal disturbance to the tenants. KELYFOS is certified by EOTA (certification no ETA-06/0252) and exceeds 12 times the requirements set by ETAG 2004.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>By applying KELFYFOS to an existing or new building, one can enjoy up to 55% less in heating &amp; cooling expenses.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos ) <b>DIBT-EUROPEAN TECHNICAL APPROVAL (ETA)</b> <b>GUIDELINE FOR EUROPEAN TECHNICAL APPROVAL of EXTERNAL THERMAL INSULATION COMPOSITE SYSTEMS WITH RENDERING.</b>

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	G.K. RIZAKOS	
	Industrial Estate of Lamia, 35100 Lamia	
	Greece	
	(+3022310) 66061-4	
	<a href="http://www.rizakos.gr">http://www.rizakos.gr</a> <a href="mailto:info@rizakos.gr">info@rizakos.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Insulation material that also reflects radiative heat, thus improving the overall performance. Material has been developed by BASF, a German company.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>In Expanded Polystyrene (EPS) the transmission of heat is realised mainly with convection and radiation. In Neopor® the microscopic molecules of graphite that are contained at 3% in its composition function as reflectors that prevent the transmission of heat via radiation, allowing only the convection to contribute in the loss of heat. As a result the thermal insulating properties of Neopor® boards are 15% to 20% better than that of</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Neopor® presents the lowest coefficient of thermal conductivity (<math>\lambda = 0,031</math> W/m K) from all foam plastics.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <a href="http://www.rizakos.gr/docs/3lh_e.pdf">http://www.rizakos.gr/docs/3lh_e.pdf</a>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information ) <a href="http://www.rizakos.gr/docs/3lh_e.pdf">http://www.rizakos.gr/docs/3lh_e.pdf</a>

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	<b>FIBREX HELLAS</b>	
	3rd km Argous-Inachou, 21200 Argos	
	Greece	
	(+3027510) 24988	
	<a href="http://www.fibrexhellas.gr/">http://www.fibrexhellas.gr/</a> <a href="mailto:info@fibrexhellas.gr">info@fibrexhellas.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Improved thermal insulation through reflectance of thermal radiation.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>Reflective insulation made from aluminium (99.9% purity)</b> <b>U values and other properties depend on the type of application.</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Reflective insulation is a relatively new application that counters radiant heat transfer. The reflectance of the product in this range is above 80%.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input checked="" type="checkbox"/> Prototype <input type="checkbox"/> early market <input type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>General insulation of a building: external and internal walls, roofs, floors, metal constructions etc. A fully insulated residence is expected to reduce consumption by 55% or more.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	

Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

Present market distribution/availability	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Main purchaser profiles	<input checked="" type="checkbox"/> builders
	<input checked="" type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input checked="" type="checkbox"/> others (spec): Industry

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	ISOMAT S.A.									
	17th km Thessaloniki - Ag. Athanasios Road, 570 03 Ag. Athanasios									
	P.O. BOX 1043									
	Greece									
	(+302310) 576000									
	<a href="http://www.isomat.gr">http://www.isomat.gr</a>									
	<a href="mailto:info@isomat.gr">info@isomat.gr</a>									
Concept	<p>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</p> <p><b>Protects against thermal losses and condensation, increasing thermal comfort and reducing energy consumption</b></p>									
Product/ service descriptions	<p>(What is , how does it work and a brief technical specification )</p> <p><b>KELYFOS is a product of collaboration among POLYKEM, DOW, ALUMIL and ISOMAT. It is a total External Thermal Insulation Composite System (ETICS) for existing and new buildings. It consists of the following components: Kelyfos Wall, Kelyfos Rooftile, Kelyfos Doors &amp; Windows and Kelyfos Energy Glass. It fortifies the building's shell and Impedes the formation of thermal bridges and vapour condensation within the building materials themselves</b></p>									
Innovative aspects	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p> <p><b>Provides a full external renovation of the building with minimal disturbance to the tenants. KELYFOS is certified by EOTA (certification no ETA-06/0252) and exceeds 12 times the requirements set by ETAG 2004.</b></p>									
maturity of the product	<table border="0"> <tr> <td><input type="checkbox"/></td> <td>R&amp;D phase</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Prototype</td> </tr> <tr> <td><input type="checkbox"/></td> <td>early market</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>mature market</td> </tr> </table>		<input type="checkbox"/>	R&D phase	<input type="checkbox"/>	Prototype	<input type="checkbox"/>	early market	<input checked="" type="checkbox"/>	mature market
<input type="checkbox"/>	R&D phase									
<input type="checkbox"/>	Prototype									
<input type="checkbox"/>	early market									
<input checked="" type="checkbox"/>	mature market									
Applications in Energy efficient building	<p>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</p> <p><b>By applying KELFYFOS to an existing or new building, one can enjoy up to 55% less in heating &amp; cooling expenses.</b></p>									
Specific answer to MED aspect	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p>									
Applications in Energy efficient building	<p>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</p>									

Present market distribution/availability	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

Potential or future market distribution	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

Main purchaser profiles	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos ) <b>DIBT-EUROPEAN TECHNICAL APPROVAL (ETA)</b> <b>GUIDELINE FOR EUROPEAN TECHNICAL APPROVAL of EXTERNAL THERMAL INSULATION COMPOSITE SYSTEMS WITH RENDERING.</b>



Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	DOW HELLAS S.A.	
	Thoriko, P.O. Box: 47, GR - 19500 Lavrion	
	Greece	
	(+3022920) 62200	
	<a href="http://easterneurope.dow.com/location/greece.htm">http://easterneurope.dow.com/location/greece.htm</a> <a href="mailto:dow@polykem.gr">dow@polykem.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Protects against thermal losses and condensation, increasing thermal comfort and reducing energy consumption</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>KELYFOS is a product of collaboration among POLYKEM, DOW, ALUMIL and ISOMAT. It is a total External Thermal Insulation Composite System (ETICS) for existing and new buildings. It consists of the following components: Kelyfos Wall, Kelyfos Rooftile, Kelyfos Doors &amp; Windows and Kelyfos Energy Glass. It fortifies the building's shell and Impedes the formation of thermal bridges and vapour condensation within the building materials themselves</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Provides a full external renovation of the building with minimal disturbance to the tenants. KELYFOS is certified by EOTA (certification no ETA-06/0252) and exceeds 12 times the requirements set by ETAG 2004.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>By applying KELFYFOS to an existing or new building, one can enjoy up to 55% less in heating &amp; cooling expenses.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	

Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

Present market distribution/availability	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Main purchaser profiles	<input checked="" type="checkbox"/> builders
	<input checked="" type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos ) <b>DIBT-EUROPEAN TECHNICAL APPROVAL (ETA)</b> <b>GUIDELINE FOR EUROPEAN TECHNICAL APPROVAL of EXTERNAL THERMAL INSULATION COMPOSITE SYSTEMS WITH RENDERING.</b>

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	<b>POLYKEM</b>	
	111 Lefkis Street, 14568 Krioneri Attica, Athens	
	Greece	
	(+30210) 8161857	
	<a href="http://www.polykem.gr">http://www.polykem.gr</a> <a href="mailto:info@polykem.gr">info@polykem.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Protects against thermal losses and condensation, increasing thermal comfort and reducing energy consumption</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>KELYFOS is a product of collaboration among POLYKEM, DOW, ALUMIL and ISOMAT. It is a total External Thermal Insulation Composite System (ETICS) for existing and new buildings. It consists of the following components: Kelyfos Wall, Kelyfos Rooftile, Kelyfos Doors &amp; Windows and Kelyfos Energy Glass. It fortifies the building's shell and Impedes the formation of thermal bridges and vapour condensation within the building materials themselves</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Provides a full external renovation of the building with minimal disturbance to the tenants. KELYFOS is certified by EOTA (certification no ETA-06/0252) and exceeds 12 times the requirements set by ETAG 2004.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>By applying KELFYFOS to an existing or new building, one can enjoy up to 55% less in heating &amp; cooling expenses.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	

Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

Present market distribution/availability	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Main purchaser profiles	<input checked="" type="checkbox"/> builders
	<input checked="" type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos ) <b>DIBT-EUROPEAN TECHNICAL APPROVAL (ETA)</b> <b>GUIDELINE FOR EUROPEAN TECHNICAL APPROVAL of EXTERNAL THERMAL INSULATION COMPOSITE SYSTEMS WITH RENDERING.</b>

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	VIOPOL S.A.	
	55th km Nat. Road Athens – Lamia, GR – 320 11 Inofyta	
	Greece	
	(+3022620) 32027	
	<a href="http://www.viopol.gr">http://www.viopol.gr</a> <a href="mailto:info@viopol.gr">info@viopol.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Better thermal insulation.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>V-Por Polyurethane spray foam. V-Por significantly reduces heating, cooling and application costs, enhancing the building's mechanical and thermal resistance</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>compared to all other thermal insulation materials, V-Por systems produce the best thermal conductivity value <math>\lambda</math>. V-Por polyurethane systems do not emit harmful or hazardous substances.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>All manner of insulation processes in various building types.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )
	<a href="http://www.eng.viopol.gr/index.php?categoryid=52">http://www.eng.viopol.gr/index.php?categoryid=52</a>

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )
	<b>V-Por Polyurethane spray foam has been certified as energy efficient ecological structural product and has the European labeling e2pilot.</b>

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	<b>Machos Glass</b>	
	Kavafi 6, Kato Patisia 11143	
	Greece	
	(+30210) 2019580, 2285671	
	<a href="http://www.machosglass.gr">http://www.machosglass.gr</a> <a href="mailto:contact@machosglass.gr">contact@machosglass.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Thermal insulation of windows</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>Glass panels with metallic oxide coating on one side. The metallic oxides help reduce thermal transmittance, without increasing the reflective properties.</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Metallic oxide glass panels offer better thermal protection than regular panels.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>Can be applied to most type of windows in buildings. Can decrease heating load up to 35%.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )



Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	Thermoglass Ltd.	
	21 Ioannou Nika Str, 136 71, Hamomilos, Athens	
	Greece	
	(+30210) 2388503	
	<a href="http://www.thermoglass.gr">http://www.thermoglass.gr</a> <a href="mailto:info@thermoglass.gr">info@thermoglass.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Third generation low-e glazing that reduces thermal losses through windows.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>Double glazing, one glass panel of which is a low-e glazing with a special metallic coating that reduces thermal losses through the glass.</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Third generation low-e glazing can reduce energy consumption for heating and cooling up to (and maybe over) 50% in comparison with standard double glazing.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>Application of glazing in private residences and public buildings.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	Nano4life Hellas
	Gonetsa Area , 19003 Markopoulo-Mesogaias, Attica
	P.O. Box: 293
	Greece
	(+3022990) 41056 (int:451) <a href="http://www.nano4life.gr">http://www.nano4life.gr</a> <a href="mailto:adimitras@nano4life.gr">adimitras@nano4life.gr</a>

Concept	<p>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</p> <p><b>Effective protection against humidity/moisture. Better insulation, self-cleaning properties of surfaces, environmentally-friendly materials.</b></p>
---------	--

Product/ service descriptions	<p>(What is , how does it work and a brief technical specification )</p> <p><b>Coatings based on SiO<sub>2</sub> and TiO<sub>2</sub> properties and the size of the nanoparticles. Photocatalytic and anti-bacterial. The nanoparticles effectively cover the miniscule imperfections and gaps of a surface, thus ensuring better insulation and preventing organic and inorganic pollutants from embedding themselves into the surface.</b></p>
-------------------------------	--

Innovative aspects	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p> <p><b>The products are state-of-the-art, can be easily applied by the home owners themselves and provide long-term protection for up to 8 years. Prices are around 50% of similar competitive products.</b></p>
--------------------	---

maturity of the product	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

Applications in Energy efficient building	<p>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</p> <p><b>The application of the coatings in roofs and external walls provides significant protection against moisture and is invisible to the naked eye.</b></p>
---	--

Specific answer to MED aspect	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p>
-------------------------------	---

Applications in Energy efficient building	<p>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</p>
---	--

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	Abolin Co.	
	Galaxia 18, Afaia Skaramaga, Haidari 12462, Athens	
	Greece	
	(+30210) 5575568	
	<a href="http://www.abolincoolpaints.com">http://www.abolincoolpaints.com</a> <a href="mailto:abolin@otenet.gr">abolin@otenet.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Reduces overheating from excessive absorption of solar energy.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>CoolBarrier is a coatings system based on "cool paints&amp;materials" technology. CoolBarrier products have high solar reflectance and high thermal emissivity and come in a range of colours.</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Cool materials technology is relatively new in commercial terms, not that many producers in Greece so far.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> early market <input type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>Buildings and urban environment in general (e.g. sidewalks). Cooling load in buildings may decrease up to 40%.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos ) <b>Energy Star Certification</b>

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	egreen									
	Sina 32, 10672 Athens									
	Greece									
	(+30210) 3629221									
	<a href="http://www.egreen.gr">http://www.egreen.gr</a> <a href="mailto:info@egreen.gr">info@egreen.gr</a>									
Concept	<p>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</p> <p><b>ZinCo Green Roof Systems can play a key role to "green" urban planning, and can efficiently contribute to energy saving policies. As far as the thermal behavior of the green roofs is concerned, ZinCo Systems have a substantial thermal mass, a moderate insulation value and a cooling effect trough evapotranspiration. These combined properties significantly reduce daily range of temperatures enhancing buildings energy efficiency.</b></p>									
Product/ service descriptions	<p>(What is , how does it work and a brief technical specification )</p> <p><b>Unlike conventional insulation systems (XPS, EPS, etc), ZinCo Green Roofs are living systems that react to the environment in a number of ways: (i)ZinCo Green Roof Systems have a large thermal mass (depending on the water holding capacity), which stores energy and delays the transfer of heat to or from the building fabric, (ii)Evapotranspiration from the plants and substrate uses a considerable proportion of the incoming solar radiation compared to a conventional roof, (iii)Plants absorb solar radiation for photosynthesis and (iv)Plants have a higher albedo than many standard roof surfaces.</b></p>									
Innovative aspects	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p> <p><b>The combination of different drainage elements, filter sheets and substrates provide a growing environment similar to plants natural environment. ZinCo Greenroof Systems have the structure to retain the necessary quantities of water, to support the plants whilst draining of the excess. The special drainage/insulation element ZinCo Floratherm is certified and has thermal resistance values from 0.7 to 2.15 (m<sup>2</sup>K/W). The ZinCo Georaster System build up can support planting to inclination up to 45o. The Stabilodrain System has a compressive strength ca.500kN/m2 and can be used for intensive greening.</b></p>									
maturity of the product	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>R&amp;D phase</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Prototype</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>early market (note: for Greece)</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>mature market (note: worldwide)</td> </tr> </table>		<input type="checkbox"/>	R&D phase	<input type="checkbox"/>	Prototype	<input checked="" type="checkbox"/>	early market (note: for Greece)	<input checked="" type="checkbox"/>	mature market (note: worldwide)
<input type="checkbox"/>	R&D phase									
<input type="checkbox"/>	Prototype									
<input checked="" type="checkbox"/>	early market (note: for Greece)									
<input checked="" type="checkbox"/>	mature market (note: worldwide)									
Applications in Energy efficient building	<p>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</p> <p><b>ZinCo Green Roof Systems have been installed to several green roof projects all over Greece.</b></p>									
Specific answer to MED aspect	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p>									

Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

Present market distribution/availability	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Main purchaser profiles	<input type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )
	<b>1.The Shop &amp; Trade Center, Athens</b>
	<b>2.New Building of Bank of Greece, Thessaloniki</b>
	<b>3.New Building of Research and Technology, Aristotle University of Thessaloniki</b>
	<b>4.Hypermarket Carrefour , Halandri</b>

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )



<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name "ISOCOR - Aglomerados de Cortiça, A.C.E "	
	address: Avenida António Augusto de Aguiar, 17-3º E	
	nation: Portugal	
	telephone: +351 21 352 71 91	
	web site: www.isocor.pt	
email: info@isocor.pt		
<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> Improving energy efficiency in the envelope of new and refurbished buidings, throught the application of insulation cork boards (ICB).	
<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> Insulation of double walls (with cavity); Thermal and acoustic insulation of garden deck roofs; Insulation of pitched roofs; Insulation cork boards have a coefficient of thermal conductivity of 0,045W/m.°C.	
<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> The physical and mechanical properties of cork provides the creation of a elastic product, steam permeable, long durability and with excellent features of thermal insulation, acoustic and vibration.	
<b>maturity of the product</b>	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i> Calouste Gulbenkian Foundation - Lisbon Building of the Ministry of Labour - Lisbon Building Vasco da Gama (Shopping) - Lisbon Hospital of Santo António - Porto Hotel Penhas Douradas - Serra da Estrela	
<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Cork is a 100% natural product and is fully recyclable.	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>	

--	--

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )
	CE mark. ICEA - Istituto Certificazione Etica e Ambientale ACERMI - Association pour la Certification des matériaux isolants.

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Lusomapei S.A.								
	address: Business Parque Tejo XXI, E.N. 1, km 29, Gelfas 2600-659 Castanheira do Ribatejo								
	nation: Portugal								
	telephone: + 351 263 860 360								
	web site: www.mapei.pt								
	email: geral@mapei.pt								
<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>Improving energy efficiency in the envelope of new and refurbished buidings, throught the application of exterior insulation cork boards (ICB).</p>								
<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>External Thermal Insulation Composite System (ETICS).</p> <p>1. MAPETHERM AR1: cementitious plaster for gluing the ICB panels and regularization of the walls.</p> <p>2.MAPETHERM CORK: ICB made from natural cork without chemical adhesives, with a density of about 110 to 130 kg / m³. Available with 4, 5, 6, 8 and 10 cm of thickness.</p> <p>3. MAPENET 150: Network fiberglass, alkali-resistant, that acts as armor protection for waterproof and anti-fracture membranes.</p> <p>4.SILEXCOLOR BASE COAT: pigmented base for regulation and filling, made with modified potassium silicate in aqueous dispersion, in accordance with DIN 18363.</p> <p>5.SILEXCOLOR GRAFFIATO: It protects the substrate by forming a monolithic body without modifying its permeability properties.</p> <p>Insulation cork boards have a coefficient of thermal conductivity of 0,045W/m.°C.</p>								
<b>Innovative aspects</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>The physical and mechanical properties of cork provides the creation of a elastic product, steam permeable, long durability and with excellent features of thermal insulation, acoustic and vibration.</p>								
<b>maturity of the product</b>	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>R&amp;D phase</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Prototype</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>early market</td> </tr> <tr> <td><input type="checkbox"/></td> <td>mature market</td> </tr> </table>	<input type="checkbox"/>	R&D phase	<input type="checkbox"/>	Prototype	<input checked="" type="checkbox"/>	early market	<input type="checkbox"/>	mature market
<input type="checkbox"/>	R&D phase								
<input type="checkbox"/>	Prototype								
<input checked="" type="checkbox"/>	early market								
<input type="checkbox"/>	mature market								
<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i></p> <p>Installation of ETICS systems with ICB.</p>								

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Cork is a 100% natural product and is fully recyclable.
--------------------------------------	--

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>
--	--

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input checked="" type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>
---------------------	--

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i>  CE mark.
--------------------------	---

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Maciça - Indústria de Janelas e Portas de Madeira, Lda.
	address: Parque Industrial, Lote 1 3430 - 132 Carregal do Sal
	nation: Portugal
	telephone: (+351) 232 960 100
	web site: www.macica.pt
	email: macica@macica.pt

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>Reduction of the thermal losses in the buildings through the windows and doors.</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>Design and manufacture of wooden window frames.</p> <p>The wooden frames manufactured by MACIÇA have a low coefficient of heat transfer, and allow the use of double glass systems.</p> <p>The heat transfer coefficients of the window frames manufactured by MACIÇA range from 1.30 to 1.80W/m².C, depending on the glazing area and type of wood used in the frames.</p> <p>The frames are available with profiles of 56mm for double glass and 68mm profiles for triple glass.</p> <p>The woods are subjected to treatments that help improve their water resistance, durability and resistance to weather conditions, resulting in reduced maintenance.</p> <p>The wood most used in the manufacture of frames is Iroko, because it presents the best characteristics of natural resistance.</p>
--------------------------------------	--

<b>Innovative aspects</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>In the case of frames, wood has the great advantage of providing a natural thermal and acoustic barrier (sound insulation in the standard solution of 35 dB).</p>
---------------------------	---

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i></p> <p>Door and window frames</p>

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> The wood is a 100% renewable material.
--------------------------------------	---

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )</i>

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input checked="" type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i>  CE Mark. Wind resistance according to EN 12210 Water leakage in accordance with EN 12208:9 A Air permeability according to EN 12207:4
--------------------------	---

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	SME name: NEOTURF Lda.	
	address: Rua das Amoreiras n.º155, 4460-227 Matosinhos	
	nation: Portugal	
	telephone: +351 22 9545275	
	web site: www.neoturf.pt	
email: info@neoturf.pt		
Concept	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> Thermal insulation, integrity and sustainability of urban drainage systems through the control of rain water. Creation of new ecological niches.	
Product/ service descriptions	<i>(What is , how does it work and a brief technical specification )</i> Construction, installation and maintenance of green roofs. The green roofs possess the following constitution:  1. Protection Mat: Protection layer for the existent waterproofing; 2. Floratherm WD: Layer of retention and drainage of water. Exists in several thicknesses and his thermal resistance varies among 0,7 to 2,15m².K/W; 3. Filter Sheet SF: Filter layer for separation between drainage area and cultivation area; 4. System Substrate "Sedum Carpet": Support layer for the plants; 5. Plant level.	
Innovative aspects	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Compared with the traditional constructive solutions for roofs, green roofs have the following advantages: Reduction of energy consumption in the building; Depending on their design, green roofs retain between 50 and 90% of rainwater; Reduce sound reflexion by up to 3 dB and improve the sound proofing of a roof by up to 8 dB. When placed under a green roof, waterproofing is better protected from UV-rays, hail and the hot and cold.	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> early market (Note: In Portugal) <input type="checkbox"/> mature market	
Applications in Energy efficient building	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i> Green Roofs Les Palace Building - Porto Castle Esplanade Building - Porto Pinhais do Douro Building - Porto   	

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> This solution is applicable to existent coverings. Doesn't need substantial alterations in the support structure.
--------------------------------------	---

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input checked="" type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i> Member of: European Landscape Contractors Association European Irrigation Association



Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	SME name: SECIL Martingança - IRP Revestimentos									
	address: Apartado2, 2406-909 Maceira, LRA									
	nation: Portugal									
	telephone: +351 244 770 220									
	web site: <a href="http://www.isodur.pt">http://www.isodur.pt</a>									
email: <a href="mailto:comercial@secilmartinganca.pt">comercial@secilmartinganca.pt</a>										
Concept	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>The thermal efficiency of the system ISODUR minimizes heat transmission between the inside and outside of the buildings. The entire area outside the building is surrounded by thermal insulation, which promotes a greater inertia to energy losses.</p>									
Product/ service descriptions	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>ISODUR is an innovative technical projected plaster, that is characterized by allowing in simultaneous the thermal insulation and the straighten out of facades.</p> <p>ISODUR is a dry mortar, made from mixed ligands, special aggregates of very low density (Expanded Polystyrene - EPS) and additions, with a thermal conductivity <math>\lambda \leq 0.1</math> W/mK.</p> <p>ISODUR is used as thermal insulation plaster, applied on brick masonry, concrete blocks or concrete. The system is constituted by three layers: 1. Projected insulation plaster; 2. Layer of regularization mortar; 3. Finish coat; and can be applied from the outside (ETICS) or from inside of the wall.</p>									
Innovative aspects	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>In the interventions in refurbishment of buildings, the application of ISODUR provides a convenient and efficient way to increase the thermal performance, because there is no need to change the existing walls.</p> <p>ISODUR can be applied to masonry walls of ancient stone.</p>									
maturity of the product	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>R&amp;D phase</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Prototype</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>early market</td> </tr> <tr> <td><input type="checkbox"/></td> <td>mature market</td> </tr> </table>		<input type="checkbox"/>	R&D phase	<input type="checkbox"/>	Prototype	<input checked="" type="checkbox"/>	early market	<input type="checkbox"/>	mature market
<input type="checkbox"/>	R&D phase									
<input type="checkbox"/>	Prototype									
<input checked="" type="checkbox"/>	early market									
<input type="checkbox"/>	mature market									
Applications in Energy efficient building	<p><i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i></p> <p>External thermal insulation composite system</p> <p>Continuing Care Center of Vila de Rei</p> <p>Decathlon Store in Cascais</p> <p>House Pernes in Pernes</p>									
Specific answer to MED aspect	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>Easy application in existent buildings.</p>									

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )
	"Mortar plastering with thermal characteristics" accomplished for Dina Frade / Paulo Gonçalves / Raquel Nascimento / Cristina Sequeira, 2010.

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )
	CE mark.

