



## **MEDOSSIC**

***Mediterranean organization structure and strengthening  
of innovation capacities for sustainable development  
no. 1G-MED08-289***

### ***Existing situation analysis In MEDOSSIC regions***

***Med Programme  
Priority-Measure 1-2***

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# **Part 1: IDENTIFICATION SHEET**

## Part 1: IDENTIFICATION SHEET

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<b>Abstract (for dissemination)</b>	Integral study - all regions deals with the situation analysis of the (eco)innovation area in the nine Mediterranean regions participating in the MEDOSSIC project. The participating regions are the following: Coastal-Karst Region, Region of Crete, Cyprus, Ferrara and Ravenna Provinces, Inner-Karst Region, Malaga, Marche Region, Primorsko Goranska County, South East Slovenia Region. The study deals with policy making and initiatives on the national and regional levels, programmes and projects on the EU, national and regional level and analyses of regional production systems relating to (eco)innovation. The most perspective sectors for (eco)innovation in the participating regions are identified.

## **Part 2: EXECUTIVE SUMMARY**

## Part 2: EXECUTIVE SUMMARY

It is well-known that there are significant differences among the European Union regions. The same aspect is seen regarding the **regions involved in the MEDOSSIC project** - they are very different among themselves, while on the other hand they share many similarities of their Mediterranean character. There are significant differences among **characteristics of the analyses regions**, for instance the surface of the smallest region (Coastal - Karst Region) is 9.3 times smaller than the biggest one (Marche), the population density among the least and most densely populated region differs for 30 times. The differences in the GDP of particular regions are also extremely diverse, namely 69 times. On one hand we are faced with demographically large regions: Italian regions and Malaga, which are big in terms of population (from approx. 0.7 to 1.5 mio inhabitants) and GDP (from approx. 20,000 mio EUR to 41,000 mio EUR). On the other hand there are some very small regions like the Inner-Karst in Slovenia with only 52,000 inhabitants and the regional GDP of 591 mio EUR, or weak regions according to the GDP per capita like the Primorsko Goranska County with 9,149 EUR (in comparison with Ferrara and Ravenna with 28,008 EUR)\*.

The huge backlog of MEDOSSIC countries in the area of patenting in relation to the EU average is significant, and even more so in relation to the US and Japan. The results where MEDOSSIC countries reach poor innovative performance in relation to the EU average, US and Japan call for action.

National policies of the MEDOSSIC countries typically all stress great importance to both innovation and ecology. It is clear that on the declarative level none of the analysed countries have any specific deficiency in these areas. However, the difficulties seem to occur even on the very next step of the effective implementation of declared aims in the area of (eco)innovation.

It seems that the lack of co-ordination between innovation and ecology on the level of national policies is a real challenge in the MEDOSSIC group. It seems that ecology is treated mostly in relation to infrastructure issues, and even national ministries and regional governance bodies, responsible for ecology are bodies that, in most cases, are not innovation-orientated in their essence.. One of the possible improvements in this respect would be to put these two areas under the same governance organs. Another difficulty that is present in some countries (like Slovenia, Italy, to some degree Spain) is the fragmentation of the organisational structure.

Among the analysed countries, the nature of the **(eco)innovation policy** is typically very much dependent on the economic and other specifics of the country. Cyprus, for example, is an island where tourism and services are the most important economic categories in the country, while in Italy, on the other hand, there is a relatively high importance of industrial development etc. The EU policy in the area of (eco)innovation has a very strong influence on the national policies. In one way, the influence originates directly from the given strategic directions, while indirect influence originating from EU funds (dedicated to specific EU priorities) is even more influential.

Project partners have identified a wide variety of **(eco)innovation initiatives** in the MEDOSSIC countries. An important finding of the analysis is that only very few of these initiatives really combine innovation and ecology; in most cases these areas are separated. It is necessary to outline that the identified initiatives

may not represent the complete set of initiatives since they are fragmented and the national central data on (eco)initiatives in most cases do not exist.

In all cases (eco)innovation is gaining importance. However, the effectiveness of the implementation and funds for stimulation vary a lot between regions.

It seems that the strong network of partners with collective knowledge concerning both **programmes available and projects content** contributes a great deal to success in regard to participating and an effective implementation of the projects.

In the scope of all analysed regions it is clear that the **economic sector C+D** Mining, quarrying and manufacturing (with 32 marked priority areas) is the most important among the MEDOSSIC regions. Sectors such as G Wholesale, retail; certain repair and F Construction are also important. This means that the industry has the prevailing role in the analysed regions. However, due to their Mediterranean nature, tourism and real estate, renting and business activities generally also have a relatively important role compared to the inland regions.

**Further fostering of (eco)innovation is a necessity for all analysed countries and regions to be able to effectively compete in the globalised world market, as well as preserve natural beauties of their respective Mediterranean environment.**

*\* Most of the stated data are valid for 2007, the precise validity of data is in the original source of data in the particular regional studies.*

**Part 3:**  
**METHODOLOGY FOR EXISTING SITUATION  
ANALYSIS INTEGRAL STUDY - ALL REGIONS**

## **Part 3: METHODOLOGY FOR EXISTING SITUATION ANALYSIS IN REGIONS**

### **3.1. DEFINITIONS OF USED TERMS**

#### **Innovation**

An innovation is the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relation. The minimum requirement for an innovation is that the product, process, marketing method or organizational method must be new (or significantly improved) to the firm.

#### **Invention**

An important distinction is normally made between invention and innovation. Invention is the first occurrence of an idea for a new product or process, while innovation is the first attempt to carry it out into practice (Fagerberg 2004).

For more information see:

[http://ec.europa.eu/enterprise/policies/innovation/glossary/index\\_en.htm](http://ec.europa.eu/enterprise/policies/innovation/glossary/index_en.htm)

#### **(Eco)innovation**

It presents all forms of innovation activities resulting in or aimed at significantly improving environmental protection. Eco-innovation includes new production processes, new products or services, and new management and business methods, the use or implementation of which is likely to prevent or substantially reduce the risks to the environment, pollution and any other negative impact of the use of resources throughout the lifecycle of related activities.

For more information see:

[http://ec.europa.eu/environment/eco-innovation/what\\_en.htm](http://ec.europa.eu/environment/eco-innovation/what_en.htm)

#### **Economic Sector**

The economic sector is a part of a country`s or region`s commercial, industrial and financial activity, delimited either by public, corporate and private organization of expenditures or by agriculture, manufacturing and service product types. It is meant as a sector, which includes all business activities, profit or non-profit oriented.

For the needs of this analysis the national regulation, called the Standard Classification of Activities (SKD 2002), is used, which is in terms of contents and structure almost identical to NACE Rev. 1 classification (EU classification of activities). The Slovenian economic sectors are divided into the following standard activities:

Activities
A+B Agriculture, hunting, forestry and fishing
C+D Mining, quarrying and manufacturing
E Electricity, gas and water supply
F Construction
G Wholesale, retail; certain repair
H Hotels and restaurants
I Transport, storage and communication
J Financial intermediation
K Real estate, renting and business activities
L Public administration and defence; comp. soc. sec
M Education
N Health and social work
O+P Other social and personal services

### 3.2. METHODOLOGICAL APPROACH

The presented study represents an integral document of the existing situation of **nine regional studies**. The data have been acquired from the secondary sources (nine regional studies), and some data have also been acquired from other secondary sources, namely some of those related to the innovation scoreboard and various internet sources.

From the methodological approach, the balanced analysis of all regional studies represented a significant challenge, since there had been considerable differences among the studies. The differences were related to the **nature of contents** and as well as to the **methodological approach of the particular studies**.

A very important difference among the regions involved was the nature of **formal status of the individual regions**. For instance, the Republic of Cyprus (named Cyprus in the text of the study) is a country and a region in one. According to the NUTS 2, Slovenia is a single region country. But over the years, especially in view of the absorption of the EU Structural Funds, the country has started activities to be split into two regions for planning purposes. However, the present regional division of the country is set according to the statistical regions, which are relatively small in comparison to some other regions analysed in this

study. Malaga, Ferrara and Ravenna are actually provinces. Primorsko Goranska County is technically not a region, since Croatia does not have the same kind of regional division as some other European countries. The methodological approach dealing with these inconsistencies regarding the comparison of the status of different participating **“regions”** was the analysis of particular contents in question of the particular **“territory”**, regardless of its formal status.

Among the nine regional studies there were some differences in the differentiation between **(eco)initiatives, (eco)programmes and (eco)projects**. The information regarding (eco)initiatives, (eco)programmes and (eco)projects from the regional studies was integrated in the logical way as much as this was possible.

The most problematic chapter from the methodological perspective was chapter 4.5. Analysis of the Regional Production System Regarding (Eco)Innovation Issues. In some regional studies in this chapter the **data were not obtained** in the requested form or were missing. In these cases the conclusions were made on the basis of the overall text and may differ from the real situation in the region (especially the data for Malaga and Primorsko Goranska County were mostly missing).

In order to produce a text that would be normally readable, in some chapters (like chapter 4.2.) the year of validity of the respected data is not stated for each individual value - in most cases the majority of the data are valid for 2007. However, the validity for each value can be found in the regional studies, which represent the **original source of information**.

In the text the words “(eco)innovation” and also “ecoinnovation” are used. For the purpose of this study, the word “(eco)innovation” means that the respected content can relate to ecology and/or innovation. On the other hand, the word “ecoinnovation” was used where particular policies, initiatives, programmes or projects were related specifically to ecology directly linked with innovation.

In the text there are some references to the references and sources used for the particular text. In general, however, all data related to the particular regions were obtained from the related regional study.

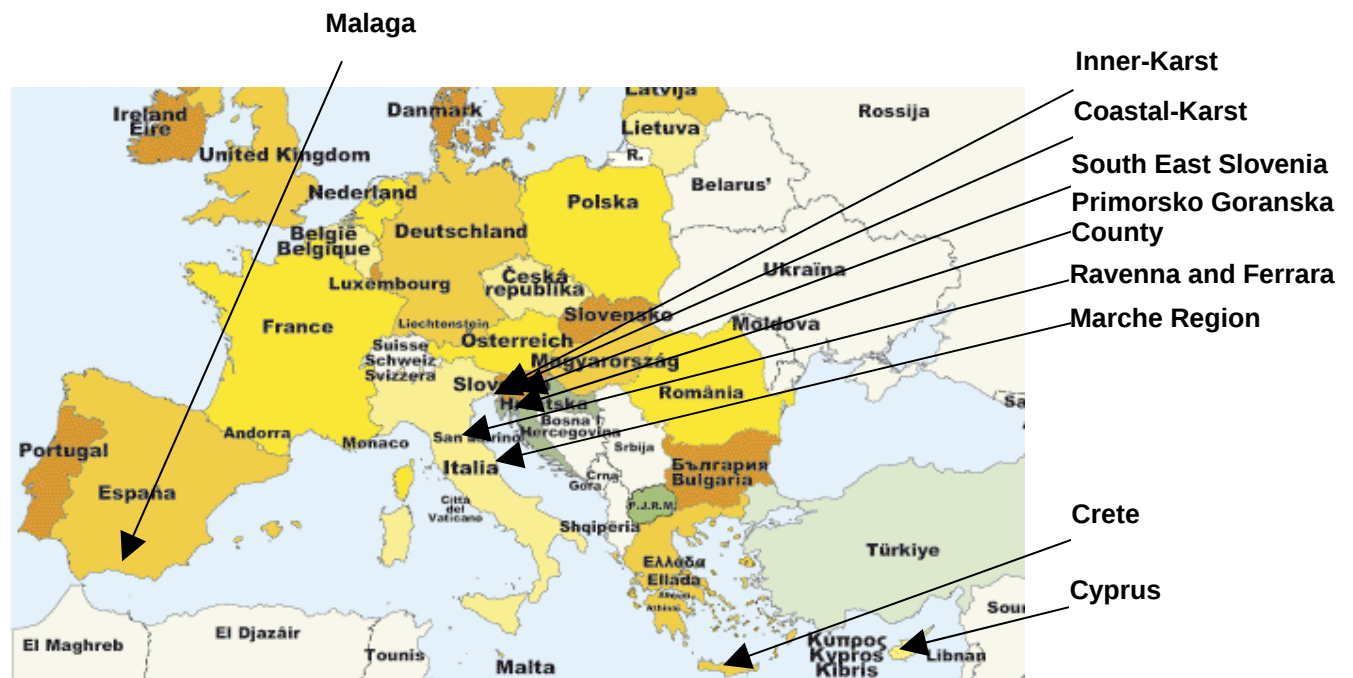
## **Part 4: EXISTING SITUATION ANALYSIS IN MEDOSSIC REGIONS**

## 4. 1 INTRODUCTION OF PARTICIPATING REGIONS

The participating regions in the MEDOSSIC project are the following (locations are presented in Figure 1):

- Coastal-Karst Region- Slovenia
- Region of Crete - Greece
- Cyprus - Cyprus
- Ferrara and Ravenna Provinces - Italy
- Inner-Karst Region - Slovenia
- Malaga - Spain
- Marche Region- Italy
- Primorsko Goranska County - Croatia
- South East Slovenia Region - Slovenia

**FIGURE 1: Location of participating regions in the project**



Source: [http://europa.eu/abc/maps/index\\_en.htm](http://europa.eu/abc/maps/index_en.htm)

What is common to all participating regions, is the Mediterranean character and the European cultural background. Still, there are also several differences among these regions. Geographically, two regions are islands, two are not directly connected to the Mediterranean Sea, others are typical coastal regions. The differences are also present in regard to the economic development and political background (for instance Cyprus is a country and a region at the same time, others are just one of the many regions in the respective country). The common features and the main differences will be gathered and described further in this study.

The main characteristics of the participating regions in alphabetical order are the following:

## **Coastal - Karst Region - Slovenia**

The Coastal-Karst region with the sub Mediterranean climate is the country's only region with an exit to the sea. In 2007, the highest population growth rate was recorded in the region. 80% of the population is concentrated in the narrow coastal belt and 90% of region's jobs are also there. The natural features enable the development of tourism, transport and special agricultural crops. Around three quarters of gross value added are created by services. In 2006, as much as 16% of gross value added was created by transport, with activities in the Port of Koper representing the highest share. The shares of hotels and restaurants and of coastal and spa tourism in the total gross value added are higher than in other regions of Slovenia. With the establishment of the University of Primorska, the region gained an institution capable of responding swiftly to the future challenges of global competitiveness by adapting the educational programmes to the needs of the economy and vice versa. The development of a technology park in the near future and the existent incubator will facilitate a more powerful linkage between educational institutions and companies. In addition to technological development, the region intends to prepare and implement projects in the areas of environmental protection, transport infrastructure, water supply and other similar projects. This will ensure a long-term competitive advantage with perspectives for further improvement of the quality of life [7].

## **Crete - Greece**

Crete is the largest of the Greek islands and the fifth largest island in the Mediterranean Sea. It covers an area of 8.336 km<sup>2</sup> (3.219 square miles) that corresponds to 6.3% of the total extent of the country. Its population is 601,131 residents, which is 5.48 % of the total population of the country. The island is famous for its significant ancient history (centre of the Minoan civilization, around 2,000 B.C.), beautiful natural environment and it is also a popular tourist destination (approximately 2 million tourists bring to the regional economy almost 870 million of Euros annually).

During the last decade, an effort has been made in order to transform the island into a centre of knowledge and technology. This was supported by the fact that a significant number of universities and famous research centres were concentrated on the island in the early nineties. These include the University of Crete, the Foundation of Research and Technology, a branch of the Hellenic Centre for Marine Research, etc. Unlike the situation in other outlying regions of Greece, the population of Crete has been rising steadily. However, Crete's economy faced structural problems and the low productivity records are mainly attributed to its high dependency on (seasonal) tourism revenue and on traditional forms of agriculture. In 2008, the region contributed 4.8 % to the national GDP. The identified regional potentials of the island, with regards to research and innovation, are the sectors of ICT, Medicine and Biotechnology.

Crete has a very well-developed R&D capacity, as it is one of the four strongest Objective 1 regions in the EU. More specifically, the island is the second most innovative region in Greece and also the region with the lowest unemployment rate. Over the last 30 years, Crete has developed from an economy that had very little industrial activity and a limited market for products and services to a dynamic region with a large market that serves both its visitors and the surroundings of the Mediterranean area. This economic development is mainly the reason for the effective collaboration between the local entrepreneurial

community and its representatives, the local chambers of commerce, the local research institutions and the local authorities [1].

## **Cyprus**

Cyprus is the third largest island in the Mediterranean, after Sicily and Sardinia. The Republic of Cyprus (named Cyprus in the following text) was established in 1960, after the former colony gained independence from Britain. Since 1974, a de facto division of the island has existed, with the Greek Cypriot community controlling 63% of the territory. Cyprus is characterized by successful economic performance with high growth and one of the lowest unemployment rates (3.9 % in 2007) in the European Union (EU27 had 7.1% in 2007). Cyprus has gradually transformed itself from an exporter of agricultural products and minerals in the period from 1960 to 1974 and an exporter of processed goods in the second half of the 70s, to a major tourist destination and services centre in the present. Business units are generally small and family-run. Since 2004, the government's goal has been to help foster the growth of R&D, shifting the economy towards the development of services with high added value. A number of initiatives and measures have been implemented, so as to improve work opportunities for researchers, to encourage the employment of researchers and to promote research culture in the educational system. The development of the Cyprus Technical University, the promotion of private universities and the creation of the public research infrastructure is expected to contribute to the growth of R&D for the period from 2007-2013 [2].

## **Ferrara and Ravenna Provinces - Italy**

Provinces of Ferrara and Ravenna are part of the north-eastern area of the Emilia-Romagna Region. Provinces own homogeneous territorial and socio-economic characteristics. These provinces underwent a high demographic decrease because of the fall in the birth rate as well as difficulties in the generational exchange, particularly in the province of Ferrara. One of the problems significantly characterizing this territory is the bond among the persistence of aspects of rural marginalization and the weakness (in comparison with the central Emilia-Romagna) of processes of local industrialization in the two poles that represent the principal reference for the area; the industrial zone of Ferrara and the Ravenna port zone.

Industrial/handicraft areas in the provinces of Ferrara and Ravenna are numerous, but often they do not reach standards of satisfactory quality. Poles of excellence are present in the field of research and technological transfer, university and non-university, displaced in various points of the territory. The industrial landscape of the Marche is characterised by family-run small or medium sized enterprises, which have their roots in the ancient traditions of the Region. More than 52,000 registered active companies are involved in artisan and handicraft manufacturing activities, which constitute 75% of the manufacturing companies and 32% of all active companies in the regional production system. This not only has an impact within the traditional production systems but also in sectors where innovative technologies play a significant role (e.g. footwear and leather, mechanics, constructions, furniture, chemicals).

The regional strategy to sustain the processes of growth is based on three levels

of actions: valorisation and qualification of the local potential through the completion and expansion of areas for productive installations, integration with strong areas of the regional territory from a physical and economic point of view and local identity maintenance [4].

### **Inner - Karst Region - Slovenia**

The Inner-Karst Region is a [statistical region](#) in the south-west of [Slovenia](#), situated just behind the coast line. Its most important tourism features are the [Postojna Cave](#) and the intermittent [Lake Cerknica](#). It is one of the smallest regions of Slovenia and is the least densely populated. The region has a total area of 1,456 km<sup>2</sup> and a population of 52,083. According to the GDP in the period 2000-2006, the economy of the Inner-Karst Region has progressed less than the Slovenian average. The Region is export oriented to a great extent. However, for most of the industrial segments it is the typically low added value of the products which blocks the development break-through of the regional economy. It is an encouraging fact that traditional economic sectors (wood processing and furniture industry, metal processing industry) have been strengthened with other perspective industrial sectors, like the production of electric and electronic components as well as the chemical industry. The Inner-Karst Region is developing the concept of eco-region. In this respect, the Region tries to take advantage of its natural, cultural, social, economical and environmental benefits that it holds. The heart of the eco-region is presented by the areas of Nature 2000 that occupy about 54% of the entire regional area and are, together with other preserved natural treasures, the main potential of the region. Additionally, these areas present the development opportunity of the region, directed towards the implementation of sustainable tourism. The region has moderate (eco)innovation potential, but lacks supportive infrastructure [8].

### **Malaga - Spain**

Malaga is a fast developing province with the highest density in Andalusia between 2000 and 2008; it is the twelfth at national level in this indicator. It has a pioneer Technology Park in Spain (since 1992), home to the main associations or technology parks and a high level University, the third one in Andalusia, taking as a reference the incentives obtained by the Regional Ministry for Innovation. It has a compact population structure on the coast where the sixth biggest power in market quota at national level is concentrated; also it is the sixth province in Spain by market share and the seventh by economical activity.

Malaga belongs to the region of Andalusia, which has participated in numerous national and regional eco-innovation projects, either at university level or in research centres, as well as in all the finalized projects financed by the National Plan of R&D&I 2008-2011. Tourism represents an essential activity for the economic development of the province, thus, the best management of solid waste and waste waters is necessary to be able to continue offering the necessary environmental quality to continue being an attractive holiday destination. The weight of tourist activity also represents a challenge in terms of extra consumption. This, together with the number of hours of sunlight in the province, makes the production of solar energy an imperative for eco-innovation. The extensive character of the olive oil sector, located over areas with important reservoirs of underground waters, would allow, through eco-innovation, to obtain important improvements in the natural resources.

The province of Malaga has a high (eco)innovative potential. The situation of innovation and eco-innovation at national and regional levels has experienced an outstanding boost over the last few years. However, there is still a deficit in relation to the European average, basically in technology production, as scientific production has experienced a more significant development [3].

### **Marche Region - Italy**

The Marche Region is located in the central eastern part of Italy, it covers an area of 9,694 km<sup>2</sup> and has a total population of 1,553,063 inhabitants (density: 160.21 citizens/km<sup>2</sup>). It is one of the smallest regions in Italy and borders Emilia-Romagna and the Republic of San Marino to the north, Tuscany to the north-west, Umbria to the west, Abruzzo and Lazio to the south and the Adriatic Sea to the east. Its landscape is prevalently hilly (68.8%) and mountainous (31.2%), with low-lands only along the coastal areas. The administrative capital of Marche is Ancona, the only town with over 100,000 inhabitants, which indicates minimum regional urbanisation. In the national context, the Marche Region had a GDP of € 33 billion in 2006 and € 41.2 billion in 2008, which contributed to 2-3% of the national wealth. It has a high GDP growth rate (2000 -2007): 11.4% in comparison to 7.9% for Italy in large. However, the GDP decreased between 2007 and 2008 to the rate of 1.2%, higher than the national one which decreased to the rate of 1%. There are also high rates of employment: 64,1% for the Marche compared to 58,4% for Italy in large. In the last 30 years the production system of the Marche has been radically modernised, whilst maintaining the traditions of its rural past, where widely-spread networks of small or medium-sized companies still characterise the Region's industrial and economical profile. This development has led to the emergence of highly specialised industrial districts, which are significantly competitive and profitable. The (eco) innovation potential is considerable; however, it needs stimulation for the use of the full potentials [5].

### **Primorsko Goranska County**

Primorsko Goranska County is situated in the northernmost section of the Adriatic Sea. The geographic location is an asset to the County since it is located at the crossroads of the Central European and Adriatic-Mediterranean routes. Primorsko Goranska County occupies the overall surface area of 3,582 km<sup>2</sup> or 6.3% of the total area of the Republic of Croatia. The County has 303,305 residents with a share of 6.9% in the overall population of Croatia.

The city of Rijeka is the administrative, business, economic, university, cultural and sports centre of the County, and is the third largest city in the Republic of Croatia.

One of the characteristics of the Primorsko Goranska County is the big difference in population density. The average density of the population is 85.1 inhabitants per km<sup>2</sup>, which is above the national average (Croatia - 78.4 inhabitants per square kilometre) of population density. The exceptional transport and geographic location and the intersection of important European overland and maritime routes influenced the population, which has been dedicated to seafaring and other sea-related economic activities since the ancient times. For this reason the region, and Rijeka in particular, have developed into a strong maritime hub with a vigorous port, maritime, transport, shipping and tourism activities of significance for the whole country. Traditionally, the part of the County Gorski kotar represents a significant forest and wood processing economic area.

Wholesale and retail trade, manufacturing, transportation and storage, construction, real estate activities as well as accommodation and food service activities are the most significant economic sectors, accounting for approximately half of the region's total annual turnover. (Eco)innovation activity in the County is still in the development phase [6].

### **South East Slovenia Region - Slovenia**

South East Slovenia is, with the total area of 2,675 km<sup>2</sup>, the largest region in Slovenia. The biggest city in the region is [Novo mesto](#). The population is on the increase due to a positive [net migration rate](#) as well as the natural increase. The development of this region is largely the result of industry (car industry, pharmaceutical industry, etc.) as it created one half of gross value added in the region in 2006. The expenditure on research and development (R&D) amounting to 2.7% of the regional GDP in 2006 underlined the importance of R&D in the region. The main sources of financing were business enterprises, and the female gender prevailed among researchers (55.1%). This region belonged to the half of the Slovenian regions that had lower registered unemployment rates than the national average. However, the structure of the unemployed was less favourable since more than half of them had the lowest level of education. For the economy of SE Slovenia, the concentration of industry around the city of Novo mesto, which represents a healthy economical regional centre, is typical. The number of small enterprises is below average per capita in relation to other regions in Slovenia, and this represents a potential for growth. Furthermore, higher education in the region is still very limited and should be encouraged. For a sustainable growth of the region, the growth of entrepreneurship and the access to higher education should be supported. The region has considerable (eco)innovation potential. At present innovation potentials are widely used in the region's few and influential big business systems, while on the other hand it is necessary to stimulate (eco) innovation in the SME and other spheres [9].

## 4. 2. INVESTIGATION OF THE SPECIFIC CHARACTERISTICS OF ALL MEDOSSIC REGIONS WITH AN EMPHASIS ON FACTS & FIGURES CONCERNING THE (ECO)INNOVATION FIELD

### 4.2.1. General Regional Indicators and Data

In Table 1 figures related to the general indicators for all MEDOSSIC regions are presented. The **regions are very different** among themselves in their geographical and cultural contents and their size. In the last column in Table 1 the differences between the highest and lowest values are presented in each row (X times lowest value of the highest value). The differences in size of the regions are reflected in this way by the surface of the smallest region being 9.3 times smaller than the biggest one, with a similar difference in the **population which is 30 times smaller**. In the category Percentage of companies in region by size the figures for Ferrara and Ravenna Province are probably gathered from a different perspective than in the other regions, so these results are probably not exact. The differences in the **GDP of particular regions** are also extremely big, **namely a 69 times difference!** The numbers of realised (eco)innovation programmes and projects, initiatives and projects networking opportunities, implementation infrastructures etc. in the particular regions mentioned in the other chapters in this study are also in accordance with these scale differences.

From Table 1 and Figure 2 it is clearly visible that we deal with **few categories of regions**. On one hand there are both Italian regions and the Malaga region, which are all very **big** in terms of population (from approx. 700,000 to 1.5 mio) and GDP (from approx. 20,000 mio EUR to 41,000 mio EUR). On the other hand there are some very **small regions** like the Inner-Karst with only 52,000 population and the regional GDP of 591 mio EUR or weak regions according to GDP per capita like the Primorsko Goranska County with 9,149 EUR GDP per capita (in comparison with Ferrara and Ravenna with 28,008 EUR GDP per capita). Very big differences are also present between the regions in the area of **size of the companies**. Even if we do not take in account the figures for Ferrara and Ravenna, it is clear that, for instance, in Crete the great majority (99.5%) of companies are micro or small, on the other hand in the Marche region this percentage reaches far less - 93.7%. In some other categories like the share of the regional GDP in the national GDP or the percentage of persons in employment, the differences between regions are relatively small.

