# MEDOSSIC

***Mediterranean organization structure and strengthening of innovation capacities for sustainable development***

***no. 1G-MED08-289***

# *Existing situation analysis In Coastal Karst Region*

***Med Programme***

***Priority-Measure 1-2***

Axe 1: Strengthening innovation capacities

***Objective 1.2: Strengthening strategic cooperation between economic development actors and public authorities***

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# Part 1:
# IDENTIFICATION SHEET

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# Part 2:
# EXECUTIVE SUMMARY

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The situation analysis in the Coastal Karst Region deals with (eco)innovation in the region, the methodology used, introduction of the Coastal Karst Region, investigation of the specific characteristics of region with an emphasis on facts & figures concerning the (eco)innovation field, investigation of existing policies and initiatives adopted in (eco)innovation field in Slovenia and especially in the Coastal Karst Region, investigation of existing projects and programmes in the scope of (eco)innovations in Slovenia and in the region, analysis of the regional production system regarding (eco)innovation issues and conclusions.

In the chapter Methodology is explained the basic methodological approach based on study of various secondary sources (studies and databases) and primary research among the business entities.

In the chapter Introduction of the Coastal Karst Region is region briefly presented with emphasis on the areas that are important for (eco)innovation.

In the chapter Investigation of the specific characteristics of the Coastal Karst Region with an emphasis on facts & figures concerning the (eco) innovation field are presented general regional indicators, data, and (eco) innovation indicators. Typical for the economy of the Coastal Karst Region is the concentration on service sector connected with port activites and related sea and inland transport. Port of Koper, Intereuropa are main large companies in this sector with big number of small-sized companies in forwarding agencies and similar activities. In manufacturing sector Cimos is the most important company which is present in both sub-regions and is involving many small compaies as sub-suppliers for its automotive production. A lot of promising innovative new companies have start to operate in last two decades, but statistics is still showing the predominant influence of old companies. Comparing with neighbouring Italian regions the value added per emploee was five years ago nearly half of the Italian one. Only in last four or five years the productivity of regional economy has coming closer to Italian levels.

In the chapter Investigation of existing policies and initiatives adopted in (eco) innovation field in Slovenia and especially in the Coastal Karst Region are presented national policies where innovation is particularly encouraged with growing expenditure on R&D, but not very effective implementation of innovation support. For Slovenia, innovation performance is just below the EU27 average but the rate of improvement is above that of the EU27. Relative strengths, compared to the country's average performance, are in Human resources, Finance and Support to innovators. Trends in research and development in the

years (2005-2006) indicate a positive shift, so that Slovenia's development reduces backlog in this area.

On the regional level are set the following strategic development priorities: Knowledge and tecnological development for the development of the economy and Infrastructure for sustainable development. Main goals in the sector of economy are: 1. Higher value added per product/service unit and 2. New work places. These strategic policies are supported with implementation programmes and funds. However, in the field of support infrastructure in the region, it is clear that a regional tecnology park is missing for supporting tecnological innovative projects and companies.

In the chapter Investigation of existing projects and programmes in the scope of (eco) innovations in Slovenia and especially in the Coastal Karst Region are presented European programmes and projects undertaken. Presented are also important regional or local development projects with ecological component.

In the chapter Analysis of the regional production system regarding (eco) innovation issues is presented market analysis regarding (eco) innovation with overall description and preliminary indications of sectors/candidate areas for (eco) innovation within the framework of MEDOSSIC project.

Identified were barriers on the regional level for higher implementation of (eco)innovation programmes. Despite clear evidence that we need a regional technology park as main centre for innovation support, it is still only inthe project idea. And another reason why technology innovation in the region is neglected is certainly the fact that the University of Primorska is almost exclusively humanistically oriented.

Based on the findings conclusions of the study are presented in the last chapter.

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

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## 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) 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

### (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

### Productive sector

Sector, which includes all business activities, profit or non-profit oriented. An example of Slovenian productive sectors follows:

| Activities |
|---|
| A+B Agriculture, hunting, forestry and fishing |
| C+D Mining, quarrying and manufacturing |
| E Electricy, 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

In order to attain the complete overview of situational analysis and to contribute to stimulation and enhancement of eco-innovation in partner's strategic and operational plans, the proposed methodological approach for Existing Situation Analysis in each region includes the following elements of descriptive analysis:

- a review of secondary sources (available reports and data on innovation policy, programmes, structures etc., existing legislative documents, acts etc.);
- data analysis (innovation indicators by European Innovation Scoreboard)
- field research which consists of qualitative (for example, interview, focus groups,…) quantitative (for example, questionnaire) or mixed-methods approach.

The application of qualitative, quantitative or mixed-methods approach should be considered based on the scope of identified elements of existing situation analysis and approachability of subjects researched.

The concept of eco-innovation is not well spread in Slovenia in general, as well as in the Coastal Karst region. Statistical data, studies, reports or other material with information and indicators in relation to this field are practically inexistent. Eco-innovation is mentioned only in this year’s call of European Commission for eco-innovation, in material of Slovenian ecology cluster and in speeches or material from the Ministry of the Environment and Spatial Planning.

Since the concept is not widely known, the information on eco-innovation is missing also where such innovation exists, but it is not referred to with this name. In the analysis we focused to a larger extent than usually on field research, complementing the gathering of information through questionnaires with interviews with representatives of enterprises.

Interviews were also used to gather information in the field of public utilities. A lot of information was available in the field of port activity and sea, since Port of Koper publishes in its reports information regarding this field, with respect to the holding company, as well as its specialized smaller enterprises.

The expected problem of the research is obviously ensuring an adequate number of answers to the submitted questionnaire. The problem was solved by contacting enterprises, which also served for gathering additional information or for mutual exchange of information.

A specific problem in Slovenia, and therefore also in this region, is the non-existence of local authority on a regional level; therefore non-existence of regions – there are only statistical regions, which do not have their own administrative bodies. The non-existence of administrative bodies on a regional level means that it is difficult to talk about regional politics in relation to any field, including eco-ionnovation. We were forced to limit our research to programmes provided for in the Regional development programme for South Primorska and other possible programmes, which had been agreed to by local authorities or institutions.

# Part 4: EXISTING SITUATION ANALYSIS in Coastal Karst region

# 4. 1 INTRODUCTION OF COASTAL KARST REGION

The Coastal Karst region with the submediterranean climate is the only one with an exit to the sea and is a window to the world for Slovenia. 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, 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.

The Coastal Karst region recorded a quater of all tourist overnights in the country; almost a half by domestic tourists. As regards foreign tourists, Italians, Austrians and Germans predominate. Agricultural holdings in this region were among the smallest in Slovenia both in terms of utilised agricultural area and in terms of the number of livestock units.

In 2007 the most intensive construction of dwellings took place in this region with more than 8 dwellings per 1,000 population, mainly new constructions.

In the region, as also in other parts of Slovenia, there are too many people with higher qualifications who cannot obtain employment due to the structure of the economy. During the recent years, not enough has been done to support the restructuring of the economy into knowledge-intensive industry sectors which require higher technologies, higher value added and employment of highly qualified personnel. 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 and incubator will facilitate the linkage between the educational institutions and companies. Therefore, the region will prepare and implement projects on technology parks, incubators, business zones, integration of companies and the development of new, modern educational programmes.

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 until the end of the programming period. This will ensure long-term competitive advantage since the quality of life will be considerably improved. Taking into account also favourable climatic conditions, the Coastal Karst Region will be able to boast of a pleasant living environment in the northern Adriatic area. This is also one reason to foresees large investments in environmental and transport projects by which the region will achieve the objectives in this field.

The Coastal Karst Region area is 1.044 sqkm. In the 2007 was recorded the highest population growth rate. 80% of the population is concentrated in the narrow coastal belt

and there are 90% of region's jobs. In the year 2007 29,8 % of population aged 15 and over in the Coastal Karst Region have a Upper secondary technical or general education.

# 4. 2. INVESTIGATION OF THE SPECIFIC CHARACTERISTICS OF THE COASTAL KARST REGION WITH AN EMPHASIS ON FACTS & FIGURES CONCERNING THE (ECO)INNOVATION FIELD

## 4.2.1. General Regional Indicators and Data

**Table 1: General indicators**

| General indicators | Data | Comments |
|---|---|---|
| Surface (in $km^2$) | 1.044 | Coastal Karst Region |
| Regional population | 107.062 | In the 2007 the highest population growth rate was recorded in the Coastal Karst Region. |
| Country population | 2.025.866 | |
| Percentage of regional population on country total population | 6% | |
| Population density | 102.5 | |
| Number of municipalities within the region | 7 | Municipalities: Divača, Hrpelje-Kozina, Izola, Komen, Koper, Piran, Sežana |
| Number of persons in employment (active population) | 45.884 | |
| Percentage of persons in employment | 42,9% | |
| Number of persons in paid employment (working population) | 40.967 | |
| Percentage of persons in paid employment | 38,3% | |
| Percentage of companies in region by size: | | |
| a.) Micro | 93,5% | **Micro companies:** The average number of employees in the financial year does not exceed 10. Net turnover does not exceed 2.000.000 EUR. Value of assets does not exceed 2.000.000 EUR. |
| b.) Small | 4,4% | Small companies: The average number of |

| | | |
|---|---|---|
| | | employees in the financial year does not exceed 50.<br>Net turnover does not exceed 7.300.000 EUR<br>Value of assets does not exceed 3.650.000 EUR |
| c.) Middle | 1% | Middle companies:<br>The average number of employees in the financial year does not exceed 250.<br>Net turnover does not exceed 29.200.000 EUR.<br>Value of assets does not exceed 14.600.000 EUR |
| d.) Large | | |
| **GDP** | Data | Comments |
| National GDP in mln EUR (current rate) | 34.471 | **Years of data used = 2007** |
| Regional GDP in mln EUR (current rate) | 1.671 | **Years of data used = 2006** |
| Regional GDP in % | 5,4% | **Years of data used = 2006** |
| National GDP in EUR per capita | 17.076 | **Years of data used = 2007** |
| Regional GDP in EUR per capita | 15.747 | **Years of data used = 2006** |
| Regional GDP per capita in % | | **Years of data used = 2006** |

Source: SURS

The Coastal Karst Region is well covered with universities; it also includes an office for technology transfer and one platform. Out of primary and secondary parts of a supportive environment it is lacking only a technology park. Distribution of technology parks in the western part of Slovenia is poorer than in the East.

Supportive environment's entities for innovation are classified by function in the region on three levels:
- Primary, falling in each region
- Secondary, which fall within larger regional groups and
- Cover, where one entity, per country the size of Slovenia, for an individual content or sector is sufficient

This division is based on an assessment of needs for each type of service according to the number of the population or businesses in the region.

Supportive environment's **primary entities** provide of a dispersed infrastructure for development. These include:

a. Innovators Associations
b. GZS, OZS, both with regional units
c. Development agencies
d. Incubators

The Coastal Karst Region has one Innovators Association, 1 CCIS (Chamber of Commerce and Industry of Slovenia) and 4 OZSs (Chamber of Craft and Small Business of Slovenia) branch, a development agency and two incubators.
The Association is a voluntary form of association of individuals; on a local level it has the function of raising and spreading entrepreneurial awareness and informing about other supportive environment's actors for innovation in Slovenia.
Since associations of innovators represent an elementary organisational cell for joining innovative people across regions, they can strongly contribute to the urgent rise of the innovative culture in Slovenia.
As such, it could have a significant function on a local level, which is why it is necessary to support them within the framework of specified issues.

**Incubators** (entrepreneurial, university, etc.) are services of government to which every citizen should have access to, together with an idea that is suitable for commercialization. Therefore, we suggest that the establishment of incubators in the region is determined by the number of inhabitants in the region.

The group of the supportive environment's **secondary entities** for innovation includes such institutions, whose operation requires a critical mass of companies and who use universities and public research institutions as a source of innovation and assistance to enterprises for further development of an innovative idea. Supportive environment's secondary entities are:
**a. Technology parks**, whose installation should be dealt with according to the number of enterprises in the region (if there are too few enterprises, then the establishment of a technology park is unnecessary).
**b. Universities, research institutes** (not necessary in each region).
**c. Technology Transfer Office**, which together with universities and research institutes enable the development of high-and low-technology entrepreneurship.

We have one university (University of Primorska), in the Coastal Karst Region, and an Office for transfer of technology.

University of Primorska (UP) holds a partner position in the area of ethnic and

cultural contact, together with foreign universities, local communities, economy and government institutions. UP represents an intellectual capital laboratory, which provides for south-western Slovenia the potential to breakthrough among the fastest developing European regions.

Cover institutions, which, due to their transparent or sectoral guidelines, are sufficient on a national level, are:
**a. Clusters, platforms, technology networks** (of national nature and necessary to unify policies, objectives of industries, and networking within a branch).
**b. Financial environment entities** (as risk capital funds they are of national nature and cannot have seats in each region).
**c. Technology centres** (usually they are sectoral oriented and offer enterprises of all ages specialised sectoral services, e.g. education, their infrastructure is on disposal for their members, some also operate on a national level).

**In the Coastal Karst Region, we have one platform, namely, Slovenian Waterborne Technologic Platform, which consists of 4 members:** Port of Koper, Marine Biology Station, Faculty of Maritime and Transport, and the Institute of Shipping and Transport. Other academic and research institutions and companies engaged in activities similar to the common objective of maritime platforms were then invited to participate.

The **cluster** is a complex system, which involves many actors, such as companies, knowledge institutions (e.g. universities, R & D institutes and laboratories), support institutions (e.g. Chamber of Commerce, development agencies, sector associations) and the government. In this system actors cooperate as well as compete among each other, which leads to better access to information, knowledge transfer between actors, the exploitation of synergies (joint promotion, joint ventures in R & D), innovation promotion and creation of new business opportunities.

Other services offered by the State are **technological parks**. When a company is included in a technology park it is expected that the company has already partially developed an idea suitable for commercialisation, this is why the need for this kind of service is smaller than the need for incubator services. We suggest that all regions with over 4000 companies have technology parks. It is a fact that the Coastal Karst Region, in terms of Slovenia, has a high dispersal of small and medium enterprises (1 enterprise per 15 residents), but in comparison to the Friuli-Venezia Giulia region this still needs to be improved.

| Services | Supportive environment's entities | Year established |
|---|---|---|
| 1,2,3,4,5 | Enterprise Europe Network (UP ZRS) | 2008 |
| 1,3 | Primorska institute for natural sciences and technology | 1999 |
| 1,3 | University Of Primorska | 2003 |
| 1 | University of Primorska - Science and Research Centre of Koper | 1994 |
| 1 | Faculty of Humanities Koper | 2000 |
| 1 | College of Health Care Izola | 2002 |
| 1 | Faculty of Management Koper | 1995 |
| 1 | Faculty of Education Koper | 2003 |
| 1 | Turistica - Faculty of Tourism Studies Portorož | 1994 |
| 1 | College of Entrepreneurship - GEA College Piran | 1996 |
| 3,4,5 | Slovenian Waterborne Technologic Platform | 2006 |
| 1,2,3,4,5 | Chamber of Commerce and Industry of Slovenia | 2007 |
| 1,2,3,4,5 | Chamber of Craft and Small Business of Slovenia | 1979 |
| 1,2,3,4,5 | Technology Transfer Office | N/A |
| 1,2,3,4 | Incubator Ltd., Sežana | 1992 |
| 1,2,3,4 | University Development Centre and University Incubator of Primorska Ltd. | 2005 |
| 2,4,5 | Regional Development Centre Koper | 2001 |

### 4.2.2. (Eco)innovation Indicators

*Please fill in Table 2 of Annex 1 (Innovation indicators) and insert it in this chapter. Comment on results and data relating to innovations in region. You might refer to (eco)innovations, innovators, scope of innovations, etc. Compare regional and national data. Outline the specifics of your region in comparison with national data.*

On the basis of data gathered in the table below we can establish that in the Coastal Karst Region the proportion of funding R&D from enterprises' sources (73,6%) is much greater than on the national level (58,3%). Maybe it is so also because the region is less successful than others in drawing funds for the development from government funds. While in Slovenia on average the share amounts to 35,6 %, in the Coastal Karst Region only 19,4% of sources come from government funds.

The region is also less efficient than others in drawing development funds from abroad, while the share of funds for R&D from higher education funds amounts to 4%, which is 10 times more than the average share of these funds in Slovenia.

The average number of researchers per research organisation (14,1%) in the Coastal Karst Region is substantially lower than in Slovenia (22,0%), which could be explained with the fact that the average of Slovenia is affected by the share of bigger institutions, which are mainly situated in Ljubljana. Slightly lower is also the share of applied research in all

research, which is probably due to a smaller presence of industrial and technical institutions in the region.

### Table 2: Indicators Research and development

| Research and development | National | Regional |
|---|---|---|
| Gross domestic expenditure on R&D (as % of regional GDP) | 1,45 | n/a |
| Gross domestic expenditure on R&D (total %) | n/a | n/a |
| By sources of financing R&D: | 100 | 1,1 |
| a.) business companies (%) | 58,3 | 73,6 |
| b.) government funds (%) | 35,6 | 19,4 |
| c.) higher education funds (%) | 0,4 | 4,0 |
| d.) private non-profit organizations (%) | 0,0 | - |
| e.) funds from abroad( %) | 5,7 | 3,0 |
| Researchers by region (in %) | 100 | 1,9 |
| Female researchers (as % of all researchers in the region) | 33,7 | 30 |
| Average number of researchers per research organisation | 22,0 | 14,1 |
| Applied research (as % of total research) | 63,8 | 53,6 |

Source: SURS

The share of innovation active enterprises (see table 3) in the Coastal Karst Region (Obalno-kraška region) is around 30 %, that is above the national average.

### Table 3: Innovation active enterprises in the Slovenian regions


Source: SURS

# 4.3. INVESTIGATION OF EXISTING POLICIES AND INITIATIVES ADOPTED IN (ECO)INNOVATION FIELD IN SLOVENIA AND ESPECIALLY IN THE COASTAL KARST REGION

## 4.3.1.National level

### 4.3.1.1 (Eco)innovaton Policies

Slovenia had with the accession to the EU found itself on the evolutionary turning point where traditional approaches to increase competitiveness, such as encouraging foreign direct investment and cost depletion are losing in their importance. For the further development have become important approaches that promote the innovative capacity and competitiveness through innovative products. In the last years was made large progress in the area of support to innovations. At the same time, the problem of Slovenia as EU country is that it does not have prepared National system of innovation (NSI). Slovenia has fragmented support to the needs of the business and regions, also it has to some degree uncoordinated actions of actors of supportive environment for the development. Problem is also orientation of education system in the labour market in "job takers", and not in the "job makers". Slovenia is based on the estimations of various international researches according to the innovative capacity on the lower end in the EU, according to the cooperation between industry and research sphere is placed even at the last place [2].

However Slovenia is making progress in certain indicators, particularly in the area of increased business R&D investment. Business sector R&D investment accounted for more than 60% of total R&D costs [8].In spite of several measures introduced to overcome this, the general perception of lack of cooperation between public research and business sector remains and as such represents one of the main challenges for innovation policy. Given a rate of public R&D expenditure (as a share of GDP) close to the EU25 average (ranked 9th), a key challenge of the Slovenian Innovation System is an insufficient rate of commercialisation of research activity exemplified by the extremely low, if improving, rates of patenting (particularly by the public/academic sectors). Even in terms of new-to-firm products Slovenia performs very weakly (29 percent of the EU25 average, ranked 21st in the EU25).

For Slovenia, innovation performance is just below the EU27 average but the rate of improvement is above that of the EU27 [3]. Relative strengths, compared to the country’s average performance, are in Human resources, Finance and Support to innovators.