## CATEGORY

### ENERGY EQUIPMENT

Partner	Sub category	SME's denomination
Catalunya Region	Electricity	La Vola
	Energy management equipment	Soler & Palau
Regione Piemonte	Heating	Ennetiesse
	Electricity	Biosolar Eolicar Thesan
	Energy management equipment	Electro Power System Giacomini
AREA Trieste	Hot Sanitary Water	STP
IASA	Hot Sanitary Water	Solenergy
University of Evora	Hot sanitary water	Lobosolar
	Electricity	Selfenergy

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	La Vola	
	address: av. Roma, 252-254. 08560 Manlleu	
	nation: Spain	
	telephone: 938507966	
	web site: www.lavola.com	
email: emaneja@lavola.com		

Concept	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> PV Reduce the electricity demand	
---------	--	--

Product/ service descriptions	<i>(What is , how does it work and a brief technical specification )</i>  A photovoltaic cell consists of two types of silicon P-Type and N-Type. The surface of the cell is transparent so the light can pass through and fall onto the first layer of silicon. This layer of silicon has been manufactured to be positively charged. Likewise the other layer of silicon is made to be negatively charged. When sunlight falls onto the cell a flow of electrons is created through the cell causing an electric current. This current can then be harvested and either used straight away, stored or exported.	
-------------------------------	---	--

Innovative aspects	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>	
--------------------	---	--

maturity of the product	<input type="checkbox"/>	R&D phase
	<input type="checkbox"/>	Prototype
	<input type="checkbox"/>	early market
	<input checked="" type="checkbox"/>	mature market

Applications in Energy efficient building	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>	
---	--	--

Specific answer to MED aspect	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>	
-------------------------------	---	--

Applications in Energy efficient building	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineerss
	<input checked="" type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )
--------------------------	--

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name Soler & Palau Sistemas de ventilación
	address C/ Llevant 4 Polígon Industrial Llevant 08150 PARETS
	nation SPAIN
	telephone 93 571 93 00
	web site www.solerpalau.com
	email mgamissans@solerpalau.com

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>We talk about the Heat recovery Units. This kind of products reduce a lot the climatization energy consumption</p>
----------------	--

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>A heat recovery unit is a double flux machine that exhaust the polutated indoor air and it substitutes for a fresh outdoor air and it transfers the heat from one flux to the other .</p>
--------------------------------------	--

	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>Our product has several characteristics: constant flow, brushless motors, etc. that allows it to reach a high efficency grade.</p>
--	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i></p> <p>The heat recovery units are suitable for dwellings, houses, offices, and any other climatized building.</p>

<b>Specific answer to MED aspect</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>Please see one of the previous answers</p>
--------------------------------------	--

<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i></p> <p>Please see one of the previous answers</p>

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<p><i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i></p> <p>This products have been tested a lot. In the lab and in a real application. Th results are that they can save between 50 to 60% of total climatization energy consumption.</p>

<b>other information</b>	<p><i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i></p> <p>This products are certified and according to the european standards.</p>

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Ennetiesse
	address: Via Garibaldi, 1
	BORGIO SAN MARTINO (AL)
	nation: Italy
	telephone: +39 0142 411251
	web site: <a href="http://www.floortech.it">www.floortech.it</a>
	email: <a href="mailto:info@ennetiesse.it">info@ennetiesse.it</a>

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i></p> <p>floor dry heating system , eco-friendly, with very low thermal inertia, low weight and good sound absorption</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>FloorTech ECO DRY is a system of floor/wall heating with high sound absorption characteristics and environmental compatibility. Quick to install, allows maximum freedom in the choice of coatings. The minimum thickness of the system is 45 mm ECO DRY lining included.</p> <p>The insulation board is made up of two layers of wood fiber mixed with hot natural resins, coupled with an aluminum plate shaped to accommodate the tube heat exchanger. According to UNI EN 1264-B subtype, has pre-glued on the surface elements in pure aluminum heat spreaders shaped with a thickness of 0.5 mm.</p> <p>The tube exchanger is extremely flexible and multilayer FloorTech due to the presence of an aluminum layer, placed between two layers of PE-RT, which confers a high thermal conductivity. The presence of two layers of PE-RT in contact with water prevents corrosion damage, obsolescence, fouling and pressure drop, neutralizes the gas permeability and UV resistance, thermal expansion and instability.</p> <p>The main features are: low thermal inertia, in the fact sheet with</p>
--------------------------------------	--



<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> <ul style="list-style-type: none"> <li>• Reduced thickness</li> <li>• Fast installation</li> <li>• Low thermal inertia</li> <li>• Easy adjustment</li> <li>• thermal comfort</li> </ul>
---------------------------	---

<b>maturity of the product</b>	<input type="checkbox"/>	R&D phase
	<input type="checkbox"/>	Prototype
	<input type="checkbox"/>	early market
	<input checked="" type="checkbox"/>	mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>
--------------------------------------	---

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineerss
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input checked="" type="checkbox"/>	others (private customers)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: BIOSOLAR Flenco Group S.r.l.
	address: Via Torino, 2
	AVIGLIANA (TO)
	nation: Italy
	telephone : +39 011 9330611
	web site: www.biosolarflenco.com
	email: biosolar@flenco.com

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>EBO200 is a cogeneration system consists of internal combustion engines, fueled by vegetable oil, with a burning assisted by a gas mixture of Brown (HHO oxyhydrogen). And 'solar power module integrates with SIP SOLAR.</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>EBO200 is a cogeneration system consists of internal combustion engines, fueled by vegetable oil and possibly solar power module integrates with SIP SOLAR.</p> <p>working thanks vegetable oil, manufactures equipment Biosolar skid complete with all power systems, control and pushed the oil filter, possibly integrated with innovative additive HHO gas (Brown's), and heat for cogeneration .</p> <p>The HHO system has two patents, one relating to the electrolytic process, responsible for gas production, and the other concerning the system of fuel injection into the combustion chamber. The EBO-HHO system allows an efficiency increasing of 10%, with an energy cost of less than 2% and a strong reduction of emissions (CO and particulates), amounting to more than 80%.</p> <p>Biosolar Flenco Group has developed and industrialized facilities of less than 200 kWe, with the possibility of multiple doses up to 1 MWe. Moreover, the system Biosolar EBO produces thermal energy for about 200 kW thermal, possibly used for heating and cooling, with a total return that exceeds 80%.</p> <p>The system consists of a system of storage and supply of bio-fuel Thanks to its auxiliary systems of treatment, the system allows the use of various bio-oils natural</p>
--------------------------------------	---

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
	• The special design of the engine designed for multicomburne, head of the steel pistons and high compression ratio operation and low linear velocity of the piston for long life	
	• Turbocharged engine with electronically controlled hydraulic power independent	
	• Treatment system sunflower oil, rapeseed oil and the like, without centrifugal separators and filters water heating only	
	• Recovery plant flue gas pre-reduction of the engine and catalyst particles	
		• Extension of the engine oil pan, oil filter cleaning

<b>maturity of the product</b>	<input type="checkbox"/>	R&D phase
	<input type="checkbox"/>	Prototype
	<input checked="" type="checkbox"/>	early market
	<input type="checkbox"/>	mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )	

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input checked="" type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos)

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: EOLICAR
	address: Via Livorno,60
	Environment Park-TORINO
	nation: Italy
	telephone: +39 011 2257711
	web site: <a href="http://www.eolicar.it">www.eolicar.it</a>
	email: <a href="mailto:info@eolicar.it">info@eolicar.it</a>

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i>
	The miniwind turbine E15kW is a reliable, high performance and compact design. Thanks to a very efficient blade profile, the maximum simplification of the mechanics in the basket, the fixed pitch of the blades and the electronic control of yaw, the E15kW is an excellent compromise between high performance and robustness

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>
	<p>The miniwind turbine E15kW, thanks to a direct-drive synchronous generator with permanent magnets require extremely low maintenance and provides high yields. The conversion to double-inverter system, developed specifically for optimal coupling with the generator, ensure efficiency and maximize electricity production. The blades are equipped with high-efficiency profiles with a design that ensures high torque values□□. The compact design of the spacecraft, with the elimination of the rudder, and the active yaw control to ensure greater stability of the generator and lower maintenance costs. Mechanical and structural design of wind turbines has been marked by the simplicity, the reduction of internal components and overall robustness.</p> <p>E15kW wind turbine is a reliable, high performance and compact design. Thanks to a very efficient blade profile, the maximum simplification of the mechanics in the basket, the fixed pitch of the blades and the electronic control of yaw, the E15kW is an excellent compromise between high performance and robustness: a wind turbine stable, made to last time and able to optimize the production of electricity in a wide range of winds.</p>

<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Compact design of the spacecraft The rotors is equipped with high-efficiency profiles Active yaw control
---------------------------	---

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Farms Small manufacturing companies Camping Local public administration
--------------------------------------	---

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineerss
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input checked="" type="checkbox"/>	others (private customers)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )



<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: THESAN Spa
	address: Via Torino, 25
	CHIUSA SAN MICHELE (TO)
	nation: Italy
	telephone: +39 011 19870791
	web site: www.thesan.com
	email: info@thesan.com

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i>
	The Hemera system consists of a series of special mono/poly-crystalline photovoltaic modules set between two rows of terracotta roof tiles

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i>
	The Hemera system consists of a series of special mono/poly-crystalline photovoltaic modules that use the best photovoltaic cells available on the market. The modules are set between two rows of terracotta roof tiles and integrated in a prefab pitched roof covering with excellent insulation properties. A very attractive sustainable energy solution, the Hemera system not only makes your roof more elegant, it also allows you to remotely monitoring each individual photovoltaic module and to rapidly identify any modules with faults. Aesthetically sustainable, the Hemera system not only adds a touch of elegance to the roof but also allows the user to monitor each individual photovoltaic module remotely in order to quickly identify any broken modules.

<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Installed directly on the structural roof frame with reduced installation time No holes are required for anchoring the photovoltaic system Reduced routine maintenance compared to more invasive systems Can be used in new or renovated buildings and/or conservations (recommended for historical centers)
---------------------------	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>
	Can be used in new or renovated buildings and/or conservations (recommended for historical centers)

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input checked="" type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input checked="" type="checkbox"/>	others (private customers)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i>

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos)</i>

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Electro Power Systems S.p.A
	address: Via Livorno, 60
	Environment Park-TORINO
	nation: Italy
	telephone: +39 011 2258211
	web site: <a href="http://www.electrops.it">www.electrops.it</a>
	email: <a href="mailto:email@electrops.it">email@electrops.it</a>
<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>ElectroSelf generator is a compact and intelligent electrical energy, produced by fuel cells powered by hydrogen, Auto charging. The system intervenes when the principal power is unavailable</p>
<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>ElectroSelf is an enabling technology for Distributed Energy self-generated. The intelligent closed-loop system stores energy from the grid or when renewables are plentiful, and instantaneously releases energy when there is a power dip or outage. This enables ElectroSelf to effectively minimize the mismatch in energy production and consumption.</p> <p>ElectroSelf engages immediately whenever external power fails, and whenever power is available it automatically generates its own hydrogen and oxygen from water. In other words, ElectroSelf overcomes one of the biggest obstacles toward mass deployment of fuel cells – the sourcing (purchase and transport) of hydrogen.</p> <p>ElectroSelf has produced a disruptive change in both the economic and environmental impact of backup power provision. It provides 100% clean energy while considerable reducing of operating costs. eliminating ongoing fuel costs, eliminating the cost for replacement of moving parts, reducing maintenance visits and enabling remote management of the entire system.</p>

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
---------------------------	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )  ElectroSelf has produced a disruptive change in both the economic and environmental impact of backup power provision.
--------------------------------------	---

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineerss
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos ) EPS was awarded the 2012 Technology Pioneer Self at the World Economic Forum

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: GIACOMINI S.p.A.
	address: Via per Alzo 39
	San Maurizio d'Opaglio (NO)
	nation: Italy
	telephone: +39 0322 923 111
	web site: <a href="http://www.giacomini.com">www.giacomini.com</a>
	email: <a href="mailto:info@giacomini.com">info@giacomini.com</a>

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i></p> <p>Heating with zero environmental impact</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>Catalytic burner is a condensation gas boiler fueled by pure hydrogen; this device is specifically designed and assembled to heat water used in heating systems.</p> <p>This boiler has been studied to have the best efficiency with radiant heating systems (underfloor and heating) that works with low temperature of water, about 40°C. This machine is fueled by pure hydrogen; this allows a combustion without flame thanks to special catalysts.</p> <p>Hydrogen concentration in the reaction channel is controlled and its value is in complete safety; in this way the temperature inside is about 250 – 300°C. This means high efficiency (higher thermal recovery at the exhaust) and no dangerous emissions. In fact NOx are produced only at much higher temperatures, moreover carbon dioxide (CO2) is completely absent since the reaction is carbon free.</p> <p>At the exhaust there is only water, a part of which is condensed, while the other one is evacuated in the form of vapour.</p> <p>The burner, thanks to clean combustion without flame, needs less maintenance than a traditional boiler and it has a longer life.</p>
--------------------------------------	--

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	<ul style="list-style-type: none"> <li>• Pure hydrogen supply</li> <li>• Enhanced reaction channel</li> <li>• Catalytic reaction without flame with low hydrogen concentration</li> <li>• Exhaust thermal recovery system</li> <li>• In compliance with all safety standards</li> <li>• Zero emission</li> <li>• Control panel with monochromatic touch screen integrated</li> </ul>

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input checked="" type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
--------------------------------------	--

<b>Present market distribution/availability</b>	<input checked="" type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)



<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Category	Energy equipment
	<input type="checkbox"/> Fossil fuels
	<input checked="" type="checkbox"/> Renewable energies (Res)
Sub category	<input type="checkbox"/> Heating
	<input type="checkbox"/> Cooling
	<input checked="" type="checkbox"/> Hot Sanitary Water
	<input type="checkbox"/> Electricity (lightning , apparels, hardware)
	<input type="checkbox"/> Ventilation
	<input type="checkbox"/> Energy management equipment
Identification of main innovative solutions used in MED area (products and services)	1. High performance condensing boilers
	2. Other types of heat pumps
	3.
	4.
	5.
	6.
Identification of SMEs which produce these innovative solutions specifying the geographical context (MED area-UE-extra UE)	1. Ariston spa, Baxi spa, Beretta, Buderus; Elco Ecoflam, Ferroli, Gruppo Imar, Hermann srl, Immergas spa, Robur spa, Saunier Duval, Immergas, Vaillant, Viessman, (MED AREA)
	2. Aermec, Ariston, Beretta, Baltur, Ferroli, Clivet, Elco Ecoflam, Galletti, Gruppo Imar , Rhoss spa, Robur, Vaillant, Hidros, (MED AREA), Daikin, Mitsubishi, Toshiba, Panasonic (EXTRA UE)
	3.
	4.
	5.
	6.
Brief sum up of Business as Usual in MED AREA for the category in a refurbishment context	1. Production of hot water with traditional boilers up to temperatures of 85oC, using heat pumps up to temperatures of 55oC
	2.
	3.

# Technical Report

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: <b>STP srl</b>
	Address: c/o AREA Science Park Padriciano 99, 34149 Trieste
	Nation: Italy
	Telephone: +39 040 3756770
	web site: <a href="http://stpellegrini.com/">http://stpellegrini.com/</a> email: <a href="mailto:stpellegrini@stpellegrini.com">stpellegrini@stpellegrini.com</a>
<b>Concept</b>	<p>A high temperature heat pump (HT-HP) that can produce hot water at temperatures of over 75oC and is capable of replacing existing boilers without requiring modifications to the heating system.</p> <p>Zero emissions in situ, low operating costs, 70% renewable energy. These are the main characteristics of the new heat pump, also known as the "environmentally-friendly boiler".</p>
<b>Product/ service descriptions</b>	<p>The high temperature heat pump is an optimised two-stage geothermal heat pump for producing heat at temperatures of up to 80oC and more with a COP of approximately 3, which is very high for this temperature.</p> <p>This means that the thermal energy obtained is superior - compared to the energy consumed - with a performance level never before achieved.</p> <p>The prototype heat pump, with a nominal thermal power of 100 kW, envisages the use of two thermodynamic cycles in cascade operating with hydrocarbons, fluids that optimise performance under the particular operating conditions anticipated. The project also envisages the use of two heat exchangers that increase supercooling and, as a result, the effectiveness of refrigeration cycles.</p>
<b>Innovative aspects</b>	<p>When updating existing central heating systems, one of the most common problems is the need to dispose of high-temperature heat transfer fluid. The benefits are: zero emissions in situ, replacement of old boilers without modifying the existing heating system.</p> <p>Compared to traditional heat pumps: it produces hot water at 80 degrees (normal heat pumps reach up to around 50oC); it can be installed - and heats effectively - with traditional radiators; the COP (coefficient of performance) is approximately 3 (much higher than that of heat pumps available on the market); 70% of the energy used comes from renewable sources.</p>
<b>Maturity of the product</b>	R&D phase
	Early market
	<input checked="" type="checkbox"/> Prototype
	Mature market
<b>Applications in Energy efficient building</b>	<p>The primary target market for high temperature heat pumps consists of existing urban buildings (condominiums, historic buildings, schools, hospitals, etc.) and industrial/commercial buildings that, together with vehicular traffic, constitute the principal sources of pollution in our cities.</p> <p>The sites that lend themselves well to the replacement of boilers with high</p>

	temperature heat pumps are all those where any of the following are present: rivers, underground or surface canals, wells, lakes, ponds and marshes, networks of water pipes, sewers, sea, water channels, aquifers, waste heat from electricity production (cooling towers), or waste water from industrial processes.
<b>Specific answer to MED aspect</b>	<p>Replacing boilers in traditional heating systems (with radiators) in existing buildings with innovative high temperature heat pumps, can provide the following advantages:</p> <ul style="list-style-type: none"> <li>- economical (a slightly higher initial investment is compensated by savings in running the system and energy cost savings over the years);</li> <li>- operational (low running costs, far fewer maintenance requirements);</li> <li>- energy (at least 70% of the energy used to produce the heat is drawn free of charge from nature and is renewable);</li> <li>- ecological (zero emissions in situ, especially important in urban microclimates).</li> </ul>
<b>Applications in energy efficient building</b>	
<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide
<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide
<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> installer
	<input checked="" type="checkbox"/> buidels
	<input checked="" type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> Building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec): SMEs which produce domotics systems and appliances
<b>Case studies</b>	The first pilot HT-HP system is in use in a school building in the Friuli Venezia Giulia region (northeast Italy), where it meets the heating requirements of the gym and other environments. An adequate trial phase was completed before the new system was marketed.
<b>Other information</b>	

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	<b>Sol Energy Hellas SA</b>
	<b>Chariton 31A, 175 64 • P. Faliro, Athens</b>
	<b>GREECE</b> <b>(+30210) 9023587</b>
	<b>www.solenergy.gr</b> <b>info@solenergy.gr</b>
<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i>
	<b>Sol Energy Hellas SA is one of the most specialized companies in Europe in the field of energy saving systems applied in the hotel and industrial sectors</b>
<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> <b>Complete energy solutions and application studies using model design methods</b> <b>Guaranteed energy contracts efficiency based on a realistic estimate of the expected energy profit</b> <b>New technologies development</b> <b>Computational method optimization</b> <b>Development of new products</b>
<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> <b>Large experience with shallow geothermal energy</b> <b>Self-developed tools for optimum management of installations</b>
<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>
	<b>The Sol Energy Hellas office building “Prometheus Pyrphoros” has been selected to be included in the C23 – Euro Atlas as a representative low-CO2 emission building case study from Greece</b>
<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>
<b>Applications in Energy</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>

Applications in energy efficient building	

Present market distribution/availability	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

Main purchaser profiles	<input checked="" type="checkbox"/> builders
	<input checked="" type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )
	<p>ISO 9001/2000, by the Certification Organization D.Q.S., concerning :  «Design, installation, operation and maintenance of central solar systems.  Marketing, installation and maintenance of individual solar elements.»  Solar collectors installed by Sol Energy Hellas are certified for conforming to the requirements of the international standard ISO 9001/2000 by the Certification Organization T.U.V.</p>

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Lobosolar, Energias Renováveis, Lda.	
	address: Rua Sebastião Mendes Bolas 18, 7006-804 Évora	
	nation: Portugal	
	telephone: +351 266 771 427	
	web site: www.lobosolar.com	
email: comercial@lobosolar.com		

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i></p> <p>This technology will increase the consumption of electric energy from renewable sources, reducing the environmental impact of the building. The solar modules can be applied to new or refurbished buildings</p>
----------------	--

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>Production, supply and maintenance of solar photovoltaic modules, including all equipment necessary for the proper functioning of the modules.</p>
--------------------------------------	---

<b>Innovative aspects</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>Photovoltaic modules are available in 230, 235, 240, 245 and 250 watts of rated power. Monocrystalline solar cells with high-quality manufactured by Bosch Solar Energy and protective glass with 4 mm that offers additional protection against the natural elements.</p> <p>In 2009 released on the market the module Open 220 EP "Black Edition". It has the peculiarity of the whole package and window frames are black, with the aim of integrating the panels in areas with architectural restrictions.</p>
---------------------------	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i></p> <p>Photovoltaic panels.</p> <p>Complex of Architecture and Visual Arts - University of Évora</p>

<b>Specific answer to MED aspect</b>	<p><i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i></p> <p>Production of electricity from renewable sources in new and refurbished buildings.</p>
--------------------------------------	--

<b>Applications in Energy efficient building</b>	<p><i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i></p>
--	---

efficient building	

Present market distribution/availability	<input type="checkbox"/> local
	<input checked="" type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Main purchaser profiles	<input checked="" type="checkbox"/> builders
	<input checked="" type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class.), LCA, Others relevant infos ) Microgeneration Certification Scheme (MCS) Quality certification NP EN ISO 9001:2008 Certificate of conformity with technical standards IEC 61215 Ed. 2 and IEC 61730.
-------------------	--



<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Selfenergy Solutions	
	address: Rua Julieta Ferrão 12, 12º 1649-039 Lisboa	
	nation: Portugal	
	telephone: (+351) 214 216 791	
	web site: www.selfenergy.pt	
		email: info@selfenergy.eu
<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> A solar panel with a heat transfer fluid flowing through it, transports the heat energy collected to somewhere useful, usually a hot water tank or household radiators.	
<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> MySun SA-TS150/0 300/0 - Thermosyphon for 140 / 260 Liters, parallel clamping system, surface of the collector 2.02/4.04m². MySun SK200/300/500 CF - Forced Circulation, capacity for 200/300/500 litres, surface of the panel - 2.5 / 5.1 / 7.5 m², available for 1-4/3-5/5-8 people.	
<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> The energy from the sun can satisfy up to 90% of hot water needs in housing, at certain times of year. With solar thermal solutions, reduces the electricity bill or gas, and prevents the emission of CO2 by using renewable energy sources	
<b>maturity of the product</b>	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input checked="" type="checkbox"/> mature market	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>  	
<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Preparation of sanitary hot water from solar energy.	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i> Installation of solar panels. Hotel Santa Maria - Lisbon Mira Sintra - Sintra	


<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class.), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: Selfenergy Solutions	
	address: Rua Julieta Ferrão 12, 12º 1649-039 Lisboa	
	nation: Portugal	
	telephone: (+351) 214 216 791	
	web site: www.selfenergy.pt	
		email: info@selfenergy.eu
<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> The hydrogen fuel cells systems are designed to increase the production of electricity from renewable sources. Establishment of contracts for the supply of energy, reducing costs for customers by using innovative technologies applied to renewables is the main objective of the company.	
<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> Hydrogen Fuel Cells - The hydrogen fuel cells convert chemical energy of the reaction of hydrogen and oxygen into electrical energy. The primary sources of energy for hydrogen fuel cells may include, among others, natural gas, methanol, LPG and biogas. The PEMFC (Polymer Electrolyte Membrane Fuel Cell) operates at a low temperature and is a market leader in efficiency for stationary power sources (42% electrical efficiency, 35% thermal efficiency). The lower operating temperature has the advantage of zero NOx production. The Fuel Cell creates electricity from hydrogen (from Natural Gas) and produces hot water, which is then utilised for heating (or cooling with the addition of an absorption chiller).	
<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Hydrogen Fuel Cells -The hydrogen fuel cells run continuously, clean, highly efficient, almost silent (no combustion, no moving mechanical parts).	
<b>maturity of the product</b>	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> early market <input type="checkbox"/> mature market	
<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i> Installation of hydrogen fuel cells and cogeneration systems. Belas Clube de Campo - Lisbon MARL (Lisbon Logistics Center) - Lisbon ANA Aeroports (Portuguese Airports Authority) -lisbon School Santa Maria de Lamas - Aveiro	
<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Production of electricity from renewable sources in new and	

refurbished buildings.

**Applications in Energy  
efficient building**

(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

**Present market  
distribution/availability**

- ☐ local
- ☐ regional
- ☒ national
- ☒ EU
- ☐ worldwide

**Potential or future market  
distribution**

- ☐ local
- ☐ regional
- ☐ national
- ☒ EU
- ☒ worldwide

**Main purchaser profiles**

- ☒ builders
- ☒ installer
- ☒ ESCO and utilities
- ☒ building owners and tenants
- ☒ building designers and engineers
- ☐ Real estate companies
- ☒ Public authorities
- ☐ others (spec)

**case studies**

(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

**other information**

(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

## CATEGORY

### ENERGY MANAGEMENT SERVICES

Partner	Sub category	SME's denomination
Catalunya Region	Electrical management	La Vola
	ICT and building automation	PGI Engineering
Regione Piemonte	ICT and building automation	Atena Capetti Elettronica
AREA Trieste	Electrical management	GME
IASA	Electrical management	Astrofos
	ICT and building automation	Delphis Draxis environmental technologies

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	PGI ENGINEERING	
	C / Fontajau, 42 baixos	
	Spain	
	972 222823	
	<a href="http://www.pgiengineering.com">www.pgiengineering.com</a>	
		email
Concept	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> Lack of energy building management Lack of an energy management/consultant	
Product/ service descriptions	<i>(What is , how does it work and a brief technical specification )</i> Consulting on implementing a Bulding management System_BMS Consulting on implementing a Energy Building management Sysstem_EBMS Implementation of measurment and verification Plan according to IPMVP Commissioning	
Innovative aspects	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Management and supervision of system Management and supervision of consumption Quality analysis energy supply Regular reports of behavior (comparative, maximum, minimum, ..)	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> early market <input type="checkbox"/> mature market	
Applications in Energy efficient building	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i> In process	
Specific answer to MED aspect	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> idem innovate aspects	
Applications in Energy efficient building	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i> Edifici Ciutat Judicial BCN in process	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineerss
	<input checked="" type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i> In process

<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i> UNE-EN 16001 ( FUTURA ISO 50001 )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	La Vola
	address: av. Roma, 252-254. 08560 Manlleu
	nation: Spain
	telephone: 938507966
	web site: www.lavola.com
	email: emaneja@lavola.com

<b>Concept</b>	Electrical management services
----------------	--------------------------------

<b>Product/ service descriptions</b>	Electrical management services
--------------------------------------	--------------------------------

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
---------------------------	--

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
--------------------------------------	--

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )



<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input checked="" type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class.), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: ATENA Srl
	address: Via Pancalieri, 37 bis
	VIGONE (TO)
	nation: Italy
	telephone: +39 011 19 836870/1
	web site: <a href="http://www.atenagroupsrl.it">www.atenagroupsrl.it</a>
	email: <a href="mailto:info@atenagroupsrl.it">info@atenagroupsrl.it</a>

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i></p> <p>Home automation system that intelligently manages the residential environment through independent but integrated solutions to meet the needs of security, control, comfort, energy saving and environmental protection, but also to constitute a valid support to people with motor disabilities, cognitive and sensory in their everyday lives.</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>Saydo is a home automation system that intelligently manages the technology installed in the living solutions through independent, but integrated. The system is modular distributed intelligence on each device. The failure of a component involves only the functions associated with it, making Saydo highly reliable, since no critical points of operation.</p> <p>Saydo is the perfect answer for all areas that have a high operational complexity, the need for efficiency in energy expenditure, security and centralized management.</p> <p>The heart of the system is Saydo the Globe, the unit of management of home automation. Equipped with touch screen and an intuitive user interface allows access to the configuration and programming of the system and allows you to quickly and easily manage the system. The Globe also integrates features of Internet access for remote management, ensuring the highest levels of security and usability.</p> <p>With just a few application-specific modules that interact with each other, you can create systems with different degrees of complexity, taking into account the needs and the needs of customer.</p> <p>Through a LAN connection, you can manage the system remotely mobile phone, PDA and any new technology that allows you to access the network.</p>
--------------------------------------	---

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
<b>maturity of the product</b>	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> early market <input type="checkbox"/> mature market
<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )  
<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
<b>Present market distribution/availability</b>	<input type="checkbox"/> local <input type="checkbox"/> regional <input type="checkbox"/> national <input type="checkbox"/> EU <input checked="" type="checkbox"/> worldwide
<b>Potential or future market distribution</b>	<input type="checkbox"/> local <input type="checkbox"/> regional <input type="checkbox"/> national <input type="checkbox"/> EU <input checked="" type="checkbox"/> worldwide
<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders <input checked="" type="checkbox"/> installer <input type="checkbox"/> ESCO and utilities <input type="checkbox"/> building owners and tenants <input checked="" type="checkbox"/> building designers and engineers <input type="checkbox"/> Real estate companies <input type="checkbox"/> Public authorities <input type="checkbox"/> others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: CAPETTI ELETTRONICA Srl
	address: Strada Stratta, 57
	VIGONE (TO)
	nation: Italy
	telephone: +39 011 9819811
	web site: <a href="http://www.capetti.it">www.capetti.it</a>
	email: <a href="mailto:info@capetti.it">info@capetti.it</a>

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i></p> <p>WINECAP™ is a Innovative, Modular and completely WIRELESS line of solutions products &amp; systems for the data acquisition. Trough a sensor network (WSN), it is able to measure and record: Temperature, Humidity, Electricity Consumption, Heat Consumption, Light, CO2, etc.</p>
----------------	---

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>WINECAP™ is a Innovative, Modular and completely WIRELESS line of solutions products &amp; systems for the data acquisition. Trough a sensor network (WSN), it is able to measure and record: Temperature, Humidity, Electricity Consumption, Heat Consumption, Light, CO2, etc. Data are available according to different applications for plant control systems and/or for remote monitoring systems. WDLS and MDGG solutions are supported by Web Application WEOLO™ of which the heart is the DSG (Data Storage Gateway) that allows the access to data with connecctions: LAN, WiFi and GSM/GPRS/UMTS.</p> <p>The DSG receives and records measures acquired by sensors (200.000 per Data Logger), and notifies exceeded thresold or abnormalities of the WSN, with an eMail or an SMS. Measures acquired are available graphically and in tabular form and are exportable in file .CSV.</p> <p>The WBMS solution is available in 2 versions, the first supported by Web Application WEOLO™; the second, cheaper, is supported by WLI, which is an universal interface for integrations with traditional systems of Thermoregulation, Home automation e</p>
--------------------------------------	---

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	<ul style="list-style-type: none"> <li>• Every sensor can hold till 8000 patterns per channel.</li> <li>• 5 years autonomy battery powered sensors and routers</li> <li>• WLI-DL and DSG can hold 200..000 measurements per sensor</li> <li>• WSN network bandwidth ISM 868 MHz</li> <li>• The WSN network ensures coverage till 300 mt. (on sight) with the possibility of extending to 4.5Km through the use of cascading routers.</li> </ul>

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input checked="" type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input checked="" type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Category	Energy management services
Sub category	<input type="checkbox"/> Heat management
	<input checked="" type="checkbox"/> Electrical management
	<input type="checkbox"/> ICT and building automation
	<input type="checkbox"/> Maintenance / Operating
Identification of main innovative solutions used in MED area (products and services)	1. Electricity monitor
	2.
	3.
	4.
	5.
	6.
Identification of SMEs which produce these innovative solutions specifying the geographical context (MED area-UE-extra UE)	1. Eco-eye (extra-UE)
	2. Involection (extra-UE)
	3. Current cost (extra-UE)
	4.
	5.
	6.
Brief sum up of Business as Usual in MED AREA for the category in a refurbishment context	1.
	2.
	3.