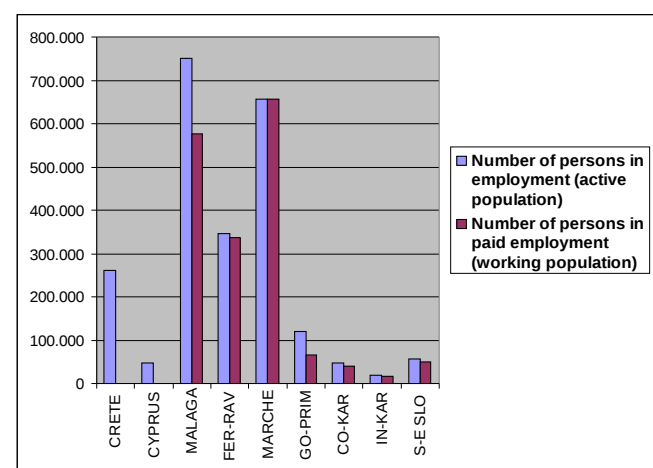
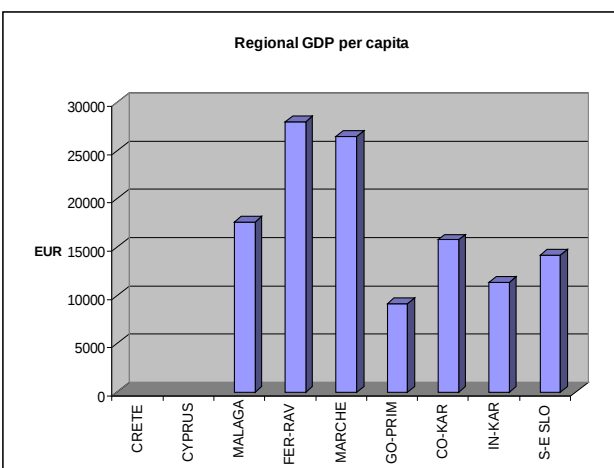
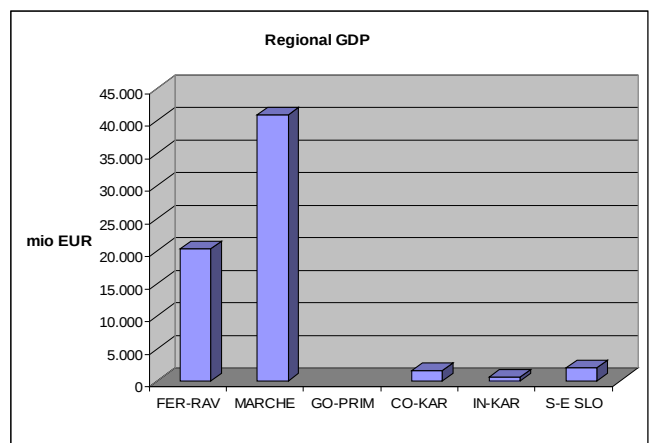
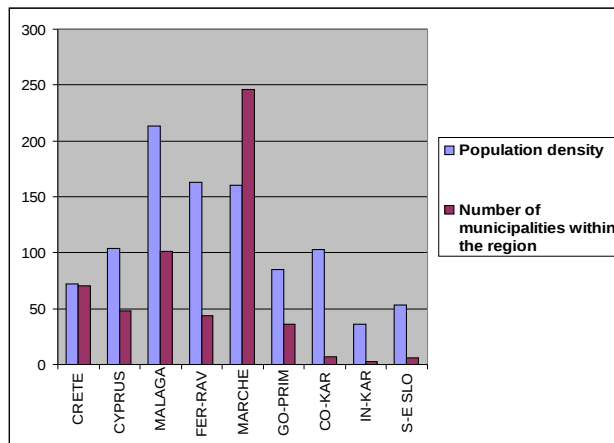
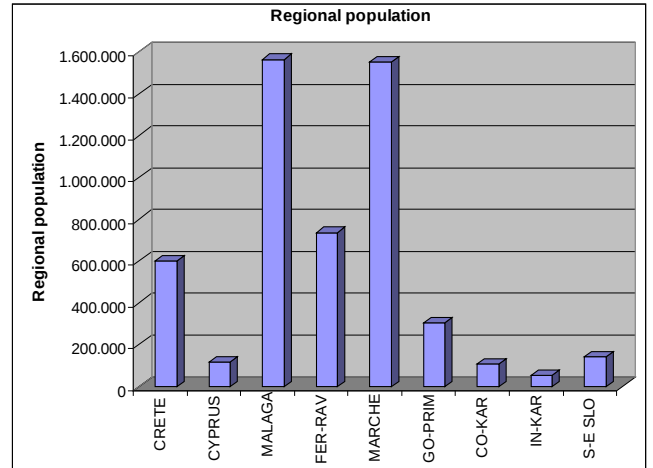
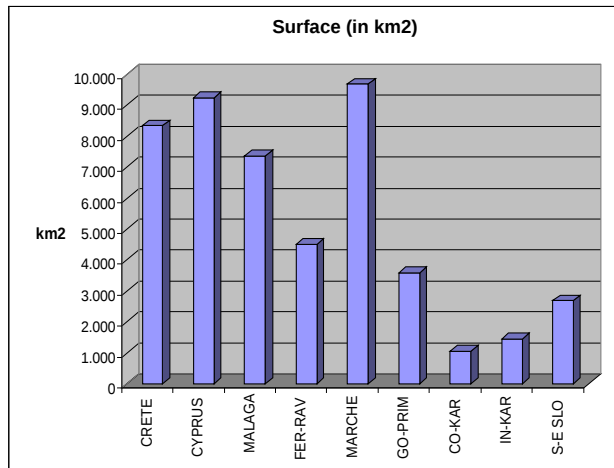
All the **results in this chapter (4.2.) have to be dealt with caution**, since the sources of gathered data from project partners may differ in some cases, and as a consequence, some data may not be reliable or comparable (for instance, there have been differences in national data for the same country, various interpretations of the definition of micro and small size of enterprises etc.). In order to produce a text that would be normally readable, the year of validity of the respected data is not stated for each individual value (in most cases majority of the data are valid for 2007). However, the validity for each value can be found in the regional studies, which represent the **original source of information**.

**TABLE 1: General regional indicators [1-9]**

General indicators	Crete	Cyprus	Malaga	Ferrara and Ravenna Province	Marche Region	Goransko Primorska County	Coastal-Karst Region	Inner-Karst	South East Slovenia	Diff.high est and lowest (X times)	Average
Surface (in km <sup>2</sup> )	8.335	9.251	7.376	4.507	9.694	3.582	1.044	1.456	2.675	<b>9,3</b>	<b>5.324</b>
Regional population	601.131	117.124	1.563.261	735.276	1.553.063	305.505	107.062	52.083	141.547	<b>30,0</b>	<b>575.117</b>
Country population	10.964.020	703.529	46.060.000	59.619.290	59.619.290	4.437.460	2.025.866	2.025.866	2.025.866	<b>84,7</b>	<b>20.831.243</b>
Percentage of regional population in regard to country total population	5,48%	16,64%	3,3%	1,23%	2,6%	6,90%	6%	2,57%	6,99%	<b>13,5</b>	<b>6,1%</b>
Population density (per km <sup>2</sup> )	72,11	104	213	163	160	85	102,5	35,8	52,9	<b>5,9</b>	<b>110</b>
Number of municipalities within the region	70	48	101	44	246	36	7	3	6	<b>82,0</b>	<b>62</b>
Number of persons in employment (active population)	261.719	48.115	751.300	346.000	657.000	120.386	45.884	18.102	55.885	<b>41,5</b>	<b>256.043</b>
Percentage of persons in employment	89%	96,54%	57,81%	73,6	64,40%		42,90%	64,50%	39,48%	<b>2,4</b>	<b>66,0%</b>
Number of persons in paid employment (work. pop.)			577.000	337.000	657.000	66.308	40.967	16.061	49.681	<b>40,9</b>	<b>249.145</b>
Percentage of persons in paid employment		71%	36,90%	71,71%	42,30%		38,30%	30,84%	35,10%	<b>2,3</b>	<b>46,6%</b>
Percentage of companies in region by size: Micro + small	99,50%	98,80%	99,43%	63,00%	93,70%	98,50%	97,90%	95,6%	95,4%	<b>1,6</b>	<b>93,0%</b>
a.) Micro	97,50%	92,60%	95,58%	51%*	0	98,50%	93,50%				<b>75,5%*</b>
b.) Small	2%	6,20%	3,85%	12%*	93,70%		4,40%	95,6%	95,4%		<b>20,4%*</b>
c.) Middle	0,30%	1%	0,40%	11%*	5,60%	1,10%	1%	4,4%	2,0%	<b>36,7*</b>	<b>3,0%*</b>
d.) Large	0,04%	0,20%	0,001%	26%*	0,70%	0,40%		0,48%	2,0%	<b>43333,3*</b>	<b>4,2%*</b>
<b>GDP</b>											
National GDP in EUR (current rate) mio EUR	228.180	15.565,00	1.088.502	1.572.051	1.572.051	34.190	37.126	37.126	37.126	<b>101,0</b>	<b>573.466</b>
Regional GDP in EUR (current rate) mio EUR	11.054		27.551.19	20.360	40.930	2.795	1.671	591	2.008	<b>69,3</b>	<b>12.769</b>
Regional GDP in %	4,80%		2,53%	8,73%	2,65 %	8,2%	4,50%	1,59%	5,41%	<b>5,5</b>	<b>4,6%</b>
National GDP per capita	20.386	19.077	23.632	25.861	25.861	7.705	18.196	18.196	18.196	<b>3,4</b>	<b>19.679</b>
Regional GDP per capita			17.624	28.008	26.499	9.149	15.747	11.347	14.186	<b>3,1</b>	<b>17.507</b>
Regional GDP per capita in %	89,57%		74,57%	108%	101%	119%	86%	62%	78%	<b>1,9</b>	<b>91,9%</b>

\* Data gathered from project partners may differ in some cases, so some data may not be fully reliable or comparable.

### FIGURES 2: Graphical Presentation of Selected General Regional Indicators



#### 4.2.2. (Eco)innovation Indicators

As presented in Table 2 and Figures 3 there are very **big differences between regions in the share of GDP allocated for R&D**. Ferrara and Ravenna have reserved the biggest share of GDP for R&D among the analysed regions (these provinces have also large number of realised (eco)innovation projects which is probably related). Cyprus and South East Slovenia also reach high shares. However, these figures should be regarded with care since there may be some specific relations between province / region / national GDP and financing for various programmes through various channels that are important.

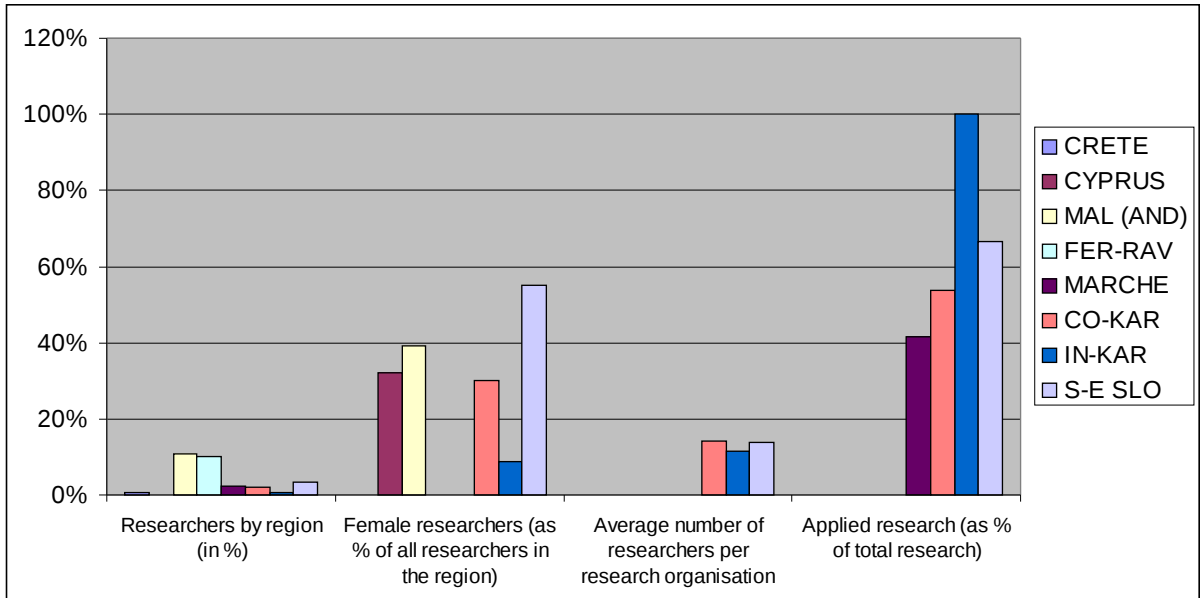
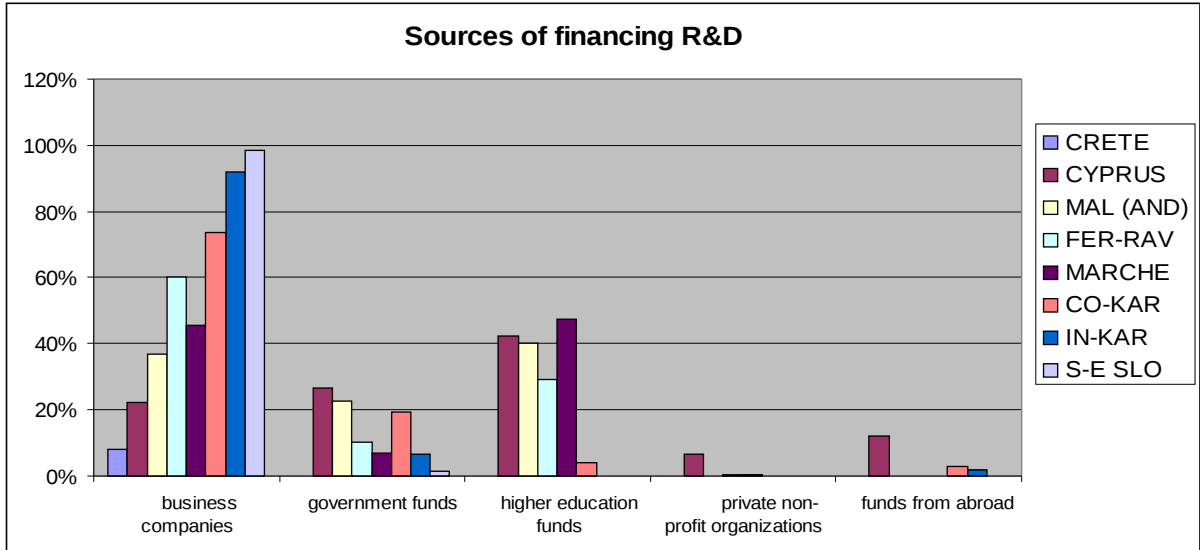
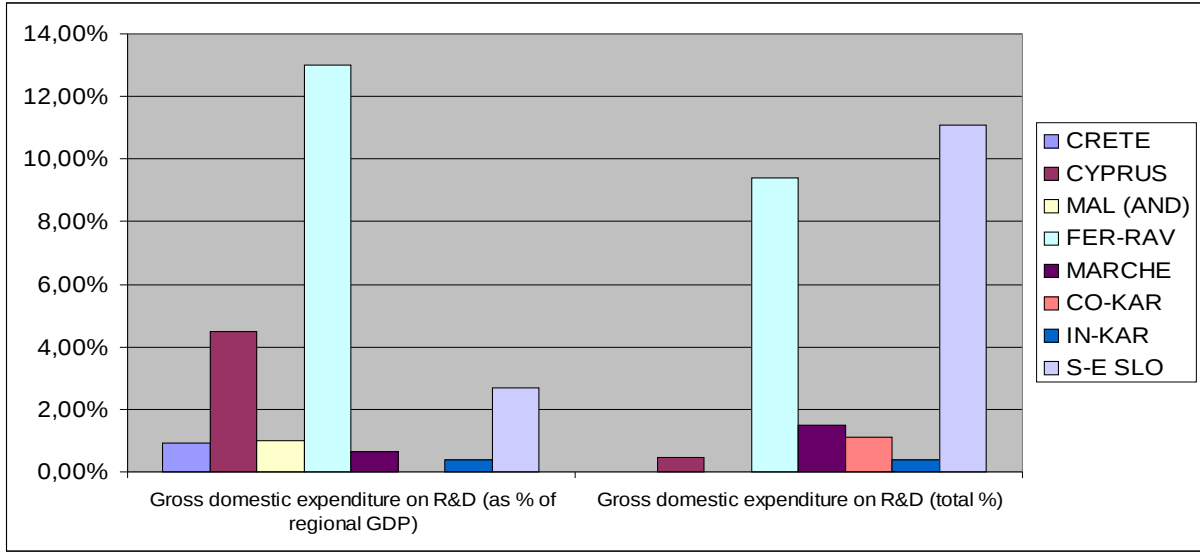
Clearly **most financial funds for R&D in the selected regions originate from the business sector**, followed by higher education funds and government funds. Private non-profit funds and foreign funds (Cyprus is an exception) do not have much influence in this respect. On one hand the strong influence of business funds indicates a positive and close co-operation with the business sector, while on the other hand as it is the case for the Inner-Karst Region, it also indicates that there are none or only a **few government funded centres of knowledge** in the region. A high share of applied research (present for instance in the Slovenian regions) may also indicate that there are only a few centres of knowledge in the region that deal with basic research. Surely, an effort for the **decentralisation of knowledge on the national level is a challenge for all MEDOSSIC regions**. Interestingly, the **share of female researches** differs a lot and does not seem to be connected much to the specifics of the country, but more with the **nature of the industry that prevails in the region**; for instance, the metal processing industry in the Inner-Karst with a 9% share of female researchers, and pharmacy in the South East Slovenia with a 55% share of female researchers on the other hand.

**Table 2: Research and Development Investments Indicators - Regions [1-9]**

	Crete	Cyprus	Malaga (Andalu .)	Ferrara and Ravenna Provinc e	Marche Region	Coastal -Karst Region	Inner-Karst	South East Sloveni a	Averag e	St. deviat.
<b>General indicators</b>										
Gross domestic expenditure on R&D (as % of regional GDP)	0,93%	4,50%	1,01%	13,00%	0,64%		0,40%	2,70%	3,31%	0,04
Gross domestic expenditure on R&D (total %)		0,45%		9,40%	1,50%	1,10%	0,40%	11,10%	3,99%	0,04
<b>By sources of financing R&amp;D:</b>										
a.) business companies	8,00%	22,22%	37,00%	60,35%	45,50%	73,60%	91,80%	98,60%	54,63%	0,30
b.) government funds		26,67%	22,70%	10,07%	6,90%	19,40%	6,60%	1,40%	13,39%	0,09
c.) higher education funds		42,22%	40,00%	29,06%	47,40%	4,00%			32,54%	0,15
d.) private non-profit organizations		6,67%		0,51%	0,20%				2,46%	0,03
e.) funds from abroad		12,00%				3,00%	1,70%		5,57%	0,05
Researchers by region (in %)	0,82%		10,80%	10,20%	2,40%	1,90%	0,80%	3,50%	4,35%	0,04
Female researchers (as % of all researchers in the region)		32,00%	39,21%			30,00%	8,70%	55,10%	33,00%	0,15
Average number of researchers per research organisation						14,10%	11,50%	13,80%	13,13%	0,01
Applied research (as % of total research)					41,70%	53,60%	100,00%	66,60%	65,48%	0,22

\* Data gathered from project partners may differ in some cases , so some data may not be fully reliable or comparable.

**FIGURES 3: Graphical Presentation of Research and Development Investments Indicators - Regions**



As it is clear from Table 3 and Figures 4 in the comparison of countries, Cyprus leads with 4.5% of gross domestic expenditure on R&D (as % of regional GDP); however, in the total ratio Italy has the biggest share. Similar to the regional comparison, **most funds for R&D in the selected countries originate from the business sector** in the national level as well, followed by the higher education funds and government funds. Private non-profit funds and foreign funds (Cyprus is an exception) do not have much influence. However, the difference between the structures of regional and national graphs is the most important. In general, the **differences** between the categories on the national scale are **much smaller than** on the regional one. On the national level a great deal of funds for R&D (acquired by all regions in the country) are distributed to some specific centres of knowledge that are mostly situated in the capital or in some specific regions. This means that in most cases the regions pay more for R&D than they get back from the state!

***In most cases regions pay more for R&D than they get back from the state.***

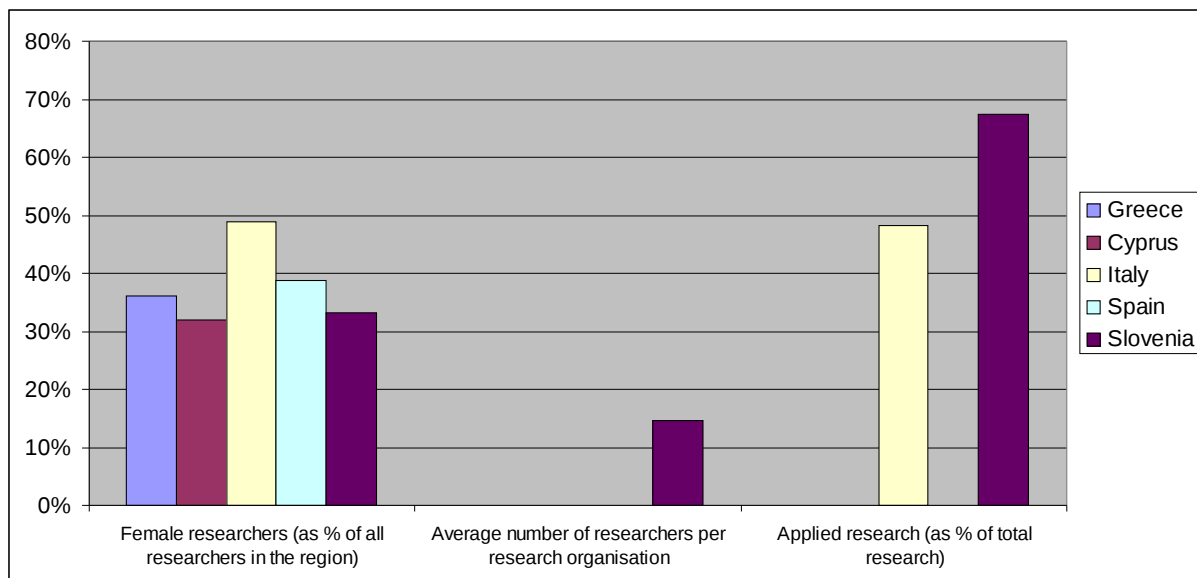
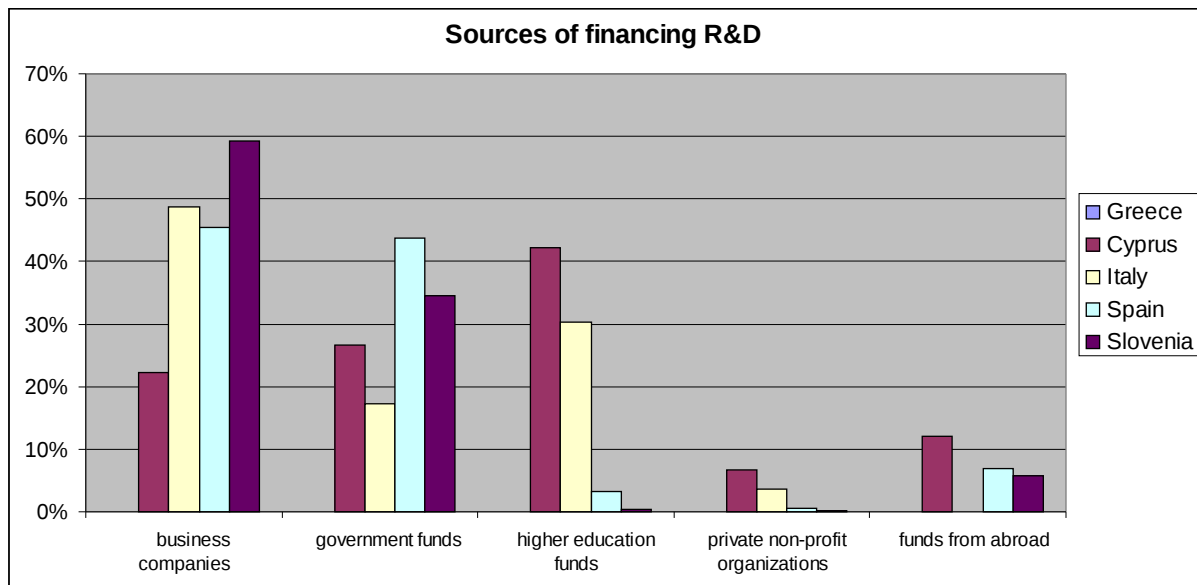
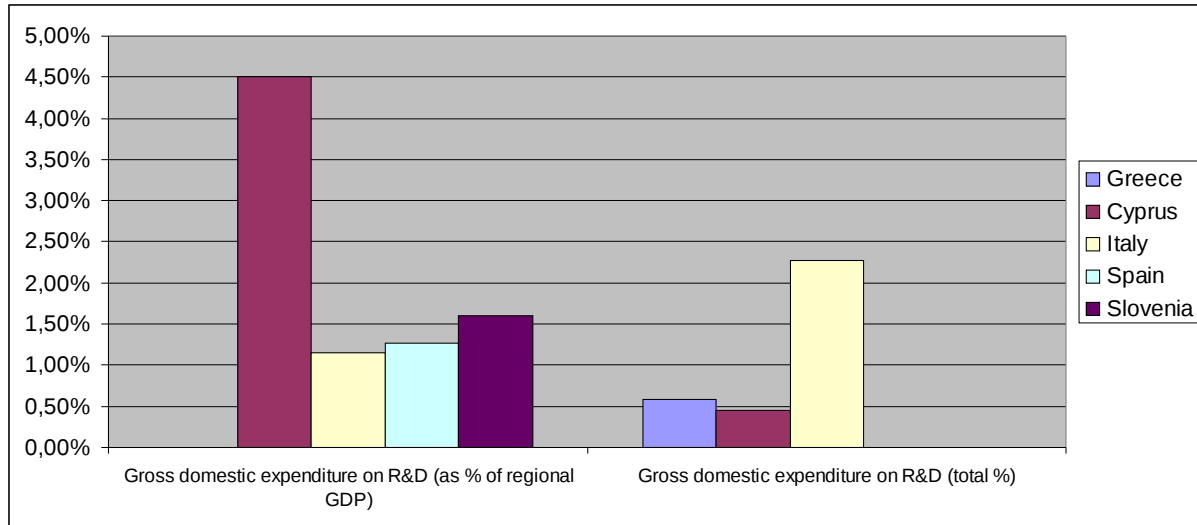
The share of female researchers varies from 32% in Cyprus to 50% in Italy. The data for the average number of researchers per research organisation and applied research (as % of total research) have only been acquired from some regions and can not be effectively compared.

**Table 3: Research and Development Investments Indicators - Countries [1-9]**

	Greece	Cyprus	Italy	Spain	Slovenia	Average	Standard deviat.
Gross domestic expenditure on R&D (as % of regional GDP)		4,50%	1,15%	1,27%	1,60%	2,13%	1,59%
Gross domestic expenditure on R&D (total %)	0,58%	0,45%	2,27%			1,10%	1,02%
By sources of financing R&D:							
a.) business companies	25,86%	22,22%	48,80%	45,50%	59,30%	40,34%	15,78%
b.) government funds	20,69%	26,67%	17,20%	43,70%	34,50%	28,55%	10,71%
c.) higher education funds	50,00%	42,22%	30,30%	3,30%	0,30%	25,22%	22,53%
d.) private non-profit organizations	1,72%	6,67%	3,70%	0,50%	0,20%	2,56%	2,68%
e.) funds from abroad		12,00%		7,00%	5,80%	8,27%	3,29%
Female researchers (as % of all researchers in the region)	36,00%	32,00%	48,80%	38,86%	33,10%	37,75%	6,73%
Average number of researchers per research organisation					14,70%	14,70%	
Applied research (as % of total research)			48,30%		67,50%	57,90%	13,58%

\* Data gathered from project partners may differ in some cases, so some data may not be fully reliable or comparable.