Trends in research and development in the last two years (2005-2006) indicate a positive shift, so that Slovenia's development reduces backlog in this area. The gross domestic expenditure on R%D activity increases in GDP since 2004, most progress was reached in 2006 when the share reached 1.59% of GDP. After 2003 the growth of expenditure on R & D in Slovenia is higher than GDP growth. At the same time the R & D expenditure as a

proportion of GDP in countries OECD and EU has in this period stagnated. As a result, reduced the backlog of Slovenia relative to EU-27 average to 0.25%, what is so far the smallest difference. Slovenia has the largest share of R & D in the national GDP among the new EU member states, in this regard is moving faster than some of the old member states (Table 4). Notwithstanding the mentioned favourable developments for achieving the Barcelona target of 3% in GDP Slovenia is likely to require a longer period than was originally indicated in the development documents. Positive changes are also reflected in the structure of funding R & D towards strengthening the role of the business sector, which are result of the economic measures policy. The largest real increase in expenditure on R & D in 2006 has reached business sector (22.6%). Furthermore, the business sector is the largest funder of the investment in R & D (59.3%), however in the most advanced EU countries where the total expenditure on R & D is much higher than in Slovenia, business sector financed even a much larger share of investment in R & D.

**Table 4: R&D expenditure in EUR million in 2006 and annual average growth rate 2001-2006, by sector of performance, EU 27 and selected countries**

| | Total | | Business enterprises | | Government | | Higher education | | Private non profit | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EUR million | AAGR 2001-2006 | EUR million | AAGR 2001-2006 | EUR million | AAGR 2001-2006 | EUR million | AAGR 2001-2006 | EUR million | AAGR 2001-2006 |
| EU-27 | 213 127 e | 3.6 | 135 716 | 3.2 | 28 777 e | 4.1 | 46 686 e | 4.2 | 1 968 e | 7.4 |
| BE | 5 798 p | 3.2 | 3 934 | -25.1 | 500 p | -22.7 | 1 291 p | 5.1 | 72 p | 4.3 |
| BG | 121 | 11.3 | 31 | 16.2 | 78 | 10.2 | 12 | 5.9 | 1 | 54.7 |
| CZ | 1 761 | 16.2 | 1 165 | 18.4 | 309 | 9.4 | 279 | 16.6 | 7 | 12.8 |
| DK | 5 349 p | 4.6 | 3 560 p | 3.9 | 360 p | -6.5 | 1 396 p | 11.5 | 32 p | 0.4 |
| DE | 58 231 e | 2.3 | 40 531 e | 2.2 | 6 100 e | 2.5 | 9 600 e | 2.4 | : | : |
| EE | 151 p | 25.3 | 67 p | 32.5 | 20 | 23.6 | 61 | 20.0 | 3 | 26.2 |
| IE | 2 306 | 12.4 | 1 560 p | 11.6 | 145 | 6.9 | 601 | 16.5 | : | : |
| EL | 1 223 e | 7.5 | 367 e | 5.7 | 254 e | 6.3 | 585 e | 8.9 | 16 e | 39.5 |
| ES | 11 615 p | 13.7 | 6 556 p | 15.0 | 1 971 p | 14.6 | 3 266 p | 11.1 | 21 p | -16.4 |
| FR | 37 983 p | 2.9 | 24 061 p | 3.0 | 6 546 p | 3.8 | 6 875 p | 2.0 | 480 p | 1.0 |
| IT | 15 599 | 3.5 | 7 866 | 4.2 | 2 701 | 2.0 | 4 712 b | 1.6 | 330 | : |
| CY | 62 p | 17.6 | 14 p | 21.0 | 18 p | 7.0 | 26 p | 29.1 | 5 p | 13.5 |
| LV | 112 | 24.4 | 57 | 32.7 | 17 | 15.9 | 39 | 19.5 | 0 | : |
| LT | 191 | 15.9 | 53 | 14.9 | 44 | 3.8 | 94 | 26.6 | : | : |
| LU | 497 e | 5.3 | 422 e | 3.8 | 63 p | 15.8 | 12 p | 54.0 | : | : |
| HU | 900 | 10.4 | 435 | 14.6 | 226 | 10.0 | 219 | 9.2 | : | : |
| MT | 28 p | 23.5 | 17 p | 55.2 | 1 | -9.3 | 9 | 7.2 | 0 | : |
| NL | 9 168 ep | 2.6 | 5 392 ep | 2.7 | 1 261 ep | 2.5 | : | : | : | : |
| AT | 6 324 e | 7.8 | 4 284 e | 8.2 | 325 e | 5.1 | 1 689 e | 7.5 | 26 e | 5.6 |
| PL | 1 513 | 2.7 | 477 | 0.1 | 560 | 6.2 | 469 | 1.6 | 7 | 23.3 |
| PT | 1 201 | 3.7 | 462 | 6.6 | 176 | -5.0 | 425 | 2.6 | 138 | 5.4 |
| RO | 444 | 20.2 | 215 | 14.6 | 144 | 24.6 | 79 | 31.5 | 6 | : |
| SI | 486 p | 7.3 | 293 p | 8.3 | 119 p | 7.4 | 73 p | 5.7 | 1 p | -31.8 |
| SK | 217 | 7.7 | 93 | -1.5 | 71 | 14.9 | 52 | 31.2 | 0 | : |
| FI | 5 761 | 4.5 | 4 106 | 4.6 | 539 | 2.7 | 1 079 | 5.3 | 36 | 3.8 |
| SE | 11 691 | 2.2 | 8 754 | 1.5 | 525 | 12.1 | 2 387 | 2.7 | 25 | 20.9 |
| UK | 31 828 | 2.0 | 19 611 | 0.5 | 3 361 | 3.3 | 8 144 | 5.1 | 712 | 8.0 |
| IS | 364 | 8.7 | 187 | 5.1 | 86 | 13.1 | 80 | 13.0 | 11 | 16.6 |
| NO | 3 997 p | 5.6 | 2 130 p | 3.3 | 537 | 7.5 | 1 229 | 9.6 | : | : |
| CH | 8 486 | 5.5 | 6 257 | 5.4 | 91 | 0.2 | 1 943 | 5.5 | 194 | 10.2 |
| HR | 297 | 2.4 | 109 | -1.4 | 79 | 7.0 | 109 | 3.5 | 0 | : |
| TR | 2 287 | 25.0 | 774 | 25.1 | 264 | 45.2 | 1 249 | 21.9 | : | : |
| CN | 30 002 | 16.4 | 21 326 | 20.2 | 5 910 | 7.2 | 2 766 | 14.9 | 0 | : |
| JP | 118 295 | -3.7 | 91 277 | -2.8 | 9 795 | -6.4 | 15 012 | -6.2 | 2 212 | -7.8 |
| RU | 6 453 | 16.0 | 5 630 | 14.6 | 2 285 | 18.5 | 517 | 19.6 | 21 | 20.9 |
| US | 273 772 p | -2.5 | 192 571 p | -3.1 | 30 471 p | -2.7 | 39 095 p | 0.8 | 11 635 p | -0.6 |

Exceptions to the reference year:
2005: IT, PT, UK, IS and TR;
2004: CH;

Exceptions to the reference Period:
2000-2004: CH;
2000-2006: LU;
2001-2005: IT, PT, UK and IS;
2002-2005: TR;
2002-2006: MT, AT and HR.

Source: Eurostat - R&D statistics and OCDE-MSTI

In conjunction with strengthening the business sector expenditure on R & D is also in gradual increase the share of employed researchers in business sector. However, the share of employed researchers in business sector is still significantly lower than the average in the EU, where the share of researchers in the business sector reaches almost 50%.

Slovenia has in recent years made progress on investment in R & D activity; however, challenge for the future remains raising efficiency of use of these funds. Slovenia has in recent years already taken series of measures for knowledge creation and transfer in the corporate sector, but their implementation is going too slow. That has been mentioned also in the European Commission report on the implementation of the Lisbon Strategy in 2007, which states that Slovenia should develop research and innovation strategy and make implementation of support measures more effective. To support this process was in early 2008 established the Competitiveness Council (OJ RS, 14/08), aimed at improving cooperation between the corporate sector, institutions of knowledge and the Government on policy formulation and implementation of policies to promote technological development. In the frame of that were established 10 development teams, whose task is to design programs in specific areas to which the public funds are concentrated. Prospects for further progress in the field of effectiveness of R & D investment are also effects of evaluation of accepted measures and creating a coherent and stable framework of innovation policy with clearly stated responsibilities of various ministries and agencies and coordination their activities (INNO-Policy TrendChart Report on Slovenia, 2007).

Although relatively late comparative to other developed countries, support policies focused in tax relief has recently been actively increased. The high growth business sector expenditure on R & D funding in 2006 by 20-times relative to 2005 results from tax incentives and therefore does not totally reflect the real picture. In addition, creation of links between the research sphere and entrepreneurship sector is increasing, but this remains one of the weaknesses in the areas 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.

The number of Slovenian patent applications at the European Patent Office (EPU) increases which results in reducing the country's deficit of patent applications being below the European average. Slovenia has in the period 2000-2004 increased the number of patent applications per million population from 25.5 to 53.8 and reached 13th place among members of the EU-27. It ranks before all the new and even before some of the old State, which is understandable given the fact that countries with higher expenditure on research and development are also increasing number of patent applications. However this increase is also result of some funding incentives for patent application which a bit distorts the picture. Although the Slovenia has in this area still large backlog relative to the average of EU-27 (in 2004, 112 patent applications per million inhabitants), as well as relative to the most developed member states (for example, Germany 282). Nevertheless Slovenia has halved this gap in the observed period.

### 4.3.1.2 (Eco)Innovation Initiatives

Slovenia has established series of innovation initiatives at a national level. Some initiatives are presented in the table below.

## Overview of existing (eco) innovation initiatives undertaken at a national level

| **Title of measure** | **Vaucher system for consultancy and training services** |
|---|---|
| **Overview** (nature, main goals) | Objectives of the measure are (cited from the official document of Public Agency for Entrepreneurship and Foreign Investment- PAEFI): - to increase the number of dynamic, growing enterprises, to keep existing and establish new working places, to stimulate eBusiness, to stimulate development of entrepreneurship, to improve access to consultancy for potential entrepreneurs and existing enterprises, to increase the number of SMEs. With subsidiesed costs of consultancy a larger number of potential entrepreneurs would decide to start business and establish an enterprise. Provided consultancy could help new founded SMEs to survive initial critical years as well as timely reorganisation and modernisation of the older SMEs. |
| **Background and rationale** (Analytical reasoning why this measure is being created) | Small businesses are often reluctant to approach consultancy services due to high costs. The aim of the measure is to increase the demand for external expert help through assurance of qualitative and financial accessible consulting services for different target groups. Beside, the measure objectives are also to improve the operation of entrepreneurs, initiate self-employment and rural development. |
| **Policy Priorities** | 4.2.1 Support to innovation management and advisory services<br>4.2.2 Support to organisational innovation incl. e-business, new forms of work organisations, etc<br>4.3.1 Support to innovative start-ups incl. gazelles |
| **Start date** | 2001 |
| **Expected ending** | No End Date Planned |
| **Target groups** | |
| **Please indicate which group(s) are the targets or benificiaries of the programme and also which group(s) are eligible to apply for funding** | |

| **Category** | **Target of measure** | **Eligible for funding** |
|---|---|---|
| SMEs only | ✓ | ✓ |

| | |
|---|---|
| **If more than one target group is eligible, is** | Only proposals from single organisations are accepted<br>**Other (please specify)**<br>Target groups: 1.existing SMEs 2. potential entrepreneurs (young people above 18 starting a business, unemployed people registered with Employment Agency and other individuals, starting a business or self-employment status) |
| **Aspect of innovation process addressed by the measure Promotion of entrepreneurship/start up (including incubators)** | Awareness raising amongst firms on innovation<br>Innovation management tools (incl quality)<br>Promotion of entrepreneurship/start up (including incubators) |
| **What are the eligibility and selection criteria for** | The access to vouchers is assured by VEM entry point. The first step is an interview with an entrepreneur/ an individual with the qualified advisor at the VEM entry point. |

| | |
|---|---|
| **participating in the measure?** | The advisor makes expert decision whether the applicant should be included in the programme. The acceptance in the programme gives the entrepreneur an opportunity to use the consultancy services on the base of subsidised price. It is important, that entrepreneur selects the consultant on the basis of his/her own judgement, but from the database of consultants at PAEFI. |
| **In what form is funding provided?** | Grants<br>Specify other: |
| **What are the eligible costs, where direct funding is provided?** | External expertise (consultants, studies, etc.) |
| **Sources of financing (other than national public sources of funding)** | Co-financed by the private sector |
| **Overall budget** | Overall budget in EUR **3,700,000**<br>further information **The value of voucher is different: existing SMEs can get subsidy from 2,500 to 4,000 EUR, individual future employees' subsidy is 1,500 EUR.** |
| **Information Souce/Reference** | Website: http://www.podjetniski-portal.si/ustanavljam-podjetje/vavcersko-svetovanje<br>English website: http://www.japti.si/home |
| **Legal basis** | Programme for promotion of entrepreneurship and competitiveness, Ministry of Economy Annual workprogramme of PAEFI |
| **Launching Agency** | Ministry of Economy |
| **Agency administering** | Public Agency for Entrepreneurship and Foreign Investment- PAEFI |
| **Funding Agency** | Ministry of Economy |
| **Manager(s) responsible for the measure** | Jesovnik Peter - (Public Agency for Entrepreneurship and Foreign Investment) |
| **Information Souce/Reference** | Website: http://www.japti.si/resources/files/doc/javni_razpisi/56/inovacijski_vavcer_RD_Javni%20razpis_170709.doc |
| **Legal basis** | Work programme and financial plan of PAEFI, approved by the government on Apil 16, 2009. |
| **Launching Agency** | Ministry of Economy |
| **Agency administering** | Public Agency for Entrepreneurship and Foreign Investment- PAEFI |
| **Funding Agency** | Ministry of Economy |

| **Title of measure** | **Support to VEM services** |
|---|---|
| **Overview** (nature, main goals) | The measure supports establishment of a network of local consultancy companies which will be able to assist the Public Agency for Entrepreneurship and Foreign Investment (PAEFI) in providing different services to SMEs, especially to new businesses. PAEFI will co-finance the services provided by the selected consultancy firms in their locality. The list of services such a consultancy firm needs to be able to provide has been specified and is related closely to overall programme of PAEFI. |

| | |
|---|---|
| **Background and rationale** | In the process of improving the entrepreneurial environment for SMEs, the government introduced a system VEM (I know) as a single entry point for SMEs. To assure client-friendliness and yet not go into establishment of offices throughout the country, PAEFI decided to select certain number of existing business consultancy firms and entrust them the implementation of their programmes: standard business consultancy on setting up a firm, assistance in registering as well as running of the voucher program. This system should provide for easier access to start-ups especially. |
| **Policy Priorities** | 4.3.1 Support to innovative start-ups incl. gazelles<br>5.1.1 Support to the creation of favourable innovation climate (ex. roadshows, awareness campaigns)<br>5.3.3 Support to the innovative use of standards |
| **Targeted research and technology fields** | No specific thematic focus |
| **Addressing innovation-related Lisbon guideline elements** | 1. Improvements in innovation support services, in particular for dissemination and technology transfer. |
| **Start date** | 2008 |
| **Expected ending** | No End Date Planned |

**Target groups**

| Category | Target of measure | Eligible for funding |
|---|---|---|
| Consultancies and other private service providers (non-profit) | ✓ | ✓ |
| Technology and innovation centres (non-profit) | ✓ | ✓ |
| Business organisations (Chambers of Commerce...) | ✓ | ✓ |

| | |
|---|---|
| **Overall implementation structure of the programme:** | In accordance with the density of enterprises, selected consultancy firms will be subsidiesed to provide required services to SMEs and especially, start-ups. The services include one-stop registration point for new entrepreneurs, different types of consultancy provided through the voucher programme, distribution of information on business financing opportunities, etc. |
| **Management structure:** | The measure is to be managed by Public Agency for Entrepreneurship and Foreign Investment. |
| **Review of progress:** | The selected consultancy firms need to report on the services provided on a periodic basis. |

**Selection criteria**

| | |
|---|---|
| **What are the eligibility and selection criteria for participating in the measure?** | - completeness of the services offered, past record of providing assistance to SMEs, qualified staff |
| **What are the eligible costs, where direct funding is provided?** | Labour costs (including overheads)<br>Equipment<br>Other<br>advertisment costs |
| **Overall budget** | Overall budget in EUR **2.500 000**<br>Year :<br>- 2008 1.200.000 EUR<br>- 2009 1.300.000 EUR |
| **Information Souce/Reference** | Website: http://www.japti.si/index.php?t=razpisi&id=12 |

| | |
|---|---|
| | English<br>website: http://test.japti.si/subcontent.aspx?docid=3012&rootnodeid=18 |
| **Legal basis** | Programme for promotion of entrepreneurship, 2007, Ministry of Economy Annual Programme of Work of PAEFI, 2008-09 |
| **Launching Agency** | Ministry of economy |
| **Agency administering** | Public Agency for Entrepreneurship and Foreign Investment |
| **Funding Agency** | Ministry of Economy |
| **Manager(s) responsible for the measure** | Lozar Valentina - (Public Agency for Entrepreneurship and Foreign Investment) |

| **Title of measure** | **Research Group Programme Financing Scheme** |
|---|---|
| **Overview** (nature, main goals) | Research Group Programme is a scheme that supports long-term basic research. The Programme was introduced as a response to the requests voiced by the science community, in particular by the large research institutes, which found it difficult to develop longer term basic research under the conditions of annually changing budgets in the second half of nineties. This led to elaboration of Research Group Programme, where three to six year contracts are awarded for public funding of basic research in the field of natural sciences, engineering, medical sciences, biotechnology sciences, social sciences and humanities. Since its inception, this has been the largest source of public funding for research. |
| **Background and rationale** (Analytical reasoning why this measure is being created) | Research Group Programme financing scheme is among key instruments that contribute to fulfilling the goals of National Research and Development Programme, by financing long-term basic research. The scheme was introduced in 1999 under the pressure of large research institutes who argued for more stability in research funding. Previous system of annual or two-year research projects had caused serious liquidity problems due to delays in public calls for research projects and complicated administrative procedure. The long-term financing, it was argued, should support especially basic research, where evaluation of results is also not possible on short-term basis. |
| **Policy Priorities** | 1.2.1 Strategic Research policies (long-term research agendas)<br>2.1.1 Policy measures concering excellence, relevance and management of research in Universities<br>2.1.2 Public Research Organisations |
| **Addressing innovation-related Lisbon guideline elements** | 2. The creation and development of innovation poles, networks and incubators bringing together universities, research institutions and enterprises, including at regional and local level, helping to bridge the technology gap between regions. |
| **Start date** | 1999 |
| **Expected ending** | 2014 |