# Technical Report

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: <b>GME srl</b>
	Address: Via Saba 11, 33082, Azzano Decimo, (PN)
	Nation: Italy
	Telephone: +39 0434 640556
	web site: <a href="http://www.gmelab.com">www.gmelab.com</a> , <a href="http://www.gmesrl.it">www.gmesrl.it</a> email: <a href="mailto:s.gugel@gmesrl.it">s.gugel@gmesrl.it</a>
<b>Concept</b>	<p>Meter-power makes it possible to use the social networking site Facebook in an interesting and novel way, allowing people to view and compare energy and carbon dioxide consumption over time (hours, days, weeks, etc.)</p> <p>Knowledge of our energy consumption is key to a greater awareness regarding the use of electricity and a better distribution of our energy consumption throughout the day. The product is at the centre of a project shared through the use of web 2.0 channels, such as social networks, in order to develop a culture of energy saving by using real data to measure and assess improvements made to our energy consumption habits.</p>
<b>Product/ service descriptions</b>	<p>Meter-power is a hardware and software integration platform for monitoring energy consumption in civil and industrial buildings. Thanks to a user-friendly interface, the software can be used to monitor energy consumption within a building as a whole, parts of the building, or even individual electrical loads on the system, and to share them through web 2.0 technology. Plug-ins can be used to integrate the software with other hardware systems for monitoring energy consumption and renewable energy system performance. The hardware part of the device is able to provide satisfactory measurements of voltage, current and power consumption from the electrical system. The accuracy and continuity of the load monitoring are guaranteed by a high frequency of data readings. The hardware device is able to send the data to a computer, either via conventional cable connection systems (RS 232, USB), or through wireless systems or ZigBee nodes. The software, installed on a computer, aggregates the data and provides real time measurements of the power used by the system and the overall energy consumed (e.g. in the last week, month, year), thereby allowing the end user to analyse the aggregate data.</p>
<b>Innovative aspects</b>	<p>The most innovative aspects of the application are the precision of the device, its flexibility and its capacity for integration with other monitoring systems, as well as the possibility of sharing data and energy performances through web 2.0 applications. The device also offers the possibility of monitoring electrical loads in the home at certain times or under certain conditions, excluding them if required.</p>
<b>Maturity of the product</b>	R&D phase
	Early market
	<input checked="" type="checkbox"/> Prototype
	Mature market
<b>Applications in</b>	The device and the software application are currently being used in some field

<b>Energy efficient building</b>	tests for monitoring and optimising electrical loads, both in industrial and residential buildings. The current applications are designed to identify electrical systems with the highest impact in terms of consumption, and to implement strategies for improving their performance.
<b>Specific answer to MED aspect</b>	The application will make it possible to improve your energy usage habits, comparing your performance with other members of the community, and developing online strategies and competitions designed with the ultimate goal of saving energy. Using the application and sharing energy saving strategies makes it possible to optimise and reduce energy consumption in buildings, thereby reducing CO2 emissions per capita and the carbon footprint of people's daily activities. The application can also be used in industrial contexts where the energy scenarios are more complex.
<b>Applications in energy efficient building</b>	
<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide
<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	EU
	<input checked="" type="checkbox"/> worldwide
<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> installer
	<input type="checkbox"/> buidelrs
	<input type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> Building owners and tenants
	<input type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input checked="" type="checkbox"/> others (spec): SMEs which produce domotics systems and appliances
<b>Case studies</b>	The product has so far been tested on industrial users for the optimisation of their energy consumption during production processes, and on residential units, in order to ensure the correct functioning of the product.
<b>Other information</b>	

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	<b>SME name</b>
	1 Athinon Lavriou Avenue, Lavrion Technological and Cultural Park,
	19500 Attica
	Greece
	(+3022920) 69219
	<a href="http://www.astrofos.com">www.astrofos.com</a>
	<a href="mailto:info@astrofos.com">info@astrofos.com</a>

<b>Concept</b>	(Short description of energy efficiency problems or barrier that this product could help to overcome)
	<b>Decrease in minimum electrical consumption of lighting with simultaneous improvement of qualitative characteristics.</b>

<b>Product/ service descriptions</b>	(What is , how does it work and a brief technical specification )
	<b>The lighting system that has been developed by Astrofos takes advantage of lighting technology LED with wireless and wired control. The combination of systems and methods can put into effect any application of lighting (architectural, decorative, artistic, lighting of streets, lighting of public spaces etc). Astrofos Systems can control all the characteristics of light intensity, color, operation, etc. This can be done via computer, mobile phone, tablet etc. locally or even remotely an internet. The system is open source and can work easily with all existing communication protocols.</b>

<b>Innovative aspects</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
	<b>The system of Astrofos is one of the few wireless lighting control systems in the world market and the only one that combine all these features together: Lower costs, greater flexibility, wide range of lighting applications, top savings, investigation of potential energy scenarios, very long life due to premium quality construction.</b>

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in efficient building Energy</b>	(describe projects where the product/solution is applied. Underline the expected performance under a energy saving point of view )
	<b>• Architectural lighting, • Building facades, lighting, monuments, streets, squares, etc., • Decorative lighting business and residential premises, • Showcases, foodservice, gardens, swimming pools etc., • Master light commercial and residential spaces, • Lighting of public buildings, offices, warehouses, gathering together hotel. Lighting quality and energy saving., • Artistic Lighting, • Performances, museums, exhibitions etc. In all these reports, the savings can vary per event from 40 to 95%.</b>

<b>Specific answer to MED aspect</b>	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )
--------------------------------------	--

<b>Applications in efficient building Energy</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

<b>Present distribution/availability market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input checked="" type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<p><i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i></p> <p><a href="http://www.astrofos.com/site/index.php?option=com_content&amp;view=category&amp;layout=blog&amp;id=43&amp;Itemid=72&amp;lang=en">http://www.astrofos.com/site/index.php?option=com_content&amp;view=category&amp;layout=blog&amp;id=43&amp;Itemid=72&amp;lang=en</a></p>

<b>other information</b>	<p><i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i></p>

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	DELPHIS SA									
	Peloponnissou 2, Nea Kifisia, 14564 Athens									
	Greece									
	(+30210) 6209929									
	<a href="http://www.delphisgroup.gr/">http://www.delphisgroup.gr/</a> <a href="mailto:info@delphisgroup.gr">info@delphisgroup.gr</a>									
Concept	<p>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</p> <p><b>The energy efficiency of buildings in the tertiary sector is substantially limited by the lack of continuous monitoring and self-correcting systems and equipment. The daily errors in the maintenance and use of equipment such as air conditioning units, chillers, lighting systems, could cause a cumulative damage that can quickly convert a "green" building into "gray".</b></p>									
Product/ service descriptions	<p>(What is , how does it work and a brief technical specification )</p> <p>The software Watchtower™ can take daily data from various systems and equipment buildings, to translate them, normalize and then analyze them to automatically detect errors and irregularities. For each error notification will be sent to the responsible person (eg, Branch Manager, responsible for maintenance, technical director, etc.) with the parameters of the problem, possible solutions and estimated costs of continuing the problem.</p>									
Innovative aspects	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p> <p>The Watchtower™ software in relation to the market's proposals offers 3 innovations: - Communicates with all types of equipment already installed in buildings that do not require installation of any specific 'compatible' material. - Analyzes automatically through intelligent algorithms the building data and finds only the errors, which do not require the user to perform the analysis (with graphs and other devices).</p> <p>Not sold in the traditional way of software distribution over a large initial price but available exclusively through monthly or annual subscription (SaaS - Software as a Service) so they do not require a great commitment of the client, contrary to test the usefulness of the service and to stop whenever they wish.</p>									
maturity of the product	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>R&amp;D phase</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Prototype</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>early market</td> </tr> <tr> <td><input type="checkbox"/></td> <td>mature market</td> </tr> </table>		<input type="checkbox"/>	R&D phase	<input type="checkbox"/>	Prototype	<input checked="" type="checkbox"/>	early market	<input type="checkbox"/>	mature market
<input type="checkbox"/>	R&D phase									
<input type="checkbox"/>	Prototype									
<input checked="" type="checkbox"/>	early market									
<input type="checkbox"/>	mature market									
Applications in Energy efficient building	<p>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</p> <p><b>Retrofit or new applications on networks of retail buildings (eg shops super market, bank branches, HORECA, etc.), large facilities (eg airports, malls, campuses etc.) and large office buildings (eg a ministry of service, shopping service of a company with nationwide coverage, etc.).</b></p>									
Specific answer to MED aspect	<p>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</p>									

Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

Present market distribution/availability	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input checked="" type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

Main purchaser profiles	<input type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input checked="" type="checkbox"/> ESCO and utilities
	<input checked="" type="checkbox"/> building owners and tenants
	<input type="checkbox"/> building designers and engineers
	<input type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input checked="" type="checkbox"/> others (Facility Management Companies, supermarkets, banks, malls, airports, campuses)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	DRAXIS ENVIRONMENTAL TECHNOLOGIES SA	
	Mitropoleos 63, 54623 Thessaloniki	
	Greece	
	(+302310) 274566	
	<a href="http://www.draxis.gr">www.draxis.gr</a> <a href="mailto:info@draxis.gr">info@draxis.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Theoretically the monitoring of system's energy performance by GIS can be much more efficient and promote conclusions on the energy behavior of users.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>Management of energy nodes in connection with GIS and energy meters</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>They do not exist at least as far as we know.</b>	
maturity of the product	<input checked="" type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input type="checkbox"/> early market <input type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>Management of meters in big public buildings in combination with the follow-up of environmental impact.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input checked="" type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )



## CATEGORY

### GLOBAL ENERGY REFURBISHMENT SERVICES

Partner	Sub category	SME's denomination
Catalunya Region	Energy advisor	La Vola PGI Engineering
	Conception - design	La Vola PGI Engineering
	Building work and ESCO	La Vola PGI Engineering
Regione Piemonte	Conception - design	Onleco
	Building work and ESCO	Onleco
IASA	Energy advisor	Helesco Cofely
	Conception - design	Helesco Cofely
	Building work and ESCO	Helesco
PACA	Energy advisor	Eco batissons Eco Bati Rhone Alpes Energie Capeb
	Conception - design	Domenov
	Building work and ESCO	EDF Synerciel Domenov

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	La Vola
	address: av. Roma, 252-254. 08560 Manlleu
	nation: Spain
	telephone: 938507966
	web site: www.lavola.com
	email: emaneja@lavola.com

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> Reduce the energy demand

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> Energy audits Facilities projects Renewable energies projects Energy certification

<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input type="checkbox"/> early market
	<input checked="" type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	x	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	x	worldwide

<b>Main purchaser profiles</b>	x	builders
	x	installer
	x	ESCO and utilities
	x	building owners and tenants
	x	building designers and engineerss
	x	Real estate companies
	x	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

<b>other information</b>	(Certification (i.e ecolabels, energy class.), LCA, Others relevant infos )

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	PGI ENGINEERING	
	C / Fontajau, 42 baixos	
	Spain	
	972 222823	
	<a href="http://www.pgiengineering.com">www.pgiengineering.com</a> email	

<b>Concept</b>	<i>(Short description of energy efficiency problems or barrier that this product could helps to overcome)</i> Energy demand excess due to building type of the last decada ("mur cortina principalment")	

<b>Product/ service descriptions</b>	<i>(What is , how does it work and a brief technical specification )</i> Energy study of the envelope (shadow study, study of radiation, dynamics simulations, simulations of natural light, ...)	

<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Specific software of simulation Tools for the decision to anticipate problems (discomfort, overdimensioned, ...)	
	Multidisciplinary team and simulation tools	

<b>maturity of the product</b>	<input type="checkbox"/>	R&D phase
	<input type="checkbox"/>	Prototype
	<input type="checkbox"/>	early market
	<input checked="" type="checkbox"/>	mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i> New buildings Energy refurbishment	

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> Reduction of glazing surface Increase the opacity of the exposed surface	

<b>Applications in Energy efficient building</b>	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )
	Seu RBA Editores_Barcelona
	CMT_Barcelona
	Seu Layetana_Hospitalet de Llobregat ( BCN )
	Tecnocampus de Mataró
	Seu Banc de Sabadell

<b>Present distribution/availability market</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input checked="" type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> building owners and tenants
	<input checked="" type="checkbox"/> building designers and engineers
	<input checked="" type="checkbox"/> Real estate companies
	<input checked="" type="checkbox"/> Public authorities
	<input type="checkbox"/> others (spec)

<b>case studies</b>	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )
	Seu RBA Editores_Barcelona
	CMT_Barcelona
	Seu Layetana_Hospitalet de Llobregat ( BCN )
	Tecnocampus de Mataró
	Seu Banc de Sabadell

<b>other information</b>	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )
	Seu RBA Editores_Barcelona : Energy Certification A
	CMT_Barcelona: Energy Certification B
	Seu Layetana_Hospitalet de Llobregat ( BCN ): Energy Certification A y LEED <b>Platinum</b>
	Tecnocampus de Mataró : Energy Certification A ( educational center ) y B ( office )
	Seu Banc de Sabadell : Energy Certification A

<b>Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)</b>	SME name: ONLECO Srl
	address: Via Pigafetta,3
	TORINO
	nation: Italy
	telephone: +39 011 503054
	web site: www.onleco.com
	email:info@onleco.it

<b>Concept</b>	<p><i>(Short description of energy efficiency problems or barrier that this product could help to overcome)</i></p> <p>Onleco involved in selecting the most effective plant and building technologies for indoor comfort and carries out checks and controls to identify specific solutions to correct problems and inefficiencies of the system building</p>
----------------	--

<b>Product/ service descriptions</b>	<p><i>(What is , how does it work and a brief technical specification )</i></p> <p>Operates on the market since October 2004 providing consulting services to companies with high expertise in engineering, professional offices, businesses, public and private.</p> <p>Over the years he has developed expertise in the areas of energy and sustainable construction, and project evaluation and the quality of the indoor environment (acoustics, lighting and air conditioning) and the identification of appropriate technologies to its control. In particular, he developed a specific curriculum in environmental assessment for the conservation of works of art and collections in museums, archives, libraries and historic buildings and the energy and environmental monitoring of residential, commercial and industrial.</p> <p>In this context, place the tools for quality control during construction sustainable design, construction and operation of a new building or an existing building is upgraded to allow players in the building process and end user to acquire certainty.</p> <p>In the energy field services are:</p> <ul style="list-style-type: none"> <li>- Innovative systems for the exploitation of renewable energy and produce energy;</li> <li>- Balance environmental and energy-energy registers on a regional level;</li> <li>- Documentation of compliance for economic incentives and deductions;</li> <li>- Diagnosis and energy certification of buildings;</li> <li>- Design and contract for the redevelopment of buildings and facilities;</li> <li>- Contracts for the heat management of the facilities.</li> </ul>
--------------------------------------	--

<b>Innovative aspects</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i> <ul style="list-style-type: none"> <li>• The energy simulation and CFD (Computational Fluid Dynamics);</li> <li>• the procedures and techniques for building commissioning and commissioning of the plant;</li> <li>• post-occupancy monitoring environmental parameters and energy.</li> </ul>
---------------------------	---

<b>maturity of the product</b>	<input type="checkbox"/> R&D phase
	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> early market
	<input type="checkbox"/> mature market

<b>Applications in Energy efficient building</b>	<i>(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view )</i>

<b>Specific answer to MED aspect</b>	<i>(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )</i>
--------------------------------------	---

<b>Present market distribution/availability</b>	<input type="checkbox"/> local
	<input checked="" type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input checked="" type="checkbox"/>	ESCO and utilities
	<input checked="" type="checkbox"/>	building owners and tenants
	<input checked="" type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input checked="" type="checkbox"/>	Public authorities
	<input type="checkbox"/>	others (spec)

<b>case studies</b>	<i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i> Palazzo Madama ,Torino Museo di arte orientale , Torino Palazzo Gran Guardia, Verona Santa Giulia, Brescia
<b>other information</b>	<i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i>



Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	<b>HELESCO</b>	
	Rizari 13, 11634 Athens	
	Greece	
	(+30210) 7255588	
	<a href="http://www.helesco.gr">www.helesco.gr</a> <a href="mailto:gkamaras@helesco.gr">gkamaras@helesco.gr</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Provides energy services. Efficient application of energy saving measures.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>Identification, planning/design, application/implementation, monitoring/evaluation of energy saving solutions. Besides the choice of equipment, installation issues are solved by third party. Guarantee of performance, contract with the costumer, technical-financial risk, insurance coverage.</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>The most important incentive that the company offers is guarantee of performance which makes the difference from energy audit and consultant companies.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> early market <input type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>Energy production, renewable energy sources, biogas</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	

Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a energy saving point of view )

Present market distribution/availability	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input checked="" type="checkbox"/> national
	<input type="checkbox"/> EU
	<input type="checkbox"/> worldwide

Potential or future market distribution	<input type="checkbox"/> local
	<input type="checkbox"/> regional
	<input type="checkbox"/> national
	<input type="checkbox"/> EU
	<input checked="" type="checkbox"/> worldwide

Main purchaser profiles	<input type="checkbox"/> builders
	<input type="checkbox"/> installer
	<input type="checkbox"/> ESCO and utilities
	<input type="checkbox"/> building owners and tenants
	<input type="checkbox"/> building designers and engineerss
	<input type="checkbox"/> Real estate companies
	<input type="checkbox"/> Public authorities
	<input checked="" type="checkbox"/> others (Industry, Tertiary sector)

case studies	(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )

other information	(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )

Identification of SME settled in MED area and providing these innovative solutions or methodologies (products or services)	COFELY GDF SUEZ HELLAS	
	Thermopylon 2, 15235 Vrilissia	
	Greece	
	(+30210) 6085030 & 6085040	
	<a href="http://www.cofely-gdfsuez.gr/">http://www.cofely-gdfsuez.gr/</a> <a href="mailto:info@cofely-gdfsuez.com">info@cofely-gdfsuez.com</a>	
Concept	(Short description of energy efficiency problems or barrier that this product could helps to overcome) <b>Provides energy services. Efficient application of energy saving measures.</b>	
Product/ service descriptions	(What is , how does it work and a brief technical specification ) <b>Operation, management, maintenance of technical installations/ energy services, guarantee of performance. Sustainable solutions (CHP, renewable energy etc.)</b>	
Innovative aspects	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service ) <b>Guarantee of performance.</b>	
maturity of the product	<input type="checkbox"/> R&D phase <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> early market <input type="checkbox"/> mature market	
Applications in Energy efficient building	(describe projects where the product/solution is applied. Underline the expected performance under a enegy saving point of view ) <b>Renewable energy and energy efficiency measures. There are no preferences in technology. Technologies are combined according to the needs of the client, in order to find the best solution.</b>	
Specific answer to MED aspect	(In comparison with current market offer, which are the innovative and competitive characteristics of this product/service )	
Applications in Energy efficient building	(describe projects where the product/solutions are applied. Underline the expected performance under a enegy saving point of view )	

<b>Present market distribution/availability</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input checked="" type="checkbox"/>	worldwide

<b>Potential or future market distribution</b>	<input type="checkbox"/>	local
	<input type="checkbox"/>	regional
	<input type="checkbox"/>	national
	<input type="checkbox"/>	EU
	<input type="checkbox"/>	worldwide

<b>Main purchaser profiles</b>	<input type="checkbox"/>	builders
	<input type="checkbox"/>	installer
	<input type="checkbox"/>	ESCO and utilities
	<input type="checkbox"/>	building owners and tenants
	<input type="checkbox"/>	building designers and engineers
	<input type="checkbox"/>	Real estate companies
	<input type="checkbox"/>	Public authorities
	<input checked="" type="checkbox"/>	others (Private sector)

<b>case studies</b>	<p><i>(Indicate here where the product/service has already been tested, and results obtained. If available give a link to a website or mention source for further information )</i></p> <p><b>Too early to have common projects. Only energy audits so far.</b></p>
---------------------	---

<b>other information</b>	<p><i>(Certification (i.e ecolabels, energy class..), LCA, Others relevant infos )</i></p>
--------------------------	--

### 3. MORE INSIGHT INTO THE EE RENOVATION TYPES OF INITIATIVES

#### 3.1. Cooperative SMEs : a diversity of models and approaches

Part 1 showed that structured cooperation is still very scarce in Region P.A.C.A. (as it is generally elsewhere in France). Nevertheless, we chose to further explore this topic, so as to get a better view of what is at stake, what are the difficulties, what can be learnt from the existing experiences through four rather contrasting examples :

- **ECOBATISSONS** gathers “activists in ecobuilding” (including renovation) ;
- **ECOBÂTI 84** is contrasting with the previous example in the sense that this initiative is undertaken by the main professional syndicate for building artisans and SMEs (CAPEB) ; we shall focus on the example found in the department of Vaucluse which is the most advanced one in Region P.A.C.A. ;
- **RHONE-ALPES-ECO-ENERGIES** is a cluster. We shall not describe it all but mainly focus on a recent action favouring the creation of “SMEs structured groups” ; they have a partnership agreement with the French Federation of Coops.
- the “**Groupe ment momentané d’entreprises**” is new legal framework which has been developed nationally ; in Region P.A.C.A., it is particularly promoted by CAPEB 13.

##### 3.1.1. ECOBATISSONS

Source : [www.ecobatissons.fr](http://www.ecobatissons.fr)

**Contacts :**

Philippe Bouchaud, president,  
GCB Conseils  
Tel : 04 26 03 17 28  
[www.gcb-conseils.eu](http://www.gcb-conseils.eu)

Bruno Bazire, architect  
83440 - Seillans  
Tel : 04 94 84 38 36

Laurent Sadouet, wholesale-distribution eco-materials  
C'est Tout Vert  
83 - Salernes  
Tel : 04 94 70 11 05  
[www.cest-tout-vert.com](http://www.cest-tout-vert.com)

##### 3.1.1.1. Origins

Ecobatissons has originally started as a SCIC (April 2008) with a real cooperative objective and 10 founders. One of the founders was an architects firm, specialized in bioclimatic design and eco-building. For various reasons, including insurance, they wanted to find other professionals along the chain of value they could rely on.

At first, ECOBATISSONS heavily relied on an eco-materials dealer situated in St Maximin-la-Ste Baume (Var). It won an award in 2008 through the Var Innovation challenge. But the management of the SCIC proved too time and energy consuming and the original material dealer went bankrupt ; so it was transformed into an association with lighter objectives (February 2010).

#### 3.1.1.2. Members and values

Members belong to all the professions of the chain of value, from designers (architects, engineers, project managers) to distribution and artisans. The professional directory counts 25 different companies and professionals.

There are three kinds of members :

- active members whose application is subject to approval by the other members,
- project holders,
- supporters.

The active members have developed a commitment charter :

1. inform and implement solutions with quality, respect of the client, environment and health in mind
2. give priority to healthy, ecologic and local materials and equipments
3. reduce grey energy
4. have necessary skills to implement works ; respect all fiscal and social obligations ; have the necessary insurance
5. fair prices
6. accept a satisfaction survey after works implementation
7. share knowledge and experience with other members ; accept on-site training and give on-site help to other members
8. give a hand in the management of the association (financing, material, intellectual...)
9. promote Ecobatissons and its values

They consider themselves as real activists and have strong opinions regarding consumers' society, capitalism. When recruiting new members, they mainly seek consistency (real implementation) and the will for self-improvement.

Some members have had another life/job before and start another career with Ecobatissons.

#### 3.1.1.3. Main difficulties encountered

Because of this activist point of view, the main difficulty is due to the fact that the market for eco-building is still very scarce. The members explain the situation by the lack of information and awareness for eco-building. So, most members must deal with both markets, the "standard" market and eco-building one, both techniques and both arguments.

On the other hand, they also consider that the market suffers from an overload of contradictory information and doesn't know who and what to believe.

The eco-materials dealer states that if artisans and SMEs come to him, generally it is because their own clients have made a special demand. So he considers that, to date, the **market is pulled by demand**. It means that, as a materials dealer, he can be led to : training and supporting artisans, acting as consultant, putting together teams of artisans to implement some works like exterior insulation, doing on-site follow-up. In his opinion, it is the only way to keep prices low because otherwise, insecure artisans tend to ask very high prices as a protection from unintended problems.

In his opinion, this is a gap in the chain of value. But, especially for renovation, he thinks that this supporting activity cannot be valued : the market is not ready to pay for it.

#### 3.1.1.4. Main activities

##### **A. Promotion.**

Apart from the solidarity entailed by belonging to the same association, ECOBATISSONS now focuses on raising awareness and promoting ecobuilding. They participate in special events and fairs (8 to 10/year), and have invested in promotion material. They note that fairs specialized in well-being and ecobuilding are a lot more successful than general construction fairs : from 100 to 3 participants to the same conference.

##### **B. Training and experimentation**

It also tries to raise the skills and know-how of its members. Thus they develop training regarding global approach : what one does mustn't disturb what the other has done.

Although they implement and promote training sessions, the people met at ECOBATISSONS are not aware of the FEEbat program.

Because they mainly address the individual market, and mostly "convinced" clients, they are also able to experiment new materials that would not be accepted in formal markets such as public buildings.

##### **C. Group building and marketing.**

They don't have a common commercial approach. Up to now, they remain reluctant about developing project management or GME within the association. A committee is in charge of investigating those issues.

Moreover, common marketing implies that immediate contact, quick answers, reactivity can be secured, which means hiring someone to manage it. The money earned through the Var Innovation award helped them pay someone to do that job, but they couldn't carry on longer.

When group work is done, it is informal : "the same ones are always working together".

ECOBATISSONS is now involved in an eco-neighbourhood : 120 homes, tertiary buildings, 12 000 m<sup>2</sup>. They hope that this project can become a collective reference.

#### 3.1.1.5. EE renovation

Their main market is in new-built homes. Global renovations are scarce ; they may prescribe and recommend them but they cannot impose them.

Usually, clients ask for thermal improvement (often thinking of solar panels for central heating) and insulation.

Roof insulation can be a starter to help clients think global, including external skin insulation, by showing them that they might need little or no heating afterwards. As activists, they also question the total carbon footprint of solar energy (hot water or PV panels) and tend to avoid it.

The persons that we interviewed were not able to explain how heating system installers would find their ways in the association in the future (although there are some now) if EE renovations and new built become main stream, except by accepting that they must loose present markets or disappear or change job.

### 3.1.2. ASSOCIATION ECOBATI

*This business model has been initiated by a building artisans syndicate, called CAPEB. It is a national action, which is implemented differently depending on the local context.*

**Source :** <http://www.capeb-P.A.C.A.corse.fr> ; there are 5 ECOBATI Associations in REGION P.A.C.A. but only 2 are presently active (Alpes de Haute-Provence and Vaucluse). The latter is the one which has been documented in more details (see below – ECOBATI-84).

**Contact :**

Aymeric DEGLAIRE, Secrétaire général CAPEB Vaucluse

#### 3.1.2.1. General objectives and motivations

The general objective of ECOBATI is clearly to help artisans remain in a leadership rather than subcontracting position on the EE renovation market, through volunteer networking and groups. It is considered that their access to the market should be based on their technical skills rather than on financial considerations.

This is implemented at the departmental level and addresses artisans specialized in energy renovation, renewable energies and ecobuilding. They must all become “ECOARTISANS” (see part 1) within their first year of membership.

The support is brought through new common tools and training at a regional level.

CAPEB believes that a global approach to building and renovation is soon to be indispensable which means that artisans will have to change their working habits. If not, they will end up as ordinary sub-contractors and lose their freedom and leadership.

Thus it is necessary that each artisan be trained to global renovation through FEE Bat (see part 1) and be able to call for partnership among fellow artisans while respecting the differences between building professions. ECOBATI was founded in 2008 and its first communication material is two years old.

#### 3.1.2.2. Market appraisal.

The market is considered to be still emergent thanks to public incentives and the evolution of regulations. But the market is still too small to make the majority of artisans really question their present habits. ECOBATI members mostly implement renovation work on the individual home market.

#### 3.1.2.3. ECOBATI-84 : Implementation

In Vaucluse, a project manager, paid by CAPEB, works half-time for the association. Occasionally, the general secretary also works for the association. There has been a 13 000€ annual grant from the Regional council + 6 000 € from the Department council.

### **A. Services to artisans**

There are about 20 association meetings per year, including formal statutory meetings.

§ marketing support: since September 2011, a partnership agreement with a business development agent. The commission is 4% of total works costs (minimum - total costs thresholds), half of it going to the association and half to the agent. The partnership agreement is signed between the agent and each member of the association.



Eventually, it is planned to recruit a marketing person with the money coming from these commissions. ECOBATI clearly thinks that unless there is common marketing and sales, groups of artisans will not exist or survive.

§ promotion : brochures, flyers, fair booths, website maintenance

§ technical support: partnerships about insurance, with architects, banks, business providers...

## **B. Services (advertised) to clients**

§ a thorough thermal audit made with a specific software ; ECOBATI artisans are trained to use it ;

§ works made by different qualified enterprises ; global offers thanks to a network of various skills ;

§ partnership with a bank for financing ;

§ 40% to 50% rebate on owner's building insurance ;

§ special rates for the contribution of an architect: (preliminary study : 100 €TTC) ; associated architects must have a training in ecobuilding ; up to date 13 architects have been identified by their syndicate ; three types of contribution : advisory, plan making, building follow-up. This would help architects get markets under 170 m<sup>2</sup><sup>1</sup>. Partnership with an engineer is also contemplated.

### 3.1.2.4. Number of artisans in ECOBATI - 84

At the beginning, CAPEB-84 has contacted all of its 1 000 members. In 2009, ECOBATI had 50 members, then 39 in 2010 and 20 in 2011. This is due to :

§ the raise of the exigencies to become member : year 1 = none ; year 2 = training ; year 3 = to succeed tests to become ECOARTISAN (formal membership to ECOARTISAN not compulsory) ;

§ the progressive exclusion of unfair members (stealing other members' clients ; self-promotion rather than collective...) ;

§ disappearing of some enterprises (especially PV) ;

New membership is not actively sought for but happens through word of mouth and cooptation.

The 20 present members are general building enterprises (2), mason (1), blowing-insulation (1), external insulation (1), plumber-electricity-heating (1), renewable energies (3), glass (1), paints (2). They have between 2 and 20 employees.

### 3.1.2.5. Members' motivations and behaviour.

The members motivations are : getting new business, sharing experience, mutualising some tools.