**FIGURES 4: Graphical Presentation of Research and Development Investments Indicators - Countries**



### 4.2.3. European Innovation Scoreboard Indicators

The data of the European Innovation Scoreboard are gathered on the national level and can contribute to the analysis of the innovation potential in the analysed countries (the data for Croatia are not available). In Figures 5 different categories of indicators relative to the scale of values are gathered. In order to get a comparative visual presentation the indicators are not put in the same graph.. In some categories there are just few values available, so the comparison is hard to perform, but for the others the results show the following.

According to Table 4 and Figures 5 there are relatively small differences among the MEDOSSIC regions in the area of New S&E graduates, age 20-29 (new on 1,000 inhabitants). On the other hand there are big differences between shares of population with tertiary education (%) with Cyprus having 30.5% and Italy only 12.9 %. The differences are even bigger in broadband penetration (% of population from 2.7 in Greece to 13.1 in Italy. Slovenia leads with 15% in the indicator of participation in life-long learning; age 25-64 (%of population). The differences are smaller in the areas of the youth education attainment level (% of population age 20-24), Public R&D expenditures (% of GDP) and SMEs innovating in-house. On the other hand the differences in business R&D expenditures (% of GDP) and innovative SMEs co-operating with others (% of SME) are much bigger. Interestingly, Spain has relatively low ICT expenditures (% of GDP) in relation to an otherwise relatively good innovation performance. The use of organisational innovation is a strong point for Cyprus, which is a logical alternative to a country with a high economic share in services and a low one in industry. Results in the area of high-tech employment can be a bit distorted since the definition of high-tech can be interpreted in various ways. In sales of products new to market and new to company, Spain and Slovenia reach the best results. Italy seems to be especially strong in the scope of patents; however, in the scope of trade marks Cyprus and Spain are better.

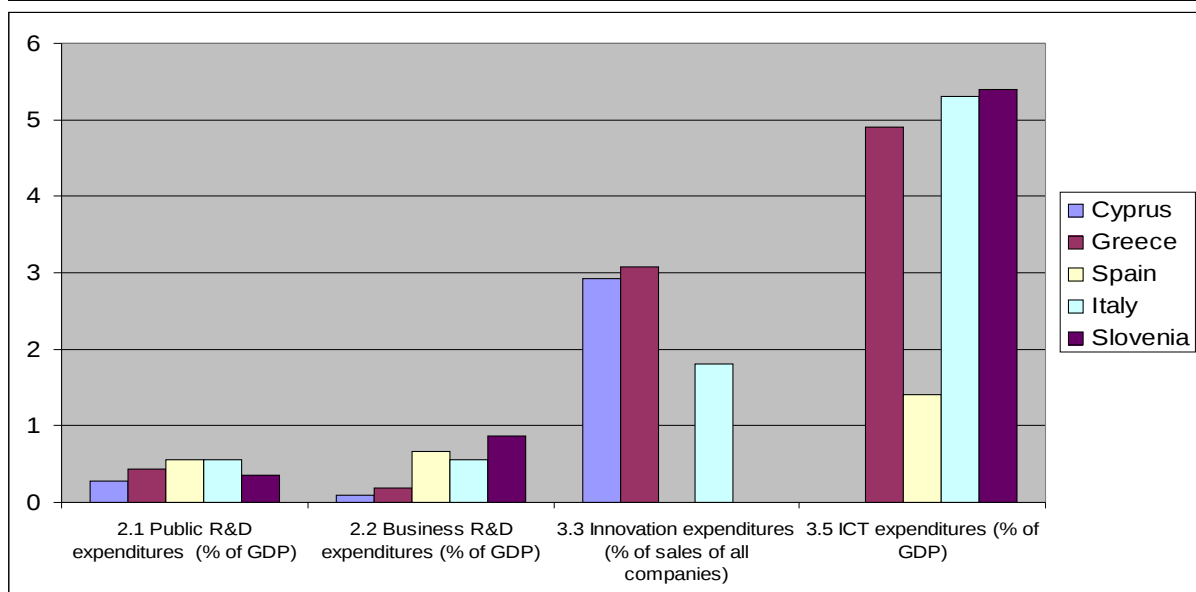
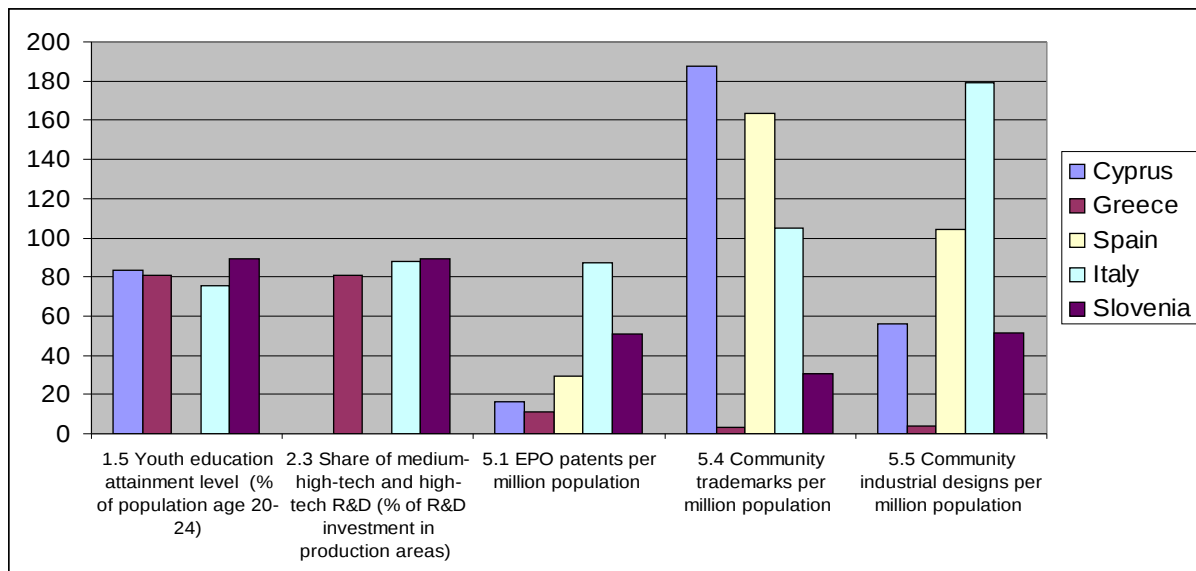
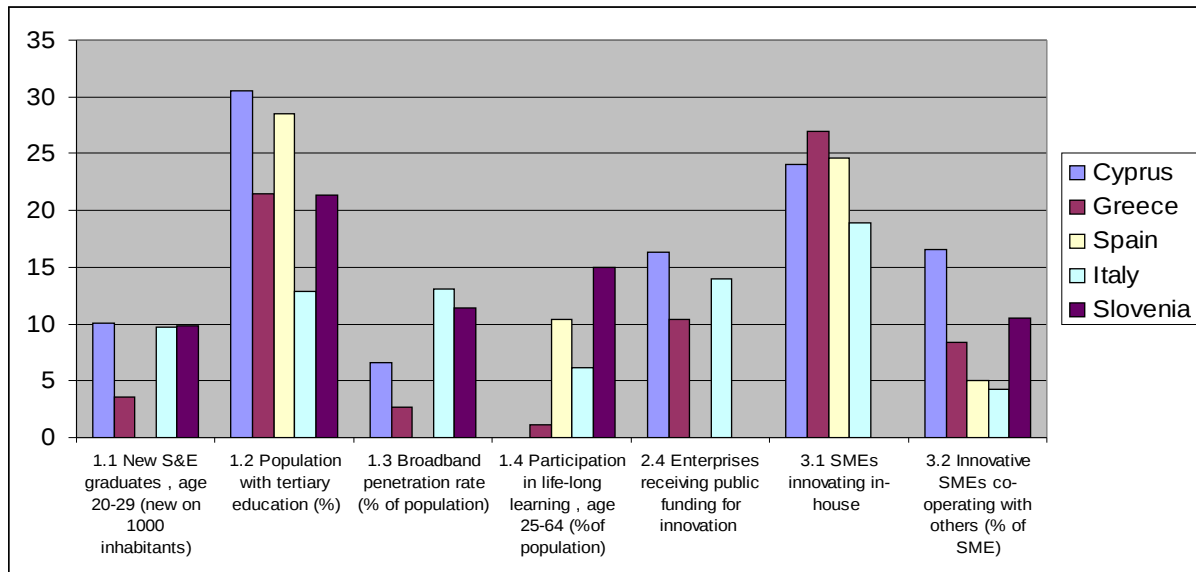
It is clear that **no individual result can reliably indicate a country's performance in innovation**. The results should be regarded in a collective account, and only by understanding of particular situation within a selected country a real judgement can be formed. Nevertheless, one can spot considerably good results in Italy and a bit poorer results in some other countries. For all countries and regions, achieving better results in innovation remains not only a challenge, but a pure necessity in the scope of the global competitive situation.

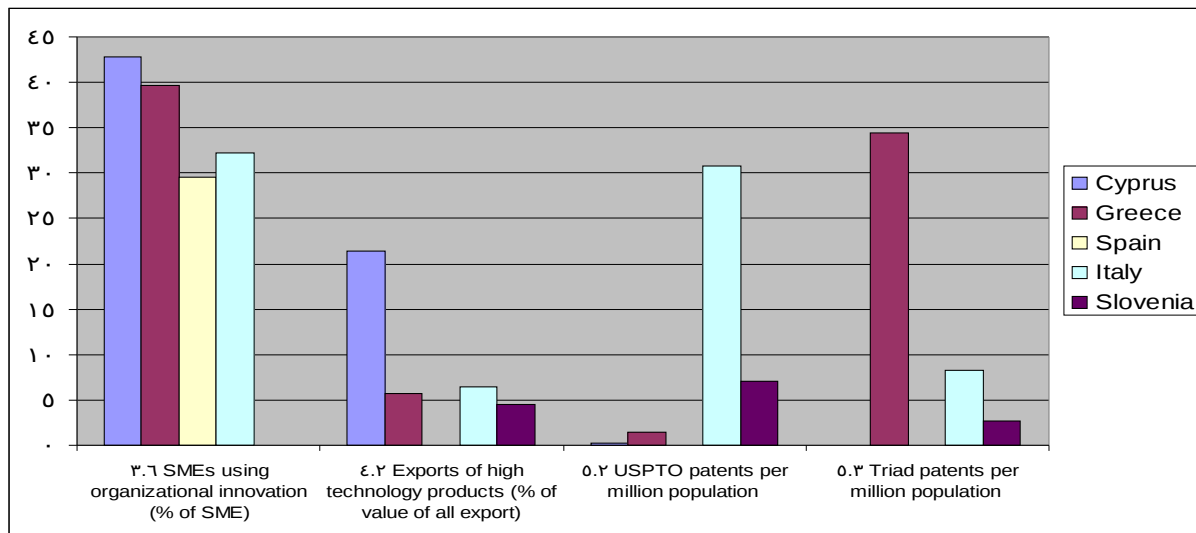
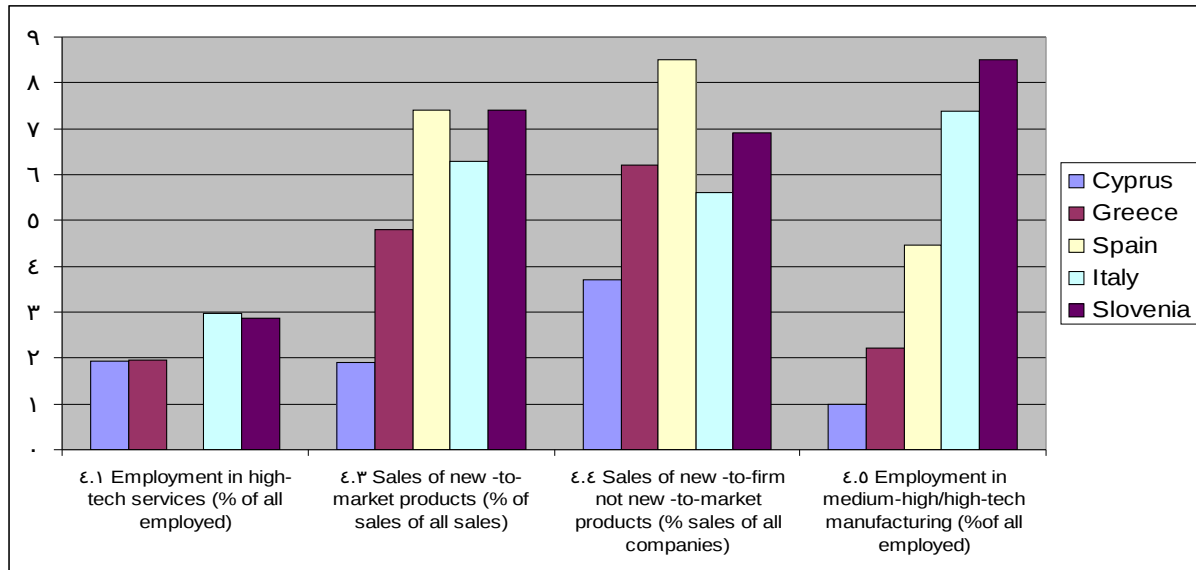
***For all countries and regions achieving better results in innovation remains not only a challenge, but a pure necessity in the scope of global competitive situation.***

**Table 4: European Innovation Scoreboard 2007 for Selected Countries [1-9, 20]**

General indicators	Cyprus	Greece	Spain	Italy	Slovenia	Average MEDOSS IC	St. dev. MEDOSS IC	EU 25	US	Japan
1.1 New S&E graduates , age 20-29 (new on 1000 inh.)	10,1	3,6		9,7	9,8	8,3	3,1	12,9	10,6	13,7
1.2 Population with tertiary education (%)	30,5	21,5	28,5	12,9	21,4	23,0	7,0	23	39	40
1.3 Broadband penetration rate (% of population)	6,6	2,7		13,1	11,4	8,5	4,7	14,8	18	18,9
1.4 Participation in life-long learning , age 25-64 %		1,16	10,4	6,1	15	8,2	5,9	9,6		
1.5 Youth educ. attainment level (% of pop. 20-24)	83,7	81		75,5	89,4	82,4	5,8	77,8		
2.1 Public R&D expenditures (% of GDP)	0,28	0,43	0,55	0,56	0,35	0,4	0,1	0,65	0,69	0,74
2.2 Business R&D expenditures (% of GDP)	0,09	0,18	0,66	0,55	0,87	0,5	0,3	1,17	1,87	2,4
2.3 Share of medium-high-tech and high- tech R&D (%)		81		87,8	89,3	86,0	4,4	85,2	89,9	86,7
2.4 Enterprises receiving public funding for innovation	16,3	10,4		14		13,6	3,0	9		
3.1 SMEs innovating in-house	24	27	24,6	18,9		23,6	3,4	21,6		
3.2 Innovative SMEs co-op. with others (% of SME)	16,5	8,4	5	4,3	10,5	8,9	4,9	9,1		
3.3 Innovation expenditures (% of sales of all comp.)	2,92	3,08		1,81		2,6	0,7	2,15		
3.4 Early-stage venture capital	-	0,002		0,002		0,0	0,0	0,05	0,04	n. p.
3.5 ICT expenditures (% of GDP)	-	4,9	1,4	5,3	5,4	4,3	1,9	6,4	6,7	7,6
3.6 SMEs using organizational innovation (% of SME)	42,8	39,6	29,5	32,2		36,0	6,2	34		
4.1 Employment in high-tech services (% of all employed)	1,94	1,95		2,97	2,87	4,8	5,3	3,26		
4.2 Exports of high technology products (% of export)	21,4	5,7		6,4	4,5	9,5	8,0	16,7	26,1	20
4.3 Sales of new -to-market products (% of sales )	1,9	4,8	7,4	6,3	7,4	5,6	2,3	7,3		
4.4 Sales of new -to-firm not new -to-market (% sales)	3,7	6,2	8,5	5,6	6,9	6,2	1,8	6,2		
4.5 Employment in medium-high/high-tech manufacturing (%of all empl.	0,98	2,23	4,47	7,37	8,5	4,7	3,2	6,63	3,84	7,3
5.1 EPO patents per million population	16,4	11,2	29,3	87,3	50,5	38,9	31,0	128	167,6	219,1
5.2 USPTO patents per million population	0,3	1,4		30,8	7	9,9	14,3	52,2	273,7	274,4
5.3 Triad patents per million population	0	34,4		8,3	2,7	11,4	15,8	20,8	33,9	87
5.4 Community trademarks per million population	187,3	3,1	163,8	105,2	30,5	98,0	80,5	108,2	33,6	12,9
5.5 Community industrial designs per million population	55,9	3,6	104,5	179,4	51,5	79,0	66,5	109,4	17,5	15,2

**FIGURES 5: Graphs of European Innovation Scoreboard 2007 - MEDOSSIC**





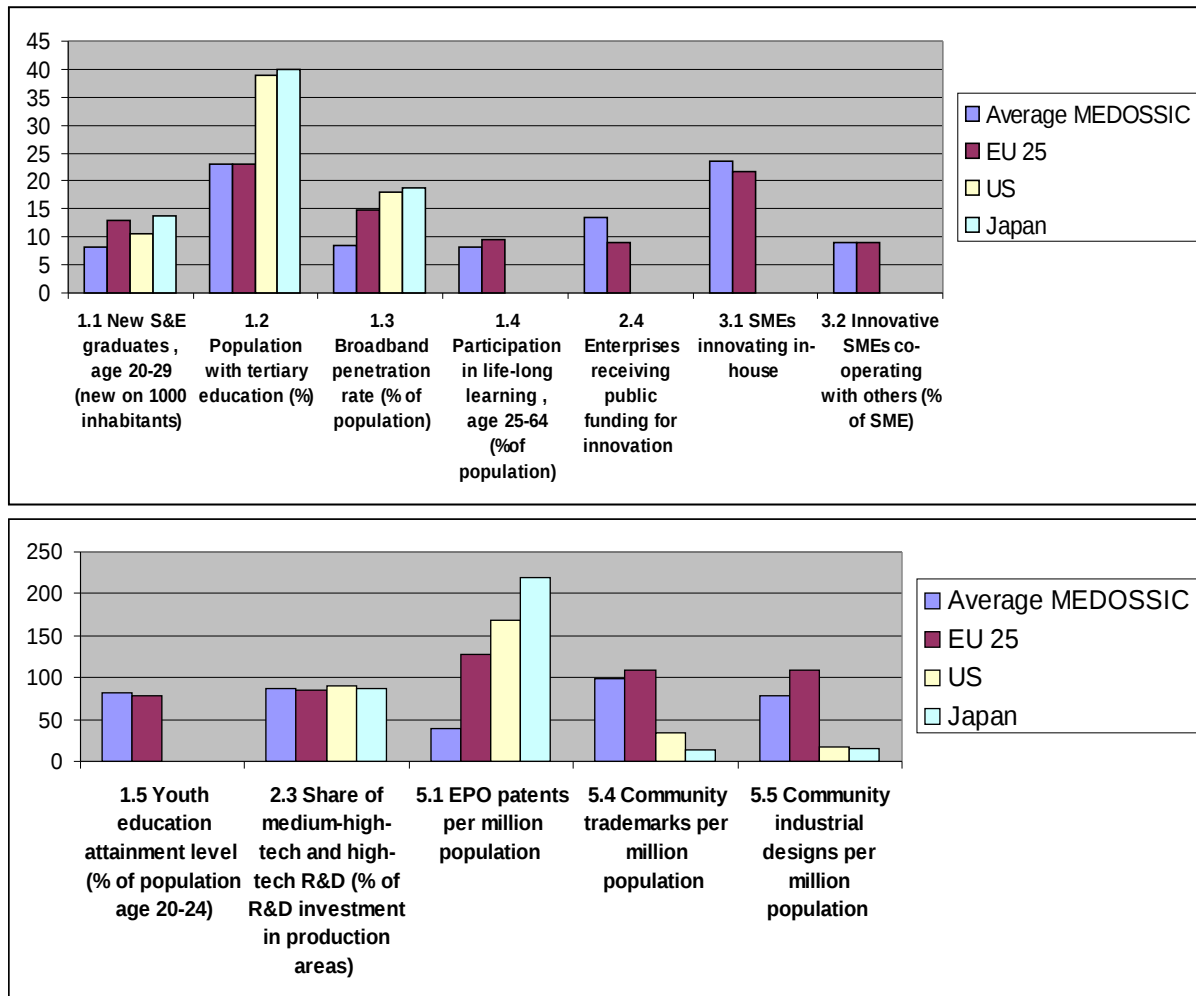
In the scope of the international comparison of MEDOSSIC countries, it is clear from Figures 6 that on average, the MEDOSSIC countries are relatively close to the EU 25 average (all data are valid for 2007) in most analysed areas. However, there are some exceptions (with lower figures), namely in the area of **patents, ICT expenditure, sales of new-to-market products (% of sales ) and employment in medium-high/high-tech manufacturing (% of all employees)**. Even more concerning is the **huge backlog in relation to the US and Japan** (as one of the world’s most innovation developed countries) in the area of EPO patents per million population. On average the MEDOSSIC countries have a 5.6 times lower number of EPO patents than in Japan and 3 times lower than the EU average. The situation is even worse in the area of USPTO patents per million population where the **backlog is 27 times higher in in relation to the US and Japan!** In the area of triad patents the backlog is 3 times higher in relation to Japan. The results in the area of Business R&D expenditures (% of GDP) are also low, where the backlog is 5 times higher in relation to Japan , the backlog in relation to the US is 3.7 times higher. Similarly, low results are achieved in the area of **% of population with tertiary education** where the backlog is 1.7 times higher.

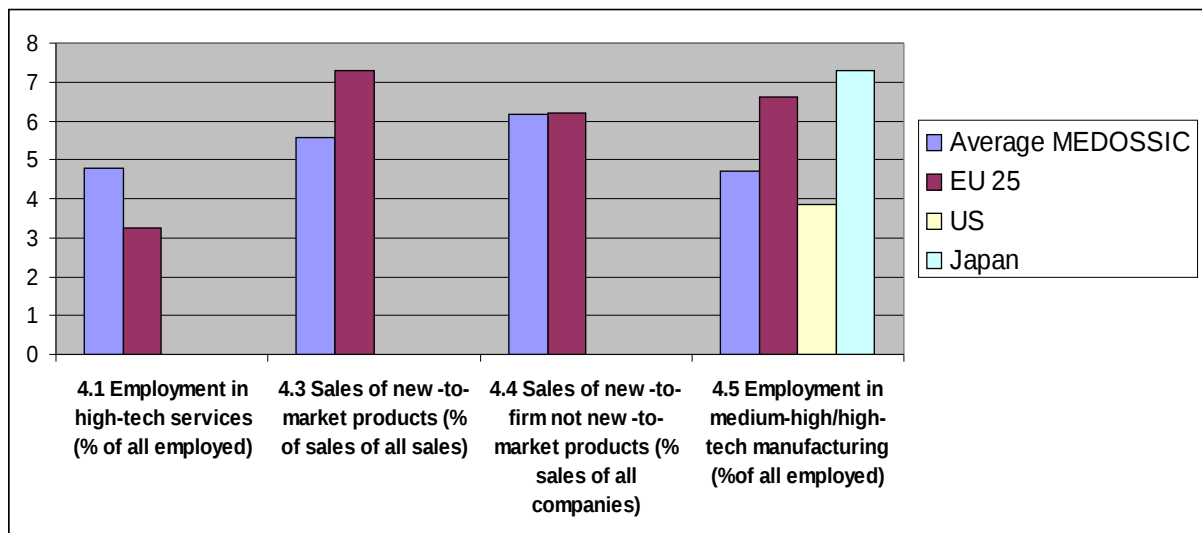
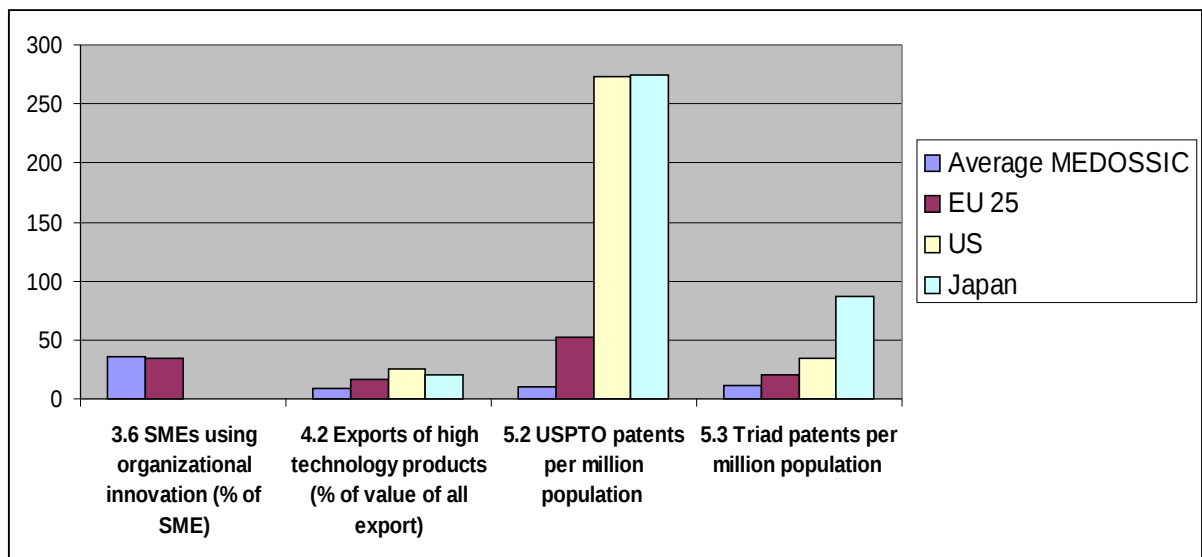
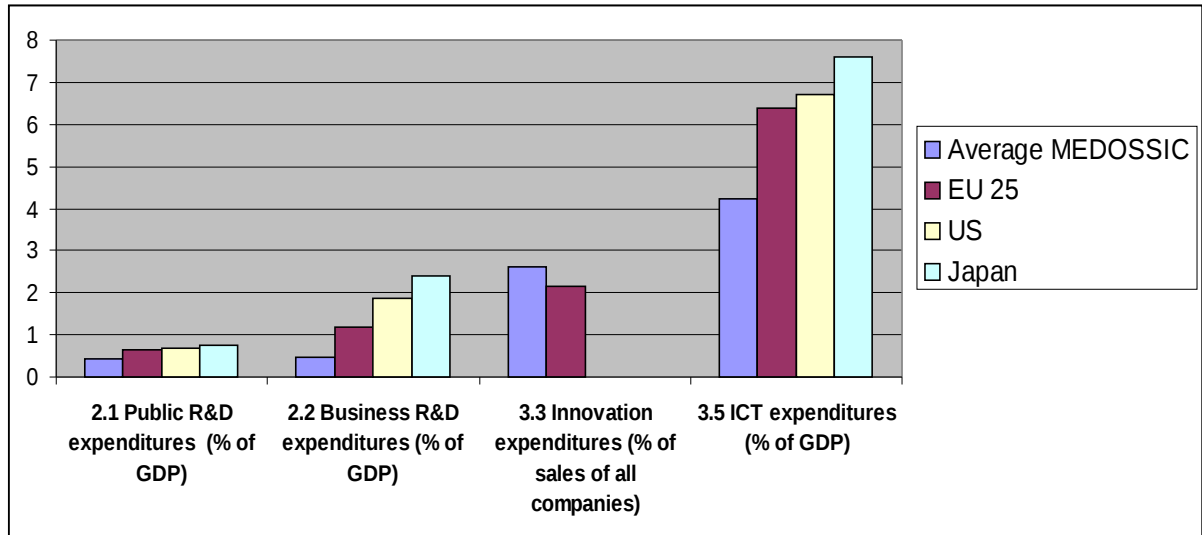
**Significant is huge backlog of MEDOSSIC countries in the area of patenting in relation to EU average and even much more in relation to the US and Japan.**

Interestingly, the MEDOSSIC countries achieve very **good comparative results to the US and Japan in the areas of community trademarks** per million population and community industrial designs per million population.