**Target groups**

| Category | Target of measure | Eligible for funding |
|---|---|---|
| Higher educations institutions research units/centres | ✓ | |
| Other non-profit research organisations (not HEI) | ✓ | |
| Higher education institutions (education function) | ✓ | |

| | |
|---|---|
| | |
| **If more than one target group is eligible, is** | Co-operation/networking optional (e.g. associating SMEs as users)<br>**Other (please specify)**<br>The Research Group Programme is opened to the researchers in public research institutions, universities, independent education institutions and other research groups organised by public and private legal entities on the basis of concessions. The key condition for the eligibility for funding is meeting the basic criteria for the composition of the research group. |
| **Type of Research Activity targeted:** | Basic research<br>Problem driven (basic) research |
| **Overall implementation structure of the programme:** | The Slovenian Research Agency which administers the Research Group Programme, publishes a public call for the research proposals. The eligibility criteria specifies the composition of the research group and requests a detailed description and argumentation for the proposed research. The eligibility and the evaluation criteria is included in the call. The grant covers the labour costs, overhead and material costs for research team, but only in the amounts prescribed within so called Full Time Equivalent (FTE). The value of FTE is annually set by the Slovenian Research Agency. |
| **Management structure:** | The programme consists of 3-6 year-cycles, which start with the public call for research programmes/research groups proposals. Selected programmes are awarded by 3-6 year contracts, which are verified annually. Final evaluation takes place at the end of project. |
| **Review of progress:** | Reports are submitted by programme groups for each year and at the end of the fifth year for the final evaluation. Report template is provided by the Slovenian Research Agency and requests key scientific and bibliographic results and self-assessment of socio-economic relevance of the programme. The templates are frequently changed as are the evaluation criteria. |
| **What are the eligibility and selection criteria for participating in the measure?** | Research Group Programme is open to groups of researchers which comprise of a head of group (renown senior researcher with international reputation), at least five researches holding a doctorate and technical staff. The members can be from one or more research organisations. Programme group members can take part only in one such group. Researchers must have a record of research and development results for the last five years, and research titles in line with existing regulations. Researchers financed under the Young Researchers Scheme may also participate in the programme group, but do not receive extra funds.<br>Evaluation process is spelled out by the Slovenian Research Agency which is responsible for monitoring and administering programmes. The Agency organises the evaluation process with the help of advisory bodies it appoints. The proposals are evaluated within their scientific field. So far, bibliometric criteria was favoured, especially scientific articles and citation indexes. |
| **Selection of projects / participants** | Research groups submit proposals on fixed calls. Proposals are evaluated by designated evaluators. The evaluation process looks at the scientific records of the programme coordinator and of the team and evaluates the scientific and economic or social relevance of the research programme. So far each call had specific evaluation process. |
| **What State Aid framework is applied to the measure** | The programme does not correspond to any State Aid Framework. |
| **In what form is funding provided?** | Grants<br>Specify other: |
| **What are the eligible** | Labour costs (including overheads) |

| | |
|---|---|
| **costs, where direct funding is provided?** | Equipment<br>Training (including study trips) |
| **Overall budget** | Overall budget in EUR **56,006,964 (2009)**<br>further information<br>**The budget for the total Research Programme Financing Scheme is set for 3-6 year period while a more detailed distribution of funds among programme groups is made on an annual basis. In 2009, the annual budget is 56 million EUR, covering 885 FTE.**<br>Year :<br>2007 - 51.466.395 EUR<br>2008 55.344.808 EUR<br>2006 - 50.600.454 EUR |
| **Information Souce/Reference** | Website: http://www.arrs.gov.si/sl/progproj/rprog/<br>English<br>website: http://www.arrs.gov.si/en/progproj/rprog/index.asp |
| **Relevant further information** | After the completion of the first five-years round of programme financing for the period 1999-2003, the second round started in 2004 and run till the end of 2008. The current financing scheme started with January 2009, but now the period of financing programme groups varies from three to six years. No formal indication of future developments has been made so far, but it is likely that the programme groups, which received only three years contracts will be advised to apply for research project funding. Due to its importance in financing basic research, it is unlikely that the system of research programme groups will cease in the near future. |
| **Legal basis** | Law on Research and Development (2002) (http://www.uradni-list.si/1/content?id=39210) National Research and Development Programme (http://www.uradni-list.si/1/content?id=67936). Rules on the quality assessment of the research programmes of universities and national research institutes (Official Gazette of the RS, No. 52/98, 67/98, 72/98, 102/2001 and 47/2003). |
| **Launching Agency** | The launching agency was the Ministry of Education, Science and Sport (Ministrstvo za solstvo, znanost in sport, MSZS), since 2004 renamed in the Ministry of Higher Education, Science and Technology (Ministrstvo za visoko šolstvo, znanost in tehnologijo). |
| **Agency administering** | The agency administering the scheme is Slovenian Research Agency (Javna agencija Republike Slovenije za raziskovalno dejavnost, ARRS). |
| **Funding Agency** | The funding agency is Slovenian Research Agency. |
| **Manager(s) responsible for the measure** | Simon Oso, authorised coordinator<br>tel.<br>e-mail: Simon.Oso@arrs.si |

| **Title of measure** | **Young Researchers' Programme** |
|---|---|
| **Overview** (nature, main goals) | The Young Researchers Programme is one of the most successful activities in the area of education and training for R&D and innovation. The Programme was already set up in 1985 and has over the years worked successfully in bringing young people into research. The impact was so significant that it actually lowered the average age of researchers in the public research sector in Slovenia.<br>The programme finances young people, selected by higher education institutions and public research institutes to be potential candidates for researchers, during their M.A. or Ph.D. studies. During their studies they have a mentor in this institution and take part in the research as junior assistants. The Ministry, responsible for science (MHEST) pays for their salary, tuition fees as well as mentorship costs. Since the establishment of |

| | |
|---|---|
| | Slovenian Research Agency, the programme is coordinated and executed by the Agency.<br>In 1993, the programme was expanded with a special sub-programme, open only to young people from the business sphere who continued to be employed in business sector and have constant links with the sector during their training period. This was designed to respond to criticisms that the Young Researchers Programme was too focused on the public research sector. The recipient of funds under the new scheme is a legal entity in the business sector, technology centre or regional development agency which has an independent research and development group or has established a cooperation with a research institution where the young researcher will complete his/hers Ph.D. education.<br>Since 2006, the two programmes have been separated and the one for Young researchers from business sector is implemented by the Slovenian Technology Agency (TIA).<br>The Slovenian Research Agency provides financing for around 1200 young researchers every year, representing around 850 to 900 FTEs (full-time equivalents for young researchers on full salary). Between 200 and 250 new young researchers complete the training programme every year, with the same number of new young researchers being included in the programme.<br>A new condition was added to Young Researchers' contracts since 2006/07, requesting that each of the participants in the programme takes a compulsory 20 hours course on Entrepreneurship and Innovation. This was introduced with the ambition to give the future researchers some of the very basics of entrepreneurship and thus stimulate in the long-run cooperation between R&D sector and business sector. |
| **Background and rationale** (Analytical reasoning why this measure is being create | At the time the programme was conceptualised, the research sector in Slovenia experienced lack of interest among young people to continue their post-graduate studies with the aim of going in research. Research organisations had limited funds to employ young people and finance their studies, and the number of research staff was decreasing. Even though now the age structure in research sector has improved significantly, the programme is assessed as succesful and still needed. It has expanded and now opens extra window for young researchers in business sector R&D units. |
| **Policy Priorities** | 1.2.1 Strategic Research policies (long-term research agendas)<br>3.1.3 Stimulation of PhDs<br>3.2.1 Recruitment of researchers (e.g. fiscal incentives) |
| **Start date** | before 1995 |
| **Expected ending** | no end date planned |

**2.5. Target groups**

**2.5.1 Please indicate which group(s) are the targets or benificiaries of the programme and also which group(s) are eligible to apply for funding**

| Category | Target of measure | Eligible for funding |
|---|---|---|
| Higher educations institutions research units/centres | ✓ | |
| Other non-profit research organisations (not HEI) | ✓ | |
| Higher education institutions (education function) | ✓ | |

| | |
|---|---|
| **Type of Research Activity targeted:** | Basic research<br>Problem driven (basic) research<br>Applied industrial research<br>Social sciences research |
| **Overall implementation structure of the programme:** | The call for young researchers's programme is announced annualy. First the call is issued for the selection of mentors, where university professors and senior researchers, who meet relatively strict criterium, can apply (there is a special emphasis on the selection of younger mentors). Once they are selected, their |

| | |
|---|---|
| | employer can announce an open position for a junior researcher. The selection of the candidate is primarily done by the institute/ university, but needs to be approved by the Slovenian Research Agency. A tri-partite agreement is signed at the end which sets the rules by which the financing will be implemented. |
| **Selection of projects / participants** | Research Organisations issue public calls for candidates for young researchers to work with the selected mentors in the daily press and/or the Official Gazette of the Republic of Slovenia. They shall send the Slovenian Research Agency a statement confirming that candidates have been selected by public call, and provide proof that individual young researchers meet the call criteria.<br><br>Young researchers must:<br>• have at least university-level education in the appropriate field;<br>• have an average grade for all examinations and coursework (excluding the degree examination) of at least 8.00; if a young researcher is already registered for postgraduate study or has completed a master's degree, the average grade for the first degree work shall not be relevant;<br>• be aged up to 28 years inclusive (with respect to the year of birth); if a young researcher has already enrolled in a postgraduate study programme without financial support from the Agency or ministry responsible for science, the age of the candidates may rise above 28 years, namely, one year shall be added for each study year.<br>The following are the criteria for evaluating candidates:<br>• The average grade for all examinations and coursework at undergraduate level (excluding the degree examination) must be at least 80% of the average for examinations and coursework at that level;<br>• A completed master's degree;<br>• Enrollment in a postgraduate study programme;<br>• An award or prize;<br>• Published articles;<br>• Collaboration in research work.<br>The selection of candidates applying to a Research Organisation for public calls is carried out by the Research Organisation in agreement with the selected mentors. The mentors check that candidates meet the conditions and evaluate them in writing (for details see http://www.arrs.gov.si/en/mr/akti/prav-MR-RO-januar08.asp ). |
| **In what form is funding provided ?** | Grants |
| **What are the eligible costs, where direct funding is provided ?** | Labour costs (including overheads)<br>Equipment<br>Training (including study trips)<br>Other<br>mentorship |
| **Overall budget** | Overall budget in EUR **31,726,280**<br>further information<br>**The budget for the year 2009 is a proposed figure by the Slovenian Research Agency (SRA), which still needs to be approved by the government. But since this figure represents contractual obligations of the SRA, it is unlikely that it will be lowered.**<br><br>Year :<br>2007 – 26.637.390 EUR<br>2008 – 30.449.509 EUR |
| **Were any indicators specified ex ante for the measurement of the results** | No |
| **Information Souce/Reference** | Website: http://www.arrs.gov.si/sl/mr/index.asp |

| | |
|---|---|
| | English website: http://www.arrs.gov.si/en/mr/ |
| **Relevant further information** | Young Researchers from business sector The programme was expanded by an additional programme Young Researchers from business sector, first implemneted by the Ministry of Higher Education, Science and Technology. From 2007 on, this programme is coordinated by the Slovenian Technology Agency. |
| **Legal basis** | Rules on the Training and Financing of Young Researchers in Research Organisations http://www.arrs.gov.si/en/mr/akti/prav-MR-RO-januar08.asp |
| **Launching Agency** | At the time (1985) the launching agency was the Republic of Slovenia's Office of Science and Technology. Later, the programme was moved under the Ministry of Science and Technology (1991). With the establishment of Slovenian Research Agency in 2004, the implementation of the programme was entrusted to the Agency. |
| **Agency administering** | Slovenian Research Agency. |
| **Funding Agency** | Slovenian Research Agency. |
| **Manager(s) responsible for the measure** | Simon Oso, simon.oso@arrs.si - Slovenian Research Agency. |

| **Title of measure** | **Technologies for Security and Peace 2006-2012** |
|---|---|
| **Overview** (nature, main goals) | The main goals of the official programme called **Technologies for Security and Peace**, financed by the Ministry for Defense, Ministry of Economy and Ministry of Higher Education, Science and Technology and executed by Slovenian Technology Agency are: development of research and development in the Slovenian defense industry sector and the promotion of R&D cooperation between public institutions and private business enterprises in the area of defense & security technologies. The goals are linked to the Slovenian membership in the EU and NATO and are focused on improvement of the Slovenian defense capabilities. Through annual call technology development projects in areas specified by the Ministry of Defense are financed. |
| **Background and rationale** (Analytical reasoning why this measure is being created) | The key reason why Ministries decided to promote the project of Technologies for Security and Peace was the restructuring of Slovene military to a higher, more professional standard. It is important to engage both private as well as public R&D capabilities for the purpose of military and security technologies development in various fields. |
| **Policy Priorities** | 2.2.3 R&D cooperation (joint projects, PPP with research institutes)<br>2.3.1 Direct support of business R&D (grants and loans)<br>4.1.1 Support to sectoral innovation in manufacturing |
| **Addressing innovation-related Lisbon guideline elements** | 1. Improvements in innovation support services, in particular for dissemination and technology transfer. |
| **Start date** | 2007 |
| **Expected ending** | 2012 |

**Target groups**

| Category | Target of measure | Eligible for funding |
|---|---|---|
| All companies | ✓ | |

| | | |
|---|---|---|
| Higher educations institutions research units/centres | ✓ | |
| Other non-profit research organisations (not HEI) | ✓ | |
| Technology and innovation centres (non-profit) | ✓ | |
| Business organisations (Chambers of Commerce...) | ✓ | |

| | |
|---|---|
| **Overall implementation structure of the programme:** | The measure is implemented through annual calls, issued by Technology Agency (TIA) on behalf of the Ministry of Defense and supported also by the Ministry of Higher Education, Science and Technology. For each call, the Ministry of Defense prepares the specification as to the technology fields to be covered by the applicants and sets selection criteria jointly with TIA. |
| **Management structure:** | The annual call is managed by Technology Agency (TIA). Once TIA completes the selection procedure, the awarded contracts are verified by the Ministry of Defense. Their supervision and payment of financial installments is carried out by TIA. |
| **In what form is funding provided?** | Grants |
| **What are the eligible costs, where direct funding is provided?** | Labour costs (including overheads)<br>Infrastructure (buildings)<br>Training (including study trips)<br>External expertise (consultants, studies, etc.) |
| **Overall budget** | Overall budget in EUR **5.4 million**<br>further information<br>**The budget specified relates to the call published in beginning of 2009. Since some of the projects, selected through the calls issued in previous years are still running and are being financed, this means that the budget for the entire measure is larger, but can only be estimated on the basis of the Technology Agency overall annual Workprogrammes. For 2009, this measure will receive 4.5 million EUR.**<br>Year :<br>2009 4,5 million EUR<br>2008 4.0 million EUR<br>2007 1.4 million EUR |
| **Information Souce/Reference** | Website: http://www.tia.si/TPMIR08,556,0,1,1.html#Opis<br>English website: http://www.tia.si/o_agenciji,533,0.html |
| **Legal basis** | Law on R&D activities<br>(OG 96/02, 115/05) and<br>VII. point of Conclusion on executing and financing the technology program "Technology for Security and Peace" (2006 - 2012) |
| **Launching Agency** | Ministry of Defense and Ministry of Higher Education, Science and Technology. |
| **Agency administering** | Slovenian Technology Agency - TIA. |
| **Funding Agency** | Ministry of Defense. |

### 4.3.2. Regional level

#### 4.3.2.1.(Eco)innovation Policies

**REGIONAL DEVELOPMENT PROGRAMME OF SOUTH PRIMORSKA 2002-2006**

Quantified objectives of the RDP of South Primorska until 2006

The quantified objectives of the regional development programme of South Primorska until 2006 are:

- to reduce the lagging behind of the region in comparison with the bordering EU regions and consequently achieve at least 25% faster growth of GDP in purchasing power standards per inhabitant;
- to achieve 25% faster growth of productivity (in comparison with the average in bordering EU regions);
- ti decrease by half the lagging behind of the gross income tax base per inhabitant in the Karst part of the region in comparison with the coastal part;
- to increase the enrollment of the youth in undergraduate studies (to 55%) and the integration of the entire population in other forms of education;
- to reduce the rate of unemployment to 6.5%;
- to extend the life expectancy at birth;
- to develop a competitive system of publicpassenger transport and to increase the number of passengers by 50%;
- to raise the quality class of riverrs by half a class;
- to prepare and adopt a regional spatial development plan and – adapted to it – the municipal spatial elements of plans in all municipalities according to the principles of sustainable development;
- to achieve successful functioning of regional development coalition.

Priority action fields and development tasks

The region will realize its development programme through the following priority action fields and development tasks:

- in the field of economy, primarily by increased competitiveness of companies and promotion of investment; development of tourism, agricultural and rural development.
- In the field of human resources, primarily by improvement of educational level, better living conditions in the region and employment support.
- In the field of the improvement of infrastructure for sustainable development, primarily by better accessibility of the region and sustainable mobility, rational and environment friendly use of energy, and development of information and communication infrastructure and services.

- In the field of environmental protection and sustainable spatial planning, primarily by protection of water sources and availability of drinking water supply, regulation of water management and revitalization of historic village and town centres.
- In the field of institutional strengthening, primarily by establishment of an efficient regional development agency and a network of specialized structures and services in support of faster development.

## REGIONAL DEVELOPMENT PROGRAMME OF SOUTH PRIMORSKA 2007-2013

Until the establishment of regions in Slovenia the only instrument through which is formed and being introduced the development policy in the region is the regional development programme (RDP). Just like for the period 2000 – 2006, also the current RDP for the programme period 2007 – 2013 is adopted for South Primorska, which includes thee municipalities from Slovenian Istria, four municipalities from Karst and the municipality of Ilirska Bistrica. With a successful realization of RDP the region will realize its vision, in which is planned an economically successful region, in accordance with the principles of sustainable development and the preservation of natural and cultural heritage.

In the field of economic development the programme results from the findings of SWOT analysis, which outlined the following weak points:
- insufficient investment in innovation, insufficient promotion of innovation.

### Long-term goals

In the seven-year period of the current RDP of South Primorska the region will primarily focus on the improvement of its economic position and on definitive establishment of basic environmental infrastructure. More in detail it is determined in **two long-term goals** of RDP:

1. Until the end of 2013 the region will increase the value added per inhabitant to 20.000 EUR and reduce the development gap in comparison with the neighbouring Italian region Friuli Venezia Giulia.
2. 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.

### Priorities

In accordance with long-term goals of the region were determined as priorities of the region for the programme period the following two priorities: Knowledge and technology for the development of the economy, and Infrastructure for sustainable development. Both priorities have potential for ecoinnovative interventions.

### Knowledge and technology for the development of the economy

In the past years too little was done for the support to the restructuring of the economy in sectors, which require higher technologies and ensure higher value added and employment of highly qualified personnel. With the establishment of the University of Primorska the region gained an institution, which in the future could react rapidly to the challenges of global competitiveness by adjusting the educational programmes to the needs of the economy and vice versa. With the development of planned technology park it will be possible to achieve a connection between educational institutions and enterprises faster. Therefore the region will prepare and implement the projects of a technology park, an incubator, business zones, integration of enterprises and development of new modern educational programmes.

**Infrastructure for sustainable development**

Besides the technological development, the region intends to prepare and implement until the end of the programme period the projects concerning environmental protection, transport infrastructure, water supply and other similar projects. This way it will ensure a long-term competitive advantage, since the quality of life will improve significantly. Also for this reason RDP predicts big investments in environmental and transport projects, through which the region will achieve the planned goals in this field.

Measures in the context of the programme Economy:

1. Integration for technological development
2. Integration of regions outwards
3. Development of tourism services

For ecoinnovations is important mainly the first measure, which is below presented more in detail.

**Integration for technological development**

This measure is needed because today it is difficult for an individual to successfully develop an idea, finance it and ensure its mass production and marketing on international markets. Competition on the global market is so developed and strong that the development of innovations and new technologies requires a lot of knowledge, abilities and financial resources. For this reason companies need to collaborate among themselves, with research and support institutions. Integration is not limited to region or country. If the region wishes to limit the outflow of skilled workforce and have industries with high value added, it has to help companies with growth, development of innovation, new technologies and staff. Local and regional authorities in European Union invest assets in development of their own support research infrastructure and integration in local, national and European networks. They promote integration of development centres, experts, development agencies, investors and banks in close operation with universities. Structural funds support investments in innovative equipment and counselling for the improvement of competitiveness and innovation of economy on the regional level. In partnership with

national programmes the region will make efforts to establish innovative environment in companies and in society of the region. For this reason the support will be given for the development and operation of modern network development institutions, where future technology park, Inkubator Sežana with Business innovation centre, and University incubator of Primorska will play the main role.