Presently, they work through informal cocontracting. Each one makes his own quotation. This is also the case for works coordination, with no explicit coordinator. A good practices charter has been written to prevent too individualist behaviours. They don't work under the official legal "Groupement momentané d'entreprises" because members are afraid of a solidarity obligation in case one of them fails. More formal cooperation is not excluded but time is needed to know each other and learn to work together.

---

<sup>1</sup> Under that limit, an architect's contribution is not compulsory in France.

The main difficulties are : knowing how to work together (most difficult) ; business agent costs ; creating the network is time consuming.

The experience with the business agent is rather new ; so it is not possible yet to give quantitative results.

### **3.1.3. ACTION “Groupe d’entreprises” from cluster RHONE-ALPES-ECO-ENERGIES**

*The following detailed information will mainly focus on a specific B to B action implemented by the Rhône-Alps cluster dedicated to eco-energies. It is a structural action aiming at creating, developing and promoting “groups of enterprises”.*

**Information source** : <http://www.ecoenergies-clusetr.fr>

**Contact :**

**Mickaël de Chalendar**  
La Cité de l'environnement  
355, Allée Jacques Monod  
69800 Saint-Priest  
Tel : + 33 (0)4 78 33 62 67

**Members :**

The cluster counts 230 members :

- artisans, installers, groups of artisans : actually, the cluster doesn't count many of them ; they are represented through their syndicates and through one coop counting 130 artisans. Thus information about them is second-hand because filtered by the syndicates.
- architects, economists, engineers
- promoters
- real estate managers
- wholesalers, manufacturers
- ESCos
- training companies
- various institutions
- Espaces Infos Energie

#### 3.1.3.1. Motivations and project origins

The cluster's administrators are convinced that multiplying groups of enterprises will help local SMEs access markets for which they couldn't submit on their own, while improving quality through better coordination.

These groups not only include building artisans and SMEs but also other actors such as architects, engineers.... The cluster believes that it is a way to build or renovate BBC or positive energy buildings while getting ready for the regulations to come (RT 2012 and RT 2020).

The cluster applied to a 2009 call for projects<sup>2</sup> which objective was to create “grapes of enterprises”. This helped the cluster gather financing to create enterprises groups ; this financing was doubled by Region Rhône-Alpes. A steering committee gathered once a month for 10 months to set up a strategy and imagine what actions should be implemented. In parallel, a benchmark was undertaken in France and fifteen other groups where documented.

---

<sup>2</sup> DATAR, <http://territoires.gouv.fr/grappes-dentreprises>

A steering committee has been set up to build up the strategy and follow this action : enterprises belonging to a group or about to create one, FFB RA, CAPEB RA, CMA RA, UNSFA RA, FFACB....

#### 3.1.3.2. Present situation in Rhône-Alpes

About fifty formal or informal groups have been identified (for 42 000 building companies). They often are vertical groups (artisans + other kinds of enterprises) rather than horizontal (artisans only).

Their targets are both the new built and renovation market. But the EE renovation market is still considered as a niche. On the other hand accessibility for disabled is a growing market and groups seem to be more successful than individual SMEs on that market. No specific information is available about the individual home market.

The artisans involved in those groups are considered to be motivated (they are early-goers and are eager to work well). But although it is owner of the brand mark "ECOARTISAN", CAPEB thinks that this label is not enough to penetrate the EE market.

The kind of groups which seem to work best are those where one enterprise brings the market and coordinates all the other SMEs involved, which act as sub-contractors. In some cases, there is some mutualisation (in the administrative field mainly) which helps to lower costs.

Public building owners seem to appreciate those groups as a way to get more secure offers.

In the beginning, legal and insurance problems were thought to be the main obstacles but experience shows that organization and relations among group members are more problematic. The continuity of these groups is thus favoured by a "leader" which coordinates through a systems of ruling partnership agreements.

#### 3.1.3.3. New actions implemented

Two kinds of actions are now (fall 2011) being implemented :

**1. support to existing or new groups** : it aims at identifying occurring problems (legal, organization, strategy, marketing...) which prevent them from functioning correctly. Two methods are used :

§ general meetings to raise awareness and inform

§ a call for projects "technical support to existing or to be groups of enterprises" (from September 2011 to December 2012). The selected applicants will benefit from an external expertise aiming at solving these problems, mostly paid for by the cluster (80%).

The groups should aggregate architects, engineers, artisans, manufacturers, wholesalers, duct-test experts... ; their focus should be on global renovation including EE and/or renewable energies.

The services offered are : pre-diagnosis (1/2 day) to help dimension further needs ; expertise domains are : marketing strategy, organization and team-building, legal, insurance and fiscal.

The group must only pay 200€ for the half-day pre-diag and 300 € per day for the expertise.

In the end, this action will help write a “good-practices handbook” (end of 2012).

## **2. On-line market place**

A dedicated website will help demand and supply meet. This market place will advertise existing groups which will display their offers. Owners, public and private, will be able to advertise their calls (2012).

### **3.1.4. “GROUPEMENTS MOMENTANÉS D’ENTREPRISES” - GME**

*The “groupement momentané d’entreprises” (GME = momentary group of enterprises) is a new legal framework which is actively promoted by the building syndicates (CAPEB, FFB). Hereunder, we are going to focus on the way CAPEB promotes this legal framework but more information could be sought for from other sources<sup>3</sup>.*

**Source :** <http://www.capeb.fr/groupement-momentane-d-entreprises-gme/>  
<http://www.capeb13.fr/gmebat.html>

#### **3.1.4.1. Context**

The situation is analyzed by CAPEB as follows :

- the clients wish to have a sole interlocutor
- EE requires that enterprises work together
- competitive networks are presently developing (see below, other parts of chapter 3)
- the artisan is considered as a “natural” interlocutor
- eco-renovation works will be developing
- co-contracting exists but without a legal framework.

Thus CAPEB took position on this issue through two brand marks: EcoArtisan® and EcoRenovation® (which is now being tested, as is tested the brand mark regarding renovation for disabled, Eco-Handi Diag). These brands, which are linked to skills certification and to actual EE renovations, imply coordinated/cooperative work.

In fact, this exigency for actual EE performance cannot be reached without some formal cooperation. Moreover, informal cooperating enterprises can be regarded by law as “sole enterprise”, with many negative legal consequences. This is why CAPEB promotes the legal framework GME.

#### **3.1.4.2. Definition**

The GME is a private agreement between enterprises, which enables them to submit offers to markets which they wouldn’t normally could address alone. In this case, the enterprises are considered as co-contractors meaning that they all address the market directly instead of being sub-contractors. The GME exists only for the time of the works involved and is not incorporated.

---

<sup>3</sup> For instance, see the very thorough guide edited by the FFIE :

[http://www.ffie.fr/fileadmin/user\\_upload/FFIE\\_adherents/02-Dokumentations/Economie/Marche\\_de\\_l\\_electricien/Guide\\_FFIE\\_-\\_Offre\\_Globale\\_renovation\\_energetique\\_-\\_2009-07.pdf](http://www.ffie.fr/fileadmin/user_upload/FFIE_adherents/02-Dokumentations/Economie/Marche_de_l_electricien/Guide_FFIE_-_Offre_Globale_renovation_energetique_-_2009-07.pdf)

The most frequent types of GME are :

- the **conjoint GME** with a common authorised representative, either solidary or not ; in this case, the works are divided into lots and each enterprise is responsible only for its own lot ; the agreement states whether the authorised representative is solidary or not with the other group members.
- the **solidary GME** : in this case, each enterprise is involved in the whole market and must take in charge works in case some partners fail.

The former type is more consistent with the independency culture of artisan SMEs. The GME is considered to be a good alternative to cooperatives, which are meant to be permanent, whereas GME are only temporary.

At several meetings during which the GME legal framework has been presented, it could be noticed that the general contractors (ie. architects or engineers...) were quite enthusiastic about this option regarding formal cooperation.

In the near future, there might be a link between this legal framework and the “labelling” which is being promoted by Grenelle de l’environnement.

CAPEB-13 (Bouches-du-Rhône, P.A.C.A.) has actively promoted this legal framework and designed a special website for this purpose ; within a few months, more than 50 enterprises have shown some interest for participating in GMEs and have registered in the directory.

#### 3.1.4.3. Characteristics of the GME

##### **A. Solidarity principles based on a partnership agreement**

A partnership agreement must be signed. This document states each enterprise’s scope of responsibility and the detailed mission of the authorized representative. It states whether there is a solidary partnership or not.

The solidarity principle makes it possible for the owner to know that even if one or several enterprises fail, the works will be completed for the same fixed price. This guarantee is given by the authorized representative, or by the co-contractors, depending on the type of GME.

Some partnership agreements may even include such missions such as cleaning after completion of the retrofitting.

The syndicates (CAPEB, FFB, FFIE...) have developed partnership agreements templates.

##### **B. Authorized representative**

The authorized representative is not chosen by the client but by the enterprises belonging to the GME. His responsibilities are not those of a prime contractor.

- Role :
  - represent the GME towards the contracting authority
  - submit offers
  - sign the market
  - coordinate the works (ie. inform the other enterprises of the client’s wishes...) ; for this mission national CAPEB has designed a software called MONBÂTI, which may be used ;
  - manage the administrative and financing tasks

For the coordination and management tasks, there exists training to help the artisans take this responsibility.

- Responsibilities : they are strictly limited to what is stated in the partnership agreement and cannot go beyond. If he is solidary responsible, he must take care of occurring problems or failures ; he must also do the works included in his own lot. Some insurance companies include this responsibility
- Payment : the authorized representative can get paid specifically for the tasks that are included in his mission. It may be an agreed percentage on the total amount of the works.

#### 3.1.4.4. Insurance

At least one insurance company (MAAF) includes the role of authorized representative in its civil responsibility contract.

For the ten-year insurance, the members of the GME can make two choices : either each have their own insurance or get a common one through the authorized representative.

For the civil responsibility insurance, there needn't make any change as each lot remains well identified. Only in case of solidary authorized representative should the latter have insurance for his special missions (coordination, representation...). The insurance specific to the time of the retrofitting works (tous risques chantier") which addresses accidents or losses of goods during the works is subscribed by the whole group.

## Conclusion - Lessons learnt

The developments above, focused on only four experiences, are only part of the many pieces of information regarding “free cooperation” between building SMEs and artisans, which have been gathered for the RBA.

Thanks to the network of all CMAs in France, a call was made to identify successful examples of cooperative work. **Very few success stories** were identified, although many attempts were.

### Many SMEs avoid the complex renovation market

Moreover, it seems that the few successful examples identified are closely linked to the new-built or renewable energy market (eco-building, wood-construction) with activist artisans addressing activist clients. In fact, the information also shows that good artisans (or activists ones) are often fully occupied with the new-built market, which is less risky and less troublesome than that of retrofitting.

Another general finding, which complements existing studies (see part 1), is that the market for EE renovation is still very weak and doesn't play any “pulling” role ; thus, no one seems to feel an urgent need for formal cooperation.

### Cooperation is troublesome, mainly from a human point of view

The main difficulties identified for “coordinated work” are :

- marketing and coordination and the need for a person dedicated to these tasks, which is difficult to finance ;
- human relationships among the group ;
- technical problems between group members ;
- money problems between group members.

In a lot of cases, the groups identified remain informal and based on the leadership of only one person. Although “legally based solutions” for formal (temporary) groups have been developed, most artisans remain very reluctant to adopt them and prefer to protect their freedom and independency first.

### EE global renovations change the existing hierarchy of works and professions

About global renovations, it has been noted several times that “good” prescriptions, based on a thorough thermal audit, generally lead to recommending improved insulation (roof, skin, external). This usually lowers heating needs to a great extent (especially in Med climates) and thus the role and potential turnover of heating systems installers.

This is quite contradictory with the way the market functions now :

- for EE renovations, clients are likely to call their electrician or plumber, or a solar panels installer (depending on their existing system) ;
- these professions are the ones who have the best skills/habits/culture for implementing a thermal audit... which might end up recommending other types of work than those that they would normally implement (or lighter ones) ;
- insulation is a hybrid profession ; it can be implemented by several different types of building SMEs : a few emerging specialized ones (blow-insulation ; external insulation),

masons, indoor-wall, plaster and paint... ; the final client is not familiar with (aware of) insulation needs and will have difficulties identifying the good interlocutor.

Learn another job : horizontal diversification

Historically and culturally, artisans and SMEs are mostly specialized ; they can be highly skilled but only in their own field and skills. Rather than wanting to make them do cooperative work with outsiders/others, it might also be useful to help them evolve and be able to implement complementary types of work. Insulation may certainly be the main field into which train enterprises more specialized in technical issues (heating, plumbing...).



### 3.2. White certificates collection

*This business model analysis addresses the case of the ESCOS who must produce white certificates. It will mainly focus on the experience of the electricity supplier EDF at national and local levels ; we'll show how EDF uses this "compulsory expense" as a resource for marketing. All energy suppliers have quite similar programs, with variations of course. They will also be briefly presented.*

*Presently, there seem to be new emerging actors on the white certificates market, bringing new financing opportunities for marketing and training actions, which may result in new business models still to be explored and understood.*

#### 3.2.1. EDF marketing strategy for EE renovations

##### Sources :

[www.edf.fr](http://www.edf.fr)

[www.synerciel.fr](http://www.synerciel.fr)

[www.solution-bien-etre-partenairesbleuciel.fr](http://www.solution-bien-etre-partenairesbleuciel.fr)

##### Contacts

Patricia MELA, director of the program "Energie efficace" in Region P.A.C.A. ; [patricia.mela@edf.fr](mailto:patricia.mela@edf.fr)

Denis LUNEAU, project manager for the mass market (housing and professionals)

[denis.luneau@edf.fr](mailto:denis.luneau@edf.fr) ; phone : + 33 (0)6 68 22 65 39 ; 7 rue André Allar, Marseille.

Thierry VANDERDONCKT, responsible for the collaboration with "Partenaires Bleu Ciel EDF" SMEs program (Region P.A.C.A. and Languedoc-Roussillon) ; phone : 06 26 27 33 18

Frédéric DELPECH, responsible regional Synerciel P.A.C.A. and Languedoc-Roussillon, phone : 06 75 01 37 02

##### 3.2.1.1. P.A.C.A. within a national overall context

EDF involvement in EE and more generally in renovation for mass market (families) is carried out under the "Bleu Ciel" umbrella brand mark. It is driven by the white certificates obligation. Several kinds of actions are undertaken to help supply and demand match. In that context, the SMEs network ("partenaires bleu ciel d'EDF" - PBC) is organized by types of professions and geographically.

#### A. Main services offered to the market

EDF proposes services through all kinds of means (mass advertising, website, brochures sent with invoices, direct contact...). Most of these services **are sold** to the clients (see prices below). In some cases, if the client actually undertakes EE renovation work, he (or the artisan who has done the work) is asked to send the invoices to EDF who value them (white certificates). It should be noted that most clients don't know about the existence of white certificates.

- « **Estimation travaux** » : helps budget EE works. A building expert calls back the client at a convenient time, after analysing a preparatory questionnaire previously filled in by the client (email). Two days after, the client receives a personalized budget and an estimation of cost cuts after works are completed. COST : 69 €TTC
- « **Objectif travaux** » : a thermal audit is made at home by an EDF specialist. A diagnosis with renovation recommendations is given to the client. If the client asks for it, the client may be put in contact with 2 or more SMEs who will budget the works to be done. Very occasionally, a Partner Bleu Ciel (PBC) can prescribe the service. COST : 299 €TTC

- « **Mise en relation** » : clients may ask EDF to be put in relation with PBC for planned renovation works. EDF never prescribes “joint cooperative SMEs groups” so as to respect laws of free competition.
- « **Phone technical consulting** » : insulation, heat pumps, wood stove
- « **Financing** » : EDF works with a financial partner (Domofinances) and offers attractive loans (1,95% with occasional promotional 0,95% and EDF grant up to 300€)

#### **B. Main services offered to SMEs : Partners Bleu Ciel (PBC), how it works**

In Region P.A.C.A. + Languedoc Roussillon, there is a network of 750 SMEs ; this figure is considered sufficient for satisfying present demand. They are companies of all sizes :

- 30% heat pumps
- 15% framing
- 20% insulation
- 20% wood stove

Eighty percent are faithful to PBC and there is a limited turnover. Those who quit either have quality control problems or are not active enough or were not able to win markets because of competition.

The number of projects identified by EDF under the PBC program is 36 000 in 2010 ; same in 2011

A three year contract is signed between EDF and PBC, renewable each year :

- the contract has a vintage ;
- the SME indicates how many projects it will make per year. This gives access to a certain number of prospects annually within a predetermine area ;
- P.A.C.A. + Languedoc-Roussillon have a potential of 30 000 prospects/year ;
- the SME must send the invoices to EDF thus giving up its right to value white certificates ;
- annually, the SMEs must produce proofs of : professional certification (Qualibat, Qualibois, Qualifelec...) ; insurance attestation (ten-year and civil responsibility) ;
- only more than 3 years old SMEs are contracted, with some exceptions
- there is a general referential that partner SMEs must implement

The quality control is based on :

- EDF subcontracts with its subsidiary Promotelec the verification of the white certificates
- 5% of the projects have on-site checking
- only 100 clients' complaints/36 000 projects in 2010

*“They aren’t subcontractors. We bring them new business, they must deal with the implementation and the service afterwards.”*

*“Like in any network, there are virtuous artisans and others who are not so. We observe that the very good ones have excessive prices. The network manager’s role is to keep an eye on them. Getting higher prices thanks to EDF’s recommendation cannot last long.”*

EDF boosts the market through heavy advertising. SMEs have access to a database of prospects within a personalized quota.

*Training* : the training is mostly marketing and financial which is considered as a priority by EDF (presentation of new EDF offers ; presentation of financial tools). EDF considers that cooperative work is a consequence of the kind of packaged offers made to the market rather than of training or convincing the SMEs.

*Relationships between PBC* : two-hour meetings (cocktail buffet) are organized so as to create networking within geographical areas : ie. insulation SME + wood stove installer. But “cooperation is mostly a personal project between people sharing the same philosophy and ethics about their work”. Moreover, EDF aims at favouring competition and free market ; thus it doesn’t want to patronize cooperatives and formal groups. EDF makes an estimate of :

- 40% SMEs will favour informal groups of colleagues when multi-lots works have to be done ;
- 60% will widen their services offering : wood-stove installer proposing insulation.

*Organizational information* :

- for “Objectifs travaux”, there are 25 EDF people visiting clients and following up (P.A.C.A. + Languedoc-Roussillon) ; the prospects they contribute to identify have a “superior value” in the data base used by PBC ;
- Management of PBCs : there is a team of 30 people dedicated to managing the PBCs (field + staff)
- EDF works with professional syndicates and presents its offers to them once a year (CAPEB, FRB)

#### 3.2.1.2. Synerciel : a step further regarding the SMEs

The Synerciel network has been created a year and a half ago. Today, nationally, it counts more than 1 800 enterprises and artisans, who are shareholders of an incorporated company (Synerciel SAS) in a joint venture with EDF (10% of the initial capital). They are recruited through Synerciel’s website or by EDF animation. The cost of the share varies from 300€ to 2000 € (more than 10 employees) ; there is also an equivalent yearly contribution. Synerciel has 50 employees in France.

The goal of Synerciel is to create a marketing platform to help clients meet Synerciel members for EE and general renovation project, including financing.

Synerciel members must respect the terms of a “confidence pact” and of the PBC “quality chart”.

*Services to clients* :

- description of the project online or by phone ;
- link with the nearest Synerciel member, which becomes “consultant” for the project ;
- the consultant makes a selection of relevant other professionals who : make a detailed study, give their quotation and propose a financing solution if necessary ; information about grants and incentives is also given ;
- follow up and satisfaction control.

By signing the “quality confidence contract” with Synerciel, the client agree to give away his white certificates value. Thus, he can access to special bargain offers for Synerciel clients.

*Services to members :*

- awareness raising and better visibility through the network communication package ; EDF general opinion is that artisans suffer from a lowering of their activity and that they need marketing help especially project detection ;
- supply of qualified prospects because the maturity of each project is checked and documented before the contact with the member artisan is made ; eight people do this job (at national level) ;
- backup supplied by the customer service ;
- financing solutions for the client and/or the artisan including a 0% loan (SynEco) ; in EDF opinion, financing tools are very useful parallel to public incentives ;
- special offers (“Op”) addressing material supply or insurance rates (MAAF) ; the artisan can benefit from advantages equivalent to those of large companies for himself and his employees ;
- networking could help favour global offers ; nevertheless, this last option is not fully operating in P.A.C.A. right now ; it is being tested in the west. In the meantime, to fight selfish behaviours, each member is encouraged (15€) to document and advertise prospect projects through a fact-sheet ; this incentive is doubled if the project is completed.

The Synerciel member must make a commitment for a yearly number of projects.

*Specific results in Region P.A.C.A. :*

There are 160 members in the Med region (P.A.C.A. + Languedoc-Roussillon), in 9 local agencies, which is considered not to be enough to cover the territory. Each local agency has a “leader” who is chosen by his fellow members ; they hold around 4 annual meetings and also meet regularly on fairs and similar events. The Med level is represented at national level by 2 artisans.

The members are :

- 25% heat pumps installers ;
- 18% electricians ;
- 19% plumbers ;
- 15% carpenters ;
- 14% insulation ;
- 7% wood-stove installers.

There are an average of 6 employees and these SMEs have little or no marketing organization. In France, there are a total of 30 000 energy (efficient ?) renovation projects, 3 500 to 4 000 of them being situated in P.A.C.A. .

For the whole Med area, Synerciel gives a 200 000 € communication budget which is shared among local agencies. Nevertheless, it seems that artisans and SMEs don’t really know how to use well the “umbrella brand” Synerciel for rising their clients’ faith.

3.2.1.3. « Énergie efficace » specific program for Region P.A.C.A.

*Énergie efficace* is a sub-program of the national program “Bleu Ciel EDF”. It aims at preventing a potential blackout in the south-east area of the Region due to excessive momentary demand on the grid by promoting energy efficiency in various ways and among various targets (total electricity savings objectives = 1,5 MWh, equivalent to the consumption of a 300 000 people town).

As far as the mass market and individual clients are concerned, *Énergie efficace* promotes :

- energy efficient home rehabilitations (including fuel-poverty with specific experiences) ;
- energy efficient home building (anticipating new French energy regulatory level - RT 2012) with in-use evaluation programs ;
- experiences to lower peak loads ;
- experiences to promote behavioural changes (distribution of low consumption lamps, “energy coaching”, fuel-poverty specific programs...).

For actual implementation of efficient rehabilitation work, Bleu Ciel-Énergie efficace relies on the PBC program (see above).

For *Energie Efficace*, there are three levels of labelling :

- EDF notoriety and brand asset value is used as an umbrella brand name. On the mass market, it is always linked to the “Bleu Ciel” brand. It is used to give credibility to all partners, including SMEs (PBC).
- In P.A.C.A., “Energie efficace” is another claim which works mainly at a political and institutional level.
- “Solution-bien-être” is advertised as a “packaged offer” within the former two levels. The communication can be relayed by all the partners and especially PBC (ex. PBC websites, leaflets, brochures, fairs, videos...). There is also a low cost 800 phone number.

see : <http://solution-bien-etre-partenairesbleuciel.fr/nf/>

Individual partners (PBC) are strongly encouraged to use the promotional material ; see examples :

- <http://www.climatpro.fr/eco-prime-edf-bleu-ciel-P.A.C.A.-1000-1500.html>
- <http://fr-fr.facebook.com/notes/logre-cie/la-nouvelle-solution-bien-etre-bleu-ciel-edf/211303552253465>
- <http://www.ioneo.fr/bilan-thermique-isolation/la-solution-bien-etre-edf>

For EE, in Region P.A.C.A., EDF has shaped a special local incentive program called “*solution bien-être*”. Its target is the individual homes built before 1990 ; on a total of 200 000 such houses, the objective is to reach an annual 10% renovation rate (against 3% today).

EDF offers an incentive of 1000 euros (called “ecoprime”) which can be combined with existing national incentives (rebate on income tax, 0% rate bank loan...) and its main characteristics have been coined according to national public policies (Loi Grenelle). As from July 2011, the conditions of the incentive program can be described as follows :

1. to live in Region P.A.C.A.
2. to implement two (a + b) combined renovation solutions :
  - a. replacing existing heating system by a heat pump<sup>4</sup> OR a wood stove (fireplace inserts excluded) ;

---

<sup>4</sup> EDF claims that reversible heat pumps are rarely used for cooling during summer ; figures say that they entail a 500kW average consumption during summer

- b. roof insulation (at least 60% of living surface and not less than 80 m<sup>2</sup>) OR exterior insulation OR solar hot water system.
3. being committed, before December 2011, to implement the renovation with EDF Bleu Ciel partner companies, according to Bleu Ciel referential
4. after renovation completion, the applicant/SME must send the invoices to EDF which then returns a 1000 euros check and values the white certificates.

The results to date, after two year of this program are :

- 3600 renovated homes, 400 000 m<sup>2</sup>.
- Average spending = 9600 euros ; 35 M€ turnover.

The heating systems installed are mostly heat pumps (85% vs 15% for wood stove<sup>5</sup>). Insulation is implemented in 50% cases (only 1% or 2% skin insulation, which means almost solely roof/attic insulation). There has been 200 solar panels installed in 2010 (10% of total projects). In 50% cases, the same company (heat pump or wood stove) has also implemented roof insulation.

*Solution bien-être* former incentive program was more attractive financially (up to 2000€) and proposed more options (including changing window panes). The market for window panes changes being very active, it was decided that it needn't be helped any more. The program thus concentrates now on less attractive but effective solutions for the consumer. It can be noticed though, that skin-insulation is still very weak.

EDF aims at boosting the market and wishes that the network of companies becomes self-sufficient. This explains why it gradually lowers the amount of the incentive.

Through this program, EDF has collected **4,5 M€ worth of white certificates**.

#### 3.2.1.4. Renovation standards

Within the Energie Efficace program, EDF has worked with an energy engineering firm who has developed "**standard renovation projects**" for two specific inner-city areas (Toulon and La Seyne-sur-Mer). This technico-economic study is based on a typology of buildings/apartments usually found in those city centres.

It proposes three levels of EE renovation, — basic, medium and ambitious (BBC) — with :

- standard insulation, ventilation, framing and heating recommendations ;
- indicative costs of implementation (€/m<sup>2</sup>)

This refers to a totally different paradigm which advocates that in-depth personalized thermal audits are not necessarily useful and can be replaced by universal standard bundle of works. In the present case, this paradigm is somewhat softened because a larger typology of local buildings is taken into account.

---

<sup>5</sup> This solution was proposed in order to meet Region P.A.C.A. objectives about the development of the local wood industry network ; there is now a causality problem because the Region doesn't really produce enough wood pellets to meet the demand and the demand is not high enough to motivate wood industry development

### 3.2.2. Examples from other ESCOs

Other ESCOs have marketing programs very similar to that of EDF (even though the specific blackout risk problem only belongs to EDF).

#### 3.2.2.1. GDF-SUEZ / Dolce Vita

GDF Suez addresses the mass market under the brand name “Dolce Vita”. Not being a producer (as opposed to EDF) and although they have long been sister-companies, GDF has a much longer experience of EE encouraging programs than EDF.

Information source : <http://www.dolcevita.gazdefrance.fr/portailClients/appmanager/portail/clients>

#### *Services to market :*

§ List of Partenaires Dolcevita (gas heater installation, solar energy, heat pump, electricity, CMISTes<sup>6</sup>)

§ EE Diagnostic : 199 €TTC

After home visit, the client receives a report with :

- detailed calculation of energy spending,
- comparison of technical solutions prescribed,
- estimated EE gains and costs of works,
- advices and technical explanations,
- behavioural advices.

§ for GDF -Suez present clients, free online EE diagnosis

After analysing the data given by the client through a questionnaire online, a pdf fact sheet can be downloaded :

- calculation of average annual expenses per use (heating, hot water, cooking),
- personalized recommendations (monitoring, insulation, renovation...),
- estimated future utility invoice if recommendations are implemented.

§ White certificates

GDF Suez offers a 62,60 €TTC rebate when works invoices are sent.

§ Online simulating tools for :

- calculation of the EPBD label,
- calculating incentives,
- sustainability evaluation of homes equipped with “eco-generation systems”,
- annual utility invoice including solar hot water or PV.

§ Financial tools for :

- efficient boiler + insulation,
- solar panels + insulation,
- insulation,
- framing,
- BBC new-built home.

GDF Suez sponsors a community website dedicated to EE ; see : <http://www.lesecohabitants.fr/ecohabitants/#/explore>.

It also has a Facebook page.

---

<sup>6</sup> See Thermorenov

*Services to SMEs, “Partenaires Dolce Vita” :*

They are submitted to a quality charter :

- personnel certification (ex. QualiPAC, under Qualit'ENR certification system),
- make a free in home thermal/dimensioning audit and propose an offer,
- recommend materials and techniques approved by GDF,
- inform on GDF financial tools,
- propose a maintenance contract or give three names of maintenance companies,
- give a brochure advocating heat pumps,
- inform that there might be a control visit after works.