**The results in the mentioned areas where a poor innovative performance of MEDOSSIC countries is presented call for action!**

**FIGURES 6: Graphs of European Innovation Scoreboard 2007 - International**





## 4.3. INVESTIGATION OF EXISTING POLICIES AND INITIATIVES ADOPTED IN THE (ECO)INNOVATION FIELD IN SLOVENIA AND ESPECIALLY IN ALL MEDOSSIC REGIONS

### 4.3.1. National Level

#### 4.3.1.1 (Eco)innovation Policies

The national policies of the MEDOSSIC countries typically all stress a great importance of both, innovation and ecology. It is clear that on the declarative level none of the analysed countries have any specific deficiency in these areas. However, the difficulties seem to occur even on the very next step of the implementation of the declared aims in the field of (eco)innovation. It is typical for all analysed countries that there is no specific organisational structure within national governances that is related to ecoinnovation in particular. In most cases, the countries have two policy-making pillars related to (eco)innovation;

- the innovation support and stimulation pillar,
- the ecology (environment and spatial planning).

The (eco)innovation structures on the national level are non-existent, the closest thing being the inter-ministerial planning bodies set-up in some countries (Spain, Cyprus, Italy). Besides the policy defining strategic documents, Spain has the most integrated innovation and ecological issues; elsewhere these areas are separated by rule. **It seems that the lack of co-ordination between innovation and ecology on the level of national policies is a real challenge for the MEDOSSIC group.**

Another difficulty that is present in some countries (like Slovenia, Italy, to some degree Spain) is the **fragmentation of the organisational structure** and various supporting bodies related to (eco)innovation. This is partly a consequence of the fact that support to innovation and ecology are areas that have gained big importance in national policies only in the last two decades. Therefore, various new policy-makers or support bodies have just been set-up and their relations and functions are not yet optimised.

What is significant to the nature of the (eco)innovation policy of the analysed countries is the quite large **dependency on the economic and other specifics of each country**. For example, Cyprus is an island where tourism and services are the most important economic categories. Similarly, in Italy, there is a relatively high importance of industrial development etc.

The EU policy in the field of (eco)innovation has a very strong influence on the national policies. In one way, its influence originates directly from the given strategic directions; however, the indirect **influence originating from EU funds** (dedicated to specific EU priorities) is even more important. This has a positive effect on the harmonisation of actions, but on the other hand it should be considered that some particular needs of certain countries may not be addressed adequately.

The description of the main institutions in the field of (eco)innovation policies of the particular countries is presented in Table 5.

**TABLE 5: The Main Institution in the Field of (Eco)innovation Policies in the Particular Countries [1-9]**

Country	Main institution	Short description
Croatia	Ministry of Environmental Protection, Spatial Planning and Construction (MPESPC)	MPESPC is the central policy making body in the Republic of Croatia that deals with ecology policy.
	Ministry of Economy, Labour and Entrepreneurship (MELE)	MELE defines policy and co-ordinated activities in the area of the innovation at the highest level.
	State Intellectual Property Office of the Republic of Croatia (SIPORC)	SIPORC has a significant influence in the area of intellectual properties and innovation related policy.
	Croatian Chamber of Economy (CCE)	CCE has an important role in innovation support, at the same time it has a role of bottom-up channel in the formation of the (eco)innovation policy.

Country	Main institution	Short description
Cyprus	Planning Bureau	At policy level, the Planning Bureau plays a central role in the formulation of the Cypriot Research Technology Development Innovation (RTDI) Strategy and in the promotion of international scientific co-operation.
	The Ministry of Commerce, Industry and Tourism (MCIT)	MCIT is responsible for the development of new companies, the reconstruction of traditional industry and for attracting foreign investment.
	Research Promotion Foundation (RRF)	At the intermediary level, the RRF communicates the RTDI strategy to the research community.
	Cyprus Institute of Technology (CIT)	The CIT aims at enhancing the competitiveness of Cypriot firms by focusing on their technological and innovation upgrade.
	Research Institutes of Cyprus	Research institutes have an indirect role in the policy with their scientific contributions and views. The main research institutes of Cyprus which operate at the implementation level are: University of Cyprus, Agriculture Research Institution, Higher Technical Institute, State General Laboratory, Cyprus Institute of Neurology and Genetics, Cyprus Productivity Centre.

Country	Main institution	Short description
Greece	Ministry of Development	The Ministry of Development is responsible at top level for the (eco)innovation policy creation; however, most of the related operative functions are implemented in the GSRT.
	National Council of Research and Development (NCRD)	NCRD also has a role in policy defining at top level; however, this institute does not have implementation functions.
	The General Secretary of Research and Technology (GSRT)	The GSRT is currently the main authority in Greece competent for the formulation and implementation of RTD policy. It operates under the framework of the Ministry of Development and supports the RTD activities of both scientific research institutions (public research centres and universities, PROs) and those in the productive sector, and is responsible for a broad set of research and innovation activities.
	The Hellenic Industrial Property Organisation (HIPO)	HIPO is under the tutelage of the Ministry of Development. Its main aim is stimulating the innovation and its contribution to the modernization and reinforcement of the industrial property protection system.
	Public research centres like The Centre for Research and Technology Hellas (CRTH) and The Institute of Environmental Research and Sustainable Development (IERSD)	Public research centres have indirect role in policy with their scientific contributions and views. CRTH is the largest research centre in Northern Greece and it is a non-profit organization that reports directly to the GSRT of the Greek Ministry of Development. The mission of the CRTH is to carry out fundamental and applied research with emphasis on the development of novel products and services of industrial, economic and social importance in the various research fields. IERSD is one of the five institutes that constitute the National Observatory of Athens and its area of research is directly linked to ecology.
	The new structures provisioned within the new Law for RTD:	The new Law for RTD predicts some new structures related to (eco)innovation policies: - An inter-ministerial Committee, ensuring the coordination of RTDI policies and activities of different Ministries - A National Council responsible for the formulation of the main policy directions, - A National Agency, responsible for the management of the research activities.

Country	Main institution	Short description
Italy	Inter-ministry Committee for Economic Planning (ICEP)	ICEP is an organ of political decision in the economic and financial fields that develops functions of coordination on the subject of planning of the economic politics to be pursued at national, community and international level.
	The Ministry of Economic Development and Innovation (MEDI)	MEDI is in charge of the definition and implementation of policies, regulations and programmes which give innovation policy direction. The Ministry mainly deals with competitiveness promotion (in charge of technical innovation), development and cohesion and market regulation. The Ministry of Economic Development works closely with The Ministry for Education, University and Research and The Ministry for Public administration and innovation.
	Department of Education, Universities and Scientific and Technologic Research (DEUSTR)	DEUSTR is the government organ in charge of the university and the scientific and technologic research of the Country. It is responsible for the education in schools of every order and degree, public as well as private. It cares for the vigilance of university institutions and superintends research of the State through installed structures.
	Committee of Address for the Evaluation of Research (CAER)	The CAER works closely with the DEUSTR and has the task to define the general criteria for the activities for the evaluation of results of research and to promote the new methodologies of evaluation in support of the quality of national scientific research.
	National Council of Researches (NCR)	The NCR is a State institution that promotes and coordinates research in the interest of the technological and scientific progress of Italy.
	Ministry of Environment and Protection of the Territory or the Sea (MEPTS)	The MEPTS has policy formation functions in the area of environment, ecosystem, protection of the sea, atmospheric patrimony, and in the are of the evaluation of impact on the environment (VIA), environmental strategic evaluation (VAS) and the integrated environmental authorization (IPPC).
	National Agency for the Evaluation of Universities and Research (NAEUR)	The A NAEUR deals with the evaluation of the quality of Universities and corporate bodies of research and the division of funds of ordinary financing.
	Italian Institute of Technology (IIT)	The IIT is a private law foundation founded in 2003 jointly by the Ministry of Education, University and Research and the Ministry of Economy and Finances, with the objective to promote the excellence in basic and applied research to foster the development of the economic national system.
	Agency for European Research Promotion (AERP)	The AERP is a non profit association sustained by numerous Universities and private and public organizations in the area of research and industry. Its objective is to promote Italian participation in programmes of research and development financed by the European Commission.
	National Innovation Agency (NIA)	The NIA is in charge of the evaluation of innovation projects announced in the programme Industria 2015.
	National Agency for New Technologies, Energy and Environment (NANTEE)	The NANTEE Agency is dedicated to research and technological innovation and to the performance of advanced services in energy sectors, with particular attention on the nuclear sector, and sustainable economic development. The NANTEE covers its functions in the financial, instrumental and personnel matters with the Corporate Body for New technologies, Energy and Environment resources.
Certification and Research for Quality (CRQ)	The CRQ was founded in 1985 to strengthen the competitiveness in Small and Medium Enterprises.	

Country	Main institution	Short description
Slovenia	Ministry for Higher education, Science and Technology (MHEST)	The MHEST defines policies and performs tasks in the areas of higher education, research, technology, metrology, and promotes the information society in areas that do not fall within the responsibilities of other ministries. Also it co-ordinates state directed activities in the area of information society.
	Ministry of the Environment and Spatial Planning (MESP)	The MESP defines policies and performs tasks in the areas of ensuring healthy environment for all the inhabitants of Slovenia, encouraging and coordinating efforts aimed at sustainable development grounded in social well-being, and based on the prudent use of natural resources.
	Ministry of the Economy	The Ministry of the Economy defines policies and performs tasks in the areas of the internal market, enterprise and competition, foreign economic relations, tourism, energy and electronic communications.
	Government Office for Development and European Affairs (GODEA)	GODEA is in charge for implementation of the Lisbon Strategy - the National Reform Programme for the new 3-year cycle of the Lisbon Strategy 2008-2010. One of its main priorities is also national sustainable development - Implementation of council recommendations following the progress report on the renewed Sustainable Development Strategy of the EU.
	Public Agency for Entrepreneurship and Foreign Investment (PAEFI)	The PAEFI's main task is to take care of the implementation of development policies designed to cater to the development of entrepreneurship and competitiveness in Slovenia on one hand and to run programmes aimed at attracting foreign direct investments and company internationalisation on the other hand.
	Slovenian Technology Agency (STA)	The STA is an independent public agency responsible for the enhancement of technology development and innovation in the Republic of Slovenia. Its main activities are granting programs aimed at technology development and fostering co-operation of R&D institutions and universities with the industry. An important part of STA's activities are international projects. Through the cooperation with partners abroad, the agency strives to develop new policies in technology development and services in the Slovenian industry.
	Slovenian Enterprise Fund (SEF)	The SEF is the central national financial institution of the Republic of Slovenia founded with the aim of making the sources of funds more accessible to small and medium-sized companies (SMEs) in Slovenia. Every year the SEF invites companies to apply for state aid, which provide more favourable sources of financing development investments in the corporate sector in Slovenia. The SEF closely co-operates with other domestic and international financial institutions.
	Slovenian Research Agency (SRA)	The SRA performs professional, development and executive tasks relating to the National Research and Development Programme at every level, as well as other work to promote research and development activities. The Agency carries out its legally determined duties in the public interest, providing permanent, professional and independent decision-making on the selection of programmes and projects financed from the state budget and other financial sources. The Agency is an indirect user of the state budget in terms of the legal provisions that govern public finances and public agencies.

Country	Main institution	Short description
Spain	Spanish Ministry of Science and Innovation (SMSI)	The SMSI is the main national body in charge of the area of innovation. Two departments of the Ministry deal with innovation directly or indirectly; The General Secretariat of Innovation and also The General Directorate of Technology Transfer and Business Development.
	Ministry of Environment, and Rural and Marine Environment (MERME)	The MERME is in charge of all ecological issues on land and sea in the country. They also partly deal with innovation, but strictly in relation to ecology.
	Inter-ministerial Committee of Science and Technology (ICST)	The ICST co-ordinates government activities in the area of science and technology. It is composed of the following bodies: - Committee of the Whole or Plenary: It is in charge of the strategic nature of the Spanish R&D policy, - Standing Committee: It is in charge of coordinating the R&D&I activities financed by the Expenditure Plans for Scientific Research, Development and Technological Innovation of the General State Budgets, - Support and follow up Committee: It is in charge of the implementation of short term improvements in the management of R&D&I policies.
	General Council for Science and Technology (GCST)	The GCST is responsible for the coordination between regional governments.
	Advisory Council for Science and Technology (ACST)	The function of the ACST is to promote participation of the scientific community, social and economic agents in the drafting, following up and assessment of the National Plan.

## Croatia

Institutional support to innovation activities in Croatia is provided through government (competent ministries, Croatian Government) and non-government institutions as well as organisations (like the State Intellectual Property Office of the Republic of Croatia), chambers and specialised centres, networks and/or companies for consulting and innovation services. On the strategic level, the policies in the area of (eco)innovation are formed in the relevant ministries; however, an important influence also comes “bottom-up” from non-governmental organisations like the organisations of innovators.

Considering the lack of interest within the enterprises, today the innovation activities in Croatia are mostly concentrated on individual innovators, with the tendency of commercialisation and with the objective that the development of innovations projects gives an additional stimulus for the development of entrepreneurship.

On the national level, the support of entrepreneurial activities in the Republic of Croatia is regulated with the Law for SMEs development, the Law for national subsidies and the Law for investment promotion as well as programmes and operational plans which derive from the mentioned laws [6].

## Cyprus

The main institution responsible for the national (eco)innovation policy is the Planning Bureau, which plays a central role in the formulation of the Cypriot Research Technology Development Innovation (RTDI) Strategy and in the promotion of international scientific co-operation. The Ministry of Commerce, Industry and Tourism is responsible for the development of new companies, the reconstruction of traditional industry and for attracting foreign investment. At the intermediary level, the Research Promotion Foundation communicates the RTDI strategy to the research community. The Cyprus Institute of Technology aims at enhancing the competitiveness of Cypriot firms by focusing on their technological and innovation upgrade. The main regional innovation activities are the Regional Innovation Strategy project RISC, the Innovation Relay Centre and the New Industrial Policy, which includes a business incubator scheme and a Centre of Research and Technological Development. The most significant contribution in the growth of research was the establishment of the Institute for the Promotion of Research.

The national policy on R&D is implemented through the IPR programs for research, technological development and innovation. The programs of 2003-2006 included specific actions dedicated to sustainable development aiming at the implementation of programs promoting sustainable development in the field of agriculture, fisheries and forestry, the natural environment and the building environment.

The overall objective innovation strategy for Cyprus is to improve the position of Cyprus on the Innovation Scoreboard and to assist the government's goal of achieving a level of R&D spending of 1% of GDP by 2010, while at the same time enhancing the quality of such spending. As for the environment-related policies and the technologies and policies employed for the enhancement of eco-initiatives, the national policy reform has been involving activities since 2006 in four broad priority areas, namely energy, environmental infrastructure, competition and overall business climate. Since 2006, the energy policy of

Cyprus has been based on an explicit and comprehensive energy strategy which was elaborated at that time.

In comparison with other Mediterranean countries it is specific for Cyprus that the economy of the country is based on tourism and services. This also affects (eco)innovation policies, which are not focused primarily on high-tech development, but rather have in prime focus the preservation of the fragile nature environment of the island, which is also very important for the tourism industry [2].

## **Greece**

Within Greek national governance there is no specific organisational structure that is related to ecoinnovation in particular. However, the organisational structure that applies to research and technology and the development of innovation could also be associated with the “eco”-category of innovation. The General Secretariat for Research and Technology (GSRT) under the Ministry of Development is currently the main authority in Greece competent for the formulation and implementation of RTD policy. In the area of ecology the changes related to the governance of organisational structure have recently been significant. After the recent elections, the Ministry of Environment and Public Works was split into two Ministries, with its responsibilities assigned in two different central government bodies in order to avoid any conflicts. Namely, the new Ministries are the Ministry of Environment, Energy and Climate Change and the Ministry of Transport and Communications. This structural reforming of the Environmental Governance is expected to bring significant improvements in the implementation of environmental regulation and the creation of new environment-related jobs.

The national policies adopted since 2000 and relating to innovation issues involve public financing of research and technology projects in 12 sectors of major interest for the country (like renewable energy sources, natural environment, new forms of business organisation, etc). Nevertheless, the present RTD and Innovation policy have been strongly influenced by the European Community Structural funds and are formulated and financed through the successive Community Support Frameworks (CSF) Operational Programmes.

The government that was into force until recently, has prepared a new legislative framework for RTD governance. The new Law, among others, includes the establishment of new mechanisms for the planning, adoption and implementation of the research and development policy with the involvement of several organizations. It also introduces new structures, namely; the Inter-ministerial Committee, the National Council and the National Agency.

Even though significant progress is witnessed regarding the implementation of the relevant environmental infrastructure, the designation of the protected areas and the national energy policy (the shift to alternative energy sources with natural gas and renewable energy policy frameworks) is still in the sector of environmental innovation and the rest of the environmental policy fields' progress is latent and limited to excursive activities, which are mainly implemented and last on the project basis.

The Greek (eco)innovation policy seems to be a bit burdened with the slow and poorly efficient bureaucratic approach in the past, but in the recent years some positive significant changes have occurred in this area [1].

## Italy

The (eco)innovation policy in Italy is formed in different governmental corporate bodies, the most important of which is the first Inter-ministry Committee for economic planning (CIPE) - CIPE co-ordinates the planning of the economic politics at national and international level and it also allocates financial resources to development programmes and projects. The second key stakeholder in (eco)innovation is the Ministry of Economic Development and Innovation, which is in charge of the definition and implementation of policies, regulations and programmes, which give innovation policy direction. This Ministry of Economic Development works closely with the Ministry for Education, University and Research and the Ministry for Public administration and innovation. From the point of view of ecology, the Ministry of Environment and Protection of the territory or the sea has the key role in policy making

The mentioned ministries form the (eco)innovation-related policy that is within the framework of their partial responsibilities; however, a horizontal policy related to ecology has also been adopted, named The National Reform Programme (NRP) drafted in 2005 in response to the European Council's launch of the Lisbon Strategy. One of the objectives of this programme is "granting incentives for scientific research and technological innovation". According to this objective various actions are defined and funds are distributed.

Another important horizontal policy related to (eco)innovation is the Action Plan for Environmental Sustainability of consumptions in the Public Administration sector. The Plan, adopted in 2008, has the objective to maximize the spreading of "green procurement" in public bodies. It defines national objectives, identifies categories of goods, services and priority intervention works for environmental impacts and volumes of costs, and to define minimum environmental criteria. Particularly, it addresses Provinces and Municipalities to promote energy efficiency in school buildings.

At national level the course towards eco-innovation started in 1991 with the law "Standards for the implementation of the energetic national plan on the rational use of energy, energy saving and development of energy renewable sources". The Italian legislation in this area started to become more defined and rigorous after the signature of the Kyoto protocol. The Italian legislation on environment and energy is very fragmented, and in most cases it is divided in the legislation related to the ground, water, air, wastes and energy efficiency.

The formation of the (eco)innovation policy in Italy is dispersed in various institutional bodies and is complex in its content. The legislation on (eco)innovation is fragmented, but also worked out in details. With Italy being a large Mediterranean country, governance is typically broken down territorially (National/Central government, 20 Regions, 110 Provinces, 101 municipalities), which of course influences also the (eco)innovation policy [4,5].

## Slovenia

The key role in the field of innovation policy in Slovenia is played by the Ministry of Higher Education, Science and Technology the Ministry of the Economy and the Government Office for Development and European Affairs. In the area of ecology this role is in the hands of the Ministry of the Environment and Spatial Planning. On the executive level (however, to some degree also on the policy making level), the Public Agency for Entrepreneurship and Foreign Investment, the Slovenian Technology Agency, the Slovenian Enterprise Fund and the Slovenian Research Agency have the most important role. A diversified network of various innovation support institution is established also on national, regional and local levels, which have some influence on the regional and local policy making. However, since this support structure has been set-up in a relatively short time frame, it lacks co-ordination and funding. In many cases, especially regional and local support institutions are under pressure of their own financial survival, which causes non-optimal direction of their activities. The exposed problem is also the inefficient use of national and EU supported funds.

In the process of accession to the EU Slovenia has applied a relatively modern legislation that presents a solid base for innovation and ecology as well.

The Slovenian Strategic guidelines are stated in the document named Strategic Development of Slovenia, a government document from 2005. This document stresses the importance of innovation and R&D for the economic and social development of the country. In light of the commitment to the Lisbon and Barcelona objectives, including a three percent R&D investment target, the Strategy calls for a systematic re-orientation of public funding from a predominantly basic research to a more targeted research, co-funded by the business sector. Similar objectives are proposed in the second government document, the National Research and Development Programme. The document outlined innovation as a need for increasing economic efficiency, the scale of investment in R&D, improving the quality of education, promoting lifelong learning and an effective generation of a two-way flow in the use of knowledge for economic development and quality jobs. Regarding innovation, environmental policies have also been outlined and are focused on reducing energy intensity and increase the use of renewable energy as well as increase the promotion of re-use. Beside the implementing role, all these provisions also have the role of promoting development and the use of environmental technologies in everyday life. None of the major national policies specifically defines eco-innovation in particular.

Although relatively late in comparison to other developed countries, support policies focused on tax relief have recently been actively increased. In addition, the creation of links between the research and business sector is increasing, but still not enough to achieve the technology breakthrough. For this reason, this remains one of the weaknesses in the field of innovation in the country. What continues to be a problem (and has not yet been addressed by the policy) is how to broaden the horizon of innovation policy and make different parts of government see the importance of a coordinated horizontal approach to innovation policy.

For the further development, approaches that promote the innovative capacity and competitiveness through innovative products have become important. In the last years a large progress has been made in the area of support to innovations.

At the same time, the problem of Slovenia as a EU member is that it does not have a National system of innovation (NSI) prepared. Slovenia executes fragmented support to the needs of business, which is reflected in unequal supporting activities among regions and to some degree uncoordinated actions of actors in creating a supportive environment for their development.

## **Spain**

In the area of national and regional innovation policies, important changes have been made in Spain over the last few years. In 2008, the Spanish Ministry for Science and Innovation was created at national level. In 2004, the Regional Ministry for Innovation, Science and Enterprise was established at regional level. At both levels, strategic plans for Research, Development and Innovation aiming to guide the growth of innovation in an integral way in both territories have been launched. These plans include the coordination of a high number of initiatives, such as intermediation networks to boost business innovation (Centre for Industrial Technology Development at a national level and IDEA Agency at a regional level). Other key institutions in creating policies in the area of (eco)innovation are the Ministry of Environment and Rural and Marine Environment, the Inter-ministerial Committee of Science and Technology, the General Council for Science and Technology and the Advisory Council for Science and Technology.

The legal base in the area of innovation is already stated in the Spanish constitution. The most important recent act in this area is the upcoming Spanish Act of Science and Technology (Draft November 2009). Several ecological legal acts are also in force.

The most important policy-defining document concerning (eco)innovation is the National R&D Plan where the Spanish Science and Technology Scheme (SECYT) states the programme of R&D and technological innovation of the General Administration of the State, including eco-innovation. Its origin is the Spanish Act 13/1986 of 14 April 1986 on the Promotion and General Co-ordination of Scientific and Technical Research. Within the SECYT, there are four different structures: public system of R&D&I, support entities for R&D&I, enterprises and society. Its basic principles are the following:

- To place R&D&I to serve the citizens. Promotion of social welfare and sustainable development, with full and equal participation of women.
- To make R&D&I an improvement factor of the entrepreneurial competence.
- To acknowledge and promote R&D as an essential element to generate new knowledge.

The Spanish policy of Research, Development and Innovation (R&D&I) has a reference in the National Reform Programme, approved in 2006, which aims to achieve the objectives of the Lisbon Strategy – an agreement at European level aiming to achieve a competitive knowledge-based economy.

Another important policy-defining document is the published Environmental Technologies Action Plan of the Ministry for Environment. It gathers and summarises a group of national initiatives linked to development and the implementation of environmental technologies in different economic sectors.

The (eco)innovation policy has received a considerable boost in the last two decades that has also been reflected in improving the results in the area of

(eco)innovation. In some aspects, eco-innovation has also been addressed in particular, which is rare in comparison with other MEDOSSIC countries. However, the results of (eco)innovation are still on a lower level than in most developed EU countries [3].

#### 4.3.1.2 (Eco)Innovation Initiatives

Project partners have identified a wide variety of (eco)innovation initiatives in the MEDOSSIC countries. An important finding of the analysis is that **only very few of these initiatives really combine innovation and ecology**, since these areas are separated in most cases. It is necessary to outline that the identified initiatives may not represent the complete set of initiatives since they are **fragmented** and national **central data of (eco)initiatives in most cases do not exist**.

**Croatian** (eco)innovation initiatives are not numerous and are still in the development phase in comparison with some more advanced MEDOSSIC countries like Italy or Spain. Initiatives are co-ordinated by The Ministry for Protection of Environment, Spatial Planning and Construction and as well by The Ministry of Economy, Labour and Entrepreneurship. In the period 2004 - 2007, The Ministry of Economy, Labour and Entrepreneurship, through the Operational programme for SMEs support, allocated 15,626 subsidies in the total amount of 81 mio EUR. In 2008, the same Ministry started with the Operational Programme for the period 2008-2012.

Croatia is becoming more and more involved in EU programmes which brings an important stimulus also to the area of (eco)innovation initiatives. With signing and the ratification of the Memorandum of understanding, Croatia has become a full member of the Entrepreneurship and Innovation Programme - EIP. With this, Croatian SMEs are allowed to participate in this programme for the first time.

In **Greece** several (eco)initiatives are present. In respect to the importance of tourism in the national economy ecology (which is important for the success of tourism) also plays an important role. The most relevant (eco)initiatives were identified as follows:

- ENVIRO-HELP for Business Initiative (a website that provides assistance to Greek enterprises in improving their environmental performance in the areas of environmental legislation and general guidelines for the environmental compliance, links to the best available techniques, business and governmental bodies' directories to look for business support and training material).
- Initiative of the Biopolitics International Organisation (e-learning, the creation of an electronic cross-reference library on the environment, the creation of a "Bio-Syllabus for European Environmental Education").
- Initiatives of the Centre for Sustainability and Excellence (coaching in a vast array of advising services promoting Sustainability and Excellence to Organisations, Society and Governments etc.).
- Hellenic Association of Photovoltaic Companies (promotion of the sustainable use of energy).
- Additional initiatives implemented at national level mostly involve the organisation of partnerships and support organizations aiming to provide information to young entrepreneurs through their websites.

Typically (as in most cases in other countries), none of the initiatives has as its main aim the combination of innovation and ecology [1].

Major (eco)innovation initiatives in **Cyprus** in the recent years have dealt with financial support to various related projects under the national programmes for: New Researchers, EUREKA, Research Infrastructure, International Cooperation, Thematic Actions and Corporate Research. To an extent, Cypriot has also participated in the horizontal EU projects. Additional measures undertaken until the end of 2008 in Cyprus involve the creation and the establishment of Business Incubators in the Science and Technology Park. During the first years of operation four new businesses were hosted in the business incubator and initiated their activity to the market after creating partnerships with other private companies. Together with the creation of the Business Incubators on the island the government also introduced a Business Incubators Accreditation System. Additional initiatives implemented at national level mostly involve the organisation of support offices and organizations aiming to provide information to young entrepreneurs, or encourage the adaptation of energy or other environment related technologies [2].