Description of the measure:
The enterprises are in different development phases and if the economy of the regions wishes to be competitive, the assistance to enterprises needs to be ensures in all phases. At the beginning of a business when there is just an idea, an entrepreneur needs to be provided with premises where he can fully develop the idea before entering the competitive market. Technological parks and incubators in particular proved to be the best form of help in this phase, as they offer companies infrastructure, as well as various business and financial services.

When a company is ready to leave the incubator and technology park, it needs to be provided with premises, where it can continue to develop. In this phase are crucial different zones, which differ in content (business, technology, industry, craft etc.). Besides premises, companies may be provided with various services and similar companies in the zone may collaborate and implement common projects. Entrepreneurial and innovative culture needs to be raised and financial mechanisms adjusted to the needs of small and medium enterprises need to be developed.

**(Eco)innovative projects in the context of RDP**

For the economy is the most important measure 1.1 Integration for technological development. Within this measure are important the activities Support to the development of enterprises, and Development of products and services.

In the activity Support to the development of enterprises were planned three programmes consisting from several concrete instruments and activities:

Development of financial instruments for start-up and spin-off enterprises

The development of financial instruments for enterprises in initial phases of growth with emphasis on technology enterprises and new entrepreneurs, who are particularly limited in obtaining appropriate financial sources for the establishment of a business and start-up of production:
• Fund for the development of innovative technological ideas – scheme of grants for entrepreneurs-beginners, students, unemployed, researches.
• Venture capital fund – start-up capital at the beginning of business career (seed capital, initial capital).
• Guarantee scheme – guarantees for innovative, technological enterprises, in connection with venture capital fund.
• Establishment of a fund to create an economic basis for the Italian minority.

Even though (eco)innovations are not explicitly mentioned, it is possible to expect that the support to innovative initiatives with the help of innovative funds and guarantee schemes will in a significant way include innovations in the field of energy and climate issues.

**Promotion of entrepreneurial innovative culture**
A package of activities related to the improvement of the position of entrepreneurs and innovators and their role in society (e.g. competitions for the best business plan, competitions for innovations, seminars, schools for entrepreneurs, promotion of entrepreneurial culture among young people, students, courses of entrepreneurship in primary and high schools).

Also general promotion of innovative culture creates in general better conditions for the development of ecoinnovations, although it is possible to expect better results in regins (eg. Notranjsko-kraška region), where ecology and innovations were more highlighted as the key driving force of the future development.

**Strengthening of regional development potentials (IN-PRIME)**
The content of this project contains goals of a multiregional programme IN-PRIME in the field of promotion of innovative economy. The project will include:
- incentive scheme for investing in production and laboratory equipment of companies in incubators and technology parks,
- services of counselling and professional monitoring of new innovative companies in incubators and technology parks,
- support to development groups in companies and their integration with - support to companies in growth – financial instruments and services,
- promotion of entrepreneurial culture,
- training of innovative entrepreneurs and management training of researches and graduates,
- establishment of a network for technology transfer among cross-border incubators, technology park and higher education institutions,
- support to property of intellectual property of innovative entrepreneurs. The key role in the implementation of the project will be played by subjects of innovative environment as intermediaries between knowledge institutions and emerging innovative companies. The promoters should be Inkubator Sežana with Business innovation centre, University incubator of Primorska, future Technology Park Koper and other institutions, such as Regional Development Centre Koper, Chamber of Commerce and Industry of Slovenia, Regional Chamber of Crafts, University of Primorska etc.

As it is mentioned elsewhere, the programme IN-PRIME, designed separetaly but on similar basis, has only started with implementation in this programe period in the Goriška statistical region. It appears that with a shorter time delay the similar programme will try to carry out also another region that was a promoter of the original IN-PRIME programme in the previous period. We should consider why the Coastal Karst statistical region will not carry out the common or individual programme IN-PRIME. It was outlined a few times that the structure of higher education with a great emphasis on social studies is one of the significant reasons why the field of innovations is so ignored in this region. We could also

add to this the structure of economic activities, which is in the Coastal Karst Region more oriented towards services and among big companies there are only few companies that give importance to innovations in their development strategy. Hence are important all instruments that are oriented towards the strengthening of innovation among SMEs. In the development programmes of the region the field of activities related to the sea was proposed more times, and in general this field is important also from the view of innovation and therefore also of ecoinnovation.

**Activity Development of products and services**

In the context of this activity the programme Services of support environment should be underlined. In the context of this programme it was expected the support to services of the network of intermediaries of innovative environment (Inkubator Sežana with Business innovation centre, University incubator of Primorska, future Technology Park Koper, technology centres). These institutions are operating in promotion of introduction of innovations and R&D activities in the economy, the promotion of establishment of innovative and high-technology companies, and the increase of local and foreign technological investments. Programme is giving priority to projects that will include cooperation of intermediaries of innovative environment with development groups in companies at the promotion of effective creation and movement of knowledge for economic development and quality workplaces.

In actual realisation the programme depends almost entirely on the support obtained with the help of calls for tender on national level, which in the past years has been limited to the regular activity of institutions. There have been lacking important measures of support to start up institutions, such as the planned regional technology park park.

In such situation are very important options currently offered by European programmes, such as Cross-border cooperation programme Slovenia – Italy (Objective 3), SEE, IPA Adriatic initiative etc. In the context of these bilateral or horizontal regional programmes considering the applications and some approvals the opportunities are expected especially in development of products and services. Most is expected from the application of strategic project within Objective 3 programme, which would in the case of approval connect in an informal network incubators and technology parks in whole eligible area from the Gorenjska region in Slovenia to provinces Ferrara and Ravenna in the region Emilia Romagna in Italy.

We should also outline the ongoing project SEPA in the context of the programme SEE, which has an active partner in the region (Inkubator Sežana) and in the context of which is expected the implementation of a feasibility study of ecologically designed and managed business zone.

On the basis of the current regional development plan it was adopted the implementation plan of the regional development programme as a range of coordinated development projects for the realization of the regional development programme.

## 4.3.2.2.(Eco)innovation Initiatives

**Regional technology park of Slovenian Istra (RTP SI)**

The initial idea developed by the Municipality of Koper and Regional Development Centre Koper was to establish an institution that would work on a regional level and be focused on technology companies.

»Regional technology park of Slovenian Istria« (RTP SI) would be located in the business zone Srmin (under construction)as one of the first investments in the zone. The projects of the zone and the technology park with an incubator are complementary and there could be great possibilities of synergy between the technology park (technology incubator) and the industrial zone.

In general direct users are existing startup companies, new companies, the unemployed individuals and graduate members of The University incubator of Primorska after a one-year pre-incubation phase in the university spin-off incubator.

Indirect users are (a) the local authority in Koper (and in the region) – support and promotion for a successful start-up of the economic project will help create an example of a good administrative environment and will improve trust of inhabitants in the activities of the local authority; (b) the population of Koper and the Coastal Karst Region – promotion of technology activities is an important and necessary step towards the creation of a knowledge-based economy and society.

Opportunities are expected in activities related to the sea, port and logistics, tourism, health care, information technology and telecommunications. Cross-border cooperation could offer an additional dimension, with research institutions, as well as with potential investors in new business projects. Considering the almost exclusively humanistically oriented local university, we should count on the vehicles of new ideas coming from Ljubljana, Trieste and other universities, not on graduates from the University of Primorska. However, possible candidates from the faculties of the University of Primorska should not be neglected, considering the tertiary and quaternary orientation of activities in the region.

The Technology park of Slovenian Istria should promote establishment, operation and growth of technology companies. It would provide suitable infrastructure and offers assistance in the marketing, financial and technological field.
It links the needs of regional economy for technological development with the organisation and stimulation of appropriate target groups.

In addition to positive effects of newly developed activities in the incubator it is expected wider impact on whole regional economy, if knowledge in the field of advanced managerial tools and information technology is developed in the RTP. This way there would also be

positive effects on companies in the region by promoting organizational transformations, increasing productivity and ensuring better business efficiency.

Considering the scaling factor for indirect and induced effects, the economic effects of the RTP SI are the following:
Overall economic effects of the initial five-year period of operation of RTP SI:

- around 100 new companies,
- around 450 newly created jobs,
- around 7 million euros of budget revenue from contributions and taxes.

**Innovative initiatives in the field of municipal waste**

Essentially the initiatives in this field were adjustments to European directives, which Slovenia started to adopt.

**Programme GOJUP**

The central regional programme on the field of waste management was the programme of consortium GOJUP (Waste management in South Primorska). The primary task of GOJUP was to obtain an appropriate location for a regional landfill for eight municipalities in south Primorska (the Coastal Karst statistical region and the municipality of Ilirska Bistrica) and construction of a landfill. From 2001 until today the municipalities have not reached an agreement, so the activities of the consortium have practically stopped. The consortium no longer has an expert body and the only sign of operation of consortium is regular meetings of mayors from the region on this topic.

**Programmes of municipalities**

However, also due to changes in national legislation, the activities in municipalities or subregions have continued towards the organization and upgrade of waste management centres (CERO). At Littoral there are waste management centres in Piran, Izola and Koper. In the Karst CERO Sežana was expanded and upgraded, a new one was established in Komen, a sub-unit was established in Hrpelje, in 2010 a sub-unit will be established in the community of Divača.

In these years there have been changes of the concept of the waste collection chain. According to the existing concept, each CERO will submit for recycling materials collected separately. Only the question of the remaining waste remains open. It is not only about the decrease in the share of the remaining waste. Until now the share of separately collected waste did not account for a quarter of all municipal waste. Region's goal is to reach a 45% share of separate collection. Also the question of the final destination of the remaining waste has to be resolved.

Among possible solutions are indicated two alternatives: stabilization and final waste disposal or mechanical sorting. In terms of rationalization, the establishment of a regional materials recovery facility would be appropriate. A final product of such establishment could be secondary fuel, useful for heating plants and cement factories. This solution would be an eco-innovative approach in the region, as it would be the first time that municipal waste would replace the use of fossil fuels. It is not important that the final result reflects also outside of the region, since there is no cement factory or large heating plant in the region.

**Thermal treatment**

The most probable solution can be compared with other alternative initiatives. The first and oldest initiative originating in Trieste about 10 years ago was that waste from the entire region would be taken to the incinerator of municipal waste in Trieste. A new incinerator is located near the sea, offering an optimal possibility to Slovenian Istria for a rational maritime transposrt of waste. Besides the already activated first block was planned another block, which would ensure enough capacities also for cross-border waste. According to calculations in normal operation the incinerator should be producing around 8% of total consumption of electrical energy in Trieste. It appears that today the initiative of cross-border solution of the problem of regional waste does not have support on any side. On Slovenian side or at least in the Karst reluctance the reluctance mainly stems from the proposal from the Italian side that the Slovenian side would have to take over the remains from burned waste (ash), which according to some estimations could contain dangerous toxic waste, which are ecologically inappropriate, especially considering a disposal on sensitive karstic terrain.

**Utilization of waste for energy purposes**

One of alternative ecoinnovative options is utilization of the remaining waste for the production of energy from biogas. It appears that separate locations are too small for rational utilization of biogas. Therefore is very welcome the initiative for the construction of a biogas plant, which is being realized at the moment in Ilirska bistrica by Bio futura d.o.o. Ilirska Bistrica is not in the Coastal Karst statistical region, but it is included in the regional development plan, which covers the statistical area and the municipality of Ilirska Bistrica.

**Biogas plant Bio futura**

The biogas plant will be solving the problem of biodegradable waste, which was until now disposed in the dumping area or aerobically treated (composting).
The advantage of reprocessing biodegradable organic waste in anaerobic biogas plant is in the energy balance due to the production of biogas, which can be used as an alternative source of energy. The biggest advantages of the utilization of biogas are: the reduction of emissions of greenhouse gases, the production of a renewable source of energy, the reduction of environmental nuisance with waste and useful utilization of waste.

From biogas the enterprise will obtain heat, which will be used for the needs of the process and will be provided to the closest energy consumers (hardboard factory). Green electrical energy will be partly used for the needs of the process, most of it (90%) will be sold to the public power network.
The by-product of biogas process – digestate – will be used as an organic fertilizer. The advantages of this project in relation to ecoinnovations will be therefore several.
Technical characteristics and capacity of biogas plant:

- reprocessing capacity: 30.000 tons of organic waste per year.
- estimated production of biogas: cca 8.000 $m^3$ per day.
- production of electrical energy from biogas: 1,1 MWe.
- estimated production of heat energy: 1,2 MWe.
- digestate-organic fertilizer: 164 $m^3$ per day.

**Programmes of Port of Koper**

Due to the extent and type of its activity and the activity of the participants in its logistics chain, Port of Koper has a major effect on the environment. The enterprise is aware of this, this is why it devotes special attention to this topic and continuously seeks innovative solutions and obtains certificates related to environmental protection. For this purpose it established a few small enterprises, which could be classified among eco-innovative enterprises considering their activity.

**Obtained certificates and permits**

| Certificate | Description |
|---|---|
| ISO 14001:2004 | It confirms responsible concern for the protection of environment through updates and introduction clean and safe technologies (obtained in 2000). |
| ISO 9001:2008 | It confirms an appropriately maintained quality system. |
| OHSAS 18001:2007 | Certificate for occupational health and safety management system (obtained in 2008). |
| HACCP, ISO 22000:200 | The only port in the world, among first enterprises in Slovenia and the first enterprise in the transport sector that introduced a food safety management system (2008). |
| NON GMO | Certificate for transhipment and storage of non-genetically modified soya. |
| SEVESO II | Obtained environmental permit under mentioned directive for the entire port as an establihsment posing a high risk. |

In 2009 the port of Koper established, verified and applied for registration of an environment management system under the EMAS scheme (*ECO-Management and Audit Sheme*) in accordance with Regulation 761/2001/EC. Functioning of the system in the port under the EMAS scheme was verified in April 2009 by the Slovenian institute for quality and metrology (SIQ) and it is expected shortly to be confirmed by the Ministry of the Environment and Spatial Planning – Environmental Agency of the Republic of Slovenia.

The port of Koper will be the second enterprise in Slovenia to obtain an EMAS certificate and among European ports there is only the port in Valencia that also has the certificate.
In the past years the port has set two partially interrelated goals i.e. development and introduction of alternative sources of energy (development of an energetically self-sufficient port) and reduction of pollution level and utilization of waste for processing into energy.

**Projects of the Port of Koper and its associated companies**

*Tehnološki okoljski center d.o.o.*
With partners and the support of the Municipality of Koper, the Port of Koper established Tehnološki okoljski center d.o.o. (TOC).
TOC seeks new technological solutions for environmental conservation and carries out technological and ecological researches.
It also does researches with special emphasis on renewable sources of energy, waste processing and technology of obtaining natural therapeutic substances.

*Project Ecopark*
In 2008, together with Centre TOC, it got involved in solving the problems of waste collection and processing in South Primorska. They prepared a conceptual project entitled Ecopark, which predicts an establishment of a waste management centre, in which would be processed municipal waste and from them would be produced energy and recycled materials.
The realization of the project would bring several advantages:

- it would ensure energetic self-sufficiency of the port,
- it would introduce the most modern concepts of municipal waste treatment,
- it would create several new jobs.

There still has not been reached a decision on where the processing of regional municipal waste will be taking place, so it is difficult to predict the future development of ecopark.
If the project is realized as it was planned, it will cover the area of 4 hectares along the new entry to the port and it will contain:
Recycling plant – sorting of waste, which is useful as a recycling material (metal, glass, plastic etc.)
Plant for anaerobic waste processing – production of energy source (biogas); the remains are compost.
Pyrolysis plant – solid waste will be processed into second generation biodiesel.
Waste oil and grease processing plant – production of first generation biodiesel.
Oily water processing plant - from treated bilge water and from hydrocarbon-polluted water from other sources will be removed hydrocarbons for energetic use.
Solar desalination plant – in addition to technology fresh water production with osmosis will be produced also electrical energy.

For the execution of the project will be established an enterprise Ekopark, which will be the investment vehicle and manager of the complex. The enterprise will be in majority ownership of Port of Koper and the Municipality of Koper, but it will also attract other Slovenian and foreign co-investors. In the first phase of the project is expected the

installation of the recycling plant; the value of this investment will be around 8 million euros. When the entire system is constructed and starts to operate, the investment will not only produce profit, but also ensure an effective waste management system, green energy and create new jobs.

*Ecoporto Koper, d.o.o.*
Ships that come to the port have to pour out oily water, which then Port of Koper through a delegating undertaking transports to a disposal facility. The new enterprise will through innovative technology produce fuel oil from oily water, which can be used for own needs or sales. The new method of processing involves an entirely non-invasive technology (oil and water separation), which does not involve emission in the environment.

*Adriasole, d.o.o.*
The newly established enterprise will set up and manage a photovoltaic power plant with maximum net power 2MW. Sollar collectors will be mounted on the roofs of warehouses. The new power plant should start operating at a reduced level already in 2009 then it would slowly be able to market electrical energy.

*Eco-morje, d.o.o.*
The enterprise will have three concessions for protection of the sea within the port area and will apply for a concession for the implementation of the activity for the protection of the sea on the entire territory of the Slovenian sea.

*Specific objectives for sustainable development:*
In the field of environmental protection Port of Koper will strive for:
- reduction of emissions $PM_{10}$ on the entire area of the port to 30 $mg/m^3$.
- increase of the share of separate waste collection to 80% of all waste.
- cleaning of sanitary waste water in the extent of 100% of all waste water.

And in the field of human resources and organisation it will strive to raise the level of innovation:
- obtain 5 innovative proposals per 10 employees or
- obtain one improvement per each employee in the long term.

**Universitiy incubator of Primorska**

University development center and incubator of Primorska enourages and promotes entrepreneurial culture and establishment of knowledge-based companies, especially among young people, students, teaching staff, researches and other population. Among several entrepreneurial ideas it chooses innovative, knowledge-based and market-oriented ideas, which are in the processes of pre-incubation and incubation provided with comprehensive assistance for the development of ideas and the establishment of companies with high value added, and research organizations.
With its services it ensures the development of start-up companies, which develop from innovative entrepreneurial ideas born in academic and economic environments.

University development center and incubator of Primorska is an enterprise established in 2006 by University of Primorska and Gea College of Entrepreneurship.

**Vision**
In the next 5 years become a leading Slovene university development center and incubator according to the number of successful newly established start-up and spin-off companies as to the number of professors and students in the Primorska region. Within the next 5 years develop new and innovative forms of integration between the economy and the academic sphere of the Primorska region to realize revenues from the licence fee and commercialization of research knowledge.

**Mission**
To link academic sphere with the economy in order to extend the entrepreneurial culture among young people, students, teaching staff and researchers and other population of the Primorska region. To provide a complete support service in terms of infrastructure and business counselling for newly developed high value added companies and top-level research organizations in the Primorska region.

**Innovation school** has a completely new multidisciplinary concept of product and service development, development principles, processes, systems, business models etc. The emphasis is on a holistic approach to resolving problems and on a group cooperation. The mechanisms of i.school promote the establishment of companies with high value added , technological breakthroughs and new products and solutions in old and start-up companies.

Innovation school is intended for the **development of new products or services, processes or business models** and is **directed at creating innovations**. In the context of the project work students get acquainted with basic activities of a company: marketing, development and production or implementation of services. The project work is designed in such a way that are first identified the needs of users. On the basis of identified needs and appropriately defined marketing estimation are determined possible solutions that have to consider feasibility, as well as economy of production. For the chosen solution a prototype is made that needs to be tested and financially evaluated, and a marketing plan needs to be prepared that includes a design of a trademark, as well as protection of intellectual property.