**3.2.2.2. TOTALGAZ**

Information source :

<http://www.totalgaz.fr/particuliers/offres/faites-des-economies/solutions-eco-declic?xtor=SEC-2>

*Offers to clients :*

All the following offers are eligible to tax rebates. They are submitted to the signature of a contract with Totalgaz. Free custom recommendations can be made by Totalgaz consultants.

Name of the offer	Description	Incentive
Eco-déclic Condensation	Installation of a condensing boiler	800 €
Eco-déclic Solaire +	Thermal solar panels + condensing boiler + monitoring	1000 € + local incentives up to 3 000 €
Eco-déclic Bois	Wood stove or wood insert	300 €
Eco-déclic Isolation	Same conditions as for the national tax rebate system	1 300 €

TOTALGAZ has an attractive mass market website, similar in many ways to that of the other ESCos, which advocates EE and have identical simulation and other tools and information.

**3.2.3. New actors on the white certificates market**

The market for the white certificates is progressively evolving from some kind of “secret story” shared mainly by ESCos to a tool considered as a negotiation opportunity by more and more actors. In the future, more familiarity with white certificates could help some market actors change their strategies while new actors, specialized in valuing white certificates, appear. Just a few examples :

**CERTINERGY :**

<http://www.certinergy.com/certy-pro0/>

Certinergy has a mass market website : <http://www.certypro.com/le-reseau-certypro/> ; this advertises a network of 10 000 artisans and SMEs in France able to implement EE works.

Groupe Point P, wholesale/distributor, subsidiary of St Gobain, is closely linked to that initiative. It says that it has collected and redistributed to artisans and SMEs, 2M€ thanks to white certificates collecting in 2010.

**CAPEB**



Local CAPEB, building SMEs syndicate, have contracted with ESCOs and propose their members to collect end-of-works attestation so as to value EE eligible implemented solutions as white certificates ; systems are variable in terms of reward to SMEs and rebates to clients :

- CAPEB Hérault : works with GDF-Suez ; SMEs can earn 20 to 145€ for each EE project ;
- CAPEB Meuse and Alsace : works with Totalgaz ; hotline to facilitate the collecting process.

### **CHAUSSON MATÉRIAUX.**

Chausson Matériaux, is a wholesale material dealer. It has developed a mixed offer “Cadre Vert” ([www.cadrevert.fr](http://www.cadrevert.fr)), Club des Artisans de la Rénovation Énergétique, which addresses the mass market (individuals) and its client SMEs and artisans. Membership for artisans costs 150€.

The business model is mainly based on the white certificate market ; the artisans quotations are put on the white certificate exchange market ; after reaching the best bid, the SME can offer its client a rebate which can help win the market. This is a way for Chausson to keep faithful clients among the SMEs.

This is linked with another service addressing the end-market. If the final client volunteers, there can be a global thermal audit made by an engineering firm leading to four scenarii of global renovation (“Bilan Action Energie” - 200 to 300 €) each with its associated costs. A partnership with the CIC bank deals with the financing part.

## **Conclusions – lessons learnt**

### Involve ESCOs in the actions that will be implemented

ESCOs and more generally private companies have a tremendous power of action (budget, historical positioning on the market, clients and SMEs data base, specialized personnel, economy of scale by working at national level, R&D, back office...) far superior to anything public authorities and syndicates will be able to put on the table. Thus, they should absolutely be involved in the project and participate to the planning of future policies. Convincing them to **make their exigencies higher** should be actively sought for.

### The white certificates should be included in the financial tools that will be developed

The white certificate collection and valuation still remains a new incentive tool which is widely under documented, under used and under mastered except by the ESCOs. This situation is slowly changing. We think that the project Marie should at some point bring more information to the partners on that subject. It should help them consider how the money, which can be raised through this process could be used and could contribute to the financing of the MEDBEES/action plan.

Specifically for Region P.A.C.A., it seems that it would be helpful to involve the agency responsible for that, ATEE, in the steering committee of the project.

## **WP5**

### **REGIONAL BENCHMARK ANALYSIS FOR THE SUPPLY SIDE**

#### **ANNEX 2**

#### **SURVEY ON CLUSTERS' BUSINESS MODELS**

#### ***CONTRIBUTIONS BY PARTNERS***



# MARIE

MEDITERRANEAN BUILDINGS  
ENERGY EFFICIENCY  
IMPROVEMENT

Partner	Cluster
Catalunya Region	A3E CEEC Lightning Cluster of Catalonia InnoCons LleidaBiotech
Regione Piemonte	CAP 2020
	Polo Tecnologico di Navacchio
	Polight
AREA Trieste	Boat Building Cluster of Friuli Venezia Giulia
IASA	Corallia
University of Evora	APCOR Apisolar Centro Habitat
PACA	BDM Capenergies

b) Benchmark on Clusters business models and other B to B services			
Name of cluster Clúster d'Eficiència Energètica de Catalunya (Catalonia Energy Efficiency Cluster, CEEC)	Country Catalonia	Region Catalonia	
Cluster manager (name of institution) Núria Cardellach i Ramírez			
Contact point (name, position email, web, telephone) Núria Cardellach i Ramírez, Cluster Manager, <a href="mailto:ncardellach@clustereficiencia.org">ncardellach@clustereficiencia.org</a> <a href="http://www.clustereficiencia.org">www.clustereficiencia.org</a> 670627709			
Short cluster description (date of creation, activities, typology of members)  The Clúster d'Eficiència Energètica de Catalunya (Catalonia Energy Efficiency Cluster, CEEC) is an organisation that seeks to promote the field of energy efficiency by facilitating collaboration between member companies and organisations from the technology, research, institutional, regulatory, industrial, media and business sectors. It was created on 2008 and currently integrates almost 100 members.  The CEEC was set up as a non-profit business group comprised of companies that, as part of their business, supply, promote or develop energy-efficiency products and services for the following sectors: buildings, mobility, public services, industry and training.			
Range of activity (international, national, regional) National mainly.			
n. of members 96			
Field of activity (construction, energy, construction and energy) Energy efficiency in the fields of buildings, mobility, public services and industry.			
Specialties and skills (i.e solar, cogeneration, RES...) energy services companies, energy management systems, energy efficient buildings, RES integration to buildings, electric vehicle, microcogeneration...			
Has been organized a "cluster chain of value" Y/N			
Which of the fields are covered by chain of value? Design materials installation construction energy management services			
Do the cluster operate on market under a common label? NO Is it the cluster label or a third one?			
How the competences of the chain of value are promoted? Creation of working groups integrating all the roles of the value chain required for the specific area/field/application.			
Who are the main destination customers ? Private: –residential – industrial – tertiary Public (typologies) any entity with buildings / installations where energy efficiency potential is high			
Do the cluster operate on market under a local incentive scheme or a support program for energy refurbishment? If yes, how does the program work and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local program require cluster label to provide			

incentives or grants) **NO**

How the cluster management is paid back for its promotional and oragnisational activities ? i.e members fee, success fee on works, local cluster incentives, fee by customers ....

Mainly members' fee. There may be also some works on energy efficiency studies contracted by public entities, and other small subsidies.

Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better

The main strength of the CEEC is its companies and their working groups. The main weakness is the need to find sources of funding for their projects, as the majority of potential customers are not willing to invest at the moment. That's why so we are focusing on the ESCO model, but again the problem is funding.

Description of a success case

Elaboration of a guide for city councils on how to invite tenders for public street lighting installation via the ESCO model (just finished). A specific group was created for this purpose, integrating six ESCO that had to reach a consensus about this matter. The guide has been very favorably received by the city councils and we hope it will flow into more and of more quality calls for tenders, which was the main goal of elaborating the guide as this will mean more business for CEEC's companies.

<b>b) Benchmark on Clusters business models and other B to B services</b>			
Name of cluster CICAT	Country SPAIN	Region CATALONIA	
Cluster manager (name of institution) LIGHTING CLUSTER OF CATALONIA			
Contact point (name, position email, web, telephone) Josep M <sup>a</sup> Vidal-Ribas, Manager, <a href="mailto:jmvidalribas@cicat.cat">jmvidalribas@cicat.cat</a> , <a href="http://www.cicat.cat">www.cicat.cat</a> , +34 661 577 476			
Short cluster description (date of creation, activities, typology of members) Created in Sep.2010, with 30 associates, 26 manufacturers, 3 suppliers, 1 investigation center. Main activities in three areas: internacionalitzation, innovation and knowledge. One major project (medium term) in progress: Light Academy. Other minor activities to foster relationship among associates to create a level of confidence (most of them are competitors).			
Range of activity (international, national, regional) <b>Regional</b>			
n. of members 30 (forecast end of 2012 is 40-45)			
Field of activity (construction, energy, construction and energy) construction			
Specialties and skills (i.e solar, cogeneration, RES....) lighting segmentation, LED technology			
Has been organized a "cluster chain of value" Y/N Not yet,... in progress			
Which of the fields are covered by chain of value? Services Design materials installation construction energy management services			
Do the cluster operate on market under a common label? Is it the cluster label or a third one? Common label is 'CICAT' yet not well known in the marketplace			
How the competences of the chain of value are promoted? Relationship among associates			
Who are the main destination customers ? ALL Private: –residential – industrial – tertiary Public (typologies)			
Do the cluster operate on market under a local incentive scheme or a support program for energy refurbishment? If yes, how does the program works and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local program require cluster label to provide incentives or grants) There is a local incentive to replace old lighting public systems. Yet, situation is not as clear as wished and results will come in the medium term.			
How the cluster management is paid back for its promotional and oragnisational activities ? i.e members fee, success fee on works, local cluster incentives, fee by customers .... A mix of them. Most of budget will depend on Members fee. Plus a bonus on successful activities and goals.			
Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better Because domestic market is really low, strengthens and weaknesses come from two main focus: (lack of) internacionalitzation of the company and (lack of) capacity for innovation.			

<p>Description of a success case</p>

Light Academy is one major project in cluster scheme which allows all associates to participate intensively in accordance to their own goals. There is a common language related to the creation of this project and all members of WG put apart their own visions of business to support a common idea. Still growing, I expect it is going to be an outstanding project.

b) Benchmark on Clusters business models and other B to B services			
Name of cluster LleidaBiotech	Country Spain	Region Catalonia (Lleida)	
Cluster manager (name of institution) Chamber of Commerce of Lleida			
Contact point (name, position email, web, telephone)  Esther Garcia Bigata Project Manager <a href="mailto:info@lleidabiotech.com">info@lleidabiotech.com</a> +34 973 23 61 61			
Short cluster description (date of creation, activities, typology of members)  The region of Lleida is Catalonia's main inland economic area and the one which possesses the most highly developed agro-industrial sector in Catalonia, thanks to the work of extremely qualified professionals, who have studied in the most prestigious local and international universities and technological centres, and who have thus become leading experts in all the agricultural and industrial processes and technologies.  This noteworthy knowledge and economic potential, together with the new technological infrastructures, have led to the creation of a new economic sector, <b>the bio-products industries</b> , which convert biomass (non-food crops, forest biomass, urban vegetal waste, etc.), by means of industrial and biotechnological processes, into bio-products like bio-plastics, bio-paints, bio-energy, bio-fuel and bio-construction materials, etc.  Lleida Biotech is the leading name and trade mark used by the region to promote, within its sphere of influence, the bio-product industries and to convert Lleida into a region determined to promote eco-innovation.  The creation of the Clúster was in 2006, and we develop different activities such as meetings between enterprises and research centers, benchmarking trips, R+D projects...			
Range of activity (international, national, regional)  Regional activities; however we are in a FP7 of Sustainable forest management providing renewable energy, sustainable construction and bio-based products.			
n. of members 26			
Field of activity (construction, energy, construction and energy) construction and energy			
Specialties and skills (i.e solar, cogeneration, RES....) bioenergy			
Has been organized a "cluster chain of value" Y/N No			
Which of the fields are covered by chain of value?  Design materials installation construction energy management services			
Do the cluster operate on market under a common label? Is it the cluster label or a third one? No			
How the competences of the chain of value are promoted? Conferences, meetings, web site			
Who are the main destination customers ? residential, industrial and tertiary  Private: –residential – industrial – tertiary Public (typologies)			
Do the cluster operate on market under a local incentive scheme or a support program for energy refurbishment? If yes, how does the program works and are there some "shortcuts" for			



cluster chain of value or enterprises (i.e. the local program require cluster label to provide incentives or grants) No
How the cluster management is paid back for its promotional and oragnisational activities ? i.e members fee, success fee on works, local cluster incentives, fee by customers .... No
<p>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</p> <p><u>Strengthens</u></p> <p>Biomass in the region</p> <p>Research centers and Knowledge</p> <p>The building sector needs alternatives</p> <p><u>Weaknesses</u></p> <p>Logistic items</p> <p>Costs of obtain the biomass</p> <p>Lack of issues</p> <p><u>Corrective measures</u></p> <p>Applied research</p> <p>Study the necessities of the final costumers</p> <p>More information to the society</p> <p>Cooperation between enterprises and research centers</p>
Description of a success case

Benchmark on Clusters business models and other B to B services	
<b>Name of cluster</b>	A3E Asociación de Empresas de Eficiencia Energética
<b>Country</b>	Spain
<b>Region</b>	Spain
<b>Cluster manager</b>	Antonio López-Nava
<b>Contact point</b>	Office Holding Centro de Negocios Doctor Arce, 14. Madrid 28002 T: +34 917 610 250 <a href="mailto:info@asociacion3e.org">info@asociacion3e.org</a>
<b>Short cluster description</b>	The Association of Energy Efficiency Companies (A3E) is a nonprofit organization with more than 50 members. Our partners are companies and organizations that work (either totally or partially, locally or internationally) in the energy efficiency sector.
<b>Range of activity</b>	<input checked="" type="checkbox"/> international, national, regional <input type="checkbox"/> national <input type="checkbox"/> regional
<b>n. of members</b>	50+
<b>Field of activity</b>	(i.e construction, energy, construction and energy...) Energy, construction, maintenance, energy management, renewable energies...
<b>Specialties and skills</b>	(i.e solar, cogeneration, RES....) Energy, construction, maintenance, energy management, renewable energies...
<b>Has been organized a "cluster chain of value" ?</b>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<b>Which of the fields are covered by chain of value?</b>	<input checked="" type="checkbox"/> Design materials <input checked="" type="checkbox"/> installation <input checked="" type="checkbox"/> construction <input checked="" type="checkbox"/> energy management <input checked="" type="checkbox"/> services <input type="checkbox"/> others (spec)
<b>Do the cluster operate on market with a common label? Is it the cluster label or a third one?</b>	third one
<b>How the competences of the chain of value are promoted?</b>	Information, training, dissemination Work groups, services for the partners
<b>Who are the main destination customers ?</b>	<input checked="" type="checkbox"/> Private: residential <input checked="" type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary <input checked="" type="checkbox"/> Public (spec. the typology)

<p><b>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</b></p>	<p><i>Yes. Programme for energy refurbishment of IDAE</i></p>
<p><b>How the cluster management is paid back for its promotional and oragnisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....</b></p>	<p><i>There is a fee for the members of the cluster.</i></p> <p><i>The fee is the same for all the partners</i></p> <p><i>Activities organized by the cluster provide additional funding</i></p>
<p><b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b></p>	<p><i>We are independent. Our message aims to foster the sector and to increase the demand for energy efficiency solutions</i></p> <p><i>We contribute to organize our sector consistently</i></p> <p><i>We are generalists, which can be both a strength and a weakness</i></p>
<p><b>Description of a success case</b></p>	<p><i>Accredited training project. We foster high quality energy audits, since we believe they are the basis for energy savings</i></p> <p><i>We train professionals for high quality energy audits, and award them with a certification (there is no such label provided by the Spanish administration)</i></p> <p><i>We wrote the first report on the Energy Efficiency sector in Spain</i></p>

Benchmark on Clusters business models and other B to B services	
Name of cluster	InnoCons
Country	Spain
Region	Catalonia
Cluster manager	Cambra Oficial de Contractistes d'Obres de Catalunya (contractors association)
Contact point	Josep-Manel Marí, Director of Research and Innovation, +34 934675286, jmmari@ccoc.es www.innocons.cat www.ccoc.es
Short cluster description	Founded in 2009, InnoCons is group of +300 companies and professionals to promote innovation, and is formed by public and private promoters, constructors, technicians and material providers
Range of activity	<input type="checkbox"/> international, national, regional <input type="checkbox"/> national <input checked="" type="checkbox"/> regional
n. of members	
Field of activity	construction, energy and ITC
Specialties and skills	generalist in construction, energy efficiency in refurbishment
Has been organized a "cluster chain of value" ?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Which of the fields are covered by chain of value?	<input type="checkbox"/> Design materials <input type="checkbox"/> installation <input type="checkbox"/> construction <input type="checkbox"/> energy management <input type="checkbox"/> services <input type="checkbox"/> others (spec)
Do the cluster operate on market with a common label? Is it the cluster label or a third one?	No
How the competences of the chain of value are promoted?	by creating groups of work that carry out studies n different issues and projects
Who are the main destination customers ?	<input checked="" type="checkbox"/> Private: residential <input checked="" type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary <input checked="" type="checkbox"/> Public (spec. the typology)

<p>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</p>	<p>No</p>
<p>How the cluster management is paid back for its promotional and oragnisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....</p>	<p><i>The cluster manager is paid by his own organisation.</i></p> <p><i>It's an informal organisation to promote innovation.</i></p>
<p>Describe briefly the strenghtens and weaknesses of your business models and some corrective measures needed to operate as better</p>	<p><i>The strenghts are that it is an open and transparent organisation which facilitates the collaboration of different institutions, companies and professionals</i></p> <p><i>It's weakness is, at the same time, that it hasn't a proper business model because it's not a traditional cluster in its conception and organisation.</i></p> <p><i>It could be organised as a formal cluster to operate more effectibily in a more centralised way.</i></p>
<p>Description of a success case</p>	<p><i>The main success case has been the organisation of an open and transparent and dinamic enviroment in which participants feel confortable to collaborate, thus promoting studies and projects that are changing the culture of the sector.</i></p> <p><i>Groups created have facilitated new business collaborations among the members.</i></p>

Benchmark on Clusters business models and other B to B services	
Name of cluster	CAP 2020
Country	BELGIUM
Region	WALLONIE
Cluster manager	ASBL CAP202
Contact point	MR. JOEL COUPET, PRESIDENT <a href="http://CAP2020.BE">HTTP://CAP2020.BE</a>
Short cluster description	<p>(insert information about date of creation, activities, typology of members)</p> <p>Born on 2007 in the framework of Belgian National Clustre programme ,CAP 2020 is a group of Walloon enterprises active in the building industry, regrouping Contractors, Architects, Producers and Suppliers of materials and services who have adopted the 2020 common European objective of massive energy consumption reduction.</p> <p>so far cluster account over 150 members, and its mision is to promote neregry renvoation of buildings operating on:</p> <p>- Energy label of building projects - networking at regional, national and international level, - R&amp;D and innovation support, via belgian and european funds programmes, - professional training, - cluster marketing and promotion - information to large audience</p>
Range of activity	<input type="checkbox"/> international, national, regional x national x regional
n. of members	
Field of activity	(i.e construction, energy, construction and energy...) energy efficiency in building
Specialties and skills	(i.e solar, cogeneration, RES....) building materials and construction, refurbishment
Has been organized a "cluster chain of value" ?	x yes , full from design, materils, technologies, construction and financial services <input type="checkbox"/> NO

Which of the fields are covered by chain of value?	x <i>Design materials (cluster manager internal skill)</i>
	x <i>installation (provided by companies in the cluster)</i>
	x <i>construction (provided by companies in the cluster)</i>
	x <i>energy management</i>
	x <i>services (provided by companies in the cluster)</i>
	x <i>others (financial services to enterprises and customers)</i>
How the competences of the chain of value are promoted?	<p><i>The competencies of the value chain are promoted by means of technology transfer activities of the cluster such as technological meetings and promotional activities. Moreover cluster adopted a common existing label for energy quality in building (COQUAL, Construction Quality ) that together with assessment method ELEA characterize intervention in energy refurbishment. A web 2.0 platform is open to participation of enterprises and customer. Demand for specific building intervention are posted by customer on the web platform and cluster management redirect question and opportunities to specific members so to create business opportunities.</i></p>
Who are the main destination customers ?	x <i>Private: residential</i>
	<input type="checkbox"/> <i>Private: industrial (launching now)</i>
	x <i>Private: tertiary</i>
	x <i>Public (municipalities and public administration)</i>
Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)	<p><i>No so far, excepted for R&amp;D activities supported by local cluster focused programmes</i></p>
How the cluster management is paid back for its promotional and organisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....	<p><i>annual fees from members and local incentive to cluster (up to 50%)</i></p>

<p><b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b></p>	<p><b>Strenghtens</b></p> <ol style="list-style-type: none"> <li>1. Strong reliability of the cluster</li> <li>2. Good interaction with local market</li> </ol> <p><b>weaknesses</b></p> <ol style="list-style-type: none"> <li>1. market initaitive is in the first developoing phase and need to be consolidated.</li> <li>2. necessary to increase the visibility of cluster</li> </ol>
<p><b>Description of a success case</b></p>	



Benchmark on Clusters business models and other B to B services	
Name of cluster	POLO TECNOLOGICO DI NAVACCHIO
Country	ITALY
Region	TOSCANA
Cluster manager	POLO TECNOLOGICO DI NAVACCHIO
Contact point	Paolo Alderigi - tel. 050 754142; email alderigi@polotecnologico.it <a href="http://www.polotecnologico.it">http://www.polotecnologico.it</a>
Short cluster description	<p>(insert information about date of creation, activities, typology of members)</p> <p>The cluster Polo di Navacchio is an informal network of partners that provide specific services in the field of RES. The cluster activity was born in 2006 with the setting up of the collaboration with ANCI Toscana in order to support the introduction of RES in public infrastructures and buildings to be funded in the frame of a regional tender for the year 2011. The cluster gathered a group of companies in order to provide to the municipalities a range of competencies, skills and innovative solutions to be included and developed in the projects eligible for funding under the call. The role of Polo di Navacchio is to provide the design of the project and to include a set of technological solutions that can be provided by the companies linked to the cluster. In this frame the cluster had only the opportunity to include a specific technological solution a not directly a company because the selection has to pass under a tender procedure. Starting from 2012 the Cluster Polo di Navacchio will also operate on the private market so this constraint will disappear.</p>
Range of activity	<input type="checkbox"/> international, national, regional <input type="checkbox"/> national <input checked="" type="checkbox"/> regional
n. of members	
Field of activity	(i.e construction, energy, construction and energy...) RES production (in particular solar energy PV+thermal) and building integration
Specialties and skills	(i.e solar, cogeneration, RES....) Design and construction of RES infrastructures and building integration
Has been organized a "cluster chain of value" ?	<input checked="" type="checkbox"/> YES. The cluster is building a network in order to provide turn-key solution on the private market <input type="checkbox"/> NO

Which of the fields are covered by chain of value?	<div><input checked="" type="checkbox"/> Design materials (cluster manager internal skill)</div> <div><input checked="" type="checkbox"/> installation (provided by companies in the cluster)</div> <div><input checked="" type="checkbox"/> construction (provided by companies in the cluster)</div> <div><input type="checkbox"/> energy management</div> <div><input checked="" type="checkbox"/> services (provided by companies in the cluster)</div> <div><input checked="" type="checkbox"/> others (technology transfer provided by the cluster manager)</div>
	<p>So far role of the Cluster has only been a "preferred" channel to involve and introduce companies to public tenders in the field of RES. The label was the protocol sign between Polo di Navacchio and ANCI Toscana (the association of municipalities in Tuscany). Probably in the future and in particular when the activity of the cluster will be addressed to the private sector the cluster will adopt a label that certifies the quality of the service/technology provided and the affiliation to the network.</p>
How the competences of the chain of value are promoted?	<p>The competencies of the value chain are promoted by means of technology transfer activities of the cluster such as technological meetings and promotional activities</p>
Who are the main destination customers ?	<div><input type="checkbox"/> Private: residential</div> <div><input checked="" type="checkbox"/> Private: industrial (launching now)</div> <div><input type="checkbox"/> Private: tertiary</div> <div><input checked="" type="checkbox"/> Public (municipalities and public administration)</div>
Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)	<p>Yes, in the frame of the protocol with ANCI Toscana where the goal is to help municipalities to submit proposal for the funding of RES projects. In those cases there were no "short cut" for the companies in the network because the selection of the company has to go through a public tender.</p>
How the cluster management is paid back for its promotional and organisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....	<p>In the so called "public" experience, the work made by the cluster is included in the project submitted for funding (success fee on work) under the item DESIGN.</p> <p>On the private market there will probably be a member fee.</p>
Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better	<p><b>Strenghtens</b></p> <ol style="list-style-type: none"> <li>1. Strong reliability of the cluster also perceived by municipalities</li> <li>2. Good interaction with public institutions</li> </ol> <p><b>weaknesses</b></p> <ol style="list-style-type: none"> <li>1. Limited control of the value chain (in the public experience) because of the necessity to go through public tenders. (this is not true for the private)</li> <li>2. lack of public funds in the public and bad economic situation even if there are some incentive systems still available</li> </ol>

**Description of a success case**

*The experience has been very successful and that's why the cluster decided to open the initiative also to the private market. The ANCI Association has signed the Protocol with the cluster Polo di Navacchio because this was perceived by the public administration as a guarantee of quality and technical ability. In fact the work of the cluster has been extended also to other services not include in the protocol. The experience has produced 100 feasibility studies transformed in 50 projects all funded by the regional call (success ratio 100%)*

<b>Benchmark on Clusters business models and other B to B services</b>	
<b>Name of cluster</b>	POLIGHT
<b>Country</b>	ITALY
<b>Region</b>	PIEMONTE
<b>Cluster manager</b>	ENVIRONMENT PARK SPA
<b>Contact point</b>	Davide Damosso, R&D Director Ph. +39 0112257298 e-mail: davide.damosso@envipark.com
<b>Short cluster description</b>	Based in Turin (Italy), inside one of the most relevant industrial and technological context of Europe, the cluster is coordinated by Environment Park, Science and Technology Park for the Environment, and it has been created under an ERDF Regional initiative in 2009. Cluster's members (around 130) are regional enterprises that are developing innovative technologies, products and knowledge for Sustainable Building and Hydrogen sectors, together with major local and national R&D Centers.
<b>Range of activity</b>	<input checked="" type="checkbox"/> international, national, regional <input type="checkbox"/> national <input type="checkbox"/> regional
<b>n. of members</b>	
<b>Field of activity</b>	(i.e construction, energy, construction and energy...) <b>Sustainable building</b> <b>Hydrogen and fuel cells</b>
<b>Specialties and skills</b>	(i.e solar, cogeneration, RES....) Materials, technologies (included RES), energy efficiency tools and services for sustainable buildings Hydrogen and fuel cells CHP
<b>Has been organized a "cluster chain of value" ?</b>	<input checked="" type="checkbox"/> YES (starting) <input type="checkbox"/> NO
<b>Which of the fields are covered by chain of value?</b>	<input checked="" type="checkbox"/> design materials <input checked="" type="checkbox"/> installation <input checked="" type="checkbox"/> construction <input checked="" type="checkbox"/> energy management <input checked="" type="checkbox"/> services <input type="checkbox"/> others (spec)

Do the cluster operate on market with a common label? Is it the cluster label or a third one?	not yet
How the competences of the chain of value are promoted?	The offer of the cluster is promoted by the realization and diffusion of common materials (e.g. product portfolio) in events, fairs and delegations. A promotional activity focused on the public and the private market has not been done yet but will soon be implemented through the qualification of the cluster's offer.
Who are the main destination customers ?	<input type="checkbox"/> Private: residential <input type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary (ESCo, Energy companies, ...) <input checked="" type="checkbox"/> Public (social housing, )
Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)	<p>POLIGHT is so far operating under a local incentive scheme for R&amp;D only. Members affiliated to the cluster can apply for funding in a dedicated call closed to other companies. On market side so far POLIGHT operate promotional activities of cluster and its members, by participation in exposition and other market events under a common cluster umbrella. Promotion of public or private incentive scheme is made towards members in the framework of training and information cluster's mission.</p> <p>On market side so far POLIGHT operate promotional activities of cluster and its members, by participation in exposition and other market events under a common cluster umbrella. Participation is open to all members on a voluntary basis and costs are partially covered by a regional contribution (up to 50%)</p>
How the cluster management is paid back for its promotional and organisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....	<p>By now there has been a public funding (up to 50% of the total costs). These funds cover the promotional activities of cluster competences, carried out in an inclusive way (cluster promotion)</p> <p>In the near future the cluster will only be supported by members fees/success fees and the cluster manager has to work on the brand in order to give an added value of being member. This could be reached by focusing the activity on:</p> <ol style="list-style-type: none"> <li>1. the qualification of the cluster's offer by adopting existing "brands"</li> <li>2. the construction of short cut paths with other organisations (i.e clusters and industrial representatives )</li> <li>3. the construction of tested turn-key solutions</li> <li>4. and by focusing promotional activities in specific markets</li> </ol>
Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better	<p><b>Strengthens</b></p> <ol style="list-style-type: none"> <li>1. good interface with the public administration at different level (law, programmes and technical assistance in programmes implementation)</li> <li>2. good international networks (i.e. E2B, JTI on FCH, HY Ramp initiative, ...)</li> <li>3. good knowledge on EU calls themes, legislative guidelines and networks for the constructions of leading EU projects</li> <li>4. Deep knowledge of the sector at regional level and of the international benchmarks</li> <li>5. very active and stable internal networks/value chains of members has been created in the cluster and in the frame of cluster's project</li> </ol> <p><b>Weaknesses</b></p> <ol style="list-style-type: none"> <li>1. the cluster is born associated to a funding measure so the members considers the cluster as a channel to obtain funds</li> <li>2. difficulties in making companies working together without incentives.</li> </ol> <p><b>Corrective measures</b></p> <p>see previous point</p>
Description of a success case	In the frame of cluster projects and initiatives some innovative productions have been developed and now project partner are become commercial partner

## **Benchmark on Clusters business models and other B to B services**

Name of cluster

The boat building cluster of Friuli Venezia Giulia

Country

Italy

Region

Friuli Venezia Giulia

Cluster manager

n.a.