In **Italy** several recently adopted measures related to the crisis in industry have been linked to innovation and ecology as well. An important recent initiative is the introduction of energy efficiency standards. Other specific initiatives regarding eco-innovation concern awareness-raising, actions targeting specific sectors, actions involving green procurement, financial support and stimulus packages to boost eco-innovation (funding of research projects on energy efficiency and the use of renewable energy sources in urban areas – this is one of the rare initiatives that combines innovation and ecology), support for green start-ups as well as entrepreneurial schemes and training programmes to prepare the workforce for the transition to green economy. As for positioning and stance in relation to the green agenda (e.g. any position papers), both the trade unions and the employers' associations have repeatedly urged the government to legislate clearly and rapidly on environmental issues. An important initiative within the legislative obligation to the regions is the preparation of the Energy and Environment Regional Plan which, in the absence of clear energy planning at national level, has become the principal instrument of energy and environment planning in the country. At present, only 16 regions out of 20 have this drawn up by now.

From the point of view of innovation initiatives the most important initiative of this kind is »Industria 2015«. It outlines new Italian industrial policies and provides strategic guidelines for the development and competitiveness of the Italian production system. The initiative focuses on the creation of partnerships and synergies among universities, research centres, private and public entities in order to implement medium to long-term industrial projects that make industry more competitive. Other similar initiatives are the introduction of Technology Districts, Public-private laboratories, the Industrial Liaison Office Programme, Patent Libraries, the Italian Network for Innovation and Technology Transfer to SMEs, the foundation of the Italian Institute of Technology, ENEA - an Italian Government sponsored research and development agency, Energy efficiency and environmental assessment in buildings, "ITACA Protocol " for energy - environmental assessment of a building and Green Public Procurement.

Italy has very diverse (eco)innovation initiatives in various areas, even specific eco-innovation initiatives are present. It is typical that (eco)innovation initiatives are to a large degree in the hands of regions (in other countries this is to a larger degree in the hands of the national governments) [4,5].

In most cases, **Slovenian** (eco)initiatives are directed in two ways; various research and development innovation initiatives, mostly for SMEs, and on the other hand ecological initiatives in the form of a subsidised price for the energy acquired from sustainable sources etc. The nature of both types of initiatives is quite different. Probably the most important connection between innovation and ecology areas is in the evaluation criteria of research and development projects that as a rule contain ecology as an important criterion.

Slovenia has established a series of innovation initiatives at a national level. Initiatives are coordinated by the already mentioned institutions, the Ministry for Higher Education, Science and Technology, the Ministry of the Economy, the Public Agency for Entrepreneurship and Foreign Investment, the Slovenian Technology Agency, the Slovenian Enterprise Fund and the Slovenian Research Agency. On the other hand ecology initiatives are co-ordinated through the Ecological fund and the Ministry of the Environment and Spatial Planning. Probably the most important innovation initiatives are the Voucher system for consultancy and training services, Support to VEM services, the Research Group Programme Financing Scheme, the Young Researchers' Programme and Technologies for Security and Peace 2006-2012. The main outline for (eco)innovation initiatives are strategic objectives and the implementation plans written in the following documents: the Strategic Development of Slovenia - 2005, the 'Measures to Stimulate Entrepreneurship and Competitiveness' programme 2007-2013, the Operational programme of development of human capital 2007-2013, the Operational Programme for Strengthening Development Potential and the Resolution about national development projects 2007-2023 (updated version January 2008).

It is worth mentioning that there has been a strong business movement present in (eco)innovation in Slovenia for a few years, the so called Social-Business Network Synergy ([www.energijasi.com](http://www.energijasi.com)), which connects different stakeholders from business, public, media and other private institutes, which are socially responsible and take care of the childrens' future. They provide support through different communication web channels, open media campaigns, such as "Energy - you are" and "Calculate your footprint", the research analyses of energy efficiency etc., where they spread the information about the effective use of energy in everyday life. Public consciousness is a foundation stone, which moves the brain barriers and is vital for the development of innovation culture of the nation [7,8,9].

In **Spain** 94% of budget related to research development and innovation is in the hands of the Ministry for Industry, Tourism and Trade, the Ministry for Science and Education and the Ministry for Health and Consumer Protection in coherence with the General National Budget. The main implementation outline for (eco)innovation initiatives is the 6th National R&D&I Plan 2008-2011, which includes the areas of Conservation, Enrichment and Optimal Performance of Natural Resources and Sectoral Technological Development and Innovation as well.

An important initiative is the 2nd INGENIO 2010, which is an instrument that aims to achieve full convergence in R&D&I with the European Union in 2010 in per capita income, employment and the knowledge society. It aims to involve the Government, enterprises, universities and public research institutions to achieve a series of targets. Its instruments are the CENIT Programme (Increase of public-private cooperation in R&D&I), the CONSOLIDER Programme (Promoting excellence), the AVANZA Plan (To reach the European average for investment in percentage of GDP in Information Technologies), the EUROINGENIO Plan

(Participation of universities and some research public centres in the 7th Framework Programme in order to stimulate success in participation, R&D internationalization and scientific excellence). Other important initiatives are: the National Reform Programme, the Programme for Technological Research Encouragement (profit), the Centre for the Development of Industrial Technology Programmes, the Innoempresa Plan, the Business Development Plan, the FECYT - The Spanish Science and Technology Foundation, the "INNPULSO" - the programme to support science and innovation at local entities, the ICONO - Spanish Observatory for Innovation and Knowledge, Programmes within the Environmental Technologies Action Plan.

Spain has a wide variety of (eco)innovation initiatives especially in the area of research and development and innovation support. They are also relatively intensively strategically supported with the programmes and policies on the state level. Some practical initiatives are interesting, which are linked to the centralisation of information concerning (eco)innovation and related support actions [3].

### 4.3.2. Regional Level

#### 4.3.2.1. (Eco)innovation Policies

There are **some relatively small differences in regions within the framework of political will and declarative support to (eco)innovation policies**, but there are very **big differences** between regions in the **competences of the regions relative to the national level** (for instance, a big influence of regions in Italy, a relatively small in Slovenia and a special case in Cyprus where, compared to other MEDOSSIC regions, regions are non-existent). Clearly there are also big differences between regions in the **development phase** of (eco)innovation policies (for instance the Primorsko Goranska region versus Marche and the Emilia-Romagna region); however, this is also a result of the different stages of the accession to the EU. In all cases **(eco)innovation is gaining its importance**; however, the **implementation effectiveness and funds for stimulation vary a lot** between regions. An important stimulus and also a direction outline in the area of (eco)innovation are represented by the **EU programmes**, which represent a bonding tissue between these regions. The relatively big differences within the not so much different Mediterranean environment and European cultural background **call for even more harmonization and the use of best practice models**.

In **Crete** the competences of the Regional Administration with regards to Development and Innovation are mainly allocated to the national General Directorate of Planning and Development (DISA). Within the regional administrative context, eco-innovation policies and structures are tailored with investments and funding in reference to the National Development Law. The environmental responsibilities of the Regional Administration are restricted to the implementation of the regional operational plans funded by the structural programmes and to the coordination of the activities of the Prefectures of the region. An important stakeholder in regional policy is the Eastern Crete Development Organisation, which is a public organisation under private law. It operates under the supervision of the Ministry of Economy, Competitiveness & Marine, the Ministry of Environment, Energy and Climate Change, and the Ministry of Rural Development and Food. Other important organisations are the Western Crete Developmental Organisation, the Regional Energy Agency of

Crete, business incubators of Crete and some other environmental organisations [1].

As **Cyprus** is both a nation and a region, (eco)innovation policies are already described in the preceding chapter.

**Italian regions** have relatively high competences in the field of (eco)innovation. In Italy policy formulation and the management of instruments is usually set through a Framework agreement signed by the region, the central administration and other public/private actors to define strategies of common interest, including the planning of resources allocation. The increasing influence of the regions is also evident in the programming and implementation process for the 'Programmi Operativi Nazionali' (PON), usually managed by the central government and now supported by a committee (Comitato di Indirizzo e di Attuazione), involving the national government along with all the regional governments concerned with the specific measures. This further allows a more effective participation of regions in the planning and implementation process and a stronger role in influencing central government policy decisions addressing specific territories. The coordination among the Ministries and the Regions has also been reinforced through the establishment of a permanent commission for technological innovation, headed by the Ministry for Regional Affairs [4,5].

In the **Marche Region** there are two main guidelines in innovation, which are in-line with the strategic National and EU context.

Policies within the Marche Region:

1. "Building the system" - giving priority to networking policies that strengthen the capacities of clusters of public and private actors.
2. "Promoting the diffusion of innovation" - increasing the level of regional competitiveness through innovation.

The most important regional legal act related to (eco)innovation is the Regional Law of 28 October 2003, with art. 3 n. 20 "Single text on the regulations concerning industry, handicrafts and activities from services to production", which defines the set of interventions related to the sectors covered by the Regional Law 20/2003, establishing objectives and expected results in relation to the purposes of the Regional Development Plan. According to this legal frame a set of six main instruments for stimulating projects of innovation and technology transfer are installed.

The Marche region is well developed with a high level of independence in relation to the national level and an advanced policy base. However, there is little integration between the (strongly covered) innovation and ecology areas [5].

With the last constitutional changes in Italy, regions gained competences in the areas of research and innovation, so the **Emilia Romagna region and the Ferrara and Ravenna provinces** are becoming more and more active in the area of innovation and ecology as well. With the Regional Law 7/2002 and with the PRRIIT (Regional Program for the Industrial Research, the Innovation and the Technological Transfer) the regional politics set the priority objectives to contribute to the development and to the qualification of diffused knowledge in the economic system, and to their translation in entrepreneurial innovative plans, but above all to extend and integrate this net with the world of research and to build the basis for the development of a new productive system based on knowledge. In the following years Emilia-Romagna Region has the opportunity to reinforce these strategic lines with the operational programme FESR 2007-2013, based on the new Community orientations for structural politics, derived by the

agenda of Lisbon (and also by some national initiatives) that put in the foreground the objective of innovation.

In Emilia-Romagna as well as in Toscana, Veneto, Liguria and Friuli Venezia Giulia the greatest experiences on eco-innovation in Italy are concentrated and they concern above all clean energies and the environmental certifications. In fact, the Emilia-Romagna region is the first to direct its legislation toward innovation. With the Regional Law n. 7/2002 on innovation, the Emilia-Romagna region - the first in Italy - sets as the objective the support and the promotion of the system of industrial research innovation and technological transfer. The Regional Programme for Industrial Research, Innovation and Technological Transfer - PRRITT is the tool for the implementation of the actions and for the the planned interventions. Another important law from the ecological aspect is the Regional Law 26/2004 - Energetic territorial planning and other dispositions on energy.

Among the main tools of planning in the period 2000-2006, destined for innovation and eco-innovation were; Objective 2, PRSR 2000-2006, LEADER + Emilia-Romagna Delta and INTERREG Programs of UE Cooperation 2000-2006.

In Italy, regions have much more competence than in some other MEDOSSIC countries (probably the size of the country is the most influential factor in this respect). The Emilia-Romagna region and the Ferrara and Ravenna provinces are especially advanced in the area of (eco)innovation policies [4].

In **Malaga** (eco)innovation policies on regional level are very developed and implemented both in research centres and enterprises, thanks to the intermediary and revitalizing agents, as in the case of the Andalusian Technology Network agents. The University of Malaga is the third in Andalusia for finance received for R&D&I activities from the Andalusian Regional Ministry for Innovation, Science and Enterprise [3].

The most important (eco)innovation policy-defining document in the **Primorsko - Goranska County** is the programme for innovation support. According to it, funds are also distributed for developing the innovation based products. Besides this, the Primorsko - Goranska County has also co-financed the activities of innovators associations. An interesting policy direction in the Primorsko - Goranska County is the support to innovators in the form of funds, but also the participation in the expected profit through the Foundation FIPRO. However, most policies related to (eco)innovation originate from the national level [6].

According to NUTS 2, **Slovenia** is a single region country. But over the years, especially in view of the absorption of the EU Structural Funds, the country has started activities to be split into two regions for planning purposes; the more developed west and the less developed east part of Slovenia. According to internal Slovenian acts, however, Slovenia is divided in several statistical regions. Because the country is relatively small and well connected (all regional centres can be reached from the capital Ljubljana within a two-hour drive), but the autonomy of the regions is limited.

Slovenia has no formal regional authorities set-up yet. The legislation regarding the issues of regions should have been adopted a decade ago, but there was no political consensus. The main problematic issue relates to an optimal number of

regions, which would bring equal socio-demographic and technology development.

In Slovenia, regional policies are prepared in co-operation with regional development agencies, municipalities and national bodies in charge for regional development. In general, (eco)innovation is gaining importance within the framework of regional policies [7,8,9].

**In the Coastal -Karst Region** there are several regional and support organisation. However, their competences relative to the national bodies are limited. The main policy directions are defined by the Regional Development Programme (RDP). In the RDP 2002-2006 the main objectives mostly dealt with the reduction of the development lag in comparison with the more developed Slovenian regions in the areas of productivity, GDP, unemployment etc. No main objective has been directly linked to innovation and only one ("to raise the quality class of rivers by half a class") has been linked to ecology. However, in the RDP 2007-2013 these areas are much more present, especially ecology, as being one of the two long term goals of the RDP ("Until the end of 2013 the region will complete the establishment of a basic environmental infrastructure for waste management, discharge and cleaning of waste water, water supply and sustainable mobility"). An important measure in the RDP is also the »Integration of technological development« which also includes within its framework the development of financial instruments for start-up and spin-off enterprises. One of the objectives of the RDP is the "Promotion of entrepreneurial innovative culture" with a series of support measures for innovation [7].

**The Inner-Karst Region** has only a small number of regional governance and support organisations. In the region, the only ones who have influence are the regional Chamber of Commerce, the regional Craft agency and the Development Agency. The policies - including (eco)innovation policies, are formed in co-operation with the Regional Development Agency, municipalities and national bodies in charge for regional development. Within the framework of the implementation of the first priority (Competitive economy and faster growth) of the Strategic Development of Slovenia 2007-2023 priority projects have been established in the Slovenian regions. For the Inner-Karst Region such priority project is the "Construction of an economic centre in Notranjska PERSPECTIVE".

The most important regional policy-defining document is the Regional Development Programme (RDP) of the Inner Karst Region 2007 - 2013. Another important strategic document is the Strategic Plan of the Green Karst. Both documents were prepared by the Regional Development Agency and both contain (eco)innovation as one of the main strategic directions. The RDP includes (eco)innovation as part of the main strategic directions. Strategic regional development priorities stated in the RDP are the following: Eco-development of the Inner-Karst Region, Knowledge for global competitiveness and Access and support infrastructure.

The Inner Karst Region is one of the less developed regions in Slovenia. In accordance with that, support measures related to the development of particular regions are also raising absorption potentials of the Inner Karst Region [8].

In **South East Slovenia** only a few regional governance and supportive institutions are established - there is one national fund (the Public Fund of Slovenia for Regional Development and Development of Countryside) and some

regional institutions. Nevertheless, the access to such entities located in Central Slovenia is relatively easy. There is a demand perceived for a few secondary and primary types of supporting organizations, such as an incubator and a technology park (which, given the number of companies, might be expected), and the society of innovators. However, a business incubator was established in Kočevje in the last year and start-up companies will have possibilities to compete for national subsidies for start-ups.

The most important regional policy-defining document is the Regional Development Programme (RDP) of the South East Slovenia Region 2007 - 2013, prepared by the Regional Development Agency. It includes (eco)innovation as part of the main strategic directions. Strategic regional development priorities stated in the RDP are the following: Integration of region inside and outside, Institutions for the development and transfer of knowledge, Joint marketing and Greater development potential and quality of life. As it is clear from the stated priorities, ecology is one of the main directions and innovation is indirectly involved in one or two other directions.

Clearly, the regional institutions in Slovenia have a very pro (eco)innovation policy approach that is supported in accordance with the means available. However, the competences of regions in Slovenia are limited [9].

#### 4.3.2.2. (Eco)innovation Initiatives

What is common to all regions, is that there are various kinds of (eco)innovation initiatives present, as shown in Table 6. However, differences are present between regions even in the **differentiation between initiative and project**. Even bigger differences are present in the scope and number of realised initiatives. Typically, both **Italian and Malaga provinces have a great variety and number of initiatives**, Crete Cyprus also have several initiatives, but they are less present in Slovenian regions and the Primorsko - Goranska County. Several initiatives in Italy and Spain have been related to the legislative and policy or strategy level. In other regions there have been less initiatives of this kind, However, a considerably transparent system of strategic regional initiatives is present in Slovenia (partly guided on the national level and partly on the regional level). The scope of the described initiatives ranges from small local organic farming projects to large EU projects, legislative initiatives or regional strategies.

All regions have a typically **little connection between innovation initiatives and ecological initiatives**, one of the bright exceptions being the Malaga initiative ECREINetwork - the European regions network to support eco-innovation and environmental investments. It seems that ecology **is treated mostly related to infrastructure issues**, and even national ministries and regional governance bodies, responsible for ecology are bodies that, in most cases, are not innovation-oriented in their essence. One of the possible improvements in this respect would be **to put these two areas under the same governance organs**. This should result in the initiatives related to ecology that would be more innovation and entrepreneurial oriented.

**TABLE 6: Main (Eco)innovation Initiatives in the Particular Regions [1-9]**

Region	Description of the main (eco)innovation initiatives
<b>Crete</b>	Among the various realised (eco)innovation initiatives in Crete, special attention was paid to electricity production from biomass, sustainable transportation and the use of bio fuels from renewable energy sources. As a consequence, 29 such projects have been realised in the total value of over 200 million EUR. Some of the most important eco-innovations at regional level are Producing and Using Biodiesel from vegetable oil, The Regional Innovation Pole and THE LIIP programme - Linking Innovation and Industrial Property.
<b>Cyprus</b>	In Cyprus, a number of (eco)innovation initiatives have been started, especially in the area of "Sustainable Development". Within this framework, programmes were supported for new researchers, EUREKA, the research infrastructure, international cooperation, thematic actions and corporate Research. The participation in the EU projects URBAN-NET and MARIFISH was also significant. They were funded by the E.C. through (ERANET) of the 6th Framework Programme of the EU for R&D that deals with specific aspects of sustainable development. Additional measures also involve the creation of business incubators and a technology park.
<b>Malaga</b>	The province of Malaga participates in the large (eco)innovation project ECREINetwork - European regions network to support eco-innovation and environmental investments. The strategically most important (eco)innovation initiative in the province of Malaga is probably the Innovation And Modernization Plan 2005-2010 with plans for Strategic strand of guarantee and quality of the energy supply and Strategic strand for reducing the environmental impact. Other important initiatives are: the Support Programme for Innovation and Development of Social Economy 2009-2013, the Incentive Programme for Sustainable Energy Development in Andalusia 2009-2014, the Andalusian Innovation and Development Agency (IDEA), the Andalusian Technology Network (Reta), the Technology Corporation of Andalusia, the Technology Park of Andalusia (located in Malaga), the University of Málaga - Office For The Transfer Of Research Findings, the Andalusian Environmental Plan 2004-2010, the Municipal Energy Agency - Cever And Fover Projects, Innovative Chambers - Supporting the Innovation in Business, the RAITEC (Andalusian Network For Innovation And Technology), the RATRI (Andalusia Transmits Knowledge), the Agreements on Social Responsibility Covering Economy, Innovation and Employment within the Malaga Province.
<b>Ferrara and Ravenna Provinces</b>	In the Ferrara and Ravenna Provinces numerous (eco)initiatives have been realised; the most important being: the COMPRO Project, the Innovation for a Sustainable Restoration, the In Alternative - Choices of Sustainable Daily Use of Energy, the Showcase of Sustainability, Ravenna 2009: Waste, Water, Energy: Sustainability and Innovation, City and Territory, the Province of Ferrara: Local Agenda 21, the Province of Ravenna: Ravenna Province of the Sun, the CCIAA Ferrara and Ravenna, the CNA Ferrara And Ravenna and the Po Delta Regional Park.
<b>Marche</b>	As a result of (eco)innovation, the <a href="#">Regional law n. 14 in 2008</a> ""Regulations for Sustainable Building", which

<b>region</b>	has a important impact from ecological perspective, has been introduced in the Marche region . The initiative and the accepted Regional Strategy for Sustainability - STRAS has a very big strategic impact. In accordance with the strategic outlines, numerous initiatives and projects have also been realised, the most important being: PEAR and PEAP and PEAC, University initiatives - Masters Programmes of the University of Camerino, Industrial association initiatives - Confindustria Marche - Ecomarche, Database of environmental patents - Chamber of Commerce of Ancona, Eco - Innovation Initiatives and Collaborations undertaken by Tecnomarche in the Marche Region.
<b>Primorsko Goranska County</b>	A series of initiatives and projects were realised (3 in the year 2000, 8 in 2001, 3 in 2002, 6 in 2003, 2 in 2004, 2 in 2005 and 2 in 2006). Most of the the initiatives were related to ecology in the area of organic farming and tourism. An important component was also represented by the projects related to water treatment. Important initiatives and projects were related to the organisation of the national and international conferences.
<b>Coastal Karst Region</b>	Three base strategic projects of the Strategic Development of Slovenia 2007-2023 in the region are in progress or will be set-up in the future: an economic - development project IN PRIME in Goriško, the Slovenian Adriatic island and the Integration of natural and cultural potentials of the Karst. These projects have broad strategic goals, referring to the development of R&D services and a considerable infrastructure in the region with extensive socio-economic effects; the development and commercializing of ecoinnovation products and services are foreseen, too. Other important (eco)innovation initiatives are the Regional technology park of the Slovenian Istra, innovative initiatives in the field of municipal waste, the Programme GOJUP, programmes of municipalities, thermal treatment, utilization of waste for energy purposes in Ilirska Bistrica, Biogas plant Bio future, Programmes of the Port of Koper and the University Incubator of Primorska.
<b>Inner-Karst region</b>	Within the framework of the implementation of the Strategic Development of Slovenia 2007-2023 priority projects have been established in the Slovenian regions. For the Inner-Karst Region such priority project is the "Construction of an economic centre in Notranjska PERSPECTIVE", located in the city of Postojna. The project will contain a business-economic centre, a tourist Karst park, new economic and public infrastructure, three business industrial and craft zones, one with municipal infrastructure and a technology park and logistics centre in Pivka. Within the strategic regional development priorities, eco-development of the Inner-Karst Region is one of the most important ones. Major emphasis will be put in the establishment of new knowledge centres for global competitiveness. Most ecology related project in the region today are investments in ecology infrastructure.
<b>South East Slovenia</b>	Within the framework of the implementation of the Strategic Development of Slovenia 2007-2023 priority projects have been established in the Slovenian regions. In the South East Slovenia Region such priority project is the "Construction of the Economic Centre of the South East Slovenia", located in the city of Novo mesto. One of the strategic regional development priorities in the region is establishing institutions for the development and transfer of knowledge and other greater development potential and quality of life. These

	<p>priorities are also related to innovation and ecology. In accordance with the strategic priorities, most ecology related project in the region are investments in ecology infrastructure. Individual local authorities regularly promote the activities of small entrepreneurs with grants for financing the eligible costs associated with innovation projects developed.</p>
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## 4.4 INVESTIGATION OF EXISTING PROJECTS AND PROGRAMMES IN THE SCOPE OF (ECO)INNOVATIONS

### 4.4.1. Description of EU Policies and Programmes in the Area on (Eco)innovation

*The project partner OANAK from Crete has prepared the most comprehensive Description of EU policies and programmes in the area of (eco)innovation [1], this interesting description is important for understanding the background of EU (eco)innovation projects and programmes and is therefore also presented in this study.*

*Information in this section applies to the EU programming period 2000 - 2006 and the years 2007 and 2008 of the existing EU programming period 2007 - 2013:*

The European policy on sustainable development is set to achieve many challenging goals towards the stimulation of eco-innovation. Objectives in developing and deploying clean environmental capabilities are considered essential for the EU economy. In particular, its main objective is to move the current state of society along sustainable patterns. Eco-innovation, eco-efficiency and energy efficiency projects are paramount in the recent two years aiming to achieve sustainable growth and to make European economy less demanding of natural resources. More efficient schemes, products and services meeting the needs of the society are paramount and Environmental Technologies are growing, still not as fast as they could. Technologies that are designed to prevent or reduce the environmental impacts involve wind turbines and solar panels, cleaner cars, bio fuels and certain washing powders, recycling systems for waste or water, etc, at any stage of the life cycle of the products and activities. They have the potential of reducing pollution, serve as a pioneering business model and drive forward eco design of energy using products, processes and management methods. Sectors in which Environmental Technologies play a key role include:

- Agriculture
- Construction
- Renewable energy
- Industrial processes
- Resources management
- Transport
- Forestry
- Organic farming
- Waste and water management

Towards this objective, the European Council has fixed an ambitious agenda to shape a “Low-Carbon, Resource-Efficient and Competitive Economy” and address Climate Change. It has also urged the business sector to offer an ambitious response to the EU Sustainable Development Strategy (EU SDS) [10]. Environmental technologies and eco-innovations are set to become one of the strongest pillars of Europe’s economy and offer a large window of opportunity for global trade. Target investments of the future include: cleaner energy, energy efficiency, security of supply, renewable energy, carbon offset and capture, sustainable transport and water management.

The ETAP Forum on Eco-Innovation in Poznan (November 2006) concluded that “large amount of funding is available for investments but it needs to be channelled towards eco-innovation” [11]. The ETAP Forum underlined that large, sustained investments in eco-innovation require good framework conditions, namely:

- Good policy framework with clear, long-term and stable targets.
- Good understanding of eco-industry, technology foresight, mapping of innovation.
- Good conditions for innovation in general.

Another dimension of innovation systems is related to EU initiatives themselves. A comparison on the European Funding schemes for the development of Environmental Technologies in 2007 [12], suggested that Europe needs an integrated approach to financing eco-innovation. This integrated approach should link with the two key ETAP [13] proposals to trigger or to pursue the mobilisation of funding instruments in favour of eco-innovation. All member states should aim to establish an efficient, large-scale green funding scheme within two years, and to increase the leverage of public funding for ecoinnovation, for example by turning subsidies into loan guarantees or tax rebates.

According to the same report, the European Union should have a more integrated approach to financing eco-innovation and should address Interrelated Strategies, development Pillars and Targets as well as Action Plans. In particular, the report suggests the interrelation of the:

- EU Sustainable Development Strategy (EUSDS)
- EU Energy Efficiency Action Plan
- Thematic Strategy for the Sustainable Use of Natural Resources
- ETAP Programme
- EU Sustainable Consumption and Production Action Plan
- EU Water Framework Directive
- EU Sustainable Industrial Policy Action Plan (VII - Lisbon Strategy)
- Waste Strategy and the Waste Framework Directive

Additionally, it suggests that the three pillars on which the EU’s eco-innovation strategy should be based, should foresee:

- Green funds for SMEs with a profit between three and 10 % and financial needs between €100,000 and 1M.
- Private equity dedicated to eco-innovation with a supporting guarantee fund.
- Ecoinnovation (possibly 5% of allocations).

And the three target groups that need to be assigned involve:

- Ordinary citizens as individual investors (collect funds) & buyers (of eco-innovative products).
- Companies and technology developers and
- Global market

However, special attention should be paid on the relationships observed between public finance and private investors.

It is also suggested that Member states need an Eco-Innovation Investment Action Plan to address the political barriers to environmental technology development at member state level, and that there are major business opportunities for banks, as long as the regulatory framework provides the right incentives.

## **The 2009 review of the Lisbon Strategy, COM 2009(400)**

According to the recent review of the European Lisbon Strategy, sustainable consumption and production show a rather mixed picture, with some progress being achieved in terms of decoupling environmental degradation and the use of natural resources from economic growth. Consumption patterns, mainly regarding energy consumption, however, show clear unfavourable developments, whereas production patterns show positive signs.