# 4.4 INVESTIGATION OF EXISTING PROJECTS AND PROGRAMMES IN THE SCOPE OF (ECO)INNOVATONS IN SLOVENIA AND ESPECIALLY COASTAL KARST REGION.

## 4.4.1. European Programmes and Projects undertaken

In general Slovenia had in the past and still have access to several sets of EU programmes that support (eco)innovation that were financed from Cohesion Funds, Structural Funds or EU horizontal programmes. In the frame of this study, research concerning this participation has been done, but it turned out that reliable and all-inclusive overview of participation in EU horizontal programmes of the regional entities is not available. Therefore, this analysis focuses on the national participation in EU horizontal programmes.

In the period of 2004-2006 188,71 mio EUR have been assigned to Slovenia in the frame of **Cohesion funds** for projects that deal with:
- The trans-European transport networks. Supported were in particular priority projects of European interest identified by the European Union.

- Environment. Funds were provided for projects related to energy and transport that clearly presented environmental benefits: energy efficiency, renewable energy, development of rail transport, supporting intermodality, strengthening public transport, etc.

In the financial perspective, 2007 – 2013 of **Structural Funds** are assigned 1.960 mio EUR to Slovenia for implementing OP Strengthening Regional Potentials, OP Development of HR and OP Development of Environmental and Traffic Infrastructure. Substational part of these funds has already been or will be assigned to (eco)innovatins (presented in the Figure 4 and 5). National programmes co-funded from the Structural Funds have been described in the previous chapters.

**Figure 1: Absorption of Structural Funds in Slovenia in 2007 – 2013 (situation on the date 30th of June 2006)**

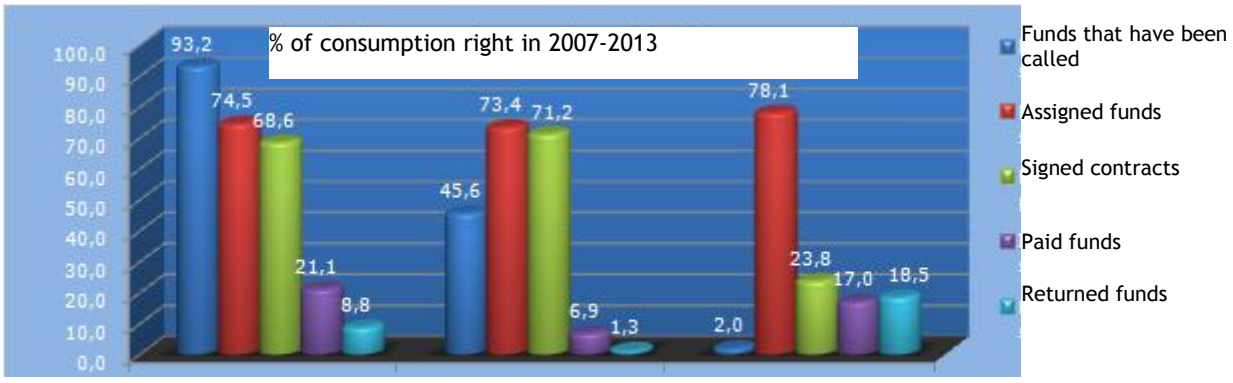
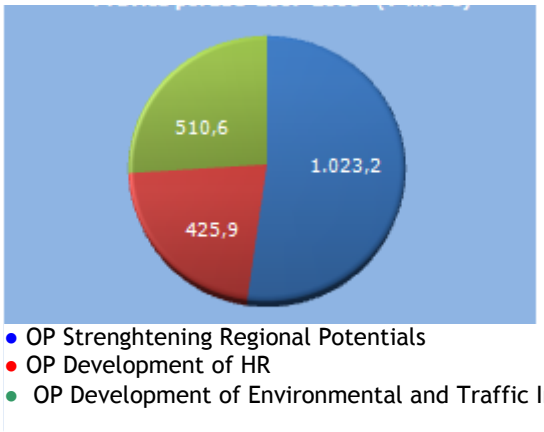


**Figure 2: Available funds of structural funds in Slovenia in 2007 - 2013 (consumption right in mio EUR)**




Slovenian entities have in the last years participated in the various **EU horizontal programmes**. Probably the most important were:

1. 6th Framework Programme (now they participate in the 7th Framework Programme)
2. EUREKA
3. INTERREG Slovenia – Italy, IVC, IV B Alpine, IV B Central and South East Europe
4. VALOR
5. Leonardo da Vinci
6. Tempus
7. CIP
8. Life+

Probably most important from the perspective of innovation and also ecology was participation in the 6th Framework Programme (now they participate in the 7th Framework Programme).

In the sixth Framework Programme Slovenia was relative to the population by number of proposals at the top among EU members. By comparison, we refer the number of applications from Germany (51,030) with more applications behind Slovenia by 3.2 times, followed by Great Britain (41,808), lagging 2.79 times, Italy (38,704), which lags behind Slovenia for 2.97 times. Participated 616 participants from Slovenia, which represents 1% of all participants. By far the most projects with the participation of Slovenian in the field of Information Society Technologies (100 projects or 20%), followed by sustainable development, global change and ecosystems (60 projects or 12%), nanotechnologies, materials and manufacturing processes (49 projects or 9.7% ), the scientific support to EU policies (40 projects and 8% respectively), Marie Curie mobility (38 projects or 7.6%), knowledge-based society (30 projects or 6%), support for SMEs (29 projects or 5.8%), science Life (28 projects or 5.6%), research and innovation (24 projects or 4.8%), coordination actions (ERANET) (21 projects or 4.2%) and nutrition (20 projects and 4%). Slovenian participants absorbed in total 76.4 MEUR or 0.46% of funds available.

Another popular EU horizontal programme for Slovenian participants has been EUREKA. During 2007, 44 EUREKA projects were running with the participation of 83 different organisations (enterprises, higher education institutions, research institutes, etc.) from Slovenia and received EUR 2.03 million. In addition, 14 projects were successfully concluded in the same year. Slovenia chaired EUREKA for the period 2007–2008, and successfully participated in the launch of the new EUROSTARS programme, the first one to be jointly financed and implemented by EUREKA and the European Commission.

Slovenian participants have been very active in all Interreg programmes. Interreg programmes of co-operation with bordering Austria, Italy and Hungary have with accession of Slovenia to EU expanded also to Croatia.

For the Ministry of Economy, TIA is also coordinating the Slovenian participation in the EU VALOR project. The project is trying to assist in the commercialisation of research results, be it at the research institutes or the R&D units of enterprises. Support is to be provided by the development of common assessment methodology, which should have the potential to indicate the marketability of research results. In 2008, EUR 0.5 million were available through a special call for co-financing the introduction of the new product/service to the market.

Ministry of Higher Education, Science and Technology also co-ordinates Slovenian participation in some other EU horizontal programmes: ERA-NET projects (e.g. MANUNET, CORNET, EraSME, COMPERA), co-operation with ESA-European Space Agency, support the Slovenian application to host Galileo executive board and others.

### SEPA - Sustainable Equipped Productive Areas

Within the SEE - South East Europe Transnational Cooperation Programme is being implemented the project SEPA – Sustainable Equipped Productive Areas. The project started in February 2009 and it will end in July 2011.

SEPA promotes the concept of sustainable production area defined as a Community of manufacturing firms and services that, within a territory and through cooperation, plan to improve their environmental, economic and social performances, acquiring specific organizational tools, management and infrastructure. Its most innovative aspect is to move the focus from the activity of individual public institutions and SMEs to the production areas (business zones, industrial zones, ...) in which they operate. The project aims to transfer a model of sustainable management for productive areas to final beneficiaries, within the framework of relevant European strategies (Lisbon, Gothenburg) and according to EMS/EMAS standards. SEPA main goals are: 1) to achieve methodologies, tools and procedures needed to realise and manage a productive area in a sustainable way.

The area shall offer economic advantages to tenants through economies of scale from centralised infrastructure and services and improve the general quality of life in the territories interested by the localisation; 2) to implement the SEPA model by integrating economic efficiency, environmental, social and cultural concerns into the SEPA areas. The project shall provide partners with tools for undertaking their role as initiators and promoters of viable pilot projects which promote a balanced pattern of attractive and accessible growth areas. Transnational action shall serve as the framework for supporting the establishment of joint strategies and empowerment of pooled resources through structures and capacities to develop consistent policies, plans and pilot projects targeting sustainable growth and jobs in the SEPA functional areas. It shall also target cooperative marketing activities in support of economic and regional development, attracting investments through a trans-national network of regions. Moreover, raising awareness on the concept of sustainable equipped productive areas shall be the subject of a well targeted communication campaign.

Partners of the two-year and 2 milion project are development agencies or municipalities from Italy, Hungary, Romania, Bulgaria, Greece, Serbia and Slovenia. Inkubator d.o.o. from Sežana is Slovenian partner in the project. It is responsible for the realiazation of feasibility studies of industrial areas in the six project countries. Incubator shall be actively involved in realisation not only of feasibility study but also in realisation of SEPA business zone in the Coastal Karst Region (Sežana). Through this project a new innovative model of sustainable business zone planning and management will be for the first time introduced in the region and in the country.

### 4.4.2. National Programmes and Projects undertaken

**National Programmes and Projects Undertaken as specified in the Strategic Development of Slovenia 2007-2023:**

- Construction of an economical centre of the Southeastern Slovenia
- Construction of an economical centre PHOENIX in Posavje
- Construction of an economical centre in Gorenjska with networking sponsoring institutions
- Construction of an economical centre PERSPEKTIVA in Inner-Karst
- Construction of an economical centre OKO in Pomurje
- Development of an economical – development project IN PRIME in Goriško
- Construction of an economical centre OREH in Podravje
- Construction of an economical centre NOORDUNG in Koroška
- Construction of an economical centre TEHNOPOLIS+ in Savinjska Region
- 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
- Goriško tourists centre

**SLOVENIAN ADRIATIC ISLAND**

The purpose of the construction of an artificial island is to combine the solution to the problem of the disposal of gravel and the construction of a large tourist attraction, which would offer relaxation, entertainment and socialising.

The tourist offer is diverse and at a rather high level, which is mainly due to the region's geostrategic position along the border with favourable natural conditions and development potentials, the long tradition of tourism, the offer of accomodations available throughout the whole year, the additional offer, the variety and diversity of offer, and available venues. However, a faster development of tourism is prevented by factors, such as not well-settled beaches, the lack of marinas, the lack of tourism products to extend the tourist season, a poorly developed maritime transport and an insufficient integration of the tourist offer of the Karst. A great obstacle is also the poorly developed road infrastructure, which causes intolerable traffic conjestion in tourist season and on holidays. The solutions to the above-mentioned problems should be found in the development of passenger maritime transport (a new passenger terminal – international nautical transport centre, sea connections), the creation and development of a Mediterranean solar park Ankaran-Debeli rtič-Jernejev zaliv, creation and development of coastal space and marinas, further development of passanger transport (land, sea and air transport), integration of additional services in tourism, etc.

On the island will be placed various tourist entertainment buildings based on different themes, restaurants and an appropriate pier to bring the visitors to the island and to anchorc private vessels. The island will bring additional bathing area, which is lacking on the Slovenian coast. The attraction of the project should be particularly underlined, since the island will be the only artificial island in this part of the Adriatic sea, and it will attract several visitors because of this.

The positive effects of the project will be seen in the following areas: job creation (cca 200 employees – directly and indirectly connected with the investment), creation of new tourism products, which will additionally diversify the existing tourist offer of the region, additional possibilities for SMEs, a faster tourism development cycle of the destination and directly positive effects on the economic development of the whole region.

**INTEGRATION OF NATURAL AND CULTURAL POTENTIALS OF THE KARST**

Objects of the project are the following:

- Construction of a European museum of karst;
- Renovations of buidlings of cultural heritage in the protected area of Lipica Stud farm and investments in the increased quality of tourism infrastructure;
- Investments in the development of tourism infrastructure and offer, and education for the preservation of natural and cultural heritage in the wider are of the Škocjan Caves;
- Investments in the restoration of Štanjel;
- Establishment of an institution and infrastructure of a regional karst park.

Goals of the project

Through the construction of a European museum of karst as a tourist information and education centre and the development of the most important tourist attractions in the Karst to obtain a significant supplementation of the existing tourism initiative in Slovenia, a utilization of development potentials of the area, which are unique and also Slovenia's advantage in tourism. To integrate existing public institutions in the wider area of Slovenian Karst, which would be a positive move towards a comprehensive protection and development of Karst and towards an active cross-border cooperation with Italy and Slovenian minority in Italy.

Through investment inputs in an active protection of natural and cultural heritage of the Karst to activate Lipica, the Škocjan Caves and Štanjel, and through the construction of tourist attractions related to the European park of karst. Through investments in education for the preservation of natural and cultural heritage to activate owners who act as investors and providers, and institutions that implement programmes and projects.
The Karst is a good example of a subregion, which is a rural area and faces different development problems than the more developed part of the Coastal Karst Region. This area has picturesque geomorphological phenomena, after which are named such phenomena around the whole world.

It is also an area with a rather high proportion of protected areas (Natura 2000, the area of national visibility). There is a dispersed tourist offer, which also includes sites of global or European importance (eg. The Škocjan Caves, Lipica Stud farm), but due to the lack of cohesion in tourism does not achieve significant economic results. The investment in the European park of karst, which will have the role of a tourist information centre with a modern presentation of karst phenomena, will significantly improve the tourist offer, simultaneous investment in the most important jewels of the area will contribute to the formation of a comprehensive tourist offer, which will supplement the tourist offer of a wider region. Through a comprehensive approach to the development and marketing of the area, which is based on natural and cultural heritage, will be created a case of good practice, which will be useful also for other parts of Slovenia and will be interesting for private investors according to the principle public-private partnership. The project will significantly contribute to a major visibility of Slovenia on the tourism market.
Through the support to the development of tourism on the basis of understanding of the possibilities of utilization and development of natural and cultural potentials from public

funds and through cooperation with private investors the area with new workplaces will achieve a breakthrough in the development.

The project will contribute to a better competitiveness of development regions in karst area, and it will also contribute to the tourist visibility of Slovenia and to a higher added value in tourism on a wider area.

**ENVIRONMENTAL TECHNOLOGIES**

**On European level**

In 2004 was adopted the EU Environmental Technology Action Plan (ETAP) with the intention to ensure the environmental protection, along with an improved competitiveness of enterprises and economic growth of European Union, so that European Union gains the leading position in the world in the development and use of environmental technologies, and so that member states prepare national programmes for stimulating environmental technologies.

**On national and regional level**

In Slovenia various institutions – Ministry of the Environment and Spatial Planning, Ministry of Higher Education, Science and Technology, Ministry of the Economy, Government Office for Development and European Affairs – are responsible for the promotion of environmental technologies. The activities are being implemented in an uncoordinated manner, namely through the Ministry of the Environment and Spatial Planning, Eco Fund, technology platforms, Public Agency of the Republic of Slovenia for Entrepreneurship and Foreign Investments, Centres of Excellence and others. The disadvantage is that actors are not cooperating and are not coordinated.

In 2005 the Government of the Republic of Slovenia adopted a Resolution on the National Programme of Environmental Protection (NPVO) for the period 2005-2012. Basic measures provided for in NPVO for stimulating the use of environmental technologies in Slovenia are the following:
- determination of priority environmental technologies and their effects on the environment and economic development,
- involvement of economic subjects and research institutions in activities from the environmental technologies programme,
- determination and release of financial instruments for sharing of risks in investments in environmental technologies,
- release of financial instruments for stimulating renewable energy technologies and energy efficient technologies,
- review of environmentally damaging subsidies,
- green procurements or stimulation of acquisitions of (public and private) environmental technologies and environmental friendly products and services,

- increase of environmental awareness of enterprises and consumers (promotion »from quantity to quality«, cleaner technologies, ecodesign, environmental standards etc.).

Instruments for the implementation of environmental policy are implemented by the Ministry of the Environment and Spatial Planning and the Eco Fund. The Ministry of the Environment and Spatial Planning promotes investments in efficient use of energy by distributing grants to households, while Eco Fund offers loans with favourable interest rates, issues guarantees or other forms of committments, implements capital investments (equity partnership), offers grants, including interest rate subsidies or subsidization of loan related costs and other financial instruments, where is possible a change of the form of financing to an ownership share in the enterprise.

The amendment of the Environmental Protection Act (July 2008) refers also to the Eco Fund; additional instruments were introduced for the promotion of development in the field of environmental protection: investment of capital in limited companies, implementation of other forms of financing (e.g. financial leasing) and the allocation of grants for environmental protection purposes. In 2008 the Eco Fund offered soft loans for investments in technologies, construction and reconstruction of devices in the fields of reduction of air pollution and emissions of greenhouse gases, waste, water protection, waste water discharge, clean water supply and renewable sources of energy and efficient use of energy. 29 million euroes were spent; 10 million euros for legal persons, 19 million euros for citizens. New loans were approved in the total amount of 35 million euros. Under the authority of the Ministry of the Environment and Spatial Planning the Eco Fund implements the national action plan for energy efficiency for the period 2008-2016. On behalf of and for the account of the Ministry of the Environment and Spatial Planning, Eco Fund carried out in 2009 a call for tenders for financial grants for citizens for the use of renewable sources of energy and better energy efficiency of residential buildings. Initially 7,5 million euros were available for investments in solar heating systems, low-energy construction and overall renovation of buildings with one apartment or two apartments. In June 2009 the volume of sources increased to 11,5 million euros, and citizens could apply for grant incentives also for individual operations of renovation of existing buildings with one apartment, two or more apartments for the installation of a combustion plant for central heating on wood biomass, thermal insulation of the whole facade of a building and the replacement of exterior building furniture.

The Government of the Republic of Slovenia adopted the decision that the Ministry of Higher Education, Science and Technology should draft a proposal for a programme promoting research and development in the area of efficient use of energy and renewable energy sources for the period of 2008-2016. Research and development in 2009, 2010 and 2011 should be primarily focused on the following areas: energy in buildings, energy in the industry and service sector, energy in transport, environment friendly systems of energy production, production of biofuels, advanced technologied for energy conversion and horizontal areas.

In the field of development should be underlined **the Centre of excellence »Environmental technologies«**, which combines research capacities of research

institutions and universities with the demands of the economy for comprehensive solution of environmental problems. 14 interdisciplinary research and development projects, which the Centre is currenlty implementing, cover various areas, from the development of new methods of analysis, use of natural methods of cleaning waste water, to the development and optimisation of new production technologies. Among the members there is not anyone from the Coastal Karst statistical region; Nova Gorica Polytechnic from the Goriška statistical region is a member.

At the entreprenurial level should be underlined **Slovenian Ecology Cluster** and 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 Slovenian Ecology Cluster, as well as in Technology Platform for Water, there is no member from the Coastal Karst Region. PLAMA G.E.O d.o.o. from Podrag, which is situated in the area of common development programme of South Primorska, is a member of Slovenian Ecology Cluster, while Javor Pivka d.d. from the neighbouring Notranjsko-kraška region and Nova Gorica Polytechnic and Salonit Anhovo d.d. from the neighbouring Goriška region are members of Technology Platform for Water.

On the basis of new EU directives were adopted and are still in the process of being adopted several measures to stimulate the development of environmental technologies, including the development of eco-innovative products and services. As we saw earlier, there has been an institutionalization of the implementation of measures, but none of these institutions or associations has headquarters in the Coastal Karst Region. Among members of the organizations there is not any from the Coastal Karst Region.