Contact point

n.a.

Short Cluster Description

The cluster of Friuli-Venezia Giulia (FVG from now on) represents an interesting example of integration between small-scale boat manufacturing and nautical tourism, between the activities of the yards, the service activities, and the infrastructures of tourist ports and marinas. The cluster has a relatively recent origin as regards to boat manufacturing, but benefits from the strong territorial roots of the activities related to shipbuilding, which date back from the nineteenth century. The cluster is an expression of a strong idea of governance, secured by the DITENAVE (Distretto tecnologico navale e nautico del FVG) a technology district established in 2008 by the initiative of the regional government and all the institutions and companies in the sector. In August 2011 DITENAVE has been received official and formal nomination as Italian Maritime Technology Cluster, by the Italian State Government. That of FVG can be considered as a complete boating cluster, an integrated system of actors and infrastructures operating synergistically with each other, resulting in performance levels of absolute importance. In particular, the cluster of boating of FVG can be divided into 5 sub-systems:

- system of the infrastructures for boating;
- system of knowledge and innovation;
- system of institutions;
- system of support industries;
- business system (firms and their supply chains).

Range of Activity

X International, national, regional

☐ national

☐ regional

n. of members

Field of activity

Together with a significant supply of facilities for nautical tourism, it has to be highlighted the presence in the region of areas with an industrial vocation, particularly suited for the settlements of boat building activities.

One of the principal locations is managed by the Consortium for the industrial development of Monfalcone (Trieste), and particularly the area of Lisert, where there are 24 companies linked to the boating cluster and where the Centre of shipbuilding and boating competence of Area Science Park has its headquarters. Precisely in this area, the new production settlements of Seaway (Slovenia) and Bénéteau (France) are under way. According to the data of the Consortium which manages the allocation of areas and their development, the turnover of the companies that gravitate around the pole of Monfalcone is now around 100 million euros, with a dozen companies of a certain importance, the establishment of three other important companies (Bénéteau, Seaway, Meridiana Rent) and the expansion of two more (Mmgi and Marine International).

Other areas with a high density of boat construction activities are those of the Polo Nautico of Trieste, near the navigable channel of the Industrial Zone (6 business units). Among the areas currently used for activities of naval shipbuilding, but with a potential nautical vocation (mega-yacht), we finally indicate the former Arsenale di Trieste.

Specialties and skills

The heart of the regional cluster is the business system. This system is composed of a diverse group of firms, ranging from boat builders to producers of parts and components, from manufacturers of accessories for the boating industry to businesses selling nautical products, from dealers specialized in selling boats to architecture and design agencies, from firms offering services for the construction of boats to companies offering boat repair and maintenance.

The firm system of boating in FVG can be described as a supply chain complete in all its components, where a rich supply of services for yachtsman and a wide range of trade services is also joined by significant construction activity.

Our goal was to assign the different companies surveyed a range of classes of activities, representative of the complex articulation of the cluster. Thus, we identified three main stages in the boating supply chain:

1. construction (production supply chain), which includes all construction and service activities that are undertaken to transform the demand for boats expressed by the market into a complete and working boat;
2. navigation, which includes all the services and activities, primarily commercial and service based, that are carried out for the yachtsman to assure an effective and enjoyable navigation;
3. maintenance and storage, which includes all activities that serve to keep the boat running over time and over the seasons.

Each of these macro-classes has also been divided into specific sub-categories of activity, within which all firms identified were placed (referring, in case of mixed business models, to the main activity in terms of sales turnover).

Also part of the production supply chain are the companies that are engaged in “services to production”. Services to production include those activities which – although part of the value chain of boat builders – for a variety of reasons (cost effectiveness, will to limit investments, search for flexible manufacturing systems, need to focus the activities etc.) are entrusted to external companies, which

operate as subcontractors. These activities basically correspond to the so-called boating fittings, such as carpentry, plant engineering, furniture, etc. Strongly represented in FVG are also the other service activities, i.e. maintenance and repair, and storage. A significant share of firms in the boating cluster in FVG provide instead services for the sale of boats and nautical equipment or other service activities aimed at the yachtsman (navigation).

One of the hallmarks of boating activities in FVG is the fact that surveyed companies tend to have rather articulated business models, meaning that they perform a variety of different activities, from construction to those commercial and service based.

The regional boating cluster has developed a large and complex system of actors that populated by Universities, vocational schools and institutes, and public and private research centres, engaged in applied research, technology transfer, and high level technical and professional training in support of the nautical sector and more generally of the maritime economy.

An integral and crucial part of the system of knowledge are surely the two regional Universities (Trieste and Udine), which not only carry out basic and applied research, but also fulfill a fundamental function of higher education, by offering degree and master courses specific to the sector. At the level of advanced training activities in the nautical field, the University of Trieste, in particular, uses the Department of naval, sea and environmental Engineering, which offers a three-year degree course and a Master of Science in Naval Engineering, with the potential to achieve the highest specialization through the Ph.D. in Marine and Naval Engineering (not run in recent years). The University of Trieste has also run for some years a Master's degree specialized in Naval Design (so called Master School in Yacht and Cruise Vessels Design), now no longer running. Also part of the regional system of knowledge are many schools and vocational institutions. This applies, for example, for the Nautical Institute of Trieste, which prepares professionals destined to work in the field of merchant shipping, of the control of the port and intermodal transport, of the marine ecology and the shipyards. Finally, included in the system of knowledge are the activities aiming at technology transfer, such as those undertaken by AREA Science Park with its Centre of Shipbuilding and Nautical Competence.

Public institutions are particularly important, to facilitate the emergence of a virtuous model of innovation, or so-called "triple helix" (public institutions, companies, Universities). Beyond the area of innovation, actions and interventions of an institutional nature in the regional cluster concern a plurality of areas, from the promotion on international markets to the support of dimensional growth, to the update of business models, and to the support of the associationism and of integration among companies.

Among the institutions most committed to the development of the boating cluster of FVG, worth to be mentioned is the system of the Chambers of Commerce, that for some time has been active in the support of the sector with initiatives such as Mondo Mare, or through the activities of related associations such as Assonautica.

Has been organized a "cluster chain of value" ?

☒ Yes

☐ No

Which of the fields are covered by chain of value?

☒ Design materials

☒ Installation

☒ Construction

☐ Energy management



## X Services

X Refitting; R& D; tourism

Do the cluster operate on market with a common label? Is it the cluster label or a third one?

No. The cluster does not operate with a common label.

How the competences of the chain of value are promoted?

The competences of the chain of value are promoted through the participation in :

- maritime fairs
- meeting, round table and convention
- in regional, national and international founding programmes

Who are the main destination customers ?

☐ Private: residential

☐ Private: industrial

☐ Private: tertiary

X Private: Ship building

– Furniture

– Tourism

– Craft manufacturing

Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme work and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme requires cluster label to provide incentives or grants)

At the moment the boat building cluster of FVG has not adopted a local incentive scheme or a specific support programme for energy refurbishment.

How the cluster management is paid back for its promotional and organisational activities? i.e. members fee, success fee on works, local cluster incentives, fee by customers ....

There are not particular promotional and organizational activities organized together with all the firms involved in the cluster.

One of the main indicators of competitiveness of a cluster is its ability to attract external investment. In this respect, the regional boating system is, without a doubt, very attractive.

Describe briefly the strengths and weaknesses of your business models and some corrective measures needed to operate as better

We have already clarified that the clusters of boating are based on two core areas of activity: the first core activity is focused on boat building and complementary service activities for production, the second core is instead focused on offering services for the boat and the yachtsman.

It has emerged that the boating industry in FVG is still mainly focused on the second core of activities; that is it is still configured more as a subcontracting chain of nautical tourism and therefore of marine infrastructures rather than as a system of actors who gravitate around the construction of boats. This is also one reason why the regional boating activities have maintained a typically artisanal size and structure, and have not yet made the leap to the size and models of operation, organization and management of an industrial type. We face, therefore, a “minor” boating industry, very similar to the one developed in other areas of the Adriatic Sea, for example, the province of Venice (where a district of minor shipbuilding has developed), and with quite different profiles to that of the “Tirreno” system (Versilia, Tuscany and Liguria), where, alternatively, large yards are prevailing, specialized in yacht construction of considerable sizes, and where the service activities are largely integrated and

synergistic with those of the boat building industry. We now want to briefly outline, in the following table, as they emerged from the research carried out, the characteristics of the boating cluster of FVG. Some of these features are undoubtedly the strengths and opportunities of the regional system of boating, others are potential weaknesses and threats, especially in relation to the developments in the international markets. Strengths and opportunities:

- A lively and young enterprise system. High entrepreneurial birth rate.
- High proportion of SMEs, highly flexible.
- Strong integration of activities (mainly services to the yachtsman) with the system of marinas and tourist ports.
- A wide system of facilities and infrastructures for recreational boating.
- Availability of space for further production and infrastructure plants, many of which with access to the sea.
- Existence of widespread and sophisticated expertise in boating activities.
- Demonstrated ability to attract investment from outside and from abroad, both in the sector of marinas and yards.

Weaknesses and threats:

- Often chaotic development of the sector, driven by an exuberant demand compared to the same supply capacities.
- Poor development of constructive activities, especially for larger boats. Lack of a culture of mass production. Strong specialization in minor boats, more liable to the negative cycles of the market than the major boats.
- Limited average size of firms, with difficulty in achieving economies of scale, particularly in the supply of materials.
- Lack of leading firms capable of pulling along the system and able to trace the direction of development.
- Poor managerialisation and entrepreneurship of small firms in the cluster.
- Poorly focused business models (that deal with a bit of everything), with little orientation towards dimensional growth.
- Difficulties in penetrating international markets.
- Supply mainly focused on highly customizable services, design, quality of workmanship, with a reduced emphasis on technological performances and innovation.
- Difficulties in collaboration with the world of research and academia, for the development and use of new technologies and new materials.
- Difficulty in finding work force. Possible, gradual depletion of the heritage of expertise and professionalism of the sector, due to the difficulty in transferring the professions of boating.
- Increasing competition from Eastern Europe (which has lowered processing costs). Competition from other localities of the Adriatic Sea (some with a more attractive tourist system and with high performances boating clusters).

Finally, we note the continuing difficulty in synergising the naval and the boating sector in FVG, partly because of the lack of “intermediate” shipbuilding between the major construction, of ships, and the minor construction, of recreational boats. In this respect, the naval and nautical system of Tuscany represents, for example, a clear case of integration of these two worlds, where around the needs of the major ships and boats there has been built a complete subcontracting chain, capable of serving the needs of each category of customer, be it a manufacturer of ships or of large recreational boats. In the case of FVG this integration is more difficult, but in any event possible within a unitary framework of actions developed by companies and institutions. Therefore, from our description there emerges a colourful picture of regional boating, where performances of undoubted excellence are accompanied by

worrisome areas of concern. Where the dynamism and the operational limits of the business system are accompanied by many initiatives, both public and of associated bodies, which aim to support the additional development of the sector.

Description of a success case

DITENAVE → The naval and nautical technological district of FVG

The path that led to the establishment of the District has been highly articulated and has involved many actors and categories. In December 2006 a protocol of Understanding between the Friuli Venezia Giulia Region, represented by the Ministry of Regional Works, and some actors of primary importance for naval and boat building: Fincantieri SpA, ConfindustriaFVG, Friulia SpA and AREA Science Park, has been signed. On the 25th of March 2008 the program agreement fully defining the model of governance was signed. Among those signatories, in addition to the institutions mentioned above, there were:

- employer associations;
- union representatives;
- Chambers of Commerce;
- representatives of the system of research and innovation;
- representatives of the training system;
- representatives of the financial system;
- local bodies of the most affected local areas.

Ditenave aims to support the attainment of higher levels of technical and economic competitiveness of the shipbuilding and boat building sector in FVG:

- stimulating scientific and technological research;
- supporting the competitive growth of regional businesses to facilitate the
- realization of product/process innovations, technology transfer, organizational
- and management development;
- supporting the rationalization, integration and strengthening of training offered
- at all levels.

Ditenave has as a reference for its own mission the economic, manufacturing and service activities, that have or are planning to have a significant share of sales turnover in the shipbuilding and/or boating supply chain. Excluded are the activities and interests, although related to the maritime economy, linked to estate and infrastructure planning, tourism promotion, and to the trade in goods and articles.

The governance structure provides a coordinating body, the Ditenave Association, with a function of guidance, promotion, coordination of the District and the ability to promote the business network and take steps to integrate itself with the supply of services of research, innovation and training. The association defines the strategic lines of intervention of the system of research, innovation and training, the objectives of medium-long term in relation to the analysis of the scenario, identifies funding opportunities to implement and supports the inclusion of activities of the District in networks of expertise (regional, national, European).

The Association consists of:

- General Assembly;
- President;
- The Strategic Committee;
- The Innovation Committee;
- Technical advisory committees for research and training.






Also, integral parts of the governance of Ditenave are:

- the research system: the Consortium for the high Naval Research (RINAVE, a public-private consortium that sees among its members the regional Universities, AREA Science Park and

Fincantieri) represents the key player for the initiatives in the research field. Specifically, RINAVE operates within the District for purposes of stimulation and organization of the relationship between demand and supply of research in the naval and boating industry;

- the innovation system: the reference subjects here are the Innovation Committee and AREA Science Park. The Innovation Committee has the task of identifying the innovation initiatives for the enhancement of local competitiveness, also through promotion actions within the region. AREA Science Park, through its Centre of Shipbuilding & Nautical Competence is committed to provide assistance and services to regional businesses, to facilitate the matching of supply and demand of innovation in the sector of naval subcontracting and the recreational boating industry, also promoting international networking. It is also expected the participation of Friulia spa as a partner in support of the development of enterprises and of the regional economy, with the role of financial investment in venture capital operations;
- the training system: the establishment of the Training Pole of the District is expected, as a network of actors operating at all levels of education and training activities, with the task of drawing up, on the basis of the needs identified, effective training plans for the sector.

Representation of the marine cluster of FVG on the basis of the component systems:

<b>Name of cluster</b>	mi-Cluster	
<b>Country</b>	Greece	
<b>Region</b>		
<b>Cluster manager</b>	<b>Corallia Clusters Initiative</b>	
<b>Contact point</b>	Mrs. Julia Phoca PR & Communications Manager, Corallia Clusters Initiative	
<b>Short cluster description</b>	<p><b>Date of creation</b> : 2006  The mi-Cluster is the first innovation cluster in Greece and since its establishment in 2006, it demonstrates a continuous increase of members, exceeding today 100 organisations, including Greek innovative companies, academic labs and research institutes, from all over Greece</p> <p><b>typology of members</b>: industry, academia, research labs, venture capitals, business angels, regional and central governmental stakeholders</p>	
<b>Range of activity</b>	 <b>international, national, regional</b>	<input checked="" type="checkbox"/>
	<input type="checkbox"/> <b>national</b>	
	<input type="checkbox"/> <b>regional</b>	
<b>n. of members</b>	total : 132 68 Business   40 (Universities, Academia)   others 24	
<b>Field of activity</b>	<p><b>Activities-projects:</b></p> <ul style="list-style-type: none"> <li>• Development of Innovative sensor systems offering distributed intelligence</li> <li>• Next Generation Millimeter Wave Backhaul Radio</li> <li>• Microelectronics Components for Lab-On-Chip Instruments in Molecular Diagnostics for Genetics and Environmental Applications</li> <li>• Development of PHY Silicon IPs</li> <li>• Fourth Generation QoS Scheduler</li> <li>• Next Generation Intelligent Gateway Platform for Mobile Communications</li> <li>• Low Cost Smart Cameras</li> <li>• Advanced Radio Transmitters</li> </ul>	
<b>Specialties and skills</b>	eHealth Key enabling Technologies Software Development Communication Services Hardware Development	
<b>Has been organized a “cluster chain of value”?</b>	 <b>YES</b>	<input checked="" type="checkbox"/>
	<input type="checkbox"/> <b>NO</b>	
<b>Which of the fields are covered by chain of value?</b>	 <b>Design materials</b>	<input checked="" type="checkbox"/>
	<input type="checkbox"/> <b>Installation</b>	
	<input type="checkbox"/> <b>Construction</b>	
	 <b>energy management</b>	<input type="checkbox"/>
	 <b>services</b>	<input type="checkbox"/>

	<input type="checkbox"/> <div>others (spec)</div>
<b>Do the cluster operate on market with a common label? Is it the cluster label or a third one?</b>	n/a
<b>How the competences of the chain of value are promoted?</b>	n/a
<b>Who are the main destination customers ?</b>	<input type="checkbox"/> Private: residential
	<input type="checkbox"/> Private: industrial
	<input type="checkbox"/> Private: tertiary
	<input type="checkbox"/> Public (spec. the typology)
<b>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</b>	n/a
<b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b>	n/a
<b>Description of a success case</b>	Attraction of Strategic Investments from US, Japan, EU) for the development of design centers operating in Greece and support EMPLOYMENT

Benchmark on Clusters business models and other B to B services	
<b>Name of cluster</b>	APCOR - Associação Portuguesa de Cortiça - Portuguese Cork Association
<b>Country</b>	Portugal
<b>Region</b>	Santa Maria de Lamas - Aveiro
<b>Cluster manager</b>	António Rios de Amorim
<b>Contact point</b>	<p>Engineer Manuel Revoredo</p> <p>Responsible for the Department of Standardization</p> <p>mrevoredo@apcor.pt</p> <p>+351 227 474 040</p>
<b>Short cluster description</b>	<p>It is an employers' association, nationwide founded in 1956. Its main objective is to promote and enhance the cork as a raw material of excellence.</p> <p>All companies that produce, market or export cork products can be members.</p>
<b>Range of activity</b>	<input type="checkbox"/> international, national, regional <input checked="" type="checkbox"/> national <input type="checkbox"/> regional
<b>n. of members</b>	240
<b>Field of activity</b>	<p>Materials and construction products.</p> <p>The most important market for cork in Portugal, is the production of stoppers.</p> <p>In construction, the main uses of cork are thermal insulation and decorative coating.</p>
<b>Specialties and skills</b>	Dedicated to the normalization of the cork.
<b>Has been organized a "cluster chain of value" ?</b>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<b>Which of the fields are covered by chain of value?</b>	<input checked="" type="checkbox"/> Design materials <input type="checkbox"/> installation <input type="checkbox"/> construction <input type="checkbox"/> energy management <input type="checkbox"/> services <input type="checkbox"/> others (spec)
<b>Do the cluster operate on market with a common label? Is it the cluster label or a third one?</b>	<p>It has a common label in the market.</p> <p>However, this only means that the product that the customer is buying is made with cork.</p> <p>The label used does not mean quality</p>
<b>How the competences of the chain of value are promoted?</b>	<p>Doesn't exist a value chain.</p> <p>Product standardization, and monitoring of the associate members are the way to maintain quality of the final product.</p>
<b>Who are the main destination customers ?</b>	<input type="checkbox"/> Private: residential <input type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary <input type="checkbox"/> Public (spec. the typology)
<b>Do the cluster operate on market with a local incentive scheme or a support programme</b>	<p>There is no system of local incentives or support programs for the application of cork as a sustainable material and material that improves</p>

programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)	the energy performance of buildings.
How the cluster management is paid back for its promotional and oragnisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....	<p>The cluster management is paid with members fee.</p> <p>Members pay to APCOR for development projects.</p>
Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better	<p>Currently there are institutions dedicated to laboratory control of cork and dedicated to training people who work the cork, so the current business model is well protected.</p> <p>The promotion of cork as a construction material that improves the EE of the building would improve and create new business opportunities.</p>
Description of a success case	<p>APCOR does not control the projects where the cork is applied as a construction material. APCOR knows that there is a large set of buildings where the cork was used as a construction material, through companies like "Grupo AMORIM" or "Granorte".</p>



Benchmark on Clusters business models and other B to B services	
Name of cluster	APISOLAR - Portuguese Association of Solar Industry
Country	Portugal
Region	Lisboa
Cluster manager	Maria João Rodrigues
Contact point	Joana Freitas Unit of public policies (+351) 219 260 920 <a href="mailto:joana.freitas@apisolar.pt">joana.freitas@apisolar.pt</a>
Short cluster description	Founded in 1998. It is the only portuguese association that exists in defense, development and promotion of solar photovoltaic and solar thermal energy.  The APISOLAR mission is to unify and strengthen the portuguese solar industry, always in strict compliance with the specific needs of each of its associates.
Range of activity	<input type="checkbox"/> international, national, regional <input checked="" type="checkbox"/> national <input type="checkbox"/> regional
n. of members	160
Field of activity	Solar energy. APISOLAR represents Manufacturers, Importers, Exporters, Retailers of Components and Accessories, Designers and Installers of solar systems.
Specialties and skills	Photovoltaic solar energy. Solar thermal energy.
Has been organized a "cluster chain of value" ?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Which of the fields are covered by chain of value?	<input type="checkbox"/> Design materials <input type="checkbox"/> installation <input type="checkbox"/> construction <input type="checkbox"/> energy management <input type="checkbox"/> services <input type="checkbox"/> others (spec)
Do the cluster operate on market with a common label? Is it the cluster label or a third one?	A common label doesn't exist however it is a subject that begins to be discussed with the members.
How the competences of the chain of value are promoted?	The cluster tries to guarantee the quality in the solar systems marketed by the members in the moment of his registration (verification of the marks and certification of the systems marketed).
Who are the main destination customers ?	<input checked="" type="checkbox"/> Private: residential <input type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary <input checked="" type="checkbox"/> Public (spec. the typology)
APISOLAR coordinates two projects in Portugal that seek the promotion of the solar energy	

<p><b>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</b></p>	<p>- <i>European Solar Days: European Project that consists of a sensitization campaign and promotion of the use of solar energy for the civil society.</i></p> <p>- <i>UrbanSolPlus: European Project with the objective of facilitating the installation of thermal solar systems in existent residential buildings.</i></p> <p><i>Internally the APISOLAR has been discussing about the possibility of accomplishing an advertising campaign of sensitization for the use of the solar energy.</i></p>
<p><b>How the cluster management is paid back for its promotional and oragnisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....</b></p>	<p><i>The cluster members pay an annual fee.</i></p> <p><i>There are different classes of members, a higher annual fee represents a greater number of votes at general meetings.</i></p>
<p><b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b></p>	<p><i>There is a huge market potential in the Urban Rehabilitation and in the Energy Service Companies. On this base the industry must adapt to new markets by providing new solutions.</i></p> <p><i>With the Portuguese law for the mini-production, the solar energy will arrive to very diversified sectors and thoroughly dissipadores of energy.</i></p> <p><i>This will allow to create a new net of businesses.</i></p>
<p><b>Description of a success case</b></p>	<p><i>Building Campo Pequeno:</i></p> <p><i>This building comes as an innovative proposal and different from the remaining real estate offer of the portuguese capital, with high</i></p> <p><i>habitability conditions and comfort, constituting an excellent example of a refurbished building and with inclusion of solar energy</i></p>

Benchmark on Clusters business models and other B to B services	
<b>Name of cluster</b>	Habitat Center - Platform for sustainable construction
<b>Country</b>	Portugal
<b>Region</b>	Aveiro
<b>Cluster manager</b>	Victor Miguel Carneiro de Sousa Ferreira
<b>Contact point</b>	Jorge Assis Project Manager jorgeassis@ua.pt +351 910 966 860
<b>Short cluster description</b>	<p>Founded on July 20, 2007. It aims to increase the competitiveness of enterprises by increasing the</p> <p>Promotes an international event for companies, R &amp; D centers, municipalities and other interested entities to disclose what they do in terms of sustainable construction, and discuss the role this may have in his own innovation.</p> <p>Members seek the cluster with the aim of improving their performance through sustainable construction.</p>
<b>Range of activity</b>	<input type="checkbox"/> international, national, regional <input checked="" type="checkbox"/> national <input type="checkbox"/> regional
<b>n. of members</b>	100
<b>Field of activity</b>	<p>It has three basic projects:</p> <ul style="list-style-type: none"> <li>- Knowledge centre in materials for sustainable construction;</li> <li>- Knowledge centre in sustainable building technologies;</li> <li>- Competence centre for sustainability of habitat;</li> </ul>
<b>Specialties and skills</b>	<p>Sustainable Construction.</p> <p>Technologies and systems for construction and rehabilitation.</p> <p>Use of natural resources.</p> <p>Integration of renewable energy in buildings.</p> <p>Economics and management of sustainable construction.</p>
<b>Has been organized a "cluster chain of value" ?</b>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<b>Which of the fields are covered by chain of value?</b>	<input type="checkbox"/> Design materials <input type="checkbox"/> installation <input type="checkbox"/> construction <input type="checkbox"/> energy management <input type="checkbox"/> services <input type="checkbox"/> others (spec)
<b>Do the cluster operate on market with a common label? Is it the cluster label or a third one?</b>	<p>There is no common label.</p> <p>In the future intends to issue the certification for environmentally sustainable construction products in Portugal.</p>
<b>How the competences of the chain of value are promoted?</b>	Doesn't exist a chain of value.
<b>Who are the main destination customers ?</b>	<input checked="" type="checkbox"/> Private: residential <input checked="" type="checkbox"/> Private: industrial

<b>Who are the main destination customers :</b>	<input type="checkbox"/> Private: tertiary <input checked="" type="checkbox"/> Public (spec. the typology)
<b>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</b>	Conferences, open to all, including the end consumer, where are shown the advantages of sustainable construction and energy efficiency of buildings.
<b>How the cluster management is paid back for its promotional and oragnisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....</b>	The management of the cluster is paid through the Each participation unit represents a vote in general meetings.
<b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b>	At this time the cluster management finds too early to assess the strengths and weaknesses of the project.
<b>Description of a success case</b>	<p><i>nano @ construção - nanotechnology applied to the energy efficiency and service needs of the construction sector.</i></p> <p><i>It aims to collect information on current applications of nanotechnology in the construction sector and the needs of companies in this sector, presenting new opportunities for innovation.</i></p>

## **WP5**

### **REGIONAL BENCHMARK ANALYSIS FOR THE SUPPLY SIDE**

#### **ANNEX 2**

#### **SURVEY ON LOCAL INNOVATIVE SMEs**

#### ***CONTRIBUTIONS BY PARTNERS***



# MARIE

MEDITERRANEAN BUILDINGS  
ENERGY EFFICIENCY  
IMPROVEMENT

Partner	Cluster
Catalunya Region	A3E CEEC Lightning Cluster of Catalonia InnoCons LleidaBiotech
Regione Piemonte	CAP 2020
	Polo Tecnologico di Navacchio
	Polight
AREA Trieste	Boat Building Cluster of Friuli Venezia Giulia
IASA	Corallia
University of Evora	APCOR Apisolar Centro Habitat
PACA	BDM Capenergies

b) Benchmark on Clusters business models and other B to B services			
Name of cluster Clúster d'Eficiència Energètica de Catalunya (Catalonia Energy Efficiency Cluster, CEEC)	Country Catalonia	Region Catalonia	
Cluster manager (name of institution) Núria Cardellach i Ramírez			
Contact point (name, position email, web, telephone) Núria Cardellach i Ramírez, Cluster Manager, <a href="mailto:ncardellach@clustereficiencia.org">ncardellach@clustereficiencia.org</a> <a href="http://www.clustereficiencia.org">www.clustereficiencia.org</a> 670627709			
Short cluster description (date of creation, activities, typology of members)  The Clúster d'Eficiència Energètica de Catalunya (Catalonia Energy Efficiency Cluster, CEEC) is an organisation that seeks to promote the field of energy efficiency by facilitating collaboration between member companies and organisations from the technology, research, institutional, regulatory, industrial, media and business sectors. It was created on 2008 and currently integrates almost 100 members.  The CEEC was set up as a non-profit business group comprised of companies that, as part of their business, supply, promote or develop energy-efficiency products and services for the following sectors: buildings, mobility, public services, industry and training.			
Range of activity (international, national, regional) National mainly.			
n. of members 96			
Field of activity (construction, energy, construction and energy) Energy efficiency in the fields of buildings, mobility, public services and industry.			
Specialties and skills (i.e solar, cogeneration, RES...) energy services companies, energy management systems, energy efficient buildings, RES integration to buildings, electric vehicle, microcogeneration...			
Has been organized a "cluster chain of value" Y/N			
Which of the fields are covered by chain of value? Design materials installation construction energy management services			
Do the cluster operate on market under a common label? NO Is it the cluster label or a third one?			
How the competences of the chain of value are promoted? Creation of working groups integrating all the roles of the value chain required for the specific area/field/application.			
Who are the main destination customers ? Private: –residential – industrial – tertiary Public (typologies) any entity with buildings / installations where energy efficiency potential is high			
Do the cluster operate on market under a local incentive scheme or a support program for energy refurbishment? If yes, how does the program work and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local program require cluster label to provide			

incentives or grants) NO

How the cluster management is paid back for its promotional and oragnisational activities ? i.e members fee, success fee on works, local cluster incentives, fee by customers ....