The Sustainable Consumption and Production and Sustainable Industrial Policy (SCP/SIP) Action Plan will help to improve the environmental performance of products, boost demand for more sustainable goods and production technologies and foster innovation. The Action Plan was accompanied by proposals for a recast of the Ecodesign and Energy Labelling Directives and the revision of the Ecolabel and EMAS Regulations. Retailers play a key role in influencing consumer choices, and a Forum has been established with the aim of reducing the environmental footprint of the retail sector and better informing consumers. On Green Public Procurement (GPP), important policy initiatives include the Energy Star Regulation [14] and a Communication on public procurement for a better environment [15], which proposes a voluntary 50% GPP target for Member States to be reached as from 2010. The Commission services have developed GPP criteria for ten priority product and service groups (such as transport, food, construction and office equipment), which Member States have been invited to endorse.

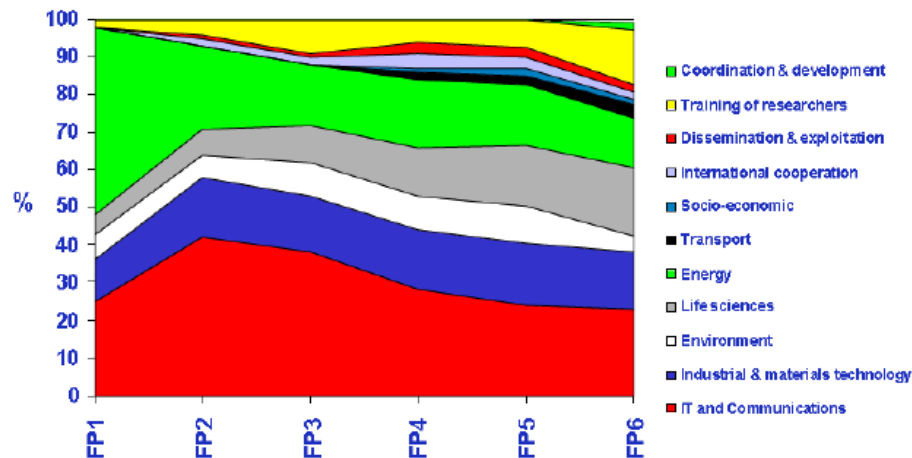
Implementation of the Environmental Technologies Action Plan (ETAP) has progressed, as has work on eco-innovation measurement. The revised environmental State Aid Guidelines provide a 10% bonus on maximum aid intensity on eco-innovation investments [16]. The Integrated Pollution Prevention and Control (IPPC) Directive [17] is a key tool towards sustainable production and eco-innovation, which will be further strengthened with the proposal of a Directive on Industrial Emissions [18].

In 2008, the EU's flagship chemicals legislation REACH became operational with the new European Chemicals Agency (ECHA) taking up its work. New rules on classification, labelling and packaging of chemicals have also come into force.

## **6th Framework Programme**

FP6 is the Union's main instrument for the funding of research in Europe. Proposed by the Commission and adopted by the Council and Parliament in co-decision, it is open to all public and private entities, large or small. However, the EU's research and development strategy dates back to 1957 when the 1st Framework Program was released (EURATOM treaty). Since then priority areas have been the same, and through a time period of approximately 50 years the changes used to address the different budget allocated in each one of the priority areas and the financing instruments used [19].

**Figure 5: Distribution of Funds Relative to Priority Areas in the FP [19]**



The overall budget of FP6 covering the four-year period 2003 - 2006 was €17.5 billion. Seven key areas for the advancement of knowledge and technological progress within FP6 have been chosen:

- Genomics and biotechnology for health (health applications and combating diseases)
- Information society technologies
- Nanotechnologies and nano-sciences
- Aeronautics and space
- Food safety
- Sustainable development (referring to energy systems, surface transport and ecosystems)
- Economic and social sciences.

The program also involved scientific research covering a wider field of research and the thematic priorities of scientific research for policy support.

### **7th Framework Program for Research and Technological Development (FP7)**

FP7 is complementary to the Competitiveness and innovation program and is mainly focused in providing support to research activities and the development and respond to the technological innovation needs for a "Europe of Knowledge".

Through the 4 sub-programmes, "cooperation", "ideas", "people", and "skills", special priority is given to SMEs, while through the "cooperation" programmes research programmes related to environment and energy (including climate change) are funded.

The activities of special interest are:

- Implementation of technology and promotion of renewable resources fuels, the production of electricity through renewable energies and the development of COOPER
- The optimisation of the use of renewable energies for heating and cooling
- The increase of energy efficiency of SMEs
- The maintenance and sustainable management of natural and human resources

European Union covers 75% of the budget of the SMEs that will be involved in research projects. The total budget of FP7 exceeds 50 billion Euros, 2.350 million

of which need to be allocated to activities related to energy and 1.890millions to activities related to environment.

### **New and Emerging Science and Technologies (NEST)**

Both were implemented with cooperative research for the benefit of SMEs (a new research instrument). New instruments introduced in FP6 also involved: Networks of Excellence (creating virtual centres of excellence and having a high level of management autonomy), Integrated projects (provide results in applicable projects and services, having a demonstration and innovation impact) and Joint implementation of projects (in cooperation with national and regional programs), Cooperative research projects for the benefit of a number of SMEs and Specific targeted research projects to test validate and disseminate innovation concepts and methods.

### **The Structural Funds and the Cohesion Fund of the European Union**

The Cohesion Fund provides support to the development of European infrastructure that is related to research and innovation in the fields of telecommunications, environment, energy and transport. The total budget of the Cohesion Fund is up to 70 billion Euros.

The structural funds (ERDF and ESF) provide support to the development of important investments in the protection of environment. The beneficiaries have direct access to funding their plans. However, the management of the Programs and the selection of the projects are done by national and regional bodies. The total budget of the Structural Funds is up to 277 billion Euros.

The European Regional Development Fund (2007-2013) under the framework of the revised Cohesion policy of the EU focuses on the strengthening of the competitiveness of SMEs and the interregional and transnational cooperation by co-funding a broad range of activities:

- Entrepreneurship, research and technological development (R&D) and innovation of SMEs (for example business guidance, innovative technologies, environmental management systems, eco-innovation)
- Protection and prevention of natural and technological risks including the decontamination of contaminated land
- Encouragement of energy efficiency and the development of plans for the protection and management of environmental and cultural resources
- Strengthening of the energy efficiency and the use of Renewable Energy Resources

### **Jeremie Initiative**

The EU, the European Bank of Investments and the European Investment Fund undertook the initiative to create a new financial instrument for SMEs. The aim of JEREMIE is to improve access of SMEs to funding, though the procurement of loans and business shares, venture capital, guarantees and micro-finance and other innovative financial measures. The aim is that with the payment of the loans the funds would be reinvested in new activities. The different categories of projects that are financed also include the environmental protection, the procurement of services and the internationalisation of businesses.

The Framework Programme for the Competitiveness and Innovation CIP procures funding to environment friendly plans of SMEs through 2 sectoral programmes a)

the Entrepreneurship and Innovation Programme (CIP) and the Energy Intelligent Programme. These programmes provide support to SMEs for the implementation of investments in activities such as:

- Eco-innovation
- Development of innovative environmental technologies and use of pollution prevention technologies
- Integration of efficient environmental management systems
- Increase of the use and demand for energy efficiency
- Integration of clean technologies in the production processes
- Differentiation of the fuels and enhancement of energy efficiency in transportation
- Promotion of environment friendly products and production processes.

European Funding of projects is up 75% of the total eligible investments.

### **Programme LIFE+ 2007-2013**

The LIFE+ programme is the main financial instrument of the European Union for the implementation of environment friendly practices. It has got three axes a) Nature and biodiversity b) Environmental Policy and Government c) Information and Communication.

Eligible actions for funding involve:

- Projects aiming to improve Environmental performance of SMEs
- Projects for the development and Implementation of Environmental Management
- Systems with EMAS and ECOLABEL
- Projects for the management of waste and natural resources with an emphasis on the LIFE CYCLE approach and the improvement of sustainable production and consumption systems, the utilisation of waste and the recovery of materials
- Demonstration and development projects of innovative policies, technologies, methods and instruments facilitating the implementation of the Environmental Technologies Action Programme
- Projects for the protection and sustainable use of soil, safeguarding its support dynamics and preventing from erosion
- Projects for the use of market instruments, especially trade of emission permits of greenhouse gases in order to achieve a cost-effective reduction of emissions

Since 1992, a significant number of enterprises have been benefited from LIFE funding. The total budget of the programme for the period 2007-2013 is 2.1 billion Euros.

### **MARCO POLO II (2007-2013)**

The aim of the programme is to provide direct funding to private transactions of commercial transport so as to eliminate road transport and road congestions as well as their environmental impact. For this purpose the programme promotes activities of SMEs in the field of freight that:

- Improve environmental performance of the transportation system in the EU
- Promote the shift of transport with which the commercial transactions will shift from road and sea transport to rail.

### **European Funding for Green Investments**

According to a recent announcement of the Regional Commissioner Danuta Hubner, the total European funding for the “green economy” for the period 2007-2013 is expected to reach up to 105 billion Euros. The promotion of eco-innovation and green technologies, the improvement of waste management and the efficient reaction to climate change as well as the creation of new green jobs for SMEs are some of the main fields of the European Union’s regional policy.

#### **4.4.2. European, National and Regional Programmes and Projects Undertaken in the MEDOSSIC Regions**

A great number of programmes and projects have been realised in the past financial period or are still running in the MEDOSSIC regions. Both Italian regions, Malaga and in some aspects Crete or even Cyprus are **more advanced than the other regions**. However, it is **difficult to make a comparison** since Slovenian regions - in terms of inhabitants - are many times smaller than for instance Italian regions. The Primorsko-Goranska County lies in a country that is still in the accession phase to the EU (therefore the access to EU funds is limited). There are also some other reasons why it is hard to make comparisons. On the other hand, some good practices can be identified and learned. It is interesting how many common projects various Italian regions and provinces are involved in; such **regional/provincial/municipal co-operation** is not seen in other cases. In Italian projects, One can spot the repetition of some partners that seem to cooperate between themselves in many projects during the course of the years. An interesting best practice case is present in Crete, where an **effective collaboration** has evolved **between the local entrepreneurial community and its representatives, the local chambers of commerce, the local research institutions and the local authorities**. It seems that a **strong network of partners** with collective knowledge, concerning both programmes available and projects contents, contribute a great deal to success in applying for projects and an effective implementation of the projects.

There are some important issues that can be the **object of further investigation**, like ties with specialists or consultants related to project acquiring and implementation, the degree of participation in national an EU level programme policy making, lobbying etc.

**TABLE 7: Main (Eco)innovation Programmes and Projects in the Particular Regions [1-9]**

Region	Scope (EU, National, Regional)	Description of main (eco)innovation programmes and projects
Crete	EU	In the period 2002-2006, environment topics related projects were implemented within the Framework Programme 6 under the priority area 8: Scientific Support to Policy, 46 Greek entities participated (the University, research institutes, SMEs etc.). Four of these 46 projects implemented within a special research for policy support, were coordinated by a research institute established in the region of Crete (MEFFROL, CARERA, FOODIMA, ENVIEFH). In the research area: "Sustainable Development, Global Change and Ecosystems"; 27 projects with Greek lead partners were implemented, among which there was also the Foundation of Research and Technology in Crete with a significant project aiming to develop a new hybrid hydrogen membrane for the capture and sequestration of CO <sub>2</sub> (carbon dioxide separation systems).
	National	Within the period 2000-2006, the Greek General Secretary of Research and Technology approved a series of research projects. The projects were funded by the National Operational Programme for Competitiveness for the period 2000-2006 and they were classified in 9 different categories/fields of research. Among these there were also the Natural Environment and Sustainable Development with 19 projects (from all over Greece) and 22.4 mio EUR of funds, the Renewable Resources and Energy Saving with 15 projects and 75.3 mio EUR of funds and the New Forms of Business Management, Employment and Training with 10 projects and 4.9 mio EUR of funds. Some additional research areas were supported too. The Universities and the research centres of Crete were involved in 6 out of the 19 research projects related to the Natural Environment and Sustainable Development and funded by the National Operational Programme for Competitiveness within the period 2000-2006. Additionally, through the 6 Regional Operational Programmes of Greece, 6 different joint ventures and two technological parks were created with the aim to promote the regional innovation system. During this new programming period (2007-2013), the financing of new small and medium enterprises rose to a strong incentive measure towards green investments. Some of the most important financial instruments aiming to the encouragement of a more eco-oriented approach on behalf of the Small and Medium Enterprises are: The National Funding for Green Entrepreneurship, The National Strategic Reference Framework 2007-2013, The National Operational Programme for the "Environment and the Sustainable Development 2007-2013", The Sectoral Operational Programme for the "Competitiveness and Entrepreneurship 2007-2013", The Sectoral Operational Programme for the "Human Resources Development 2007-2013" and The Small and Very Small Business Sponsor Fund.
	Regional	In Crete an effective collaboration has evolved between the local entrepreneurial community and its representatives, the local chambers of commerce, the local research institutions and the local authorities. Three interesting examples of this collaboration are the Regional Innovation and Technology Transfer Infrastructures and Strategies (the RITTS project), the Crete Innovative Region - Innovative Actions (the CRINNO project) and the development of the Regional Innovation Pole of Crete, which is a cluster of research labs, SMEs and large companies, regional authorities and technology transfer organisations. The CRINNO Programme (Crete INNOvative Region) implemented by the Regional Administration of Crete in the period 2000-2006 had a total budget of 4,918,000€ (co-funded by 75%). Through that programme 13 projects were implemented with a cooperation of 25 organizations from the island. Among them, there were 8 projects directly or indirectly related to ecoinnovation. An interesting (eco)innovation project was the creation of a company, a spin-off of a Greek University, which is operating a floating, autonomous desalination unit, powered solely by wind energy. The company is seeking partners for scaling up the unit and the further development of its capabilities. In almost all the research projects the Cretan research institutes were project partners and the Technical University of Crete was the lead partner only in one. A number of (eco)innovation projects were also realised through the OANAK - a development organisation which promotes knowledge and research, in order to improve access to innovation for its members with the implementation of several projects.

Region	Scope (EU, National, Regional)	Description of main (eco)innovation programmes and projects
Cyprus	EU	The Government of the Republic of Cyprus approved a substantial increase in the funds allocated via the Framework Programme of the Research Promotion Foundation (RPF) for the year 2006 (£10 mio) (17.1 mio EUR), as well as for the new Framework Programme 2007-2010 (£60 mio) (102.6 mio EUR). It is foreseen that Structural Funds will finance the largest part of the RFP - Framework Programme for Research, Technological Development and Innovation 2007-2010. For the period 2007-2013 the total amount allocated to Cyprus for Environmental Expenditure from EU structural funds amounts up to 125.5 mio EUR. As for the EU Framework Programmes in the previous two periods, the funds absorbed were 20 mio EUR in FP5 and 27 mio EUR in FP6.
	National	Already covered in the previous chapters.
	Regional	Already covered in the previous chapters.
Province of Malaga	EU	<p>The Spanish participation in the FP7 rose in comparison to the FP6. A total of 602 entities, 259 companies (250 SMEs) took part in an activity related to the programme until 2008. More than 490 projects and networks of excellence count on Spanish participation, 78 of these were led by entities located in Spain, a figure which is above the average obtained in the FP 6. Andalusia participates in a total of 87 research projects of the FP 7 2007-2013. 47 of these projects were presented by private enterprises, 30 by universities and the remaining 10 by other entities, with a total financing of 24.6 mio EUR. The 47 entrepreneurial initiatives concentrate 13.6 mio EUR, which represent 10% of the total financing obtained by national companies. Six of these projects are led by Andalusian companies. As far as the participation of Andalusian universities is concerned, their 30 projects have received an allocation of 8.2 mio EUR, which represents 10% of the financing obtained by all the universities within the Spanish territory. The initiatives are distributed as follows: 8 to the University of Granada, 6 to Malaga (1.54 mio EUR and 18% of the total granted to Andalusian universities) 4 to Cordoba, 4 to Seville, 2 to Almeria, 3 to Cadiz and 1 to Jaen, Huelva and Pablo de Olavide University.</p> <p>Apart from the FP7, 10 other specific eco-innovative projects with Spanish participation were funded by the European Union as well as 10 others in 2008.</p> <p>Two eco-innovative projects in 2009 were financed by the Cohesion Fund in the region of Andalusia.</p> <p>15 eco-innovative projects and programmes were financed by the European Regional Development Fund.</p> <p>Within the framework of the CONSOLIDER Programme 2008, two projects with Spanish partners were financed, namely: the Spanish Mountains and Global Change: threats and opportunities and the Fusion Technology Programme "Tecno-Fus".</p>
	National	<p>Numerous projects and programmes have been funded within the strategy actions of the National R&amp;D&amp;I Plan 2008-2011, Energy Action and Climate Change.</p> <p>Within the framework of the programme Water in the Province of Malaga two projects were supported:</p> <p>The Plan of action to increase availability of water resources in the province of Malaga (desalination). Investment: 70 mio EUR; the Actions for the improvement of water management resources (correction of salty emissions to the reservoir of Guadalhorce, recycling of sewage waters in the Costa Del Sol area, recycling of sewage waters in Malaga. (1st phase). Investment: 157 mio EUR.</p>
	Regional	<p>25 organisations were financed through the granting of incentives by the Andalusian Regional Ministry for Innovation, Science and Enterprise to Andalusian research groups, not related to universities, in order to develop the activity of Andalusian research and technological development groups throughout the year.</p> <p>Furthermore, 9 organisations were financed through the financing by the Andalusian Regional Ministry for Innovation, Science and Enterprise to university related Andalusian research and technological development groups, corresponding to the year 2008. The University of Malaga acquired 1.4 mio EUR funds.</p> <p>Within the framework of the research projects of excellence 2008, granted by the Andalusian Regional Ministry for Innovation, Science and Enterprise in the Province of Malaga, the following projects were supported: the Integration of Different Disciplines for the Development and Sustainable Cultivation of Asparagus in Andalusia, the Optimization of Sustainable Cultivation of Avocado in Andalusia, the Emerging Pepper Virus Diseases on Protected Crops from Southeast Spain and the Energy Flow Map in the Strait of Gibraltar to be used as renewable energy source.</p>

Region	Scope (EU, National, Regional)	Description of main (eco)innovation programmes and projects
Ferrara and Ravenna Provinces	EU	Numerous EU projects related to eco-innovation have been realized with the partners from the Emilia-Romagna Region and from Provinces of Ferrara and Ravenna, the most important being the following; the SEIPLED - Sustainable Energy Investment Projects for Local Economic Development, the Ecuba Bologna (Programme Intelligent Energy Europe), the PERSEUS, Municipality of Bologna (programme ALTENER), the AMICA - ADAPTATION AND MITIGATION - An Integrated Climate Policy Approach, Province of Ferrara (INTERREG III C EAST), the ECOLAND - An ecological approach for the next decades, the Sipro, the Eurobic Toscana, (INTERREG III C EAST), the TANDEM - Pilot Action promoting EMAS to Local Authorities (Provinces and Municipalities) with Local Agenda 21, Province of Bologna, Ferrara, Municipality of Ferrara (LIFE ENVIRONMENT), CLEAR - City and Local Environmental Accounting and Reporting, Municipalities of Ferrara, Ravenna, Emilia-Romagna Region; (LIFE ENVIRONMENT), ADRIA SAFE, Province of Ravenna, Province of Ferrara, Municipality of Ferrara; (INTERREG III A), ACIND - Adriatic Cooperation for Industrial Development, Province of Ferrara; (INTERREG III A), BETTER, Province of Ravenna; (INTERREG IIIB CADSES); Adriatic Action Plan 2020, Province of Ravenna; (INTERREG IIIC), SEQ-CURE, CRPA Foundation of Studies and Research; Cooperative Society Terremerse - Bagnacavallo, (Life III ENVIRONMENT), WICO, Province of Ravenna; (Interreg IVC Atlantic Area - POWER Programme), GREEN LODGE, ASTER Emilia Romagna, (Intelligent Energy for Europe).
	National	Several national (eco)innovation programmes and projects have been realised. Some related to the enterprises have been mentioned in the previous chapter (4.3.), some other programmes and projects with regional and/or provincial bodies, which have not been mentioned yet, are the following: the Italian Net LCA (funded from the Corporate body for New Technology Energy and ENEA Environment - Government body), CARTESIO NET - ECO-DISTRICTS 2009 - Cartesio Net is promoted by the Emilia-Romagna, Lazio, Liguria, Lombardia, Sardegna and Toscana Regions and 112 subjects participate to the network of total of 86 organizations, ECOLABEL LEGAMBIENTE TOURISM, with the participation of tourist structures and public bodies in the whole Italian territory.
	Regional	P.R.E.A.-Project of Experimental Research for the Energetic Agronomic Valorisation of the Organic Matrixes Of Agricultural-Zootechnic Derivation; C.I.R.S.A. (Inter-Departmental Research Centre for Environmental Sciences) Alma Mater Studiorum-University of Bologna, head office of Ravenna, Province of Ravenna and other local subjects (funding Province of Ravenna), Thermal and Chemical Conversion of Biomasses for the Production Of Biomaterials; C.I.R.S.A. (Inter-departmental Research Centre for Environmental Sciences) Alma Mater Studiorum-University of Bologna, head office of Ravenna, Province of Ravenna and other local subjects, (funding Province of Ravenna); C.A.B.A. - Consolidation and Updating of Environmental Balance, Province and Municipality of Ferrara, (funding Emilia-Romagna Region); M.I.S Matrix of Indicators of Sustainability for the Adoption of a System of Environmental Accounting, Municipality of Portomaggiore, Province of Ferrara, (funding LEADER + 2000-2006 EMILIA-ROMAGNA DELTA PAL); Photovoltaic Burchiella and Sustainable Tourism, Cervia Saltwork Park (Ravenna), (LEADER + 2000-2006 EMILIA-ROMAGNA DELTA PAL) Realization of Ecologically Equipped Areas, provinces of the Region, (funding FESR Emilia-Romagna Region and Emilia-Romagna Region), Planning and Realization of New Products in Regional Po Delta Park, Antea jointly with Delta Excursion of Massimo Gianella, Hotel Club Spiaggia Romea, Abbondanti Travels, b&b Al Ponticello, (LEADER + 2000-2006 EMILIA-ROMAGNA DELTA PAL), Measures for the Diffusion of Systems of Environmental Management according to the Reg. 761/2001 EMAS, Municipality of Ferrara, (funding Objective 2 Emilia-Romagna Region 2000-2006- PSL Northeastern area), Institution of a Label of Environmental Quality (MQA) in the industrial area of San Giovanni di Ostellato, Sipro Ferrara, (funding Objective 2 Emilia-Romagna Region 2000-2006- PSL North-eastern area).

Region	Scope (EU, National, Regional)	Description of main (eco)innovation programmes and projects
<b>Marche Region</b>	EU	In Italy and also in the Marche region several EU programmes and projects have been realised or are in course, a of the most important being the following (for the whole Italy): ENGINE (Energy Efficiency in small and medium-sized enterprises), ECOINNO2SME (Supporting SMEs in Disseminating and Exploiting Research Results of ECO-Innovation), the New ESD (eco-sustainable drawing), the CEDM (Centre for Eco-Friendly City Freight Distribution), the TEX-EASTile, SMILIES (Small Mediterranean Insular Light Industries Enhancement and Support).
	National	Industria 2015 is currently the most important Programme at national level for eco-innovation in Italy. It is funded by the Ministry for Economic Development through the Fund for Competitiveness and Development and is now operational under certain priority areas, although the call for projects under the area, "New Technologies for Made in Italy" which is most relevant to the productive system in the Marche Region has not been finally evaluated yet. Projects have already been approved under the energy efficiency area (37 project approved) and sustainable mobility area (29 projects approved) although projects are still in the early phase of implementation. Other important projects (for the whole Italy) are the following: Ecologically Adapted Productive Areas, (APEA), Ecofriendly Furniture, GIADA Integrated Environmental Management in the tannery district of Valle del Chiampo, OASI - Work for Environmental and Industrial Development, B.B.M.In.Ar.Sos. - Association of Municipalities to Promote a Sustainable Economy, Development of an environmental management system for the industrial area of Udine and the surrounding productive areas, SEMINA - Simplification as an incentive in the law and environmental permits, PIONEER Network paper industry: an experiment for the revision of the EMAS regulation, EMAS-SHIP, Innovative technology to reduce emissions of greenhouse gases, Definition of a Best Available Technology (BAT) for water reuse in textile SMEs, Affordable. Innovative tools for sustainability, Kyoto Desk, North, South Footwear Project, The application of innovative photovoltaic technology to the railway trains, PROWATER (Sustainable water management in the textile wet industry through an innovative treatment process for wastewater re-use, N.E.S.S. (New Eco Spray System), The Italian Network for Innovation and Technology Transfer To Enterprises (RIDITT).
	Regional	The most important (eco)innovation regional Marche projects are the following: SALT - Sustainable management of the Esino river basin to prevent saline intrusion, RCS - Regions for Sustainable Change, EASY - Energy Action Systems for the Mediterranean local communities, W.A.P. - Waste Management in Adriatic Ports, five Spin-off Projects financed by Marche Region under ROP-ERDP 2007-2013 and nine projects with Tecnomarche as Technology Partner.
<b>Primorsko Goranska County</b>	EU	Croatia is a candidate country for EU membership and is starting to intensify participation in the EU programmes. The city of Rijeka has participated in the Adriatic Action Plan 2020, Interreg IIIC, environmental protection. With the (CIP- IEE) programme the EU has supported founding of the country's Energy Agency. Other realised EU projects are the following: BULB-Public Lighting Efficiency implementation Programme in Primorsko-Goranska County (NNP Adriatica/Phare 2006), Marišćina -Waste management for Lendfiels (ISPA), Biodizel-collection of domestic oil for biodiesel production (Intereg III/A PHAREE 2005).
	National	On the national and regional level several projects have been realised, like the initiation of the production of windmills with the co-operation of the foreign company (Teri Crotek Ltd), the initiation of natural gas implementation in public transportation (Autotrolej Ltd.), the management and implementation of energy efficiency in several local authorities (Energo Ltd.) and the initiation of new innovation programmes coming from university professors and students (Scientific Park of University of Rijeka).
	Regional	The RDA Porin has participated in the Regina-certification, implementation programme for green entrepreneurship in the Country, the project of mounting solar panels on the roof of the City Hall was realised with demonstrative effects, a co-operative was introduced for the certification of eco products, food, environmental protection, maritime affairs, communications as well as eco agriculture and eco tourism (Eko Liburnia).