Also in other technology platforms, which should be vehicles of innovation breakthrough, the Coastal Karst Region is not present in a much larger extent. In five technology platforms there are no members from the region (Slovenian Hydrogen and Fuel Cell TP, Photovoltaic TP, Slovenian forest-based TP, Textile TP, Toolmaking TP). There are two members from the Coastal Karst Region (Cimos Koper and Dea Sežana) in TP Advanced materials and technologies; among the members of TP for vehicles, roads and transport are Tomos from Koper, ATECH from Materija and Tomos. The highest number of enterprises from the region is in Slovenian construction technology platform, whose members are Kraški zidar, Robotina inženiring, Municipality of Koper and The Institute for Water of the Republic of Slovenia with Sea sector.

## 4.4.3. Regional Programmes and Projects Undertaken

**Operational programme for the enhancement of regional development potentials for the period 2007 - 2013**

**Development priority: economic and development infrastructure**

The key activity of DP is the establishment of economic development and logistics centres in areas with sufficient critical mass of knowledge and concentration of economic activities and development potentials of the economy. Where possible, in investments the priority will be given to the utilization of brownfield sites, which will consequently contribute to the revival of degraded areas. The developmet priority »Economic and development infrastructure« includes contents, which will allow Slovenian economy through a network of development centres the use of a highly qualified workforce, more intensive investments in research and development, closer connection with public research and education sectors, efficient operation of support institutions and intermediaries, appropriate ICT infrastructure and the increase of innovation.

The key goal of DP is the concentration of knowledge and development infrastructure to raise the competitiveness of the economy.

Specific goals are realized through **priority orientations**:

- Economic development and logistics centres
- Information society
- Development of education and research infrastructure

For the purposes of this task we will focus on the first priority, which will have a direct impact on the development of (eco)innovative activities.

**Economic development and logistics centres**

In the context of the priority orientation »Economic development and logistics centres« are planned two activities:

a) Economic development and logistics centres
b) Co-financing of inter-company education centres

The activities in the context of priority orientations are intended for the establishment of economic development and logistics centres as infrastructure of national importance, which include:

- business, industrial, logistics and development areas of national importance,
- technology parks,
- business incubators,
- university pre-incubators and offices for technology transfer.

This part of the activity is coordinated by the Ministry of the Economy.

Educational part, which is mainly supported by the Ministry of Education and Sport, includes the establishment of the following ifrastructure:

- inter-company education centres (IEC),
- higher education centres.

**Beneficiaries or target groups:**

- Areas of the regions and municipalities with a prominent potential or an economic growth, such as position in relation to traffic hubs (eg. Important road and railway hubs, proximity of airports), concentration or proximity of institutions of knowledge (higher education, research and development institutions, other institutions of knowledge), critical mass of population or adequately educated workforce, and from the view of national importance present an important economic development and logistics area.
- Municipalities that show a development gap and areas, where the existing infrastructure does not allow local development of the economy.
- Various institutions (enterprises, institutes, higher education and other education institutions, research institutions etc.), which integrate with similar subjects on a particular area to a whole.

| **Planned resources** | | **EUR** |
|---|---|---|
| Budget commitments 2007-2013 | EU part | 194.906.001 |
| | SLO part | 34.395.177 |
| | EU and SLO part | 229.301.178 |

Co-financing of projects of construction of technology parks and business incubators in the context of economy development and logistics centres is carried out under the scheme of state aid in the context of the Ministry of the Economy: Promotion of investments in economic development and logistics platforms from The updated programme of measures for the promotion of entrepreneurship and competitiveness for the period 2007-2013.

The measure results from strategially defined development centres in the Resolution on national development projects for the period 2007 – 2023, which was adopted by the previous government. The resolution does not plan an establishment of a regional institution for the promotion of innovative entrepreneurship (technology park or technology incubator) in the Coastal Karst Region. Nonetheless, the region intends to apply to the call for tender for the co-financing of business incubators in the context of economic development and logistics centres. The call for tender will probably published in the first months of 2010.

**Description of implementation in 2008**

In the context of the Ministry of the Economy was in the priority orientation Economic development logistics centres available 50.000.000 EUR for the period from 1.1.2007 to 31.12.2007.

Following the invitation to tender published in June 2008 (»Public tender for the co-financing of projects of the construction of technology parks and business incubators in the context of economy development and logistics centres«; OJ RS, N. 79/08), in the context of 50.000.000 EUR the Ministry of the Economy selected two projects in the total amount of 11.085.468 EUR. The largest part of the funds (10 million) was allocated to the project of construction of technology park IN PRIME (Goriška region), the remaining part (1.085.000 EUR) was allocated for the construction of the business incubator in Podbreznik in the Dolenjska region.

The Ministry of Education and Sport started the activities for the preparation of instruments, call for tender for the selection of operations in the second half of 2008. The Administration agency in the context of call for tender has yet to confirm instrument, while the instrument »Public tender for the selection of operations for co-financing of investments in inter-company education centres – IEC« is being harmonized. In February 2008 in the context of the project Technical assistance, the Ministry of Education and Sport employed a co-worker for the preparation of the call for tender. A proposal of the instrument was for the first time referred to the managing authority in September 2008. The beginning of implementation of projects was predicted for 2009.

The Ministry of Education and Sport did not start with implementation of tenders for its instruments in 2008.

**Future implementation and expected changes**

Ministry of the Economy: In 2009 is being prepared a review of the situation in the projects of economic centres, included in the Resolution on national development projects for the period 2007 – 2023. On the basis of the review will begin intensive preparations of appropriate instruments for co-financing of projects, which will start implementing in 2009 or 2010.

At the moment it is not possible to determine the chances to include to initially planned projects in the resolution 2007 – 2013 the project of the regional technology park in the Coastal Karst Region (Koper).

Ministry of Education and Sport: The beggining of the implementation of the public tender »Public tender for the selection of operations for co-financing investments in inter-company education centres – IEC« in the amount of 22,8 mio EUR is planned.

## Table 5: Enterprise (eco)innovation projects from the region that got national support in 2008

| Projects | Beneficiary | Approved funds in € |
|---|---|---|
| Purchase of electro erosion machine sodick and CNC grinding machine STUDER | PHOS PROIZVODNJA, TRGOVINA IN STORITVE D.O.O. | 177.650,00 |
| New tool-making factory | IKOR INDUSTRIJA KOLEKTORJEV, ORODJA IN REZIL, D.O.O. | 170.790,00 |
| Purchase of 5 axis CNC machining centre | POČKAJ PROIZVODNJA POHIŠTVA IN TRGOVINA D.O.O. | 149.430,00 |
| Investment in laser technology for cutting sheet metal | GOLD CLUB PROIZVODNJA, TRGOVINA IN SVETOVANJE, D.O.O. | 183.420,00 |
| Machine for injection of plastic m800/l | IMAS, PROJEKTIRANJE, AVTOMATIZACIJA, ORODJARSTVO TER IZDELOVANJE KOVINSKIH IN NEKOVINSKIH PREDMETOV, | 210.000,00 |
| Investment in CNC machine tools | CERGOL IN HMELJAK, ORODJARSTVO D.O.O. | 182.425,00 |
| Investment in laser cutter for production of sails | INTERVELA, PROIZVODNJA JADER, TURIZEM, UVOZ - IZVOZ, D.O.O. | 64.405,00 |
| Introducion of new technology for the production of new products | ANTHRON - PROIZVODNJA IN TRGOVINA, D.O.O. | 99.995,00 |
| Investment in machines plastic injecion | ME-PLAST KOZINA BRIZGANJE PLASTIKE, PROIZVODNJA IN TRGOVINA, D.O.O. | 34.150,00 |
| Investment in the purchase of new technological equipment: view erosion(CE) AU-500iA | NIA PROIZVODNJA IN PRODAJA ORODIJ D.O.O. | 35.000,00 |
| Investment in 5-axis CNC machining center and CAD/CAM software | SIMAL, RAZVOJNO, PROIZVODNO IN TRGOVSKO PODJETJE, D.O.O. | 179.750,00 |
| Purchase of inkjet printer with software Caldera | K.M.K. BOX, PROIZVODNJA EMBALAŽE IN TRGOVINA, D.O.O. | 194.900,00 |
| Production line for the production of BRINOX tubes | "HIDRAVLIKA" REZANJE, KOVIČENJE GUMIJASTIH CEVI TER IZDELAVA DROBNIH KOVINSKIH PREDMETOV, SLAVČEK BR | 174.000,00 |
| Modern automised machinery for production of polyvinyl acet and polyurethane adesives | MITOL, TOVARNA LEPIL, D.D., SEŽANA | 151.520,84 |
| Injection machine and dryer | SIT D.O.O. PORTOROŽ | 45.705,00 |
| System for the analysis of the sea bottom/riverbed/lake bottom andsediments | HARPHA SEA PODJETJE ZA INŽENIRING, PROIZVODNJO IN SVETOVANJE D.O.O. KOPER | 166.550,00 |
| Line of equipment for the production of new porduct ATech3P and software | ATECH ELEKTRONIKA D.O.O. | 158.138,92 |
| Line of equipment for production of | ROBOTINA, PODJETJE ZA | 200.000,00 |

| | | |
|---|---|---|
| PV | INŽENIRING, MARKETING, TRGOVINO IN PROIZVODNJO D.O.O. | |
| Line of equipment for recycling of PET bottles | AD, TRGOVINA, TURIZEM, POSREDOVANJE, ZASTOPANJE IN GOSTINSKE STORITVE, D.O.O. | 139.675,00 |
| Active facade system | Mitol, d.d., Sežana | 1.846.091,20 |
| **TOTAL** | | **4.563.595,96** |

**Programme IN PRIME**

It is important to mention the programme IN PRIME (Innovation breakthrough of the Primorska region) as one of the first long-term regional innovative development programmes in Slovenia.

The strategic programme IN PRIME was set in 2002 by the statistical regions Goriška, Coastal Karst and Inner Karst. The plan was set in a ling-term context with the vision that the whole Primorska region becomes one of the most innovative and competitive regional economies in the new Europe. The strategic goal of the programme – achieve accelerated development through synergy of natural, human, financial and technology resources – should be achieved by acting mainly on the following fields:

- Development of a dynamic culture of innovation and globalisation;
- Development of crucial technologies;
- Education and training of top-level and highly qualified staff;
- Achieve full consensus among all regional actors;
- rational use of natural rsources in an environmentally sustainable way;
- create strong efficient administration structures;
- provision of attractive financial incentives.

The programme covered a period of 11 years (2002 - 2013), in which would be implemented several projects and created a network of technology nodes with assistance from European and Slovenian funds. In the network were predicted a technology faculty, a technology institute, a technology park, technology centres, an innovation fund and technology zones.

In 2003 was made the last attempt to put the strategic programme of the Primorska region into practice, but it was unsuccessful. If we look back we can list as a possible reason for failure the overambitious design of the programme for the period, when was not available an adequate amount of funds for the support to the programme. Another reason was probably the insufficient involvement of vehicles from the economic sphere with concrete initiatives or projects. Perhaps the weak point was the adoption of a long-term programme just in one are of Slovenia, and it was programme IN PRIME that encouraged the government to adopt a resolution for the period 2007 – 2013 for the entire country.

In further programme planning the Goriška region continued with the programme, so the programme IN PRIME zaživel in the context of the Resolution on national development projects for the period 2007 – 2023 as one of the projects to achieve goals of the first priority Strategy of the development of Slovenia: Competitive economy and faster growth. The title of the project is Development of the economic development project IN PRIME in the Goriška region and it indicates as the object of the project:

- Primorska Technology Park (Vrtojba, Ajdovščina)
- University Incubator
- Network Business Incubator
- Technology centres and institutes, technology cores (Hidria, Iskra Avtoelektrika, kolektor, ICIT, Gostol, Gopan, MIP, Design center etc.)
- Craft – business zones

- High school education centres with supporting buildings
- HR incubator
- Development programmes of enterprises
- Regional development fund

It appears that the initial programme IN PRIME was strategically well set, which is why the Notranjsko-kraška region is also preparing a »new« programme IN PRIME, but its basis is in the resolution in the project for the construction of an economic centre in Postojna. We assume that the content will slightly change and it will rely on development insitutions, established in the region in the meantime.

We have to ask ourselves how the Coastal Karst statistical region will get involved in the new situation. Inkubator in Sežana is operating successfully; it operates mainly on a subregional level and it is focused on corss-border Slovenian-Italian cooperation, but it partially covers also the region. The University incubator of Primorska is also successfully operating. However, the establishment of a regional technology park did not go well, probably also because of the fact that the national resolution did not include one. In the future more common efforts will have to be made for the startup of a technology park in the context of a network of an innovative environment.

**The field of efficient use of energy**

The promotion of efficient use of energy and the enhancement of sustainable use of available energy sources have become priorities on the European level, as well as on the national level. In order to implement efficiently the tasks related to this area, a few years ago the EU has started promoting through the Intelligent Energy – Europe programme the establishment of **local energy agencies**. The network of agencies should be organized in such way, so that in Slovenia there would be one local agency per onehundred thousand inhabitants. However, until now only four local – LEA Pomurje, GOLEA Nova Gorica, Energy of Savinjska, Šaleška and Koroška Region and LEA Podravje – have come to life. The European Union within the mentioned programme co-finances the operation of local energy agencies equal to 50% for the first three years of operation.

The non-existence of regional authority proves to have a negative impact also on this area. This applies particularly to the Coastal Karst Region, which still does not have LEA, even though the area in terms of volume exceed the criteria from the Intelligent Energy – Europe programme. GOLEA from the neighbouring region has shwon interest to cover also the area of the Coastal Karst Region. Local energy agencies are active in three fields: support to the implementation of policy of ministrys in this field, the implementation of energy management of municipalities and the preparation and implementation of projects by involving other subjects. Among the tasks of LEA is the development of innovative activity in the field of eco-innovations. This is also evident in the summary of GOLEA's activities:

- performance of development, research, education, promotion, support and counselling activities in the field of constant improvement of energy efficiency and speedy introduction of the use of renewable sources of energy;
- enhancement of positive attitude and increased engagement of people and isntitutions in the field of sustainable use of available energy sources with special emphasis on renewable sources of energy;
- integration of experts and institutions in relation to the development and support of research and development workm new technologies and procedures in the field of sustainable use of available energy sources;
- formation and implementation of research and development and educational programmes, which are important for the promotion of sustainable energy development from social, economic, technological, scientific and cultural view, and implementation and development of publishing for scientific and educational purposes;
- transfer of attained knowledge, experience and technologies into practice and development of innovative activities in the field of conservation and protection of the environment and natural heritage and ensuring development and sustainability of human, natural, energy, information, cultural and other resources.

In the bill regarding regions was determined that energy agencies would be under the auspices of the future region. However, the final form of regions remains unknown, therefore we can base on obligations imposed on municipalities by energy legislation.

The efficient use of energy and the promotion of use of renewable sources of energy are itnegral parts of Slovenia's energy policy determined in the new energy act from 2007. In accordance with the act, the municipalities are required to implement programmes of efficient use of energy and renewable sources of energy on the basis of **local energy concepts**. The act stipulates that local communities (or a few local communities together) have to adopt their own local energy concept by 1st January 2009.

In accordance with the energy act, energy counselling for efficient use in general use can be organized with a network of energy advisory offices. The Coastal Karst statistical region has one energy advisory office situated in Izola. Also in this respect the region is not ahead of other reagions in the promotion of efficient use of energy. The neighbouring regions each have three energy advisory offices; the Notranjsko-kraška region has the offices in Postojna, Ilirska Bistrica and Cerknica, while the Goriška region has them in Nova Gorica, Tolmin and Idrija. The Coastal Karst Region has twice as many inhabitants as the Notranjsko-kraška region.

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

## 4.5.1. Market analysis regarding (eco)innovation

### 4.5.1.1 Overall description

1. *Market Analysis:*
   - *Identification of the principal productive sectors and types of goods produced, (indication of the weight of the production sectors on the local economy) in terms of % of GDP and human resources absorbed.*
   - *Dimensional characteristics (size etc.) of the companies that make up the aforementioned productive sector or market category (SMEs, large firms, models of aggregation, clusters, consortia, etc.)*
   - *Experiences of companies in the scope of innovations / how are organizate to implement (eko)innovations in thir enerprise*

3. *Analysis of the existing model for organisation and development of entrepreneurship concerning the above sectors: can specific approaches or practices be identified as prevailing way of establishing and encouraging entrepreneurship?*

4. *Identification, for each sector above, of trends concerning competitive positioning of companies, goals of support policies etc.*

The number of received answers was not such to form a representative sample for reliable conclusions. Nevertheless, by combining the survey and our long-standing knowledge of movements in the regional economy we will try to outline the situation.

The first thing we can establish is that today the situation in the field of eco-innovations is substantially better than it was a decade or five years ago. While in the past only large enterprises considered eco-innovations, today this field of activities is opening also in the sector of SMEs. The survey shows that all SMEs that took part in the survey are aware of environmental standards. However, only a small part of them introduced these standards and not many are planning to do so in the near future.

We also established that enterprises feel the need for greater support from the state in this field. They expect concrete measures, from raising awareness and education to financial support, as well as exemplary behaviour of the state itself.

One of the strongest instruments for greater tendency of enterprises towards eco-innovation is recently introduced or forthcoming environmental legislation. The major part of enterprises believes they should respond to new environmental regulations by introducing eco-innovation.

The implementation of green procurement is probably more important when discussing possible eco-innovations in the field of public administration and public enterprises. In the sector of SMEs we see in this activity rather discordant views.

Also in the field of eco-innovations is expected a lot from integration, and we can determine that among these enterprises prevail enterprises which are cooperating with an enterprise which implements environmental technologies. Interestingly, the cooperation is more intense than cooperation in a cluster or a sector association. We believe that in this respect the pattern of behaviour differs from the one in the neighbouring regions in Italy with traditionally developed sectors of SMEs. Clusters and associations should play a bigger role in this field, especially because the survey shows that enterprises, which are not a part of such organization, are not planning to take part in the future.

The findings of the survey make us believe that investments in eco-innovation in these SMEs are relatively very low, so the results of the investments estimated by them in terms of operating costs savings are relatively low. It is clear that the enterprises that were investing in measures for energy saving were also investing in technology to reduce emissions; some enterprises were also investing in equipment for waste management and reduction.

It appears that the enterprises are sure that with eco-innovations they offered on the market environmentally improved products, the use of which contributed to the reduction of environmental burdens. On the first place they see the contribution in the form of the reduced soil, water and air pollution, followed by the reduced use of material, reduced energy use and lower emissions of carbon.

#### 4.5.1.2 Preliminary indications of sectors/candidate areas for (eco)innovation within the framework of MEDOSSIC project

We are presenting in this chapter some good examples of (eco)innovation in the region. The candidate sectors of (eco)inovation are presented in the chapter 4.5.2.4.

**Cimos – good example of (eco)innovative operation of an enterprise**

Cimos Koper is a good example of (eco)innovative operation in enterprise that has innovative activity and respect of natural sources incorporated in overall strategy. Such structured approaches cannot be seen in SMEs. Hence it is important that the examples of such enterprises are presented as good examples and that their practices are transferred to SMEs. So far in the field of flow of knowledge and experience among (big and small) enterprises too little has been done, on the national as well as on the regional level. Some initial attempts have been made by Inkubator in Sežana. For this reason the example of

Cimos, that operates in the field of innovations in its supply chain transparently and openly, is so useful.

- *Innovative activity*

In the context of innovative activity Cimos encourages employees to have an innovative approach to daily activities and to give useful suggestions for the improvement of processes.
Good example is administration of system TiNS (Tvoja Inovacija Napredek Sistema) that regulates the voluntary innovative activity of employees in the Cimos group and it operates in most of Cimos's factories.
The innovative syystem works well; so far the employees have made 5138 useful suggestions. It means that on average approximately every fifth employee contributes useful ideas. The most successful factory in terms of the number of useful suggestions per employee and in terms of the proportion of innovators is in Senožeče in the Coasta Karst region.
The innovator with the highest number of suggestions in 2008 (from the factory in Buzet) made 166 suggestions for improvements.