Mainly members' fee. There may be also some works on energy efficiency studies contracted by public entities, and other small subsidies.

Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better

The main strength of the CEEC is its companies and their working groups. The main weakness is the need to find sources of funding for their projects, as the majority of potential customers are not willing to invest at the moment. That's why so we are focusing on the ESCO model, but again the problem is funding.

Description of a success case

Elaboration of a guide for city councils on how to invite tenders for public street lighting installation via the ESCO model (just finished). A specific group was created for this purpose, integrating six ESCO that had to reach a consensus about this matter. The guide has been very favorably received by the city councils and we hope it will flow into more and of more quality calls for tenders, which was the main goal of elaborating the guide as this will mean more business for CEEC's companies.



b) Benchmark on Clusters business models and other B to B services			
Name of cluster CICAT	Country SPAIN	Region CATALONIA	
Cluster manager (name of institution) LIGHTING CLUSTER OF CATALONIA			
Contact point (name, position email, web, telephone) Josep M <sup>a</sup> Vidal-Ribas, Manager, <a href="mailto:jmvidalribas@cicat.cat">jmvidalribas@cicat.cat</a> , <a href="http://www.cicat.cat">www.cicat.cat</a> , +34 661 577 476			
Short cluster description (date of creation, activities, typology of members) Created in Sep.2010, with 30 associates, 26 manufacturers, 3 suppliers, 1 investigation center. Main activities in three areas: internacionalitzation, innovation and knowledge. One major project (medium term) in progress: Light Academy. Other minor activities to foster relationship among associates to create a level of confidence (most of them are competitors).			
Range of activity (international, national, regional) <b>Regional</b>			
n. of members 30 (forecast end of 2012 is 40-45)			
Field of activity (construction, energy, construction and energy) construction			
Specialties and skills (i.e solar, cogeneration, RES....) lighting segmentation, LED technology			
Has been organized a "cluster chain of value" Y/N Not yet,... in progress			
Which of the fields are covered by chain of value? Services Design materials installation construction energy management services			
Do the cluster operate on market under a common label? Is it the cluster label or a third one? Common label is 'CICAT' yet not well known in the marketplace			
How the competences of the chain of value are promoted? Relationship among associates			
Who are the main destination customers ? ALL Private: –residential – industrial – tertiary Public (typologies)			
Do the cluster operate on market under a local incentive scheme or a support program for energy refurbishment? If yes, how does the program works and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local program require cluster label to provide incentives or grants) There is a local incentive to replace old lighting public systems. Yet, situation is not as clear as wished and results will come in the medium term.			
How the cluster management is paid back for its promotional and oragnisational activities ? i.e members fee, success fee on works, local cluster incentives, fee by customers .... A mix of them. Most of budget will depend on Members fee. Plus a bonus on successful activities and goals.			
Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better Because domestic market is really low, strengthens and weaknesses come from two main focus: (lack of) internacionalitzation of the company and (lack of) capacity for innovation.			

<p>Description of a success case</p>

Light Academy is one major project in cluster scheme which allows all associates to participate intensively in accordance to their own goals. There is a common language related to the creation of this project and all members of WG put apart their own visions of business to support a common idea. Still growing, I expect it is going to be an outstanding project.

b) Benchmark on Clusters business models and other B to B services			
Name of cluster LleidaBiotech	Country Spain	Region Catalonia (Lleida)	
Cluster manager (name of institution) Chamber of Commerce of Lleida			
Contact point (name, position email, web, telephone)  Esther Garcia Bigata Project Manager <a href="mailto:info@lleidabiotech.com">info@lleidabiotech.com</a> +34 973 23 61 61			
Short cluster description (date of creation, activities, typology of members)  The region of Lleida is Catalonia's main inland economic area and the one which possesses the most highly developed agro-industrial sector in Catalonia, thanks to the work of extremely qualified professionals, who have studied in the most prestigious local and international universities and technological centres, and who have thus become leading experts in all the agricultural and industrial processes and technologies.  This noteworthy knowledge and economic potential, together with the new technological infrastructures, have led to the creation of a new economic sector, <b>the bio-products industries</b> , which convert biomass (non-food crops, forest biomass, urban vegetal waste, etc.), by means of industrial and biotechnological processes, into bio-products like bio-plastics, bio-paints, bio-energy, bio-fuel and bio-construction materials, etc.  Lleida Biotech is the leading name and trade mark used by the region to promote, within its sphere of influence, the bio-product industries and to convert Lleida into a region determined to promote eco-innovation.  The creation of the Clúster was in 2006, and we develop different activities such as meetings between enterprises and research centers, benchmarking trips, R+D projects...			
Range of activity (international, national, regional)  Regional activities; however we are in a FP7 of Sustainable forest management providing renewable energy, sustainable construction and bio-based products.			
n. of members 26			
Field of activity (construction, energy, construction and energy) construction and energy			
Specialties and skills (i.e solar, cogeneration, RES....) bioenergy			
Has been organized a "cluster chain of value" Y/N No			
Which of the fields are covered by chain of value?  Design materials installation construction energy management services			
Do the cluster operate on market under a common label? Is it the cluster label or a third one? No			
How the competences of the chain of value are promoted? Conferences, meetings, web site			
Who are the main destination customers ? residential, industrial and tertiary  Private: –residential – industrial – tertiary Public (typologies)			
Do the cluster operate on market under a local incentive scheme or a support program for energy refurbishment? If yes, how does the program works and are there some "shortcuts" for			

cluster chain of value or enterprises (i.e. the local program require cluster label to provide incentives or grants) No
How the cluster management is paid back for its promotional and oragnisational activities ? i.e members fee, success fee on works, local cluster incentives, fee by customers .... No
<p>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</p> <p><u>Strengthens</u></p> <p>Biomass in the region</p> <p>Research centers and Knowledge</p> <p>The building sector needs alternatives</p> <p><u>Weaknesses</u></p> <p>Logistic items</p> <p>Costs of obtain the biomass</p> <p>Lack of issues</p> <p><u>Corrective measures</u></p> <p>Applied research</p> <p>Study the necessities of the final costumers</p> <p>More information to the society</p> <p>Cooperation between enterprises and research centers</p>
Description of a success case

Benchmark on Clusters business models and other B to B services	
<b>Name of cluster</b>	A3E Asociación de Empresas de Eficiencia Energética
<b>Country</b>	Spain
<b>Region</b>	Spain
<b>Cluster manager</b>	Antonio López-Nava
<b>Contact point</b>	Office Holding Centro de Negocios Doctor Arce, 14. Madrid 28002 T: +34 917 610 250 <a href="mailto:info@asociacion3e.org">info@asociacion3e.org</a>
<b>Short cluster description</b>	The Association of Energy Efficiency Companies (A3E) is a nonprofit organization with more than 50 members. Our partners are companies and organizations that work (either totally or partially, locally or internationally) in the energy efficiency sector.
<b>Range of activity</b>	<input checked="" type="checkbox"/> international, national, regional <input type="checkbox"/> national <input type="checkbox"/> regional
<b>n. of members</b>	50+
<b>Field of activity</b>	(i.e construction, energy, construction and energy...) Energy, construction, maintenance, energy management, renewable energies...
<b>Specialties and skills</b>	(i.e solar, cogeneration, RES....) Energy, construction, maintenance, energy management, renewable energies...
<b>Has been organized a "cluster chain of value" ?</b>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<b>Which of the fields are covered by chain of value?</b>	<input checked="" type="checkbox"/> Design materials <input checked="" type="checkbox"/> installation <input checked="" type="checkbox"/> construction <input checked="" type="checkbox"/> energy management <input checked="" type="checkbox"/> services <input type="checkbox"/> others (spec)
<b>Do the cluster operate on market with a common label? Is it the cluster label or a third one?</b>	third one
<b>How the competences of the chain of value are promoted?</b>	Information, training, dissemination Work groups, services for the partners
<b>Who are the main destination customers ?</b>	<input checked="" type="checkbox"/> Private: residential <input checked="" type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary <input checked="" type="checkbox"/> Public (spec. the typology)

<p><b>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</b></p>	<p><i>Yes. Programme for energy refurbishment of IDAE</i></p>
<p><b>How the cluster management is paid back for its promotional and oragnisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....</b></p>	<p><i>There is a fee for the members of the cluster.</i></p> <p><i>The fee is the same for all the partners</i></p> <p><i>Activities organized by the cluster provide additional funding</i></p>
<p><b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b></p>	<p><i>We are independent. Our message aims to foster the sector and to increase the demand for energy efficiency solutions</i></p> <p><i>We contribute to organize our sector consistently</i></p> <p><i>We are generalists, which can be both a strength and a weakness</i></p>
<p><b>Description of a success case</b></p>	<p><i>Acredited training project. We foster high quality energy audits, since we believe they are the basis for energy savings</i></p> <p><i>We train proffessionals for high quality energy audits, and award them with a certification (there is no such label provided by the Spanish administration)</i></p> <p><i>We wrote the first report on the Energy Efficiency sector in Spain</i></p>

Benchmark on Clusters business models and other B to B services	
Name of cluster	InnoCons
Country	Spain
Region	Catalonia
Cluster manager	Cambra Oficial de Contractistes d'Obres de Catalunya (contractors association)
Contact point	Josep-Manel Marí, Director of Research and Innovation, +34 934675286, jmmari@ccoc.es www.innocons.cat www.ccoc.es
Short cluster description	Founded in 2009, InnoCons is group of +300 companies and professionals to promote innovation, and is formed by public and private promoters, constructors, technicians and material providers
Range of activity	<input type="checkbox"/> international, national, regional <input type="checkbox"/> national <input checked="" type="checkbox"/> regional
n. of members	
Field of activity	construction, energy and ITC
Specialties and skills	generalist in construction, energy efficiency in refurbishment
Has been organized a "cluster chain of value" ?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Which of the fields are covered by chain of value?	<input type="checkbox"/> Design materials <input type="checkbox"/> installation <input type="checkbox"/> construction <input type="checkbox"/> energy management <input type="checkbox"/> services <input type="checkbox"/> others (spec)
Do the cluster operate on market with a common label? Is it the cluster label or a third one?	No
How the competences of the chain of value are promoted?	by creating groups of work that carry out studies n different issues and projects
Who are the main destination customers ?	<input checked="" type="checkbox"/> Private: residential <input checked="" type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary <input checked="" type="checkbox"/> Public (spec. the typology)

<p>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</p>	<p>No</p>
<p>How the cluster management is paid back for its promotional and oragnisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....</p>	<p><i>The cluster manager is paid by his own organisation.</i></p> <p><i>It's an informal organisation to promote innovation.</i></p>
<p>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</p>	<p><i>The strengths are that it is an open and transparent organisation which facilitates the collaboration of different institutions, companies and professionals</i></p> <p><i>It's weakness is, at the same time, that it hasn't a proper business model because it's not a traditional cluster in its conception and organisation.</i></p> <p><i>It could be organised as a formal cluster to operate more effectibily in a more centralised way.</i></p>
<p>Description of a success case</p>	<p><i>The main success case has been the organisation of an open and transparent and dinamic enviroment in which participants feel confortable to collaborate, thus promoting studies and projects that are changing the culture of the sector.</i></p> <p><i>Groups created have facilitated new business collaborations among the members.</i></p>



Benchmark on Clusters business models and other B to B services	
Name of cluster	CAP 2020
Country	BELGIUM
Region	WALLONIE
Cluster manager	ASBL CAP202
Contact point	MR. JOEL COUPET, PRESIDENT <a href="http://CAP2020.BE">HTTP://CAP2020.BE</a>
Short cluster description	<p>(insert information about date of creation, activities, typology of members)</p> <p>Born on 2007 in the framework of Belgian National Clustre programme ,CAP 2020 is a group of Walloon enterprises active in the building industry, regrouping Contractors, Architects, Producers and Suppliers of materials and services who have adopted the 2020 common European objective of massive energy consumption reduction.</p> <p>so far cluster account over 150 members, and its mision is to promote neregry renvoation of buildings operating on:</p> <p>- Energy label of building projects - networking at regional, national and international level, - R&amp;D and innovation support, via belgian and european funds programmes, - professional training, - cluster marketing and promotion - information to large audience</p>
Range of activity	<input type="checkbox"/> international, national, regional x national x regional
n. of members	
Field of activity	(i.e construction, energy, construction and energy...) energy efficiency in building
Specialties and skills	(i.e solar, cogeneration, RES....) building materials and construction, refurbishment
Has been organized a "cluster chain of value" ?	x yes , full from design, materils, technologies, construction and financial services <input type="checkbox"/> NO

Which of the fields are covered by chain of value?	x <i>Design materials (cluster manager internal skill)</i>
	x <i>installation (provided by companies in the cluster)</i>
	x <i>construction (provided by companies in the cluster)</i>
	x <i>energy management</i>
	x <i>services (provided by companies in the cluster)</i>
	x <i>others (financial services to enterprises and customers)</i>
How the competences of the chain of value are promoted?	<p><i>The competencies of the value chain are promoted by means of technology transfer activities of the cluster such as technological meetings and promotional activities. Moreover cluster adopted a common existing label for energy quality in building (COQUAL, Construction Quality ) that together with assessment method ELEA characterize intervention in energy refurbishment. A web 2.0 platform is open to participation of enterprises and customer. Demand for specific building intervention are posted by customer on the web platform and cluster management redirect question and opportunities to specific members so to create business opportunities.</i></p>
Who are the main destination customers ?	x <i>Private: residential</i>
	<input type="checkbox"/> <i>Private: industrial (launching now)</i>
	x <i>Private: tertiary</i>
	x <i>Public (municipalities and public administration)</i>
Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)	<p><i>No so far, excepted for R&amp;D activities supported by local cluster focused programmes</i></p>
How the cluster management is paid back for its promotional and organisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....	<p><i>annual fees from members and local incentive to cluster (up to 50%)</i></p>

<p><b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b></p>	<p><b>Strenghtens</b></p> <ol style="list-style-type: none"> <li>1. Strong reliability of the cluster</li> <li>2. Good interaction with local market</li> </ol> <p><b>weaknesses</b></p> <ol style="list-style-type: none"> <li>1. market initaitive is in the first developoing phase and need to be consolidated.</li> <li>2. necessary to increase the visibility of cluster</li> </ol>
<p><b>Description of a success case</b></p>	

Benchmark on Clusters business models and other B to B services	
Name of cluster	POLO TECNOLOGICO DI NAVACCHIO
Country	ITALY
Region	TOSCANA
Cluster manager	POLO TECNOLOGICO DI NAVACCHIO
Contact point	Paolo Alderigi - tel. 050 754142; email alderigi@polotecnologico.it <a href="http://www.polotecnologico.it">http://www.polotecnologico.it</a>
Short cluster description	<p>(insert information about date of creation, activities, typology of members)</p> <p>The cluster Polo di Navacchio is an informal network of partners that provide specific services in the field of RES. The cluster activity was born in 2006 with the setting up of the collaboration with ANCI Toscana in order to support the introduction of RES in public infrastructures and buildings to be funded in the frame of a regional tender for the year 2011. The cluster gathered a group of companies in order to provide to the municipalities a range of competencies, skills and innovative solutions to be included and developed in the projects eligible for funding under the call. The role of Polo di Navacchio is to provide the design of the project and to include a set of technological solutions that can be provided by the companies linked to the cluster. In this frame the cluster had only the opportunity to include a specific technological solution a not directly a company because the selection has to pass under a tender procedure. Starting from 2012 the Cluster Polo di Navacchio will also operate on the private market so this constraint will disappear.</p>
Range of activity	<input type="checkbox"/> international, national, regional <input type="checkbox"/> national <input checked="" type="checkbox"/> regional
n. of members	
Field of activity	(i.e construction, energy, construction and energy...) RES production (in particular solar energy PV+thermal) and building integration
Specialties and skills	(i.e solar, cogeneration, RES....) Design and construction of RES infrastructures and building integration
Has been organized a "cluster chain of value" ?	<input checked="" type="checkbox"/> YES. The cluster is building a network in order to provide turn-key solution on the private market <input type="checkbox"/> NO

Which of the fields are covered by chain of value?	<div><input checked="" type="checkbox"/> Design materials (cluster manager internal skill)</div> <div><input checked="" type="checkbox"/> installation (provided by companies in the cluster)</div> <div><input checked="" type="checkbox"/> construction (provided by companies in the cluster)</div> <div><input type="checkbox"/> energy management</div> <div><input checked="" type="checkbox"/> services (provided by companies in the cluster)</div> <div><input checked="" type="checkbox"/> others (technology transfer provided by the cluster manager)</div>
	<p>So far role of the Cluster has only been a "preferred" channel to involve and introduce companies to public tenders in the field of RES. The label was the protocol sign between Polo di Navacchio and ANCI Toscana (the association of municipalities in Tuscany). Probably in the future and in particular when the activity of the cluster will be addressed to the private sector the cluster will adopt a label that certifies the quality of the service/technology provided and the affiliation to the network.</p>
How the competences of the chain of value are promoted?	<p>The competencies of the value chain are promoted by means of technology transfer activities of the cluster such as technological meetings and promotional activities</p>
Who are the main destination customers ?	<div><input type="checkbox"/> Private: residential</div> <div><input checked="" type="checkbox"/> Private: industrial (launching now)</div> <div><input type="checkbox"/> Private: tertiary</div> <div><input checked="" type="checkbox"/> Public (municipalities and public administration)</div>
Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)	<p>Yes, in the frame of the protocol with ANCI Toscana where the goal is to help municipalities to submit proposal for the funding of RES projects. In those cases there were no "short cut" for the companies in the network because the selection of the company has to go through a public tender.</p>
How the cluster management is paid back for its promotional and organisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....	<p>In the so called "public" experience, the work made by the cluster is included in the project submitted for funding (success fee on work) under the item DESIGN.</p> <p>On the private market there will probably be a member fee.</p>
Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better	<p><b>Strenghtens</b></p> <ol style="list-style-type: none"> <li>1. Strong reliability of the cluster also perceived by municipalities</li> <li>2. Good interaction with public institutions</li> </ol> <p><b>weaknesses</b></p> <ol style="list-style-type: none"> <li>1. Limited control of the value chain (in the public experience) because of the necessity to go through public tenders. (this is not true for the private)</li> <li>2. lack of public funds in the public and bad economic situation even if there are some incentive systems still available</li> </ol>

### **Description of a success case**

*The experience has been very successful and that's why the cluster decided to open the initiative also to the private market. The ANCI Association has signed the Protocol with the cluster Polo di Navacchio because this was perceived by the public administration as a guarantee of quality and technical ability. In fact the work of the cluster has been extended also to other services not include in the protocol. The experience has produced 100 feasibility studies transformed in 50 projects all funded by the regional call (success ratio 100%)*

<b>Benchmark on Clusters business models and other B to B services</b>	
<b>Name of cluster</b>	POLIGHT
<b>Country</b>	ITALY
<b>Region</b>	PIEMONTE
<b>Cluster manager</b>	ENVIRONMENT PARK SPA
<b>Contact point</b>	Davide Damosso, R&D Director Ph. +39 0112257298 e-mail: davide.damosso@envipark.com
<b>Short cluster description</b>	Based in Turin (Italy), inside one of the most relevant industrial and technological context of Europe, the cluster is coordinated by Environment Park, Science and Technology Park for the Environment, and it has been created under an ERDF Regional initiative in 2009. Cluster's members (around 130) are regional enterprises that are developing innovative technologies, products and knowledge for Sustainable Building and Hydrogen sectors, together with major local and national R&D Centers.
<b>Range of activity</b>	<input checked="" type="checkbox"/> international, national, regional <input type="checkbox"/> national <input type="checkbox"/> regional
<b>n. of members</b>	
<b>Field of activity</b>	(i.e construction, energy, construction and energy...) <b>Sustainable building</b> <b>Hydrogen and fuel cells</b>
<b>Specialties and skills</b>	(i.e solar, cogeneration, RES....) Materials, technologies (included RES), energy efficiency tools and services for sustainable buildings Hydrogen and fuel cells CHP
<b>Has been organized a "cluster chain of value" ?</b>	<input checked="" type="checkbox"/> YES (starting) <input type="checkbox"/> NO
<b>Which of the fields are covered by chain of value?</b>	<input checked="" type="checkbox"/> design materials <input checked="" type="checkbox"/> installation <input checked="" type="checkbox"/> construction <input checked="" type="checkbox"/> energy management <input checked="" type="checkbox"/> services <input type="checkbox"/> others (spec)

Do the cluster operate on market with a common label? Is it the cluster label or a third one?	not yet
How the competences of the chain of value are promoted?	The offer of the cluster is promoted by the realization and diffusion of common materials (e.g. product portfolio) in events, fairs and delegations. A promotional activity focused on the public and the private market has not been done yet but will soon be implemented through the qualification of the cluster's offer.
Who are the main destination customers ?	<input type="checkbox"/> Private: residential <input type="checkbox"/> Private: industrial <input checked="" type="checkbox"/> Private: tertiary (ESCo, Energy companies, ...) <input checked="" type="checkbox"/> Public (social housing, )
Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some "shortcuts" for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)	<p>POLIGHT is so far operating under a local incentive scheme for R&amp;D only. Members affiliated to the cluster can apply for funding in a dedicated call closed to other companies. On market side so far POLIGHT operate promotional activities of cluster and its members, by participation in exposition and other market events under a common cluster umbrella. Promotion of public or private incentive scheme is made towards members in the framework of training and information cluster's mission.</p> <p>On market side so far POLIGHT operate promotional activities of cluster and its members, by participation in exposition and other market events under a common cluster umbrella. Participation is open to all members on a voluntary basis and costs are partially covered by a regional contribution (up to 50%)</p>
How the cluster management is paid back for its promotional and organisational activities? i.e members fee, success fee on works, local cluster incentives, fee by customers ....	<p>By now there has been a public funding (up to 50% of the total costs). These funds cover the promotional activities of clustre competences, carried out in an inclusive way (cluster promotion)</p> <p>In the near future the cluster will only be supported by members fees/success fees and the cluster manager has to work on the brand in order to give an added value of being member .This could be reached by focusing the activity on:</p> <ol style="list-style-type: none"> <li>1. the qualification of the cluster's offer by adopting existing "brands"</li> <li>2. the construction of short cut paths with other organisations (i.e clusters and industrial representatives )</li> <li>3. the construction of tested turn-key solutions</li> <li>4. and by focusing promotional activities in specific markets</li> </ol>
Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better	<p><b>Strengthens</b></p> <ol style="list-style-type: none"> <li>1. good interface with the public administration at different level (law, programmes and technical assistance in programmes implementation)</li> <li>2. good international networks (i.e. E2B, JTI on FCH, HY Ramp initiative, ...)</li> <li>3. good knowledge on EU calls themes, legislative guidelines and networks for the constructions of leading EU projects</li> <li>4. Deep knowledge of the sector at regional level and of the international benchmarks</li> <li>5. very active and stable internal networks/value chains of members has been created in the cluster and in the frame of cluster's project</li> </ol> <p><b>Weaknesses</b></p> <ol style="list-style-type: none"> <li>1. the cluster is born associated to a funding measure so the members considers the cluster as a channel to obtain funds</li> <li>2. difficulties in making companies working together without incentives.</li> </ol> <p><b>Corrective measures</b></p> <p>see previous point</p>
Description of a success case	In the frame of cluster projects and initiatives some innovative productions have been developed and now project partner are become commercial partner



## **Benchmark on Clusters business models and other B to B services**

Name of cluster

The boat building cluster of Friuli Venezia Giulia

Country

Italy

Region

Friuli Venezia Giulia

Cluster manager

n.a.

Contact point

n.a.

Short Cluster Description

The cluster of Friuli-Venezia Giulia (FVG from now on) represents an interesting example of integration between small-scale boat manufacturing and nautical tourism, between the activities of the yards, the service activities, and the infrastructures of tourist ports and marinas. The cluster has a relatively recent origin as regards to boat manufacturing, but benefits from the strong territorial roots of the activities related to shipbuilding, which date back from the nineteenth century. The cluster is an expression of a strong idea of governance, secured by the DITENAVE (Distretto tecnologico navale e nautico del FVG) a technology district established in 2008 by the initiative of the regional government and all the institutions and companies in the sector. In August 2011 DITENAVE has been received official and formal nomination as Italian Maritime Technology Cluster, by the Italian State Government. That of FVG can be considered as a complete boating cluster, an integrated system of actors and infrastructures operating synergistically with each other, resulting in performance levels of absolute importance. In particular, the cluster of boating of FVG can be divided into 5 sub-systems:

- system of the infrastructures for boating;
- system of knowledge and innovation;
- system of institutions;
- system of support industries;
- business system (firms and their supply chains).

Range of Activity

X International, national, regional

☐ national

☐ regional

n. of members

Field of activity

Together with a significant supply of facilities for nautical tourism, it has to be highlighted the presence in the region of areas with an industrial vocation, particularly suited for the settlements of boat building activities.

One of the principal locations is managed by the Consortium for the industrial development of Monfalcone (Trieste), and particularly the area of Lisert, where there are 24 companies linked to the boating cluster and where the Centre of shipbuilding and boating competence of Area Science Park has its headquarters. Precisely in this area, the new production settlements of Seaway (Slovenia) and Bénéteau (France) are under way. According to the data of the Consortium which manages the allocation of areas and their development, the turnover of the companies that gravitate around the pole of Monfalcone is now around 100 million euros, with a dozen companies of a certain importance, the establishment of three other important companies (Bénéteau, Seaway, Meridiana Rent) and the expansion of two more (Mmgi and Marine International).

Other areas with a high density of boat construction activities are those of the Polo Nautico of Trieste, near the navigable channel of the Industrial Zone (6 business units). Among the areas currently used for activities of naval shipbuilding, but with a potential nautical vocation (mega-yacht), we finally indicate the former Arsenale di Trieste.

Specialties and skills

The heart of the regional cluster is the business system. This system is composed of a diverse group of firms, ranging from boat builders to producers of parts and components, from manufacturers of accessories for the boating industry to businesses selling nautical products, from dealers specialized in selling boats to architecture and design agencies, from firms offering services for the construction of boats to companies offering boat repair and maintenance.

The firm system of boating in FVG can be described as a supply chain complete in all its components, where a rich supply of services for yachtsman and a wide range of trade services is also joined by significant construction activity.

Our goal was to assign the different companies surveyed a range of classes of activities, representative of the complex articulation of the cluster. Thus, we identified three main stages in the boating supply chain:

1. construction (production supply chain), which includes all construction and service activities that are undertaken to transform the demand for boats expressed by the market into a complete and working boat;
2. navigation, which includes all the services and activities, primarily commercial and service based, that are carried out for the yachtsman to assure an effective and enjoyable navigation;
3. maintenance and storage, which includes all activities that serve to keep the boat running over time and over the seasons.

Each of these macro-classes has also been divided into specific sub-categories of activity, within which all firms identified were placed (referring, in case of mixed business models, to the main activity in terms of sales turnover).

Also part of the production supply chain are the companies that are engaged in “services to production”. Services to production include those activities which – although part of the value chain of boat builders – for a variety of reasons (cost effectiveness, will to limit investments, search for flexible manufacturing systems, need to focus the activities etc.) are entrusted to external companies, which

operate as subcontractors. These activities basically correspond to the so-called boating fittings, such as carpentry, plant engineering, furniture, etc. Strongly represented in FVG are also the other service activities, i.e. maintenance and repair, and storage. A significant share of firms in the boating cluster in FVG provide instead services for the sale of boats and nautical equipment or other service activities aimed at the yachtsman (navigation).

One of the hallmarks of boating activities in FVG is the fact that surveyed companies tend to have rather articulated business models, meaning that they perform a variety of different activities, from construction to those commercial and service based.

The regional boating cluster has developed a large and complex system of actors that populated by Universities, vocational schools and institutes, and public and private research centres, engaged in applied research, technology transfer, and high level technical and professional training in support of the nautical sector and more generally of the maritime economy.