Region	Scope (EU, National, Regional)	Description of main (eco)innovation programmes and projects
Coastal-Karst Region	EU	<p>Slovenian regions are relatively small in comparison with regions in the larger countries, which is also reflected in the number of submitted EU projects. On the national scale the Slovenian entities have participated in various EU horizontal programmes in the last years. The most important were probably the following: 6<sup>th</sup> Framework Programme (now they participate in the 7<sup>th</sup> Framework Programme), EUREKA, INTERREG Slovenia - Italy, IVC, IV B Alpine, IV B Central and South East Europe, VALOR, Leonardo da Vinci, Tempus, CIP and Life+. The most important from the perspective of innovation and also ecology was the participation in the 6<sup>th</sup> Framework Programme where Slovenia was at the top among EU members in relation to the population by number of proposals.</p> <p>Inkubator d.o.o. from the Coastal-Karst Region is the Slovenian partner in the SEPA project - Sustainable Equipped Productive Areas within the SEE - South East Europe Transnational Cooperation Programme. The project started in February 2009 and it will end in July 2011; it is worth 2 mio EUR.</p> <p>Another EU supported regional project of national importance is the IN PRIME (Innovation breakthrough of the Primorska region) as one of the first long-term regional innovative development programmes in Slovenia.</p>
	National	<p>In the Coastal-Karst there are two of the national strategic projects, namely: the Slovenian Adriatic Island and the Integration of natural and cultural potentials of the Karst. Apart from these projects, important measures can be found within projects that originate from the adopted Resolution on the National Programme of Environmental Protection (NPVO) for the period 2005-2012.</p> <p>Another EU supported regional project of national importance is the IN PRIME (Innovation breakthrough of the Primorska region) as one of the first long-term regional innovative development programmes in Slovenia.</p> <p>In the field of development, we should emphasise the Centre of excellence »Environmental technologies«, which combines research capacities of research institutions and universities with the demands of the economy for a comprehensive solution of environmental problems.</p> <p>At the entrepreneurial level we should emphasise the Slovenian Ecology Cluster and the recently funded Technology Platform for Water, which both combine the leading economic subjects and research entities in the area of environmental technologies and eco-innovations. In the Slovenian Ecology Cluster, as well as in the Technology Platform for Water, there are no members from the Coastal Karst region.</p>
	Regional	<p>In the Operational Programme for the enhancement of regional development potentials for the period 2007 - 2013 the development priority "Economic and Development Infrastructure" is stated, which also deals with (eco)innovation. Also in accordance with the development priority, 20 various (eco)innovation projects, mostly from companies from the region, received financial support.</p> <p>The establishment of at least one Local Energy Agency in the Coastal-Karst Region is also planned.</p>

Region	Scope (EU, National, Regional)	Description of main (eco)innovation programmes and projects
<b>Inner-Karst Region</b>	EU	<p>Slovenian regions are relatively small in comparison with regions in the larger countries , which is also reflected in the number of submitted EU projects. On the national scale Slovenian entities have participated in various EU horizontal programmes in the last years, The most important were probably the following: 6<sup>th</sup> Framework Programme (now they participate in the 7<sup>th</sup> Framework Programme), EUREKA, INTERREG Slovenia – Italy, IVC, IV B Alpine, IV B Central and South East Europe, VALOR, Leonardo da Vinci, Tempus, CIP and Life+. The most important from the perspective of innovation and also ecology was participation in the 6<sup>th</sup> Framework Programme where Slovenia was relative at the top among EU members in relation to the population by number of proposals.</p> <p>Participants from the Inner-Karst region have participated in the following (eco-innovation) projects: SMART-KARST, Development of a new recyclable long life co-injected high barrier packaging for food applications, with broad design possibilities and reduced manufacturing costs, (FP6 and FP7), Immensity, ZONET (both INTERREG programmes), Development of New Material and A Product Application for Reuse of Thermosets, E-Klic (both EUREKA programme), Intermittent Cerknica Lake, Resource efficient, Universal Window Sash (both LIFE III programme).</p>
	National	<p>On the national level the following strategic projects are established: the Construction of an economical centre in South-Eastern Slovenia, economical centre PHOENIX in Posavje, economical centre in Gorenjska, economical centre PERSPEKTIVA, economical centre OKO, economical – development project IN PRIME, economical centre OREH, economical centre NOORDUNG, economical centre TEHNOPOLIS+, National wide-lane network, Slovenian Adriatic Island, Integration of natural and cultural potentials of the Karst, Amusement park MEGALAXIA, Sports and business park Leon Štukelj, Nordic centre Planica and Goriško tourists centre. For the Inner-Karst Region such priority project is the “Construction of an economic centre in Notranjska PERSPECTIVE”, located in the city of Postojna. The Inner-Karst Region also participates in the IIN PRIME project.</p> <p>Apart from this strategic project, 10 other projects have also been supported, mostly related to innovation in the industry with an ecological component incorporated.</p> <p>The enterprise Javor Pivka d.d. from the Inner-Karst region participates in the Slovenian Ecology Cluster .</p>
	Regional	<p>Strategic regional development priorities are the Eco-development of the Inner-Karst Region, Knowledge for global competitiveness and Access and support infrastructure. In relation with these priorities, programmes and funds are also distributed.</p> <p>Most ecology related projects in the region are investments in ecology infrastructure. The running costs for protecting the environment in 2006 were 3,768,000 EUR. Investments for protecting the environment amounted to a total of 2,643,000 EUR. The Inner-Karst region had 18 projects concerning public interests, 10 of which were ecology related. They were mainly related to water systems and sewerages.</p>

Region	Scope (EU, National, Regional)	Description of main (eco)innovation programmes and projects
South East Slovenia Region	EU	<p>Slovenian regions are relatively small in comparison with regions in the larger countries, which is also reflected in the number of submitted EU projects. On the national scale Slovenian entities have participated in various EU horizontal programmes in the last years. The most important were probably the following: 6<sup>th</sup> Framework Programme (now they participate in the 7<sup>th</sup> Framework Programme), EUREKA, INTERREG Slovenia - Italy, IVC, IV B Alpine, IV B Central and South East Europe, VALOR, Leonardo da Vinci, Tempus, CIP and Life+. The most important from the perspective of innovation and ecology was the participation in the 6<sup>th</sup> Framework Programme where Slovenia was at the top among EU members in relation to the population by number of proposals.</p> <p>Participants from South East Slovenia Region have participated in the following (eco-innovation) projects: Next Generation European Digital Passport with Biometric Data for Secure and Convenient Boarder Passage, Extended Enterprise Management in Enlarged Europe, Communications for Challenged Areas Architecture, Test Beds and Innovative Alliances (all FP6 and FP7), Hightrunk meadow orchards as an element of biodiversity conservation and aesthetic values of landscapes, Project ZONET, Project World of Kolpa, ARCHEOSITES - spAtial integRated enhanCement of arcHaEOlogical SITES (INTERREG programmes), New Efficient Profiled Steel Sheeting For Composite Steel And Concrete, Development Of Technology For High-Technology E-Construction Site, Use Of Regional Potentials With Respect To Problem-Solving Processes In Production, Market-Oriented Flexible Assembly Processes (Eureka Assembly Strategy Cluster), Traceability Of Engineering Information, New Generation Of 3d Integrated Passive Components &amp; Microsystems In Ltcc, Quality Control in The Production Line of Sandwich Panels With AI Method (EUREKA programme).</p>
	National	<p>In relation to (eco)innovation, one of the strategic regional development priorities in the region is the establishment of Institutions for the Development and Transfer of Knowledge and other Greater Development Potential and Quality of Life.</p> <p>The Strategic national project for the South East Slovenia Region that also deals with (eco)innovation is the "Construction of an economical centre of the South-Eastern Slovenia" located in the city of Novo mesto (all national strategic projects are presented in the description for the Inner-Karst Region).</p> <p>Apart from this strategic project, 23 other projects have also been supported, mostly related to innovation in the industry with an ecological component incorporated.</p>
	Regional	<p>Most ecology related project in the region are investments in ecology infrastructure, eight of which have been realised in the past financial period or are still running.</p> <p>Individual local authorities promote the activity of small entrepreneurs with tenders for the financing of eligible costs associated with innovations. Where such projects are already underway, the trend is shown in the increase of both the volume and quality of innovative proposals. This kind of projects enhance the development in other local communities and foster innovation within regions. Business innovators and entrepreneurs are also stimulated to use support services (assistance with procedures to protect industrial property, draw up business plans and establish R &amp; D links).</p>

## 4.5 ANALYSIS OF THE REGIONAL PRODUCTION SYSTEM REGARDING (ECO)INNOVATION ISSUES

### 4.5.1. Importance of Particular Sectors in the Regions

The analysis of the importance of particular sectors is presented for each participating region.

In the regions where data have not been obtained in the requested form, some conclusions have been made on the basis of an overall text and may differ from the real situation in the region (especially the data for Malaga and the Primorsko Goranska County were mostly missing so they have been gathered from secondary sources).

The decision criterion for economically important sectors in Table 8 within the regions has been the GDP of certain sectors.

In **Crete** agriculture represents an important part of the economic activity, mostly in the form of growing vegetables, fruits, olive oil and grapes (wine industry)- especially in terms of employment. Tourism in Crete has developed very rapidly and it has a major role in Crete's economy. Crete is not an industrial region, due to the lack of industrial tradition and its specific location as part of an archipelago. The main emerging sectors are now more linked to the service sectors such as education, IT, biomedicine and biotechnology, renewable energies and transportation [1].

It is significant for **Cyprus** that the private sector dominates the country's production in general. Business units are generally small and family-run. Therefore, the principal importance in economy is dedicated to service sectors - in particular wholesale, retail, real estate, renting and business activities. Related to the last one, financial services are also well developed. The main industrial sectors are construction, chemicals, metal products and wood products. The data also shows the importance of the public administration sector and defence, which is the logical outcome regarding the fact that Cyprus is a region and a state in one [2].

The industrial and services sectors have increased in importance for **Malaga** in the last decades. One of the key characteristics of Andalusia's economy is its variety. The traditional image of Andalusia is linked to agriculture and, in recent years, to tourism. However, Andalusia has shown dynamism and diversity in several industrial sectors, such as the chemical, automobile, computer and aeronautics industry [3].

The economy of the **Ferrara and Ravenna** provinces is characterised by the presence of a wide network of highly flexible specialised SMEs. A lot of these enterprises are involved in the tertiary sector, wholesale and retail, less in health and other personal services. The transportation and communication sectors play an important role, due to the advantageous geographical position in the heart of the Italian communications and transport system, with networks connecting it to the European and international markets. Financial services have more possibilities to develop according to the well developed tertiary sector. The important sectors in the secondary sector include construction, manufacturing

and mining. It seems that the industry has shown its ability to remain competitive over the years. The primary sector is also present as a relevant sector, but agriculture and fishing are in minority [4].

The **Marche** is a region that has undergone considerable transformations due to a consistent population movement to the coastal areas, where the industrialisation level is higher. Among all, the construction and manufacturing sectors have high importance. The local economy is relatively segmented and calls for constant technological updating, training and access to automation and information technologies to maintain competitiveness. For this reason the tertiary sector has high relevance in several economy sectors, such as energy supply, wholesale, retail, tourism, transport and communication, as well as financial intermediation with real estate, renting and other business activities [5].

The geographical strategic position as well as economic versus historical-political factors are responsible for the **Primorsko Goranska** county becoming the area with a wide range of economic activities, which are of great importance for the whole of Croatia. Among the economic sectors manufacturing and wholesale with retail have high relevance. Beside construction, transport, storage and communication are the next most relevant sectors. Due to a coastal position of the county tourism is also present, accompanied by other related business activities [6].

Traditionally, industry has played a predominant role in the Slovenian economy, but it is now losing some of its importance, while the service sector is growing. The **Coastal-Karst** region is statistically considered among the smaller regions in Slovenia, but relatively wealthy. The centre of the region is the city of Koper, which is an important port today. Consequently, transport, storage and communication are of very high relevance in the economy of the region. Furthermore, manufacturing and retail activities as well as other business activities are well presented in the local economy. The last, but not the least relevant position belongs to tourism and related accompanying activities, such as social and personal services [7].

**The Inner-Karst** region is the least populated region in Slovenia; it has an excellent geographical location and it is characterised by rich natural and cultural heritage, a high level of stocking of forest conservation and the genuine environment. Those potentials are reflected in the less industrially developed parts of the region, although, due to a well presented wood industry, the manufacturing sector has a very high economic relevance to the region. The construction sector, wholesale and retail with other business activities have the priority. Transport is also important for the region due to the country's major highway passing the region's territory, crossing the main road to the port of Rijeka and the railway crossroad to the port of Koper and to the port of Rijeka. The importance of tourism still has a great development potential considering particular nature features of the landscape [8].

The **South East Slovenia** is defined as a centre of national importance in the Spatial Development Strategy of Slovenia. More than half of the region's area deals with specific development problems. A special feature of the economy is the presence of large industrial companies that drive the local economy and social development. The most important, the manufacturing sector is followed by real estate, renting and business activities. Less importance is attributed to the

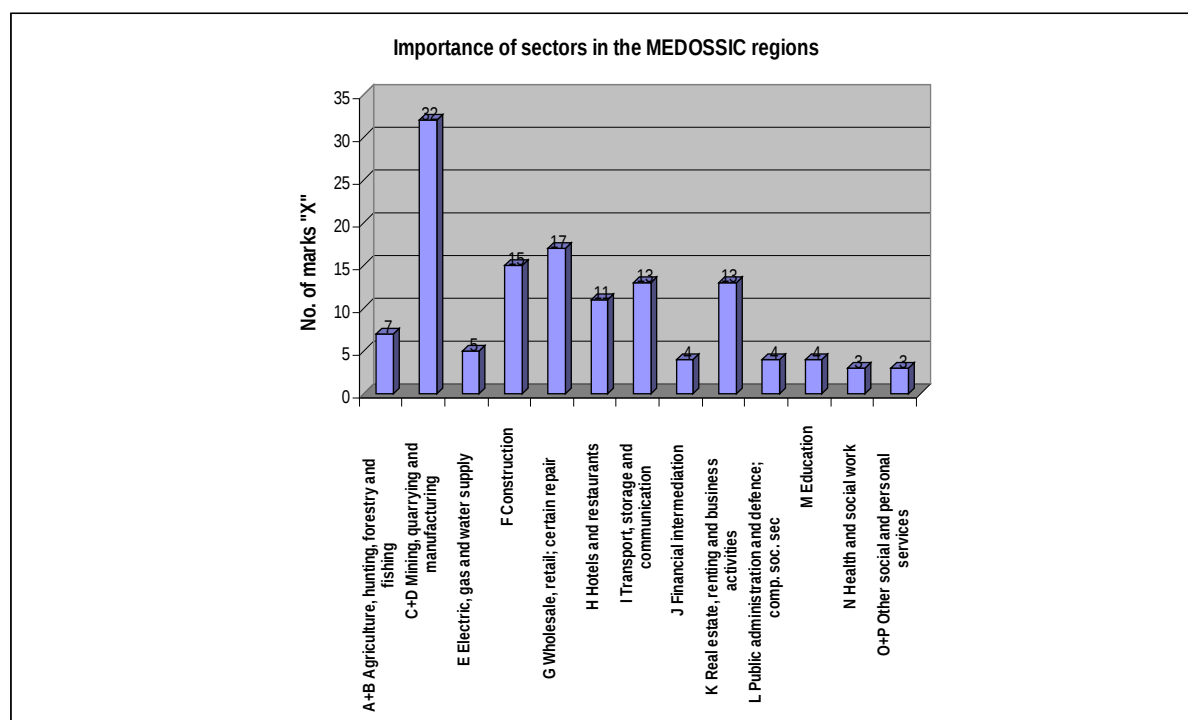
tertiary sector, such as transportation, wholesale and retail, public administration, education and health and social work [9].

Sectors with particular importance have been marked in the regional studies for each region. Among all analysed regions, as can be seen from Figure 7, the sector C+D mining, quarrying and manufacturing (with 32 marked priority areas) is the most important among the MEDOSSIC regions. Important sectors also include G Wholesale, retail, certain repair and F Construction. This means that **industry has the prevailing role** in the analysed regions. However, due to the their Mediterranean nature, tourism and real estate, renting and business activities also have a relatively important role compared to most of the inland regions in the respective countries.

**TABLE 8 Economically Important Sectors in the Regions [1-9]**

Sector	Crete	Cyprus	Malaga	Ferrara, Ravenna Province	Marche Region	Goransko Primorska County	Coastal-Karst Region	Inner-Karst	South East Slovenia	Importance (no. of "X")
A+B Agriculture, hunting, forestry and fishing	XXX		XXX	X						7
C+D Mining, quarrying and manufacturing	XX	XX		XXX	XXX	XXX	XXX	XXX	XXX	32
E Electric, gas and water supply			XXX		XX					5
F Construction		XX		XXX	XXX	XX	XX	XX	X	15
G Wholesale, retail; certain repair		XXX		XXX	XX	XXX	XXX	XX	X	17
H Hotels and restaurants	XXX	X	XXX		XX	X	X			11
I Transport, storage and communication		XX		XX	XX	XX	XXX	X	X	13
J Financial intermediation		X		X	XX					4
K Real estate, renting and business activities		XXX			XX	X	XXX	XX	XX	13
L Public administration and defence; comp. soc. sec		XXX							X	4
M Education	XX	X							X	4
N Health and social work				XX					X	3
O+P Other social and personal services				XX			X			3

**NB:** XXX = Very high relevance; XX = High relevance; X = Medium relevance; - = Not relevant

**FIGURE 7: Importance of Sectors in MEDOSSIC Regions**

#### 4.5.2. Existing Situation in Terms of (Eco)innovation Sectors

The overview of the existing situation in terms of (eco)innovation sectors is presented in Table 9.

**The Crete** region is currently exploiting the possibilities of development in the primary sector in the cultivation of agriculture products, such as olives, wine grapes, citrus, water melons, tomatoes and potatoes. In relation to this fact, the region realised more innovations in the field of products, which enable food and storage processing, for example oil-presses, innovative cheese and fruit packaging. Several innovations are visible in the service sector, especially in tourism. Overall, (eco)innovation is focused more on product and service innovation and a bit less on marketing and organisational innovation, which are also important for Crete's further development [1].

Regarding the economy sector's analysis, **Cyprus** has quite a large number of realised innovations in different manufacturing sectors, which are mostly oriented to product innovation and service innovation, but environmental and organisational innovation are also present. These two should be more exposed and exploited in the future for new (eco)innovation projects. The green system innovation has new development potentials within the existing and candidate sectors for raising new business opportunities [2].

Andalusia's economy is characterised by the transition from a strong agricultural orientation to a mixed model where advanced industries, construction and

services play an increasingly significant role. **Malaga**, as one of the eight Andalusia's provinces, has based its economy on the coexistence of traditional and emerging sectors. These are the agricultural sector, the renewable energy sector and tourism. New technologies have been developed close to these sectors referring to environmental issues, oriented to product and service innovation. More attention should probably be paid to process innovation, especially within the sector of tourism [3].

**Ferrara and Ravenna** are provinces of the Emilia-Romagna region which is the most prosperous region of Northern Italy. As a bridge between Western Europe and the South East Mediterranean Sea it has the most suitable location for the development of transport, storage and communication, especially logistics services, which have gained in significance. Naturally rich and beautiful provinces attracted intensive farming, hunting, forestry and fishing. The wealthy nature sources supply more opportunities to exploit the renewable energies. Therefore, the environmental technologies are those which prevail, next to the green system innovation. Most innovations are pointed at product and service innovation, less to organisational and marketing (eco)innovation [4].

The existing (eco)innovations in the **Marche** region are oriented more towards the manufacturing sector and less towards the service sector. There are different types of innovations present, from product and services innovation to organisational and environmental innovation. These facts show a high recognition of innovation processes of enterprises in the region. The innovation support system of the region is oriented towards the furniture sector, the clothing/textile sector, the mechanics and electronics section. The renewable energy sector has raised the number of implemented (eco)innovation projects in the recent period [5].

The existing (eco)innovations in the **Primorsko Goranska County** are implemented in the sector of agriculture, manufacturing and construction, as well as in the tertiary sector through different service activities. The main focus of (eco)innovation is on product and service innovation. The existing investments in innovation are weak and would need more incentives in the near future [6].

The **Coastal Karst** region has two key economic activities, which push the local economy forward, transport and tourism. In the sector of transport the main role is attributed to several linked-up sections, namely land and rail transport, sea and coastal freight transport. Production of automotive components has the main role in the industry sector. The existing (eco)innovations are mostly product and service innovations, process innovations are undernourished. Environmental technologies are mostly presented in maritime activities and in sewerage [7].

The existing sectors of (eco)innovation in the **Inner-Karst** region are oriented towards the manufacturing sector, more precisely in metal processing and casting, wood and furniture industry, food processing and transport. Some entrepreneurs are present in plastic and electronics production. The service sector is undersized. Significant advantages for the region wealthy with woods are also represented by rich aquatic resources, which raise the opportunity to protect and use nature as one of the region's key priorities, as well as modern arrangements for waste treatment (recycling) [8].

The region of **South East Slovenia** has quite a well developed system of implementing innovation in profitable business projects. Large pharmaceutical,

automotive and plastics industry are the backbone of the region's economy. (Eco)innovations are the vital part of their prosperity. Information and communication technologies are an economic field which importantly contributes to the above mentioned driving forces of local economy. Besides the product and service innovation, environmental technologies are exploited comprehensively [9].

**TABLE 9: Existing Situation in Terms of (Eco)innovation [1-9]**

<b>Region</b>	<b>(Eco)innovation active sections in the region</b>	<b>Types of (eco)innovation</b>
<b>Crete</b>	Tourism (hotels, tour operators) Agriculture (olives, wine grapes, citrus, water melons, tomatoes, potatoes) Food processing (oil-presses, cheese-packing and fruit-packing buildings)	Product & service innovation
<b>Cyprus</b>	Manufacturing of other non metallic mineral products Manufacturing of foods and beverages Manufacturing of furniture Civil engineering Maintenance and repair of cars Wholesale of agricultural raw materials beverages Wholesale of waste and scrap Insurance and pensions funding Hospital activities Membership activities	Environmental technologies Organisational innovation Product & service innovation Green system innovation
<b>Malaga</b>	Tourism (hotels) Agro-food industry Urban solid waste management Management of the integral cycle of water	Environmental technologies Green system innovation Product and service innovation
<b>Ferrara and Ravenna Provinces</b>	Mining, quarrying and manufacturing Electricity, gas and water supply Agriculture, hunting, forestry and fishing Transport, storage and communication Public administration and defence; comp.	Environmental technologies Green system innovation Product and service innovation
<b>Marche region</b>	Mechanics and electronics Fashion (footwear, leather and textile) Furniture and woods and plastic Chemicals and light steel industry Paper Energy production and distribution Buildings	Environmental technologies Organisational innovation Product & service innovation Green system innovation
<b>Primorsko Goranska County</b>	Manufacturing, Agriculture, Transportation and storage, Construction, Waste water treatment Accommodation and food service	Product & service innovation
<b>Coastal Karst Region</b>	Land transport Freight rail transport Sea and coastal freight transport Automotive components Water supply, sewerage	Product and service innovation Environmental technologies
<b>Inner-Karst region</b>	Metal processing Wood - Furniture Metal casting Food processing Electronics Plastics Recycling, water supply Transport	Environmental technologies Product and service innovation
<b>South East Slovenia</b>	Automotive manufacturing Pharmacy Plastics Metal processing Information and communication technology Transport	Product and service innovation Environmental technologies Organizational innovation

### 4.5.3. Candidate Sectors and Sections for (Eco)innovation

The overview of candidate sectors and sections for (eco)innovation is presented in Table 10. For some regions it has been difficult to identify candidate sectors and sections for (eco) innovation, due to missing information from the regional studies; in such cases decisions have been made on the basis of the existing situation information and secondary sources.

Candidate sectors for the region of **Crete** are more (eco)innovative in the cultivation of agriculture products. It is recommended to exploit more organisational innovation approaches and to foster green process innovation. The promotion of high quality local agricultural products can prove to be profitable. The same recommendations could stand in the food processing industry. According to green innovation, green and renewable energy exploitation is advisable, such as solar and wind energy. The sector of tourism still has a lot of potential to make an advantageous exploitation of the rich cultural heritage [1].

For the candidate sectors and sections for (eco)innovations set up in **Cyprus**, the following business opportunities are recommended: agriculture, hunting, pasture and fishing. It would also be interesting to combine work and pleasure in a way to link those sections with tourism activities. These multidisciplinary activities would also leverage the development of new retail challenges. In the tertiary sector there are still opportunities to explore within the sections of real estate businesses, general public services, education and the use of private hospital activities in new health resorts etc. [2].

The candidate sectors for (eco)innovation and their subordinate sections recommended to **Malaga** would be the agro-food industry and the agriculture sector; urban development also has potential especially when boosted by tourist inflow with requirements for urban solid waste management. The strategic geographical position of Malaga, with reference to its relations with European and African Mediterranean countries, should be more exploited in the future through several different tourism products and services [3].

Although, the existing (eco)innovation sectors of the provinces of **Ferrara and Ravenna** are more oriented to manufacturing, the candidate sectors and sections are strictly (eco) aimed. In the sector of agriculture there is a potential to establish a new multidisciplinary tourism service, such as farm holidays. Furthermore, the development of several different segments of tourist infrastructure for accommodation has great potential within the sector of hotels and restaurants. In the transport sector the development of more systematic tour and travel operators is needed. To sum up, all the mentioned sections are directly or indirectly linked to other personal services, which offer recreational, cultural and sports activities. The potential and opportunities for opening an (eco)innovation incubator are also present [4].

The candidate sectors and sections for (eco)innovation in the **Marche** region are quite the same as in the existing (eco)innovation sectors. Nevertheless, it would be recommended to include more activities related to the tertiary sector, which also has a lot of potential for a further development of (eco)innovation in the globalisation era [5].

In candidate sectors and sections for (eco)innovation, the **Primorsko Goranska** county has the greatest potential in the existing most important sectors and sections. Due to the coastal location of the county and the archipelago, which is known for its cultural heritage and the well-preserved nature, it is “a must” to foster more activities in (eco)innovation for more related tourist products and services [6].

The potentials of (eco)innovation in the **Coastal Karst** region are extensive. Firstly, the automotive industry has a lot of potential due to the very strong automotive sector in Slovenia and a well-organised automotive cluster, which takes care of environmental protection and actively supports the development of new (eco)innovation products and services. The candidate sector of transport, storage and communication is vital for the main Slovenian port, the port of Koper, especially the port railway transport linked to transatlantic transport; in the last few years a new niche of international cruise transport has been exploited. The integrated waste management and development of clean technologies are the key sources of quality protection of water resources and reduction of water pollution loads. In the construction sector, the construction of buildings and the development of new materials is important. The economy backbone of the coastal area is tourism. Within this sector the candidate sections should be effective and user friendly in the usage of green technologies in accommodation services [7].

Besides the existing candidates in the **Inner-Karst Region**, the recreation in the sector of personal services is a candidate as well. The region has full potential in tourism and related services, such as farm or eco-holidays, adrenaline eco-tours, anti-stress and revival tourist programmes, linked with other personal services. In the transport sector, highway and railway transport links could be more exploited [8].

The existing, mostly industrial (eco)innovation sectors in the **South East Slovenia** region, which are successful and profitable should be nurtured in the future and broadened, with the support of the EU or the national funding, to produce new, innovative and segmented products and services. As the nature of the the region is rich with flora and fauna and in most cases intact, new tourist niches should be worth considering, oriented in wine tourism, boating and rafting tourism, camping, adrenaline sports, recreation and thermal-spa tourism [9].