- *Responsibility to the natural environment*

Each year the companies in the Cimos group invest a part of the resources in the environment by giving funds for sponsorship and donations in the field of sustainable and environmental friendly development. Balance in society and in the development of the environment, in which they work, is not only a matter of responsibility to nature, but it also means selfprotection respect towards their sources.
They are aware that they operate in sector in which is needed particular attention to the development and production of environmentally friendly products and services.
Motor vehicle causes various harmful effects on the environment, such as consumption of energy and sources, pollution, waste produced in production, in use and at the end of a product's life. In European Union approximately 75 % of exhausted motor vehicle, mainly metal parts, is recycled, the remaining is disposed at a disposal facility. Under European legislation until 2015 the rate of recycling needs to be increased to 95%.

Finding solutions for a rational, economic and environmentally friendly collection and reprocessing of exhausted motor vehicles and their components is a topic, to which Cimos devotes attention in the early development phase of a product. The ultimate goal is to reach the demanded rate of re-use and recycling in compliance with the European directive on management of end-of-life motor vehicles. They are aware that for a comprehensive solution are not enough their efforts for the development of environmentally friendly products, but are also needed a dialogue and cooperation of all participants in the lifetime of a car – producers of materials for car components, producers of cars and companies engaged in re-processing of exhausted motor vehicles.

The current decline in demand on mature markets, such as Europe and the United States, extends the period for entire renovation of the vehicle fleet. Car manufactures (and

countries with financial incentives) try to utilize the period of economic slow-down for meeting the demands of a »green« vehicle fleet. Mainly through the promotion of development and production of innovative »green« components for building into vehicles, also Cimos will contribute to the achievement of European goals to reduce emissions of carbon dioxide and to increase energy security.

For a few years they have been working in compliance with the environmental standard ISO 14001. In June 2008 they started applying in full the Regulation on the registration, evaluation, authorisation and restriction of chemicals (REACH) (OJ No. 1907/2006), which applies to all hazardous substances and also for those that are not indicated as hazardous. After the entry into force of the REACH Regulation the production and import of substances (substances or preparations) in the amounts of one tonne or more per year by one manufacturer or importer will only be possible if the substance is registered in the European chemicals agency (ECHA). For this reason Cimos formed a group, which studied this field and is responsible for it.

In all companies of the Cimos group are being introduced and used technologies and technological procedures, which do not endanger the health. Besides using technological options for minimal environmental burden, they endeavour to take care of the environment systematically by using reusable packaging and by reducing the consuption of energy and other natural sources. In accordance with the environmental policy they devote a lot of attention to providing information, raising awareness and the selection of suppliers.

They evaluate the suppliers also based on the respect of the same environmental principles and values they believe in.

- *Value in people and value of the environment*

The driving force of Cimos is a group of excellent bold experts, which constantly creates and seeks new ways on the Slovenian and foreign markets.
The understanding that the attitude towards the environment is one of the key factors, which effect the further development of technology, contributed to the searching of new solutions to create products that are not harmful for the environment. Therefore Cimos created business ethics, which represents the increasing care for the environment. We can say that (eco)innovation is the enterprise's sustainable strategic orientation.

**TOC d.o.o.**

The enterprise TOC, Tehnološko - okoljski in logistični center. d.o.o., is a high-technology enterprise, which is mainly delaing with the development of new transport and environmental technologies, but it is also active in the field of logistics and maritime affairs. In 2008 the enterprise received an award from the newspaper Finance and the Eco Fund for the environment friendly procedure of the year, i.e. for the development of a new sustainable technology of the transformation of waste from the paper industry in an eco absorbent material for cleaning the water surface, eg. in ports, marinas etc. The penetration of the technology and product on the European market is cofinanced by the European Commission through The Executive Agency for Competitiveness and Innovation

(EACI). The project worth 1.5 MEUR, was well accepted, so the European Commission decided to invite the representatives of the enterprise TOC d.o.o. to present their project and good practices at obtaining European funds at the principal European research conference during the presidency of the Czech Republic (Reseach and Innovation 2009) in Prague. In October 2009 the enterprise TOC d.o.o. was the only enterprise from Slovenia and one of the 15 selected enterprises from the European Economic Area invited to take part at The 2009 Eco-Innovation Summit in Brussels. At the summit were present high representatives of the European Commission, the European Investment Bank, and representatives of 10 selected high-technology enterprises, which are active in the field of eco-innovations.

The purpose of the meeting "Public-private partnership for sustainable Europe" was the exchange of opinions and knowledge in the transition of the European and global area to a low-carbon society with special emphasis on financing of innovations and improvements which contribute to the reduction of climate changes, bringing into practice eco-innovations and the example of public-private partnership in the introduction of sustainable European policy. The participants outlined the facts that small enterprises have a lot of knowledge and ideas, but due to the lack of internal resources they cannot implement them, which is why the talks went in the direction of integration of small and large enterprises and the possibility to insert small enterprises in public-private partnerships in the field of environmental and sustainable improvements. Mr. Simon Brooks, the vice-president of the European Investment Bank, presented the plan and priorities in financing eco-innovation until 2020, Mr. Herve Martin, Head of the LIFE Environment and Eco-Innovation Unit, presented the priorities in the implementation of development projects. Among the invited were the representatives of Philips, Google, IBM, and eco-innovators from 10 member states, among them was Marko Likon, director of the enterpriseTOC d.o.o.

The representatives of the enterprise TOC d.o.o. will continue to cooperate in this very important and influential think tank.

**Kraški zidar**

The construction company Kraški zidar opened a new activity in the quarry Mali Medvejk – construction waste management (CERGO Mali Medvejk), where the construction waste will be collected, sorted and temporarily and permanently disposed (concrete, brick, asphalt, excavation etc.).

#### 4.5.1.3 Problems and barriers of productive sector candidates for dealing with (eco)innovation issues

If we start from the changes in the structure of economic tissue caused by transition we can place on the first place the effect of the loss of a 22-million Yugoslav market on large enterprises, which were established in the former system. Several large and medium enterprises failed to adjust to the small 2-million Slovenian market, for the export on demanding Western markets the products did not meet higher standards of quality. Several large enterprises collapsed, others in effort to adjust to a smaller amount of activities reduced or even shut down its development departments. Start-up companies, which were increasingly being established from 1989 onwards, were small, technologically weak and often without technical staff, which would be able to work systematically on the introduction of innovations.

In this period the state tried to offer support to initiation of entrepreneurship and innovation, but it did not bring the right results. In the initial period the emphasis was on workplaces and numerousness of new enterprises. There were established the so called "local coalitions" under the coordination of Ministry of labor and local business support centres under the coordination of the Ministry for (small) economy. After a few years another ministry started establishing (regional) development agencies, which over the years when in entire Slovenia started the preparation of regional development plans (period 2000 - 2006) consolidated as a network of regional development agencies (RDAs)in all statistical regions of Slovenia. At the beginning of the 90's were established business incubators and technology parks, in the past decade they were formed in actual form; later were established three university incubators. Business incubators and technology parks established with technology centres the Association of incubators, technology parks and technology centres. In 2008 the technology centres were excluded from the association because the activity is too dissimilar. During the interim period various ministries tried with other forms of organizations to accelerate innovation and competitiveness. Clusters, technology platforms and centres of excellence were founded; each new political establishment introduced a new form and abandoned or radically reduced support to the one that did not function well. New agencies were established as an intermediary between the government and economic sector based on the European model that the government creates policy, which is implemented by public agencies. We should also mention the Chamber of Commerce and Industry of Slovenia with its associations and regional chambers, and Chamber of Craft and Small Business of Slovenia.

To sum up, too many business promotion institutions on local and regional level were established. They were uncoordinated, systems of functioning and support changed every few years, funds for support to innovations were diffuse and there were no effects. On the national level the intermediate institutions have been finaly organised in three key institutions: JAPTI – Public Agency of the Republic of Slovenia for Entrepreneurship and Foreign investments, TIA – Public Agency for Technology of the Republic of Slovenia and SPS – Slovene Enterprise Fund.

On the regional level are functioning in the context of the described scheme the following institutions:

- RRC Regional development centre Koper and ORA Sežana – subregional agency for Karst and Brkini,
- Inkubator Sežana,
- University incubator of Primorska and
- chambers.

Despite persistent functioning in this direction, until now it has not been possible to establish a regional technology park. One of the reasons why technology innovation in the region is neglected is certainly the fact that the University of Primorska is almost exclusively humanistically oriented. Therefore the academic support for eco-innovations has to be looked for outside of the region, in Ljubljana, Maribor, Nova Gorica or Trieste.

Without determining what is the cause and what is the consequence, we can establish that the structure of the higher education system follows also the structure of the economy. The industry is not considered the leading activity; as principal activities are usually considered service activities – port activities, sea and land transport and tourism.
This could be the reason for the low degree of technology innovations.

#### 4.5.1.4 Opportunities of productive sector candidates for dealing with (eco)innovation issues

On the regional level there are many opportunities in sectors, which are most present in the region, therefore in those that are connected with the sea, port and transport. We can conclude that innovations are a service and marketing innovations are more expected than technology innovations.

The next pool of opportunities is among SMEs. The initial wave of innovative entrepreneurs decreased; it was formed by technical staff from large and medium enterprises that reduced the amount of activities or by individuals who see entrepreneurship as a challenge and not survival. It is necessary to ensure conditions and incentives, so that highly innovative enterprises with a major market potential, such as Atech, AgbLab, Kyma, Robotina, would be continuously established. It is necessary to use also the opportunity of attracting innovators and investors from other regions. The greatest potential is in the neighbouring Italy, from which in the past years have come several entrepreneurs, but mainly those that have been looking for tax benefits in Slovenia.

It is necessary to ensure that with appropriate support from the state and technical assistance from intermediaries, such as incubators and other agencies, enterprises would be mainly founded by young people with (technological) university degree, so that we obtain the development of the knowledge based economy. This way we will slowly begin to reduce the development gap in comparison with the neighbouring Italian regions (Friuli

Venezia Giulia, Veneto), which are in terms of productivity measured by gross value added per employee almost two times better than our region.

For the support to mentioned activities the existing institutions (incubators, development agency) should be additionally trained and a regional technology park should be established. Current support to small enterprises in the field of competitiveness and innovation should be expanded to more demanding programmes, such as the Seventh Workframe Programme, which have been until now in the background.
The structure of regional education system will not change in the near future; therefore it is necessary to focus on all neighbouring educational institutions, which are willing to cooperate (also cross border).

It is necessary to use all fields, which are by nature connected to problems of the environment and in which so far the most has been done in relation to eco-innovations. We are referring to activities in the regional system of waste collection and processing, environmental activities being introduced by Port Koper, as well as in the construction sector (collection of construction waste material).

An activity, which can affect all economic (and non-economic) sectors with innovations, is ICT. ICT was among technical disciplines the first one that started introducing higher education programmes in the region.

## 4.5.2. Matrix (sectors and type of eco-innovation)

### 4.5.2.1 Overall objective

*The overall objective is to identify the productive sectors on which to focus the activity of identification of potential opportunities for eco-innovation in a complementary and logical manner between the Project partners. And as such is intended to focus on a pre-selected number of types of eco-innovation that are most able to create an impact on the territory of each partner in established industries or those potentially disposed to innovation. The fact that we focus our attention on specific sectors and/or eco-innovative technologies allows the development of a more focused research and better awareness of the real potential for development and subsequently the achievement of greater results in terms of involvement of target stakeholders.*

*An eco-innovative approach should provide relative beneficial effects in terms of significant environmental impact throughout the productive chain of the specific sector, industrial, commercial or service that is, not only in the pre-selected sub-sectors in order to create the greatest impact of the productive system possible, it would be useful therefore to investigate between partners whether sub-sectors exist which constitute a more or less complete productive system and plan subsequent analysis of BP around those.*

*The added value of such an investigation lies in the fact that creating a basis for cooperation between the partners identifying sectors that have an impact (in terms of weight on the local economy as well as potential development of eco-innovation) in different regions and provinces of the various partners, so as to act in a complementary manner, which enables a partner having less developed sectors in the respective territories of interacting with partners who have better expertise by virtue of greater development of that specific sector in their area, always with a view to a complete productive system.*

*The interaction should also be transversal between user sectors and supplier sectors of eco-innovative technologies; industrial sectors should be identified from those that are disposed, because of acquired know-how or potentially capable of development of certain technologies, to the growth of eco-innovative technologies to be implemented on the receptive productive sectors of the different partners.*
*Operational proposal in detail is proposed to follow the following steps.*

### 4.5.2.2 *Structural and Economic situation of the productive sectors*

**STEP 1 - Table 1**

*Table 1 should be used by each partner in order to report a number of macroeconomic indicators (quantitative) for each sector and, where available, for each sub-sector (for list of sectors see the methodology chapter in this template).*

*Each partner, depending on their specific situation, will determine whether further analysis is required at the section level (e.g. Mechanical Section, Electronic Manufacturing industry, etc.). The indicators may be updated by adding others deemed appropriate.*

In terms of the number of enterprises and the volume of turnover of sales sector G (Wholesale, retail; certain repair) is on first position; in 2008 964 enterprises operated in this sector (27,9% of all enterprises). In terms of the number of enterprises follows sector K (Real estate, renting and business activities), in which operated 839 enterprises (24,3% of all enterprises). In terms of the turnover of sales are on the second position sectors C+D (Mining, quarrying and manufacturing).

In terms of GDP are on the first position enterprises from sector I (Transport, storage and communication) with 229 million € GDP in 2007. Sector K is on the second position with 215 million €, followed by sectors C+D with 211 million €. The least important sectors in terms of GDP are sectors A+B (Agriculture, hunting, forestry and fishing) and E (Electricity, gas and water supply).

In the Coastal Karst Region in 2008 the highest number of employed persons was in sectors C+D and I, employing 9.960 persons in total, which was 46,7% of all employed. Between 11% to 16% employed persons were employed in sectors F, G and H.

In the Coastal Karst Region in 2008 the highest number of sole proprietors was specialized in construction (957 s.p. or 22,3% of all s.p.) and in real estate, renting and business activities (846 s.p. or 19,7% of all s.p.). They were followed by s.p. in sectors G (Wholesale, retail; certain reply) and I, representing in total slightly more than 27% of all s.p.

In the Coastal Karst Region in the period 2003-2008 the highest growth (400%) was achieved by enterprises in sector E, followed by enterprises in sector F (115,5% growth) and in I (81,3% growth). Most enterprises (sectors J, K, L, M) achieved in the past five years 40% to 50% growth. In the period 2003-2008 enterprises from sectors A+B achieved a negative growth (-30,3%). Data show growth over a five-year period, but we can conclude that it is a high rate of growth, even if calculated on an average annual rate.

## Table 1 – Structural and economic situation of the productive sectors (in year 2008)

| Sector | GDP in mio € (2007) | Turnover of sales in 000 € | Active enterprises | | Human resources employed | | Enterprises size distribution | | | Natural laws enterprises distribution (only individuals-s.p.) | | % growth of the sector in the last 5 years (number of enterprises) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. | Share in % | No. | Share in % | S | M | L | No. | Share in % | |
| A+B Agriculture, hunting, forestry and fishing | 23 | 3.483 | 23 | 0,7 | 48 | 0,2 | | | | 51 | 1,2 | - 30,3 |
| C+D Mining, quarrying and manufacturing | 211 | 937.289 | 328 | 9,5 | 5.061 | 23,7 | | | | 484 | 11,3 | - 0,60 |
| E Electricy, gas and water supply | 21 | 60.517 | 25 | 0,7 | 694 | 3,3 | | | | 5 | 0,1 | 400 |
| F Construction | 123 | 424.623 | 444 | 12,9 | 2.922 | 13,7 | | | | 957 | 22,3 | 115,5 |
| G Wholesale, retail; certain repair | 172 | 1.994.562 | 964 | 27,9 | 3.350 | 15,7 | | | | 605 | 14,1 | 16 |
| H Hotels and restaurants | 79 | 148.377 | 199 | 5,8 | 2.402 | 11,3 | | | | 298 | 6,9 | 37,2 |
| I Transport, storage and communication | 229 | 736.827 | 419 | 12,1 | 4.899 | 23,0% | | | | 566 | 13,2 | 81,3 |
| J Financial intermediation | 89 | 15.225 | 47 | 1,4 | 269 | 1,3 | | | | 31 | 0,7 | 51,6 |
| K Real estate, renting and business activities | 215 | 190.546 | 839 | 24,3 | 789 | 3,7 | | | | 846 | 19,7 | 40,5 |
| L Public administration and defence; comp. soc. sec | 67 | / | / | / | / | / | | | | 1 | 0,0 | / |
| M Education | 77 | 1.894 | 22 | 0,6 | 22 | 0,1 | | | | 67 | 1,6 | 46,6 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N Health and social work | 71 | 4.695 | 44 | 1,3 | 82 | 0,4 | | | | 53 | 1,2 | 41,9 |
| O+P Other social and personal services | 89 | 65.367 | 99 | 2,9 | 800 | 3,7 | | | | 330 | 7,7 | 20,7 |

**Source: AJPES 2008 and 2003**

### 4.5.2.3. *The Existing Situation in terms of eco-innovation*

**STEP 2 - Table 2**

*Table 2 outlines the existing situation for each partner in terms of eco innovation. The table includes some indicators relative to the current capacity of eco-innovation (Eco-Innovation indicators) - selected from among those listed on page 38 of the UN report "Measuring eco-innovation" - Annex 1, proposed by PP8 - for each sector and, where available for each section. "Types of eco-innovation" that can have an impact on each sector will be indicated (by means of a cross) and, where available, on each section in order to determine the actual impact of eco-innovation. The information regarding the existing situation could be recovered through an analysis of information and partly qualitative data obtained through interviews / meetings with focus group, organisations such as provinces, industrial associations, universities etc.*

*The following classification offers a framework for matrix:*

*ENVIRONMENTAL TECHNOLOGIES*
*pollution control technologies including waste water treatment technologies*
*cleaning technologies that treat pollution released into the environment*
*cleaner process technologies: new manufacturing processes that are less polluting and/or more resource efficient than relevant alternatives*
*waste management equipment*
*environmental monitoring and instrumentation*
*green energy technologies*
*waste supply*
*noise and vibration control*

*ORGANIZATIONAL INNOVATION for the environment*
*pollution prevention schemes*
*environmental management and auditing systems: formal systems of environmental management involving measurement, reporting and responsibilites for dealing with issues of material use, energy, water and waste*
*chain management: cooperation between companies so as to close material loops and to avoid environmental damage across the value chain (grom cradle to grave)*

*PRODUCT AND SERVICE INNOVATION offering environmental benefits:*
*new or environmentally improved products (goods) including eco-houses and buildings*
*green financial products (such as eco-lease or climate mortgages)*
*environmental services: solid and hazardous waste management, water and waste water management, environmental consulting, testing and engineering, other testing and analytical services*
*services that are less pollution and resource intensive (car sharing is an example)*

*GREEN SYSTEM INNOVATIONS*

*alternative systems of production and consumption that are more environmentally benign than existing systems (biological agriculture and a renewables-based energy systems are examples)*

On the basis of limited number of answers it was not possible to make conclusions requested in table 2.