An integral and crucial part of the system of knowledge are surely the two regional Universities (Trieste and Udine), which not only carry out basic and applied research, but also fulfill a fundamental function of higher education, by offering degree and master courses specific to the sector. At the level of advanced training activities in the nautical field, the University of Trieste, in particular, uses the Department of naval, sea and environmental Engineering, which offers a three-year degree course and a Master of Science in Naval Engineering, with the potential to achieve the highest specialization through the Ph.D. in Marine and Naval Engineering (not run in recent years). The University of Trieste has also run for some years a Master's degree specialized in Naval Design (so called Master School in Yacht and Cruise Vessels Design), now no longer running. Also part of the regional system of knowledge are many schools and vocational institutions. This applies, for example, for the Nautical Institute of Trieste, which prepares professionals destined to work in the field of merchant shipping, of the control of the port and intermodal transport, of the marine ecology and the shipyards. Finally, included in the system of knowledge are the activities aiming at technology transfer, such as those undertaken by AREA Science Park with its Centre of Shipbuilding and Nautical Competence.

Public institutions are particularly important, to facilitate the emergence of a virtuous model of innovation, or so-called "triple helix" (public institutions, companies, Universities). Beyond the area of innovation, actions and interventions of an institutional nature in the regional cluster concern a plurality of areas, from the promotion on international markets to the support of dimensional growth, to the update of business models, and to the support of the associationism and of integration among companies.

Among the institutions most committed to the development of the boating cluster of FVG, worth to be mentioned is the system of the Chambers of Commerce, that for some time has been active in the support of the sector with initiatives such as Mondo Mare, or through the activities of related associations such as Assonautica.

Has been organized a "cluster chain of value" ?

☒ Yes

☐ No

Which of the fields are covered by chain of value?

☒ Design materials

☒ Installation

☒ Construction

☐ Energy management

## X Services

X Refitting; R& D; tourism

Do the cluster operate on market with a common label? Is it the cluster label or a third one?

No. The cluster does not operate with a common label.

How the competences of the chain of value are promoted?

The competences of the chain of value are promoted through the participation in :

- maritime fairs
- meeting, round table and convention
- in regional, national and international founding programmes

Who are the main destination customers ?

☐ Private: residential

☐ Private: industrial

☐ Private: tertiary

X Private: Ship building

– Furniture

– Tourism

– Craft manufacturing

Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme work and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme requires cluster label to provide incentives or grants)

At the moment the boat building cluster of FVG has not adopted a local incentive scheme or a specific support programme for energy refurbishment.

How the cluster management is paid back for its promotional and organisational activities? i.e. members fee, success fee on works, local cluster incentives, fee by customers ....

There are not particular promotional and organizational activities organized together with all the firms involved in the cluster.

One of the main indicators of competitiveness of a cluster is its ability to attract external investment. In this respect, the regional boating system is, without a doubt, very attractive.

Describe briefly the strengths and weaknesses of your business models and some corrective measures needed to operate as better

We have already clarified that the clusters of boating are based on two core areas of activity: the first core activity is focused on boat building and complementary service activities for production, the second core is instead focused on offering services for the boat and the yachtsman.

It has emerged that the boating industry in FVG is still mainly focused on the second core of activities; that is it is still configured more as a subcontracting chain of nautical tourism and therefore of marine infrastructures rather than as a system of actors who gravitate around the construction of boats. This is also one reason why the regional boating activities have maintained a typically artisanal size and structure, and have not yet made the leap to the size and models of operation, organization and management of an industrial type. We face, therefore, a “minor” boating industry, very similar to the one developed in other areas of the Adriatic Sea, for example, the province of Venice (where a district of minor shipbuilding has developed), and with quite different profiles to that of the “Tirreno” system (Versilia, Tuscany and Liguria), where, alternatively, large yards are prevailing, specialized in yacht construction of considerable sizes, and where the service activities are largely integrated and

synergistic with those of the boat building industry. We now want to briefly outline, in the following table, as they emerged from the research carried out, the characteristics of the boating cluster of FVG. Some of these features are undoubtedly the strengths and opportunities of the regional system of boating, others are potential weaknesses and threats, especially in relation to the developments in the international markets. Strengths and opportunities:

- A lively and young enterprise system. High entrepreneurial birth rate.
- High proportion of SMEs, highly flexible.
- Strong integration of activities (mainly services to the yachtsman) with the system of marinas and tourist ports.
- A wide system of facilities and infrastructures for recreational boating.
- Availability of space for further production and infrastructure plants, many of which with access to the sea.
- Existence of widespread and sophisticated expertise in boating activities.
- Demonstrated ability to attract investment from outside and from abroad, both in the sector of marinas and yards.

Weaknesses and threats:

- Often chaotic development of the sector, driven by an exuberant demand compared to the same supply capacities.
- Poor development of constructive activities, especially for larger boats. Lack of a culture of mass production. Strong specialization in minor boats, more liable to the negative cycles of the market than the major boats.
- Limited average size of firms, with difficulty in achieving economies of scale, particularly in the supply of materials.
- Lack of leading firms capable of pulling along the system and able to trace the direction of development.
- Poor managerialisation and entrepreneurship of small firms in the cluster.
- Poorly focused business models (that deal with a bit of everything), with little orientation towards dimensional growth.
- Difficulties in penetrating international markets.
- Supply mainly focused on highly customizable services, design, quality of workmanship, with a reduced emphasis on technological performances and innovation.
- Difficulties in collaboration with the world of research and academia, for the development and use of new technologies and new materials.
- Difficulty in finding work force. Possible, gradual depletion of the heritage of expertise and professionalism of the sector, due to the difficulty in transferring the professions of boating.
- Increasing competition from Eastern Europe (which has lowered processing costs). Competition from other localities of the Adriatic Sea (some with a more attractive tourist system and with high performances boating clusters).

Finally, we note the continuing difficulty in synergising the naval and the boating sector in FVG, partly because of the lack of “intermediate” shipbuilding between the major construction, of ships, and the minor construction, of recreational boats. In this respect, the naval and nautical system of Tuscany represents, for example, a clear case of integration of these two worlds, where around the needs of the major ships and boats there has been built a complete subcontracting chain, capable of serving the needs of each category of customer, be it a manufacturer of ships or of large recreational boats. In the case of FVG this integration is more difficult, but in any event possible within a unitary framework of actions developed by companies and institutions. Therefore, from our description there emerges a colourful picture of regional boating, where performances of undoubted excellence are accompanied by

worrisome areas of concern. Where the dynamism and the operational limits of the business system are accompanied by many initiatives, both public and of associated bodies, which aim to support the additional development of the sector.

Description of a success case

DITENAVE → The naval and nautical technological district of FVG

The path that led to the establishment of the District has been highly articulated and has involved many actors and categories. In December 2006 a protocol of Understanding between the Friuli Venezia Giulia Region, represented by the Ministry of Regional Works, and some actors of primary importance for naval and boat building: Fincantieri SpA, ConfindustriaFVG, Friulia SpA and AREA Science Park, has been signed. On the 25th of March 2008 the program agreement fully defining the model of governance was signed. Among those signatories, in addition to the institutions mentioned above, there were:

- employer associations;
- union representatives;
- Chambers of Commerce;
- representatives of the system of research and innovation;
- representatives of the training system;
- representatives of the financial system;
- local bodies of the most affected local areas.

Ditenave aims to support the attainment of higher levels of technical and economic competitiveness of the shipbuilding and boat building sector in FVG:

- stimulating scientific and technological research;
- supporting the competitive growth of regional businesses to facilitate the
- realization of product/process innovations, technology transfer, organizational
- and management development;
- supporting the rationalization, integration and strengthening of training offered
- at all levels.

Ditenave has as a reference for its own mission the economic, manufacturing and service activities, that have or are planning to have a significant share of sales turnover in the shipbuilding and/or boating supply chain. Excluded are the activities and interests, although related to the maritime economy, linked to estate and infrastructure planning, tourism promotion, and to the trade in goods and articles.

The governance structure provides a coordinating body, the Ditenave Association, with a function of guidance, promotion, coordination of the District and the ability to promote the business network and take steps to integrate itself with the supply of services of research, innovation and training. The association defines the strategic lines of intervention of the system of research, innovation and training, the objectives of medium-long term in relation to the analysis of the scenario, identifies funding opportunities to implement and supports the inclusion of activities of the District in networks of expertise (regional, national, European).

The Association consists of:

- General Assembly;
- President;
- The Strategic Committee;
- The Innovation Committee;
- Technical advisory committees for research and training.






Also, integral parts of the governance of Ditenave are:

- the research system: the Consortium for the high Naval Research (RINAVE, a public-private consortium that sees among its members the regional Universities, AREA Science Park and

Fincantieri) represents the key player for the initiatives in the research field. Specifically, RINAVE operates within the District for purposes of stimulation and organization of the relationship between demand and supply of research in the naval and boating industry;

- the innovation system: the reference subjects here are the Innovation Committee and AREA Science Park. The Innovation Committee has the task of identifying the innovation initiatives for the enhancement of local competitiveness, also through promotion actions within the region. AREA Science Park, through its Centre of Shipbuilding & Nautical Competence is committed to provide assistance and services to regional businesses, to facilitate the matching of supply and demand of innovation in the sector of naval subcontracting and the recreational boating industry, also promoting international networking. It is also expected the participation of Friulia spa as a partner in support of the development of enterprises and of the regional economy, with the role of financial investment in venture capital operations;
- the training system: the establishment of the Training Pole of the District is expected, as a network of actors operating at all levels of education and training activities, with the task of drawing up, on the basis of the needs identified, effective training plans for the sector.

Representation of the marine cluster of FVG on the basis of the component systems:

<b>Name of cluster</b>	mi-Cluster	
<b>Country</b>	Greece	
<b>Region</b>		
<b>Cluster manager</b>	<b>Corallia Clusters Initiative</b>	
<b>Contact point</b>	Mrs. Julia Phoca PR & Communications Manager, Corallia Clusters Initiative	
<b>Short cluster description</b>	<p><b>Date of creation</b> : 2006  The mi-Cluster is the first innovation cluster in Greece and since its establishment in 2006, it demonstrates a continuous increase of members, exceeding today 100 organisations, including Greek innovative companies, academic labs and research institutes, from all over Greece</p> <p><b>typology of members</b>: industry, academia, research labs, venture capitals, business angels, regional and central governmental stakeholders</p>	
<b>Range of activity</b>	 <b>international, national, regional</b>	<input checked="" type="checkbox"/>
	<input type="checkbox"/> <b>national</b>	
	<input type="checkbox"/> <b>regional</b>	
<b>n. of members</b>	total : 132 68 Business   40 (Universities, Academia)   others 24	
<b>Field of activity</b>	<p><b>Activities-projects:</b></p> <ul style="list-style-type: none"> <li>• Development of Innovative sensor systems offering distributed intelligence</li> <li>• Next Generation Millimeter Wave Backhaul Radio</li> <li>• Microelectronics Components for Lab-On-Chip Instruments in Molecular Diagnostics for Genetics and Environmental Applications</li> <li>• Development of PHY Silicon IPs</li> <li>• Fourth Generation QoS Scheduler</li> <li>• Next Generation Intelligent Gateway Platform for Mobile Communications</li> <li>• Low Cost Smart Cameras</li> <li>• Advanced Radio Transmitters</li> </ul>	
<b>Specialties and skills</b>	eHealth Key enabling Technologies Software Development Communication Services Hardware Development	
<b>Has been organized a “cluster chain of value”?</b>	 <b>YES</b>	<input checked="" type="checkbox"/>
	<input type="checkbox"/> <b>NO</b>	
<b>Which of the fields are covered by chain of value?</b>	 <b>Design materials</b>	<input checked="" type="checkbox"/>
	<input type="checkbox"/> <b>Installation</b>	
	<input type="checkbox"/> <b>Construction</b>	
	 <b>energy management</b>	<input type="checkbox"/>
	 <b>services</b>	<input type="checkbox"/>



	<input type="checkbox"/> <div>others (spec)</div>
<b>Do the cluster operate on market with a common label? Is it the cluster label or a third one?</b>	n/a
<b>How the competences of the chain of value are promoted?</b>	n/a
<b>Who are the main destination customers ?</b>	<input type="checkbox"/> Private: residential
	<input type="checkbox"/> Private: industrial
	<input type="checkbox"/> Private: tertiary
	<input type="checkbox"/> Public (spec. the typology)
<b>Do the cluster operate on market with a local incentive scheme or a support programme for energy refurbishment? If yes, how does the programme works and are there some “shortcuts” for cluster chain of value or enterprises (i.e. the local programme require cluster label to provide incentives or grants)</b>	n/a
<b>Describe briefly the strengthens and weaknesses of your business models and some corrective measures needed to operate as better</b>	n/a
<b>Description of a success case</b>	Attraction of Strategic Investments from US, Japan, EU) for the development of design centers operating in Greece and support EMPLOYMENT

### **3.5. Clusters focused on energy and sustainable building : a good way to create cooperation along the chain of value ?**

*In this RBA, we chose to focus on two clusters from P.A.C.A. . The definition of “cluster” that we retain is that of a body which favours networking and which focuses on the creation of B to B services mainly, so as to favour the development of its members.*

#### **3.5.1. Bâtiments Durables Méditerranéens**

*This business model addresses the “global sustainable construction and renovation of buildings in Mediterranean area” market (all segments are considered).*

**Name of cluster :** « Bâtiment Durables Méditerranéens » (« Mediterranean Sustainable Buildings ») - Provence-Alpes-Côte d’Azur region - France

##### **Contact**

**Olivier DAVRIL, Director**

Domaine du Petit Arbois - Bâtiment Marconi Avenue Louis Philibert

13857 AIX EN PROVENCE Cedex 03

Tél : 04 42 20 06 49 - Fax 04 42 51 56 91

E-mail : odavril@polebdm.eu

Web : www.polebdm.eu

##### 3.5.1.1. Short description of the cluster

BDM is an inter-professional regional cluster which was created in may 2008 and labelled by Region Provence-Alpes-Côte d’Azur (among 30 other clusters linked to specific economic fields). About energy and building, two other clusters exist; Capénergies (also labelled nationally - see below) and “Bois construction”.

BDM’s main objective is to mobilize and structure all of the regional actors involved in building (owners, project managers, building and maintenance companies, manufacturers and wholesalers) so as to reach sustainable building objectives. It also aims at supporting local SMEs in the necessary cultural, technological and marketing adaptation.

In 2011, BDM had 200 members :

	%
<b>DEMAND</b>	<b>22 %</b>
<b>PUBLIC OWNERS</b>	<b>14 %</b>
<b>PRIVATE OWNERS (promoters mainly)</b>	<b>8 %</b>
<b>SUPPLY</b>	<b>65%</b>
<b>Project managers and architects</b>	<b>54 %</b>
<b>Other companies</b>	<b>11 %</b>
<b>Partners</b>	<b>13%</b>
	<b>100%</b>

#### 3.5.1.2. Range and field of activity, skills and specialties

BDM focuses on sustainable building including energy, environment, social and economy. R&D is not really part of BDM's activities.

As a regional cluster, BDM's action and vocation are mainly implemented at regional level. But it is also committed at a national level to help mutualising support tools (mainly towards demand), with other Regions and with other clusters. This commitment aims at getting national recognition of BDM's tools.

BDM is also involved at the European and Euro-med level. It is involved in the Med-program project IRH-Med, which aims at developing a rating tool and guidelines for assessing sustainable housing. It also participates in several working groups with other EU projects, aiming at creating convergence between SB rating tools.

#### 3.5.1.3. Chain of value operating

It has been organized so as to create a chain of value ; it is its main asset but also its main difficulty.

It gathers members who are public and private owners (including social housing), promotion and local authorities (demand) ; also architects and engineers, implementing enterprises, manufacturers and wholesalers (supply) ; and also periphery actors such as professional training institutes.

Nevertheless, there is an over-representation of designers as opposed to an under-representation of the "makers" (building companies and their suppliers) and of R&D.

The fields which are covered by chain of value are :

- Ownership and urban planning
- Individual homes promoters
- Environment project managers
- Designers (architects ; environment , thermal, energy, cooling engineers)
- Renewable energy specialized companies
- Professional training (building, duct-testing)
- Eco-materials wholesale
- Financing

#### 3.5.1.4. Labelling

BDM creation originally comes from the idea that progress of the whole of the building field would come from a commonly developed assessment tool for sustainable building, which would be at the same time simple but also demanding. This led to "Demarche BDM" which is presently used to evaluate the environmental quality of building projects, support owners and highlight projects.

« Demarche BDM » is organized according to 6 areas :

- Territory and site
- Materials
- Energy (weighing for 20% of the global assessment ; with a high minimum prerequisite : 50 kWh/m<sup>2</sup>/an)
- Water management
- Comfort and health
- Social and economy
- Project management

« Demarche BDM » has been designed as the backbone of all other BDM's actions. But today, this tool only helps structure and support demand. Its implementation is part of the cluster's optional services offer and is meant to ease its cash-flow and self-financing.

The cluster's business plan is based on this source of turnover, which should gradually finance the other actions, while public funding will slow down.

#### 3.5.1.5. Promotion and market

The philosophy of the cluster is to promote the skills of its members, by evaluating and highlighting their projects (new built or renovation) through Demarche BDM.

The website of the cluster shows the BDM labelled projects and the professionals who have participated in their implementation.

Nevertheless, if BDM labelled projects imply quite a lot of actors of the upper chain of value (owners and designers), it is not the case for actors, which are down it (building). Moreover, this promotion doesn't seem to have an impact on the development of new business for professionals.

The cluster also promotes its members by offering promotional prices for member owners or owners who choose member building companies.

Finally, imitating American assessment system LEED®, BDM has developed a network of delegates who manage part of the services offer (mostly project managers) ; there are around 20 “accompagneurs BDM” at the end of 2011, who find new market opportunities with BDM services or other associated services.

Main demand actors targeted by BDM are residential and tertiary buildings, public or private. Presently, the main clients are tertiary new-built building owners. Housing is under-represented, supposedly because BDM is not among the labels which permit fiscal incentives for EE. Renovated buildings are also under-represented, which mirrors present market trends.

<b>2010 Demarche BDM results</b>				
<b>New built + renovation</b>	<b>Total</b>	<b>TERTIARY</b>	<b>COLL. HOUSING</b>	<b>IND. HOMES</b>
<b>NEW</b>	<b>62</b>	<b>41</b>	<b>13</b>	<b>8</b>
<b>RENOVATION</b>	<b>20</b>	<b>15</b>	<b>2</b>	<b>3</b>
<b>Total</b>	<b>82</b>	<b>56</b>	<b>15</b>	<b>11</b>
<b>M² SHON</b>	<b>na</b>	<b>110000</b>	<b>na</b>	<b>na</b>
<b>Nb dwellings</b>			<b>527</b>	

Source : Association Bâtiments Durables Méditerranéens

#### 3.5.1.6. Links with local incentive schemes or a support programs for energy refurbishment

The development of the cluster — annual action plan and collective actions for members — is largely supported by the Region and EU (ERDF). Regional financing refers to energy management and economic development. The Regional policy towards SMEs requires that they are members of a cluster (BDM included) as a prerequisite to benefit from individual or collective incentives. But BDM has not succeeded yet in grabbing this opportunity to build up its offer towards members, mainly because it is difficult to identify their actual needs.

In addition, the Regional policy on energy management requires that financing new built or renovated buildings be linked to Demarche BDM labelling, or any other national or international label. From 2009, this helped BDM support numerous building projects but with negative side effects due to the deadweight effect for owners more interested by the incentives than by the actual improvement of their projects. Also, there has been some gaps between the evaluation process and the financing one.

Which means that now, BDM wishes not to promote financing any more but rather to convince owners through the added value of some of its tools (ex. sustainable building cost-benefits analysis) in relationship with their operational needs.

More specifically, about EE renovation and national or regional incentive programs, BDM has not yet positioned itself so as to develop the renovation market and it has not developed practical and operational services in that area of business to help its members create this market and make offers in a coordinated and efficient way. Its inter-professional status could enable it to play a major role by supporting a pool of professionals with complementary skills. This positioning would remain compatible with what motivated the creation of the cluster, aiming at sustainable building rather than the sole EE which shapes EU, national and regional policies, fighting against global warming and climate change.

#### 3.5.1.7. Finance

2011 cluster's budget income are :

- Public grants (mostly Region) : 77%
- Members fees : 8 %
- Demarche BDM : 10%
- Volunteers work value : 5%

#### 3.5.1.8. Strengths and weaknesses of BDM

##### **A. Strengths**

- The inter-professional logic (philosophy, members, actions) necessary for improving projects, particularly for environmental aspects, which breaks the French usual tradition and organization, and partly explains France being late compared to more advanced countries in Europe.
- The philosophy of the tools which have been developed and the governance : simplicity, support, sharing, capitalization ; active members' participation to tools development, proposals and decision making.
- The recent development of a local network with "BDM delegates" and "accompagnateurs BDM".
- Recent membership of buildings principals.

##### **B. Weaknesses**

- The business plan, based on Demarche BDM, is fragile in a highly competitive market, while keeping original exigencies and philosophy.
- The lack of balance in the representation of the chain of value with many from the upper chain and few from down the chain.
- The lack of balance between actions on demand and actions on supply.
- The difficulty to identify actual members needs and built up an operational offer of services.
- The difficulty to find one's positioning on the renovation market, which is at the same time competitive and not flourishing.

#### 3.5.1.9. Inter-professional mapping of skills needs : a success case

BDM carried a study aiming at conducting a survey among different kinds of companies having participated in the implementation of 5 environmental building projects (100 face to face interviews) ; its results :

- current situation Professions-Training-Skills for all the actors involved from the owner to the final user or operator on all of the 5 projects
- with all the actors, evaluate what happened at each stage and identify acquired skills, new skills, needs and constraints, good practices, evolutions during the process, lessons learnt, solutions identified, cross-skills, relationships between actors...
- recommendations for support actions and training modalities to help develop needed skills.
- group restitution to all of the actors involved.

The methodology and the consulting firm have contributed to some of the success of this action, namely the satisfaction of the surveyed companies and the added-value of the survey thanks to the recommendations issued.

But the results are too recent to generate practical actions. This action shows how BDM can bring added value in the building field.

## **Conclusions – lessons learnt**

BDM's experience shows that it is difficult to involve companies which are situated down the chain of value, especially small scale building SMEs and artisans. The ones which get involve are likely to be environment activists, not truly representative of the mainstream companies. But experience shows that even them tend to become reluctant to participate in the cluster's activities because it is very time consuming for them, while not creating enough new-business up to now.

The results of "Démarche BDM" are still another sign of the weak and difficult EE renovation market : only 20 out of 82 labelled projects are renovations.

### 3.5.2. Capenergies

*This business model addresses the market “very low greenhouse effect gas emissions energy” that is to say “energy efficiency, renewable energy sources and nuclear energy”.*

**Name of cluster :** « Capénergies » - Provence-Alpes-Côte d’Azur region - France

#### **Contact**

**Patrick BOUCHARD, Director**

Bat 906 La Bergerie - Château de Cadarache - 13108 Saint Paul Lez Durance

Tél. : 04 42 25 34 59 - Fax : 04 42 25 61 70

E-mail : [patrick.bouchard@capenergies.fr](mailto:patrick.bouchard@capenergies.fr)

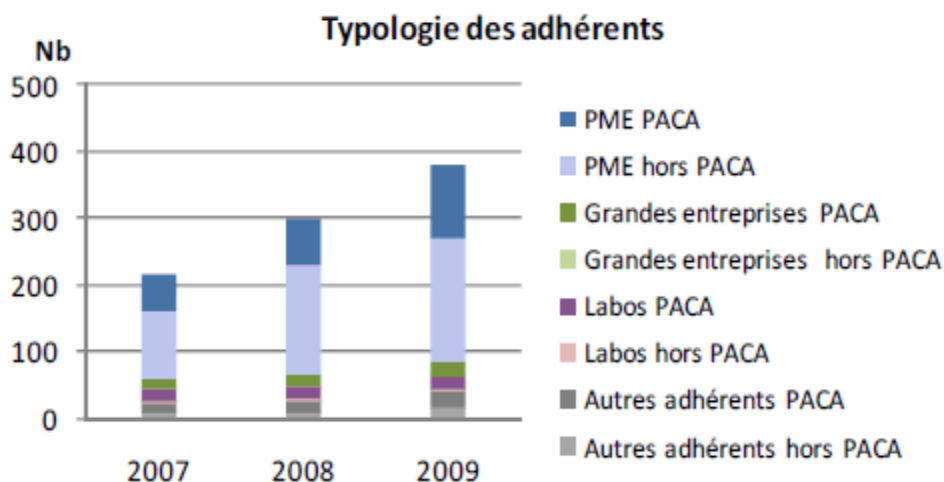
Web : [www.capenergies.fr](http://www.capenergies.fr)

#### 3.5.2.1. Short description of the cluster

Capenergies was created in 2005 (national call for competitiveness poles). It was then labelled “regional cluster” in 2007.

Its main objective is “to prepare industry and training to the necessary technological mutations of the national energy branch to adapt to tomorrow energy mix”. As a competitiveness pole its main orientations are technology, R&D and training.

In 2011, the cluster had 450 members, half of them being set in Provence-Alpes-Côte d’Azur :



#### 3.5.2.2. Range and field of activity, specialties and skills

As a competitiveness pole, Capenergies has a national scope (including islands ; Guadeloupe, La Réunion, Corse).

It belongs to a group of three large French competitiveness poles on energy, the other two — Tenerrdis and Derbi — dealing almost exclusively with renewable energies.

With 50% of its members in P.A.C.A., it also has an important regional scope.

Its field of activities is that of the energies which don't induce greenhouse gas for the following industries : building, manufacturing, transportation and grids.

Its specialties and skills are :

- renewable primary energies and nuclear (solar, wind, biomass, bio-energy, hydraulic, tide, ground heat, fission, fusion)
- consumption management :
  - o energy efficiency : buildings, equipments, transport, industrial processes, hydrogen, energy vectors ;
  - o storing, connections and integrated systems : connection platforms and grid management.

#### 3.5.2.3. Chain of value operating

Capénergies is a typical competitiveness pole cluster, which mainly addresses the upper part of the chain of value. There are several committees : “leaders”, “industrialists”, “research”, “training”, “partners”. But among the cluster’s members there also are some engineering firms, implementing companies, and management and maintenance companies.

The present trend is to get new members in the last part of the chain of value and to lower the weight of research.

There are many more technology companies (70%) than services companies.

#### 3.5.2.4 Labelling, promotion and market

The cluster works mainly by labelling its members individual or collective projects. This can precede support brought to the project by the cluster, and favour fund raising, training...

The cluster has developed a mapping of its members skills and know-how, mainly laboratories and companies. They have been positioned on strategic axes along all the links of the chain of value, according to specialties and skills (ex. audit, design, maintenance, distribution...). Nevertheless, presently the website proposes a directory of members but research by skills is not possible.

The cluster often organizes events for promoting its members. It also creates networking among them and with project holders so as to favour skills complementarities and meet the projects needs.

Cluster’s and its members’ main clients are local authorities, industrialists, managers of energy grids, managers of energy transportation.

#### 3.5.2.5. Links with local incentive schemes and support programs for energy refurbishment

The development of the cluster (annual action plan and collective actions with members) is supported by Region P.A.C.A. and EU - ERDF and amounts for 20% of the resources. Most funds come from European and national funds dedicated to R&D.

The final market, which is addressed by the members of the cluster, benefits from national and regional measures favouring renewable energies (feed-in tariff, fiscal incentives, Heat Fund, regional incentives for thermal energy, solar, wood, ground) and energy efficiency (white certificates, fiscal incentives, regional grants).

#### 3.5.2.6. Finance

2010 cluster’s budget is as follows :

- Public grants (State, Region, ERDF) : 50%



- Founder members fees : 35 %
- Standard members fees : 15%

#### 3.5.2.7 Strengths and weaknesses of Capénergies

##### **A. Strengths**

- the cluster benefits from the presence of large companies and of many SMEs
- governance and management are efficient
- large chain of value
- numerous partnerships with other clusters working in the same or in complementary fields (ex. **Pole Mer P.A.C.A.** for tide and sea-wind energy ; **Solutions communicantes sécurisées** for smart grids...). It is also partner with economic development agencies, financing companies, export support agencies. The cluster seems to have a good capacity to find a legitimate role in the game of actors.
- good innovative dynamics and good capacity to shape technological answers for EE.
- with the help of Region P.A.C.A.'s Agir program, the cluster now starts investigating sociological and behavioural issues about energy (call for projects **Agir ensemble pour l'énergie**). During the last call, the cluster was able to identify and support interesting socially innovative projects aiming at modifying mass market behaviours. This could play a complementary role in project Marie.

##### **B. Weaknesses**

- the identification of the needs of the lower part of the regional chain of value is not yet accomplished
- from Marie's point of view, the cluster is mainly positioned on research and innovation, far from EE renovation and implementing problems
- the buildings approach of the cluster is piecemeal, limited to renewable energies and energy management (peak loads for instance)
- general dissemination actions are limited, the cluster being more positioned on the support to projects.

### **Conclusion – Lessons learnt**

Because of its size, of its members' characteristics and of its main R&D and technical focus, Capénergies' experience may seem quite far from the present French RBA concerns regarding building SMEs and their cooperation for EE renovations.

Nevertheless, Capénergies has acquired a good experience in the sociology of energy through research project which addresses demand as well as offer.

This experience may prove useful for later stages of project Marie