In the area of all analysed regions, similar to the existing situation analysis, the sector C+D, **mining, quarrying and manufacturing, represents the area with most future opportunities. Areas with the most growing (eco)innovation opportunities in general include (eco)tourism, sustainable sources of energy and waste treatment.**

**TABLE 10: Candidate Sectors and Sections for Eco-innovation [1-9]**

Sector	Crete	Cyprus	Malaga	Ferrara, Ravenna Province	Marche Region	Goransko Primorska County	Coastal-Karst Region	Inner-Karst	South East Slovenia
A+B Agriculture, hunting, forestry and fishing	Agriculture	Hunting Pasture, Fishing	Agro-food industry	Farm holidays, similar recreational tourism		Agriculture			
C+D Mining, quarrying and manufacturing	Food processing industry	Manufacturing of other non metallic mineral products			Mechanics and electronics, fashion furniture, woods, plastic, chemicals, steel Paper	Manufacturing	Automotive parts; equipment and components	Metal processing Wood-furniture Plastics	Automotive manufacturing Generic drugs Metal processing
E Electric, gas and water supply	Renewable sources of energy (solar, wind ...)		Urban solid waste management Management of the integral cycle of water		Energy production and distribution	Waste water treatment	Waste treatment Sewerage systems		
F Construction		Civil engineering works, building installations			Buildings		Construction of buildings, new materials		
G Wholesale, retail; certain repair		Maintenance and repair cars Wholesale of waste and scrap							
H Hotels and restaurants	Tourism (hotels, tour operators)		Tourism (hotels)	Hotels, camping and all other tourist accommodations Restaurants		Tourism	Green technologies in accommodation services	Eco and adrenaline tourism	Tourism
I Transport, storage and		Land transport sea and water transport		Travel agency and tour operator		Transportation and storage	Port railway transport;		

Sector	Crete	Cyprus	Malaga	Ferrara, Ravenna Province	Marche Region	Goransko Primorska County	Coastal- Karst Region	Inner- Karst	South East Slovenia
communication							Regional passenger transport		
J Financial intermediation									
K Real estate, renting and business activities		Real estate activities							
L Public administration and defence; comp. soc. sec		General public service activities							
M Education		Education							
N Health and social work		Hospital activities							
O+P Other social and personal services				Recreational, cultural and sports activities.				Recreation	

### 4.5.3. SWOT Analysis

#### 4.5.3.1. SWOT Analysis of Individual Regions

The SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) is a useful instrument for evaluating the regional context in which the development of the knowledge-based economy is shaped and planned. Scanning the internal and external environment is an important element of the strategic planning process. Environmental factors within the region can be classified as Strengths or Weaknesses, whereas external factors often can be classified as Opportunities or Threats. Such an analysis of the strategic environment is referred to as a SWOT analysis, which provides useful information to match the region's resources and capabilities to the environment in which it operates.

- **Strengths:** The regions' strengths are their resources and capabilities that can be used as a basis for developing or strengthening their competitive advantage in terms of knowledge-based development.
- **Weaknesses:** The absence of certain strengths may be viewed as a weakness.
- **Opportunities:** The external environmental analysis may reveal certain new opportunities for regional growth and development.
- **Threats:** Changes in the external environment may also threaten the region.

The summary of the SWOT analysis related to the particular regions and shown in Table 11 is the following:

The analysed strengths for the region of **Crete** should be maintained or even reinforced. Basically, there are some very important facts which show the backbone of Crete's economy. These are the highly skilled research personnel and the close co-operation between Universities and Research Centres. These potentials should be oriented more to a business sector of tourism, which has a big potential, thanks to the Mediterranean climate and the long history as well as the local lifestyle, to attract people from the northern parts of Europe for a vacation leave or a permanent placement. The already mentioned favourable climate has helped agriculture to preserve a long tradition in this area. With EU funds the modernisation of tourism and transportation sectors has new opportunities to become a stimulus for the economy development in the future. Still, the region of Crete should pay further attention to submitting new (eco)innovation projects to attract research authorities, on one side and on the other, industry and other private business stakeholders [1].

As it is shown in the SWOT analysis for the **Cyprus** region, a large number of intermediate organisations could play an important role in innovation supporting activities. Those activities make the national system of innovation more flexible. However, more of those intermediaries should be the main source for technology information and not only financing organisations. Still, there are some weaknesses perceived, such as the lack of a coherent system of support and transfer of technology and innovation, from R&D institutions to the private sector. More opportunities should be taken in the exploitation of programmes and funds available from the EU and the enlarged EU market, establishing an interactive and open dialogue between all key actors in the promotion of (eco)innovation in

all its available types (Product, Process, Marketing and Organisational Innovation). The existing innovation culture, where research is sometimes too distant from production, has been present for a long time and must not be a brain barrier anymore. Government Grant Schemes should be more oriented towards business needs [2].

The opportunities in the **Malaga** province are increasing openness in terms of raising the sales of goods and services and opening new trade flows with the rest of the enlarged EU. Since the Andalusian Technology Network is well functional, the incorporation of new technologies can result in the diversification of work alternatives and the appearance of new activities and services. This contributes to an effective demand of the population and therefore new employment opportunities should be presented. Consequently, various new finance possibilities should be established in support of (eco)innovation. Traditional activities in the primary and secondary sectors are still being carried out, that is why a lack of awareness of the environmental impacts is still present. In view of the international economic situation, some concern is caused by the vulnerability of some specific sectors, such as tourism,. The growing entrepreneurship and the increase of the business creation rhythm, mostly in the agro-food section and the renewable energy sector is optimistic. The socially responsible entrepreneurship is no longer a myth. The main threats are economically uneven development processes, which affect different areas of the territory (urban areas, inland areas, coast areas) in different ways. The lack of modernisation of certain agricultural lands is also concerning, which hinders the adaptation and development of (eco)innovation [3].

The competitive positioning of **Ferrara and Ravenna** provinces through the SWOT analysis shows that R&D activities are flexible and strong which is a well based foundation for the development of (eco)innovation. The main weakness of the provinces is the lack of targeted funding, which would allow the enterprises an easy access to the financial means for implementing (eco)innovation projects. Still, there are many business opportunities which could be realised through several different projects in sections of the ICT field, personal services, tourism etc. More attention should be paid to foster the flexible public research with business (eco)innovation projects for enterprises [4].

The high level of (eco)innovation conscience is reflected in a positive attitude of government bodies towards (eco)innovation enhancement actions of both, private and public sectors. The strengths pointed out in the SWOT analysis for the **Marche** region are also the improving investments in high technology training and the recognition of the importance of applying (eco)innovation systematically and with a scientific approach among the enterprises. There are still some weakness to stress, such as the need to disseminate more information about (eco)innovation to enterprises, bridge the technology gap between the local and global economy and fragment the government subsidy scheme to finance (eco)innovation projects. There is also a lack of strategic programmes in region for improving R&D activities and to enhance their impacts in the business sector [5].

For the **Primorsko Goranska** County, a good institutional framework is significant, supporting the participation to EU programmes and the awareness of key business players that innovation is an important integral part of economy. The commercialisation of knowledge is still in the early development phase and

results from the lack of interaction between researchers and the industrial sector and the unsuitable technical and technological equipment. More opportunities will be available when Croatia accesses the EU, and will consequently demand a new organisational restructuring of regional research and the industry and the link between them. Therefore, more (eco)innovation opportunities will evolve. The main threats stem from the fact that there are no common R&D and (eco)innovation strategies for the region and because of the lack of intermediate institutions supporting technology transfer [6].

The **Coastal Karst** region has two incubators and therefore a considerably developed pool of innovative enterprises in the region and a high level of economic activity in relation to Slovenia's average. The export branches are presented in manufacturing and agriculture products and represent an open opportunity for the deployment of new (eco)innovation products and services. The region would indispensably need a technology park or a technology research centre where R&D activities would be more extensively used and transferred to business. Therefore, the region faces the lack of critical mass and insufficient cooperation between researchers and the industry. Opportunities identified in the Coastal Karst region are tightly connected to the cross-border exchange in attracting innovators and investors from other regions and vice-versa; the installation of best practices in legislation in the field of innovation and other incentives and practices. On the other hand, the close location to the border of the economically stronger Italy is a threat for the brain drain of Slovene experts (the large science park in Trieste is in the surrounding of the Coastal Karst region). Furthermore, the dependence on few large companies is vital and also a possible threat for the survival of local economy [7].

The analysis of features of the **Inner-Karst** region reflects several strengths worth of future discussion and planning ahead. Excellent natural potential for eco-tourism and the use of natural resources, a favourable strategic geographical location and the quality of life are the major strengths of region. The whole region is lacking the support of institutions for fostering entrepreneurship and innovation in the region. There is lack of regional or municipality subsidies to co-fund larger (eco)innovation projects. Financing from EU programmes is not well exploited in the private sector. The lack of critical mass and insufficient cooperation between researchers and the industry is typical for the regional level, as well as a poor understanding of public administration for regional (eco)innovation potentials. The neighbouring municipality, Ilirska Bistrica, from the Coastal-Karst region is facing the same problem as the municipalities in the Inner-Karst region. Therefore, it would be worth considering the option of building a multi-regional technology centre, which should be positioned in the Inner-Karst region. This possible option, with the cooperation of the University of Primorska, could be advantageous. Those plans are also a part of the realisation of the strategic national project planner in the region, called "Perspektiva". The conditions for the development of innovation culture and potentials need a proper infrastructure first. Threats are almost the same as in other regions, mostly linked with globalisation consequences. Nevertheless, the region is the second less developed in Slovenia and this is another important reason to move (eco)innovation forward [8].

The **South East Slovenia** is an industrially strong region with reasonably well developed (eco)innovation activities. Key industrial players are present on globalised international markets and play an important role in the Slovenian

economy as a whole. Still, there are less innovative SMEs, which would be a secure shelter for the local economy if some of the big players moved the industrial plants to more cost-effectively countries. Adding new educational programmes to the existing ones is a horizontal plan of the strategic national project planned in the region, called the Economic Centre of the South East Slovenia. More attention should be paid to transferring and implementing good practices of (eco)innovation from successful large firms to smaller business entities. The existing R&D facilities should be outsourced from SMEs to rationalise the amortisation of infrastructure and raise the local economy's productivity. The passing foreign tourists at holiday peaks should be stopped and invited to experience the natural beauties of the region. Luxury tourism has a lot of potential and would bring higher value added services to the region [9].

**TABLE 11: SWOT Analysis of Individual Regions [1-9]**

Region	Strengths	Weaknesses	Opportunities	Threats
<b>Crete</b>	<ul style="list-style-type: none"> <li>- Linkages &amp; entrepreneurship, Innovators and Economic effects</li> <li>- Developed high education and research</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of access to funding for technology development, especially for investments in environmental technologies (as being riskier than conventional investments)</li> <li>- Collaboration among research institutions and the industry is relatively limited and does not indirectly support the further development of academic research</li> </ul>	<ul style="list-style-type: none"> <li>- Attractive financial conditions for research institutions must be offered</li> <li>- Further use of EU funds</li> </ul>	<ul style="list-style-type: none"> <li>- Effective regulation of intellectual property</li> <li>- Lack of funding for research institutions</li> <li>- Further situation where industry does not use the existing potential of the university</li> </ul>
<b>Cyprus</b>	<ul style="list-style-type: none"> <li>- A significant number of initiatives and measures have been implemented so as to aid the growth of R&amp;D</li> <li>- The presence of Cypriot research groups and bodies associated with environmental research projects</li> <li>- The immediate response of the Cyprian Government towards the European directions on the elaboration of national action plans</li> <li>- Relatively effective use of incentives (regulations, subsidies, grants) for support of innovation</li> <li>- Despite a relatively low absolute values R&amp;D in engineering and technology has almost doubled</li> </ul>	<ul style="list-style-type: none"> <li>- Difficulties of local SMEs to gain information on the available environmental technologies</li> <li>- Lack of an interactive relationship between the government and businesses</li> <li>- Lack of communication channels between the demand side (enterprises) and the supply side (universities) for the eco-innovation system</li> <li>- The absence of an organised system for the support of eco-innovation and environmental technologies transfer</li> <li>- The relatively limited range of financial mechanisms supporting the development of eco-innovation in SMEs</li> </ul>	<ul style="list-style-type: none"> <li>- Establishment of an interactive open dialogue between all the key actors in the production of eco-innovation</li> <li>- Establishing cluster organizations in high relevance to eco-innovation by integrating in one united interlinked system</li> <li>- A new broad eco-innovation strategy is needed on both national and regional levels.</li> <li>- Bring all the environmental scientists together to work on eco-innovation and conduct research, the result of which would be the release of more competitive products to the market</li> </ul>	<ul style="list-style-type: none"> <li>- Latent facilitation and negligent operation of various organisations planned and established within the framework of the European Programme for Regional Innovation Strategy</li> <li>- The remaining low national expenditure on R&amp;D activities, both in the public and private sectors</li> <li>- Absence of adequate infrastructure and human resources activated in the (eco)innovation field</li> <li>- Limited interest in the integration of environmental quality systems in hotels</li> <li>- The negative growth rate of most of the productive sectors of the Cypriot economy</li> </ul>

Region	Strengths	Weaknesses	Opportunities	Threats
Malaga	<ul style="list-style-type: none"> <li>- The sixth province in Spain by market share and the seventh by economical activity.</li> <li>- Eco-innovation policies on the national and regional levels are very developed and implemented both in research centres as in candidate enterprises</li> <li>- Developed intermediary institutions as in the case of the Andalusian Technology Network agents</li> <li>- Various finance possibilities established for (eco)innovation support</li> <li>- Effective use of solar energy</li> </ul>	<ul style="list-style-type: none"> <li>- The lack of awareness of the environmental impact</li> <li>- This situation has provoked these companies to adopt a Social responsibility, which is not fully implemented in the agro-food industry, with the exception of large companies and cooperatives, although these are not the most representative models in this sector (an average of 14 employees). The lack of awareness of the environmental impact of traditional processes is a serious handicap when encouraging family businesses in the agro-food industry, to implement eco-innovation formulas.</li> </ul>	<ul style="list-style-type: none"> <li>- Opportunities in the area of waste water treatment and solar energy</li> <li>- Necessity of efficient (eco)innovation to achieve the best management of solid waste and waste waters to be able to continue offering the necessary environmental quality and continue being an attractive holiday destination</li> <li>- Increase of the responsibility of enterprises on social matters, the major influence of stakeholders and the progressive implementation of environmental taxes, to penalise those polluting enterprises.</li> </ul>	<ul style="list-style-type: none"> <li>- Further endurance of enterprises' survival attitude and cost minimising, focusing on the economical viability of the product (and lack of focus on the (eco)innovation)</li> <li>- Possibility of future ineffectiveness in (eco)innovation would threaten tourism as the vital economic sector of the province</li> </ul>

Region	Strengths	Weaknesses	Opportunities	Threats
<b>Ferrara and Ravenna Provinces</b>	<ul style="list-style-type: none"> <li>- The Emilia-Romagna Region is the first Italian region in terms of R&amp;D activity (however, the situation in the Ferrara and Ravenna provinces is worse in comparison with the regional average)</li> <li>- Relatively effective role in development by stakeholders as associations</li> <li>- Presence of a strong, excellent and flexible system of public research</li> </ul>	<ul style="list-style-type: none"> <li>- Success and the diffusion of eco-innovation still remain limited in all the economic sectors, except for some sectors that are particularly active</li> <li>- At national level a low level of incentives and public support, as financings, tax relief and financial facilitations of easy access specifically destined for more innovative enterprises.</li> </ul>	<ul style="list-style-type: none"> <li>- Support to eco-information &amp; eco-communication</li> <li>- Support to eco-financings</li> <li>- Support to eco-formation</li> <li>- Support to eco-relations</li> </ul>	<ul style="list-style-type: none"> <li>- Absence of a system of flexible public research able of converse with the productive system</li> <li>- Lack of perception of economical use of (eco)innovation in the business sector</li> </ul>
<b>Marche region</b>	<ul style="list-style-type: none"> <li>- Positive attitude of government bodies towards eco-innovation enhancement actions both in the productive and public sectors</li> <li>- Improving investments in high quality and technological training</li> <li>- Recognition of the importance of applying eco-innovation systematically and with a scientific approach among the enterprises</li> </ul>	<ul style="list-style-type: none"> <li>- Structural capital expenditures in R&amp;D</li> <li>- Qualified human resources</li> <li>- Need for enterprises concerning information on innovations</li> <li>- Technological gap between local manufacturing and global economies</li> <li>- Economic resources allocated by local government bodies for improving eco-innovation actions are fragmented</li> </ul>	<ul style="list-style-type: none"> <li>- Improving information on innovations of enterprises</li> <li>- More effective allocation of funds by local government bodies for improving eco-innovation</li> </ul>	<ul style="list-style-type: none"> <li>- SMEs are not easily persuaded to implement a strategically common projects</li> <li>- Difficulty in transfer of the technological knowledge process from research centres to SMEs</li> <li>- International and global markets open new competition from emerging countries</li> <li>- Lack of multi-year strong programming at regional level for improving R&amp;D</li> </ul>

Region	Strengths	Weaknesses	Opportunities	Threats
<b>Primorsko Goranska County</b>	<ul style="list-style-type: none"> <li>- High level of adoption of technologies</li> <li>- High level of computer usage by the workers in the production processes</li> </ul>	<ul style="list-style-type: none"> <li>- Commercialisation of knowledge is still in the early phase</li> <li>- Low level of activities considering patenting</li> <li>- Total expenditures for R&amp;D are modest</li> </ul>	<ul style="list-style-type: none"> <li>- Probable increase of the share of R&amp;D expenditure of the total GDP</li> <li>- Improving the conditions for the cooperation between universities and the industry</li> <li>- Facilitation of science based start-ups</li> <li>- Improving the general management structure of the National Innovation System</li> </ul>	<ul style="list-style-type: none"> <li>- Lagging behind in (eco)innovation which could result also in lower competitiveness</li> <li>- Unstable macroeconomical situation</li> </ul>
<b>Coastal Karst Region</b>	<ul style="list-style-type: none"> <li>- Considerably developed pool of innovative enterprises in the region</li> <li>- Recent impressive development in the area of collection and cleaning of waste water</li> <li>- A relatively successful transition and great capacity to adapt to the market situation</li> <li>- Favourable strategic geographical location, quality environment and new transport links</li> </ul>	<ul style="list-style-type: none"> <li>- Slow procedures - for instance in establishing a regional technology park</li> <li>- The University of Primorska is almost exclusively humanistically oriented (lack of entrepreneurial approach)</li> <li>- Complex and long administrative procedures <ul style="list-style-type: none"> <li>- Non-market orientation of research on the national level</li> </ul> </li> <li>- Lack of critical mass and insufficient cooperation between researchers and the industry</li> <li>- Poor co-ordination of public administrative structures in the area of innovation</li> </ul>	<ul style="list-style-type: none"> <li>- Establishment of a business zone within the SEPA project</li> <li>- Intensifying cross-border cooperation with Italy</li> <li>- Attracting innovators and investors from other regions</li> <li>- Installation of best practices in the legislation in the field of innovation</li> <li>- EU incentives and practices</li> <li>- More effective use of R&amp;D funds on the national level</li> </ul>	<ul style="list-style-type: none"> <li>- Brain drain of young experts to the neighbouring Italy</li> <li>- Dependence on the success of the Port of Koper</li> <li>- Further concentration of knowledge in the capital Ljubljana</li> <li>- Faster growing competitiveness of other markets and countries</li> </ul>

Region	Strengths	Weaknesses	Opportunities	Threats
<b>Inner-Karst region</b>	<ul style="list-style-type: none"> <li>- According to the primary research, (eco)innovation is surely relatively well developed in the region</li> <li>- Excellent natural potential for (eco) tourism and the use of natural resources</li> <li>- A relatively successful transition and great capacity to adapt to the market situation</li> <li>- Favourable strategic geographical location, quality environment and new transport links</li> </ul>	<ul style="list-style-type: none"> <li>- The Inner-Karst as a whole has virtually no support institutions</li> <li>- A relatively low value added per employee in the regional economy</li> <li>- Complex and long administrative procedures               <ul style="list-style-type: none"> <li>- Lack of critical mass and insufficient cooperation between researchers and the industry</li> </ul> </li> <li>- Poor co-ordination of public administrative structures in the area of innovation</li> </ul>	<ul style="list-style-type: none"> <li>- Establishing support infrastructure (technology parks, incubators, centres of excellence and business districts...)</li> <li>- Realisation of the strategic national project planned in the region "Perspektiva"</li> <li>- Stimulation of final customers that they demand eco products and eco services</li> <li>- Installation of best practices in the legislation in the field of innovation               <ul style="list-style-type: none"> <li>- EU incentives and practices</li> </ul> </li> <li>- More effective use of R&amp;D funds on the national level</li> </ul>	<ul style="list-style-type: none"> <li>- Further concentration of knowledge in the capital Ljubljana</li> <li>- Faster growing competitiveness of other markets and countries</li> </ul>
<b>South East Slovenia</b>	<ul style="list-style-type: none"> <li>- Economical efficient industrial region with a healthy core</li> <li>- A relatively successful transition and great capacity to adapt to the market situation</li> <li>- Favourable strategic geographical location, quality environment and new transport links</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of innovative SMEs</li> <li>- Lack of major subjects of supportive environment</li> <li>- Complex and long administrative procedures               <ul style="list-style-type: none"> <li>- Non-market orientation of research on the national level</li> </ul> </li> <li>- Lack of critical mass and insufficient cooperation between researchers and the industry</li> <li>- Poor co-ordination of public administrative structures in the area of innovation</li> </ul>	<ul style="list-style-type: none"> <li>- Establishing innovation support infrastructure</li> <li>- Establishing centres of higher education</li> <li>- Stimulation of final customers that they demand eco products and eco services</li> <li>- Realisation of strategic national project planned in the region is construction of the "Economic Centre of the South East Slovenia"</li> <li>- Encouraging development of innovative SMEs</li> <li>- Establishment of best practices in the legislation in the field of innovation               <ul style="list-style-type: none"> <li>- EU incentives and practices</li> </ul> </li> <li>- More effective use of R&amp;D funds on the national level</li> </ul>	<ul style="list-style-type: none"> <li>- Dependence on the few big industrial companies in case of their business downfall</li> <li>- Further concentration of knowledge in the capital Ljubljana</li> <li>- Faster growing competitiveness of other markets and countries</li> </ul>

#### 4.5.3.2. Integral SWOT Analysis of MEDOSSIC Regions

The challenge is to present a comprehensive SWOT analysis of 9 regions from 5 different countries with different cultural backgrounds, unequal levels of economy deployment, uneven (eco) innovation consciousness and a diverse legislation frameworks. Nevertheless, the summary of the SWOT analysis related to the MEDOSSIC regions and shown in Table 12 is the following:

The most stated strengths of regions are those related to highlighting the importance of linking the business sector with R&D and the mutual operation on common (eco)innovation projects. To achieve these goals, a high level educational system and organised quality R&D institutes must be developed, which would bring new and innovative knowledge to enterprises. On the other hand, the business sector must perceive the distinct demand to implement and sell new products and services through the market niches to users. The effort made by stakeholders should be stimulated by financial funds and other support activities to ease the innovation processes, including raising the awareness of the importance of (eco)innovation of all regions. From the individual SWOT analysis we could sum up that the transfer of best practices between more developed and experienced regions in the field of (eco) innovation to less experienced regions is necessary. Therefore, fostering is needed for the creation of (European) regional networks in the field of (eco) innovation.

The deficiency of financial funds to fulfil the requirements to conclude the innovation processes is exposed as a weakness in most cases. The problem which occurs in most cases is the lack of coordination between innovation and ecology and the wider public interests. In general, the national authorities' understanding of the importance of (eco)innovation is weak. Less developed regions are also faced with the absence of central data about (eco)initiatives, programmes and projects. Local economies are also dealing with the problem of ensuring competitive advantages in the frame of globalisation and with the existing gap between entrepreneurs and academic professionals. Furthermore, institutional R&D is in general non-market oriented, which prevents fast time-to-market of inventions.

The general premise is that final customers should be stimulated to demand eco products. The opportunities should be founded in the area of renewable energy, such as wind and solar energy. Exploiting green energy should be a way of life in the near future. Still, a lot of effort should be put in the promotion and dissemination to the public through different media channels. National and regional authorities must foresee the financial funds in the future budgets to support the local economy with eco subsidies. This funding should be encouraged with an effective and wide response of the public, through public relations campaigns. The decentralisation of knowledge centres among the regions on the national level will improve the co-ordination and harmonisation on the national and EU levels. To cope with globalised markets, the enterprises should use the best practice models which could be transferred via MEDOSSIC countries.

The lack of understanding of (eco)innovation potentials seems to be the biggest threat of all. These reflections have multiple bad impacts, such as the difficulty in transfer of technology knowledge from research to business, the lack of perception of economical use of (eco)innovation, the lack of development of strategic programmes in the (eco)innovation field etc. In the regions of the east part of Europe there is also a problem with centralised high education and R&D centres, which automatically

prevents progress in R&D investments in the regions. Less developed regions are threatened by keeping the pace with the globalised conditions of economic survival.

**TABLE 12: Integral SWOT Analysis of MEDOSSIC Regions [1-9]**

<b>STRENGTHS:</b>	<b>WEAKNESSES</b>
<ul style="list-style-type: none"> <li>- High importance to both innovation and ecology in the national policies</li> <li>- Raising awareness of the importance of (eco)innovation in all regions</li> <li>- Some examples of effective (eco)innovation policies, initiatives, programmes and projects in particular regions</li> <li>- Creation of (European) regional networks in the field of (eco)innovation</li> </ul>	<ul style="list-style-type: none"> <li>- In most cases the negative financial balance of funds for R&amp;D in the relation region : country</li> <li>- Lack of co-ordination between innovation and ecology on the level of national policies</li> <li>- Fragmentation of organisational structure in the area of (eco)innovation in some countries</li> <li>- Absence of central data about (eco)initiatives, programmes and projects in most regions</li> </ul>
<b>OPPORTUNITIES</b>	<b>THREATS</b>
<ul style="list-style-type: none"> <li>- Stimulation of final customers in demanding eco products</li> <li>- Opportunities on the new emerging global markets for developed (eco)innovative products and services of the regions</li> <li>- Effective distribution of funds for R&amp;D and (eco)innovation stimulation between national and regional level in all MEDOSSIC countries</li> <li>- Establishing co-ordination between innovation and ecology on the level of national policies and implementing and/or putting these two areas under the same governance organs</li> <li>- Decentralisation of knowledge centres among the regions on the national level</li> <li>- Better co-ordination and harmonisation in the EU level</li> <li>- Use of best practice models</li> </ul>	<ul style="list-style-type: none"> <li>- Faster growing competitiveness of other regions and countries (especially globally – Asia)</li> <li>- Further centralisation of knowledge and funds in the capitals or some specific regions within MEDOSSIC countries</li> <li>- Perception, especially in the business sector, that in general (eco)innovation is not economically effective</li> <li>- Introduction of ecological practices in the frame of global competition, if other global players do not share the same attitude</li> </ul>

## 4.6 CONCLUSIONS

The analysed MEDOSSIC regions are very different among themselves in various areas. However, they all share the Mediterranean character and, as this analysis shows, also a high declarative importance of both innovation and ecology in the national policies as well as a wish for awareness raising of the importance of (eco)innovation in all regions. On the other hand, one can detect problems with the implementation of the stated (eco)innovation directions in most regions.

It is clear that no individual result can reliably indicate the country's or region's performance in innovation. The results should be taken in a collective account and only with the understanding of particular situations within the selected countries, a real judgement can be made. Nevertheless, one can spot considerable good results in the regions of Italy, and a bit poorer results in some other countries and regions.

The huge backlog of MEDOSSIC countries in the area of patenting in relation to EU average is significant, and even more so in relation to the US and Japan. The results where MEDOSSIC countries reach poor innovative performance in relation to the EU average, US and Japan call for action!

It seems that the lack of co-ordination between innovation and ecology on the level of national policies is a real challenge for MEDOSSIC countries. Another difficulty that is present in some countries (like Slovenia, Italy, to some degree Spain) is the fragmentation of the organisational structure. Surely, the effort for the decentralisation of knowledge on the national level is a challenge for all MEDOSSIC regions. Additionally, more harmonisation and the use of best practice models could contribute a great deal to the future success in the area of (eco)innovation. It seems that the strong network of partners with collective knowledge, concerning both programmes available and projects content, contributes a great deal to success in regard to participating and an effective implementation of the projects.

In the scope of all analysed regions sector C+D Mining, quarrying and manufacturing represent the sector that is the strongest in most of the regions and also has most future opportunities. Areas with the fastest growing (eco)innovation opportunities in general are (eco)tourism, sustainable sources of energy and waste treatment.

The European Union should have an integrated approach to support eco-innovation. This approach should address four particular dimensions:

- Integrated strategies
- Development Pillars
- Specific Targets
- Action Plans on a member-state level.

***For all MEDOSSIC countries and regions achieving better results in (eco)innovation remains not only a challenge, but a pure necessity in the scope of the global competitive situation.***

## Annexes

### ANNEX: REFERENCES and SOURCES

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