### 4.5.2.4. *Candidate sectors for the third level of ESA (field research)*

**STEP 3 - Matrix 3**

*Constructs a matrix acquired through a synthesis of Tables 1 and 2 that allows the identification of the most important productive sectors, significant in terms of socio-economic impact and the potential impact of the eco-innovation. Each partner can identify the sector on which to focus the third level of the ESA research (field research) and investigation of BP. The matrix could be structured as that shown below, which provides an estimate of the relevance of the various sectors and sub-sectors.*

### *Matrix 3 – Candidate sectors for the third level of ESA (field research)*

| Sector | Section (to be defined by each partner) | PP2 – COASTAL KARST |
|---|---|---|
| A+B Agriculture, hunting, forestry and fishing | Growing of grapes,<br>Growing of pome fruits and stone fruits<br>Growing of oleaginous fruits<br>Fishibng and aquaculure | xx |
| CA Manufacture of food productd, beverages and tobacco products | Processing and preserving of meat and production of meat products | x |
| C Manufacture of machinery and equipment n.e.c. | Various production of equipment and components | *xx* |
| E Water supply, sewerage, waste, waste management nad remediation | Water collection, treatment and supply<br>Sewerage<br>Collection of non-hazardous waste<br>Treatment and disposal of non-hazardous waste<br>Dismantling of wrecks<br>Recovery of sorted materials<br>Remediation activities and other waste management services | *xxx* |
| F Construction | Construction of residential and nonresidential buildings | *xx* |
| H Transportation and storage | Land transport<br>Freight rail transport<br>See and coastal freight transport | xxx |

| | | |
|---|---|---|
| | See and coastal passenger transport | |
| I Accomodation and food service activities | Hotels and similar accomodation<br>Camping grounds, recreational vehicle parks and trailer parks<br>Restaurants and mobile food service activities | xx |

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

### 4.5.2.4. *Candidate Sectors for eco-innovation*

**STEP 4 – Matrix 4**

*The final matrix is structured as matrix 3 however it is more detailed combining the results obtained on the basis of the field evaluation of the sectors pre-identified in matrix 3 and reworked by increasing the level of detail to the sub-sections. The sectors identified in the table will be those on which more attention will be focussed in the subsequent project activities, including investigations into BP.*

***Matrix 4 – Candidate Sectors for eco-innovation***

| **Sector** | **Section (to be defined by each partner)** | **Sub-Section (to be defined by each partner)** | **PP2 – COASTAL KARST REGION** |
|---|---|---|---|
| A+B Agriculture, hunting, forestry and fishing | Growing of grapes,<br>Growing of pome fruits and stone fruits<br>Growing of oleaginous fruits<br>Fishibng and aquaculure | Production of wine and olives | xx |
| CA Manufacture of food productd, beverages and tobacco products | Processing and preserving of meat and production of meat products | Ham production | x |
| C Manufacture of machinery and equipment n.e.c. | Various production of equipment and components | Production of automobile parts;<br>Production of various equipment and components | xx |
| E Water supply, sewerage, waste, waste management nad remediation | Water collection, treatment and supply<br>Sewerage<br>Collection of non-hazardous waste<br>Treatment and disposal of non-hazardous waste<br>Dismantling of wrecks<br>Recovery of sorted materials<br>Remediation activities and other waste management services | New waste treatment system;<br>Sewerage system in non-urban areas | xxx |
| F Construction | Construction of residential and nonresidential buildings | Construction of residential buildings and new construction materials | xx |
| H Transportation and storage | Land transport<br>Freight rail transport<br>See and coastal freight transport<br>See and coastal passenger transport | Port system and railway transport;<br>Regional passenger transport activity | xxx |

| | | | |
|---|---|---|---|
| I Accomodation and food service activities | Hotels and similar accomodation<br>Camping grounds, recreational vehicle parks and trailer parks<br>Restaurants and mobile food service activities | Green technologies in accommodation services | xx |

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

### 4.5.2.5. *Effects of (eco)innovation*

*Estimate the effects of (eco)innovations in identified candidate sectors for (eco)innovations. Describe these effects based on Arundel and Kemp (2009, 13-15) recommendations.*

Following the study of Arundel and Kemp (2009, 13-15) the effects of eco-innovation can be found in the improvement of economic growth and environmental protection. The economic effects can result also in new employment not only in economic growth.

We are giving only some general conclusion on the estimated effects as the questionnaire did not give us more detailed results.

Input measures: research and development expenditure, R&D personnel, innovation expenditure are relatively low, probably mainly because of relatively limited percentage of industrial productive companies.

Intermediate output measures: the same reason is giving us also limited number of patents in the regional economy.

Direct output measures: the number of innovation for the same reasons could not be high and the regional figures are proving this. However, the young innovative companies in the subsectors of various production of equipment and components etc. have obtained good results in sales growth, new employment and improved productivity thanks to the introduced innovations. New production programmes started in some companies based on new eco-innovation products. In these cases the indirect impact measure can be determined too, resulting in reduced consumption of energy by final users. In many cases the reduction of energy was found in the production process but in some cases also the other resource efficiencies were found.

Direct positive impact on the environment was recognised in municipal and industrial waste management and in sewerage system projects.

## 4.5.3. Situation of (Eco)innovators on national and regional level

### 4.5.3.1. Overall description

*Please describe the overall situation of the innovators on national and regional level. You may refear to supportive environment, possibilities of putting into force innovations, motivation for innovators with awards ect. Feel free to comment on social, economic and cultural environment that influences the succesfulness of innovation processes. If possible; refer to specific data or documents which support your analysis.*

In Slovenia independent innovators are organized in the Active Slovenian innovators association. The association includes inidividual inventors, innovators, technical, technological and service

improvements. It was founded in 2005 as an associate member of one of the economic interest grouping from Žalec (GIZ R TIM); in 2008 it became an institution. It has 4 regional and 5 specialized centres around Slovenia, and it is a member of international associations of inventors IFIA (International Federation of Inventors' Associations) and AEI (European Association of Inventors).

Innovators who are members of the association were awarded at innovation fairs in Geneva and Nürnberg (IENA). In 2005 at IENA Slovenian inventors were the most successful among inventors from 39 countries. They were successful att international and Slovenian fair also in the following years, even though the state did not offer financial support.

In October 2008 it concluded a two-year campaign Year of eco-innovations. It awarded 35 acknowledgments for innovations in the field of ecology; it is particularly proud of 2 acknowledgments from WIPO (World Intellectual Property Organization) and grand prize from AEI for the best eco-innovation.

One of their centres, Regional innovation centre for Primorska, is located in Izola in the premises of one of the members, which received a golden medal for a patented invention at mentioned fairs.

### 4.5.3.2. Problems and barriers on national and regional level

*Please elaborate further on specific problems and barriers faced in region, which influence the innovation issue. You may refer to section 4.5.2.1 providing a more thorough analysis and justification of existing problems and barriers.*

According to members of the Active Slovenian inventors association the main barrier that is obstructing a major expansion of inventors' activity is the fact that the state does not finance its activity. The ministry and other institutions co-finance through public tenders mainly the activity in the field of innovation in economic companies (and of sole proprietors); activity that is related to the improvement of competitiveness and increase of value added in the economic process. Until now the state was not in favour of co-financing inventions of individuals, for which there were no tangible information or intentions to manage shortly to enter production stage and market exploitation. Such inventions did not promise positive effects on employment in the region or Slovenia as a whole.

One of frequent problems occuring in inventors is also the fact that they do not know how or they are not willing to sell their invention. When they believe that the invetion has a major market potential they want to keep in their hands also the production process and market exploitation, instead of trying to get the most out of the invention and focusing on new inventions.

### 4.5.3.3. Opportunities on national and regional level

*Please elaborate further on specific opportunities for innovators on national and regional level, which aim to support the target groups. You may refer to section 4.5.2.1 providing a more thorough analysis and justification of existing opportunities.*

The situation in the field of inventors' activity could improve substantially, if normal cooperation between inventors and national institutions would be re-established.

Regardless of how this will be resolved, we can say that technology parks, business incubators and university incubators can be considered the main intermediaries in promoting innovations. Besides offering assistance to new entrepreneurs starting their own activity they are expected to promote innovation also in the existing economic structure, particularly in SMEs, but partly also in large enterprises.

The construction of a regional technology park of the Coastal Karst Region could help substantially the development of new activities based on technological innovations, including eco-innovations.

### 4.5.4. Other

Recently has been discussed within the Chamber of Commerce and Industry of Slovenia and its Management Consulting Association wthether it is possible to promote further development of innovations by introducing standards and certification in the field of management of innovations. The discussion was encouraged by the proposal of European Commission, mandating CEN TC 389 for preparing certifiable innovation-management standards.

It appears that also in Slovenia will prevail the opinion of some organizations at the level of EU, such as NORMAPME and ORGALIME. These institutions rather severely oppose the proposal and suggest that innovation management stays a business-driven process free from bureaucratic validation procedures.

As a useful contribution towards further development of innovations they consider the following measures, which could be implemented by a single committee.

- Provision of tools on how to exchange best practices;
- Harmonisation of terminology;
- Guidance on evaluating the innovation management of the enterprise provided that it does not include any third party certification.

It appears that national organizations will support such orientation, thus free competition on the market of innovations with maximum utilization and exchange of good practices, harmonization of terminology and use of European guidelines. Regardless of the emphasis on free competition it is necessary to create a network of intermediaries, which would cover all Slovenian regions, for systematic work in this field. At this moment the Association of incubators and technology

parks presents such network, but this association does not have yet members in all regions. This field is partly covered also by regional development agencies, which cover the entire Slovenia.

# 4.6 CONCLUSIONS

### 4.6.1. Summary

On the basis of a very limited number of replies to the survey it is difficult to reach conclusions on the situation in the field of eco-innovations in the Coastal Karst region. Therefore we will focus mainly on the knowledge of the situation in enterprises with which we were in constant contact for nearly two decades while managing Inkubator and Business innovation centre in Sežana and while offering management consulting services to small and medium enterprises in the wider region.

In the past years in the field of metal and mechanical industry, gaming industry, tool making industry, production of plastic materials, production of insulating materials and production of electrical products we established the following: enterprises equipped themselves with modern technology, mostly with CNC technology, through which they increased significantly the productivity, decreased substantially the energy consumption, reduced the share of waste, improved working conditions, reduced the size of single product, improved economy of packaging and transport of goods to buyers. They also equipped themselves with modern technology for design of products and equipment for rapid elaboration of prototypes.

The result of investments and changes in the production are important products, which for example allow: positive environmental effects in sawing trees in the woods, energy savings in equipment with small propulsion engines (eg. vacuum cleaners), improvement of combustion in boilers for central heating, extension of life span of house installations, replacement of metal with plastic in the car industry. Some of the new manufacturers protected their products with international patents. In this category of entrepreneurs can be included also those which have been dealing for years with research and elaboration of industrial prototypes of electric vehicles.

Chemical industry is by nature such that it forced manufacturers to seek innovative ways to reduce environmental impacts, which they connected with attempts to increase economy and productivity.

Food industry, with which are dealing mainly large and older enterprises (production of meat products, coffee, beverages, etc.), is also already by nature such that the enterprises were forced to purchase such technology that is comparable with competition in the markets of developed countries.

Building industry is the one with most oppportunities for innovation, especially because it is a big consumer of energy and it has a significant impact on the environment. In the future a lot can be expected in the field of new methods of construction and new materials; in the past few years positive steps have been made in the region in the field of recycling construction waste material.

In the field of agriculture (wine-growing, fruit-growing and olive-growing) measures can be oriented towards more rational methods of use of plant protection products.

Eco-innovative approach in extraction of karst marble is the already established underground (tunnel) excavation of rock instead of classical open quarries in Lipica).

Tourist activity, especially at the seaside, where is the highest concentration of hotels, will have to follow the example of advanced foreign tourist destinations in introduction of »green« management of tourism facilities. The entire public sector is also quite behind in introducing the rules of »green« purchase of goods and materials.

In relation with port activity and activities related to the sea in the past years were made several steps regarding environmental protection.

A lot has to be invested in the development of collection and cleaning of waste water. Municipalities made a lot of promises regarding the new requirements of European directives. Because of high dispersion of settlements, particularly in the Karst and Istrian hinterland, promises were not realizable in a short period of time. For years have been going on negotiations among municipalities in the region on determination of a common waste disposal site and it appears that without the state's intervention an agreement will not be reached. However, a lot has been done in the introduction of separate collection of waste in villages and towns.

Considering the fact that the university in the region is almost exclusively humanistically oriented, and especially in the fields, which are not useful in innovation within the economy, it is necessary to develop integration with all technical education and research institutions in the vicinity. AREA Science park with Synchrotron and other research institutions is one of such centres, which has already created promising development connections in the Coastal Karst Region and the Goriška region. Cooperation with them is particularly important because in the past years they have been oriented towards environmentally oriented research activities.

To the existing intermediaries in the field of innovations in the region (University incubator Koper, Incubator Sežana) a new regional technology park in Koper should be added at the end of the programme period 2007 - 2013. When planning new business zones it is necessary to consider an ecological approach in designing the zone and in its management after it is constructed and it stars to function. An example of an establishment of such business zone in the region will be attempted in the following two years within the SEPA project (Sustainable Equipped Productive Areas) implemented by Incubator Sežana.

### 4.6.2. Qualification of the Partner

RDC Koper as a project partner implements in the reigon all functions, which the state delegated to regional development agencies. Primarily it was the vehicle of the preparation of regional development programmes, the implementation of which is also its role.

In implementation of measures, which the state delegates to regional institutions, RDC could be one of the vehicles for providing information and promoting innovations in the region. Considering the fact that it was also the main initiator for the establishment of a regional technology park, it has a role also in the execution of further activities for the construction of the technology park. It has already cooperated closely with the Municipality of Koper and other municipalities and has been the main interlocutor of governmental bodies in searching sources of financing. RDC could play an important role in coordinating various incentive measures in the area of the entire region.

The Coastal Karst Region as a partner in this project has two special features, which could be the origin of the search for environmental or eco-innovative approaches in designing development programmes in the region. These features are sea in the sub-region of Istria and vulnerable karst terrain in the Karst Plateau. Therefore the municipal sector connected to waste water discharge and waste management is particularly highlighted as a potential sector for eco-innovative activities. The field of mobility could be also connected to it.

If we focus on commercial economic sector we would highlight as sectoral candidates for eco-innovations the following:

- tourism,
- activities related to the sea,
- innovative SME sector.

In the region is felt the lack of large enterprises, which would through their R&D activities »force« in innovation also their subsuppliers in SME sector. The only significant exception in this sense is Cimos, which connects to its manufacturing activities many small subsuppliers.

Therefore more attention has to be paid to intermediary institutions in the fields of innovation and competitiveness. Considering the fact that there are no technology centres and similar development units of significant volume with high specialization in a determined activity, it is necessary to further develop intermediary institutions of general type (incubator, technology park). Often it is difficult to predict which single sector is most probable regional candidate in view of eco-innovation, so it is necessary to listen to every innovative idea of serious entrepreneurial initiators. This way was born the production of undulators in cooperation with Synchrotron from Trieste.

At the moment there are a few initiatives in the field of photovoltaics, one of which is of significant volume, and it includes the set up of a large plant for the production of electrical energy; there are also some ideas on the productions of PV panels. In this field the region has an

advantage because it is the most solar exposed region in Slovenia. The other comparable advantage could be activities related to the sea, not just tourism and transport, but also those that are not present at the moment.

# Annexes

# ANNEX A: STATISTICAL DATA & INDICATORS

## Table 1: General regional indicators (Years of data used = 2007)

| General indicators | Data | Comments |
|---|---|---|
| Surface (in $km^2$) | 1.044 | Coastal Karst Region |
| Regional population | 107.062 | In the 2007 the highest population growth rate was recorded in the Coastal Karst Region. |
| Country population | 2.025.866 | |
| Percentage of regional population on country total population | 6% | |
| Population density | 102.5 | |
| Number of municipalities within the region | 7 | Municipalities: Divača, Hrpelje-KOzina, Izola, Komen, Koper, Piran, Sežana |
| Number of persons in employment (active population) | 45.884 | |
| Percentage of persons in employment | 42,9% | |
| Number of persons in paid employment (working population) | 40.967 | |
| Percentage of persons in paid employment | 38,3% | |
| Percentage of companies in region by size: | | |
| a.) Micro | 93,5% | **Micro companies:** The average number of employees in the financial year does not exceed 10. Net turnover does not exceed 2.000.00 EUR. Value of assets does not exceed 2.000.000 EUR. |
| b.) Small | 4,4% | Small companies: The average number of employees in the financial year does not exceed 50. Net turnover does not exceed 7.300.000 EUR Value of assets does not exceed 3.650.000 EUR |
| c.) Middle | 1% | Middle companies: The average number of employees in the financial year does not exceed 250. |

| | | |
|---|---|---|
| | | Net turnover does not exceed 29.200.00 EUR.<br>Value of assets does not exceed 14.600.000 EUR |
| d.) Large | | |
| **GDP** | Data | Comments |
| National GDP in EUR (current rate) | 34.471 | **Years of data used = 2007** |
| Regional GDP in EUR (current rate) | 1.671 | **Years of data used = 2006** |
| Regional GDP in % | 5,4% | **Years of data used = 2006** |
| National GDP per capita | 17.076 | **Years of data used = 2007** |
| Regional GDP per capita | 15.747 | **Years of data used = 2006** |
| Regional GDP per capita in % | | **Years of data used = 2006** |

Source: SURS

## Table 2: Research and development investments indicators
## (Years of data used = 2007)

| Research and development | National | Regional |
|---|---|---|
| Gross domestic expenditure on R&D (as % of regional GDP) | 1,45 | n/a |
| Gross domestic expenditure on R&D (total %) | n/a | n/a |
| By sources of financing R&D: | 100 | 1,1 |
| f.) business companies (%) | 58,3 | 73,6 |
| g.) government funds (%) | 35,6 | 19,4 |
| h.) higher education funds (%) | 0,4 | 4,0 |
| i.) private non-profit organizations (%) | 0,0 | - |
| j.) funds from abroad( %) | 5,7 | 3,0 |
| Researchers by region (in %) | 100 | 1,9 |
| Female researchers (as % of all researchers in the region) | 33,7 | 30 |
| Average number of researchers per research organisation | 22,0 | 14,1 |
| Applied research (as % of total research) | 63,8 | 53,6 |

Source: SURS

## Table 3: European Innovation Scoreboard

| Innovation Indicator | National level |
|---|---|
| 1.1 New S&E graduates , age 20-29 | 9.8 (2005) |
| 1.2 Population with tertiary education | 22.2 (2007) |
| 1.3 Broadband penetration rate | 11.4 (2006) |
| 1.4 Participation in life-long learning , age 25-64 | 14.8 (2007) |
| 1.5 Youth education attainment level | 91.5 (2007) |
| 2.1 Public R&D expenditures | 0.60 (2007) |
| 2.2 Business R&D expenditures | 0.94 (2007) |
| 2.3 Share of medium-high-tech and high-tech R&D | 89.3 (2004) |
| 2.4 Enterprises receiving public funding for innovation | - |
| 3.1 SMEs innovating in-house | - |
| 3.2 Innovative SMEs co-operating with others | 15.1 (2006) |
| 3.3 Innovation expenditures | - |
| 3.4 Early-stage venture capital | - |
| 3.5 ICT expenditures | 5.4 (2005) |
| 3.6 SMEs using organizational innovation | - |
| 4.1 Employment in high-tech services | 2.87 (2006) |
| 4.2 Exports of high technology products | 4.5 (2006) |
| 4.3 Sales of new -to-market products | 5.83 (2006) |
| 4.4 Sales of new -to-firm not new -to-market products | 7.50 (2006) |
| 4.5 Employment in medium-high/high-tech manufacturing | 9.90 (2007) |
| 5.1 EPO patents per million population | 32.2 (2005) |
| 5.2 USPTO patents per million population | 7.0 (2003) |
| 5.3 Triad patents per million population | 2.7 (2005) |
| 5.4 Community trademarks per million population | 68.7 (2007) |
| 5.5 Community industrial designs per million population | 50.5 (2007) |

# ANNEX B: REFERENCES and SOURCES

[Website addresses, studies, research papers, etc]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