





1. Introduction

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“Both global economic growth and social cohesion require increasing the competitiveness of regions, especially where potential is highest. The comparative advantages that drive innovation and investment are as much a regional characteristic as a national one. For regions to succeed, they must harness their own mix of assets, skills and ideas to compete in a global market and develop unused potential.”

Mersin is one of the regions in Turkey with tremendous resources and comparative advantages. However, the region’s potential has not been exploited sufficiently so far and its economic performance remained far below the desired level.

Today, it is well known that innovation is the key driver of global economic competitiveness, with up to 80 per cent of productivity growth, the dominant cause of Gross Domestic Product (GDP) increase, being accounted for by product, process and organisational innovation.

1.OECD (Conclusions of the Chair, High level Meeting, Martigny, Switzerland (2003)

2.EC Regional Innovation Systems: Designing for the Future - REGIS. Final report of the REGIS project, Targeted Socio-Economic Research (TSER) Programme (1998)



Therefore, in order for Mersin to develop a sustainable economy and society by harnessing its valuable assets and resources, it is of utmost importance to place innovation at the heart of its economic and social development strategies.

Such an attempt will require collaborative action by public and private sectors working together within the framework of a vision and strategy. The innovation strategy of Mersin outlined in this document aims to provide a stable foundation and enabling framework for the stakeholders of the regional innovation system.



The regional innovation system is a complex association of links between the key actors (such as enterprises, government bodies, finance providers, universities and other knowledge producers), and its effectiveness depends on the quality and intensity of interactions. This requirement emerges from the fact that innovation is not only technological but is also a social process.



As in the case with every strategy, the success of the Mersin's innovation strategy will depend on the commitment, concerted effort and active participation of all stakeholders in the implementation process. The fundamental goal of the strategy is to develop innovation capabilities of enterprises in Mersin. By achieving this goal, it is aimed to increase the quality of life, generate jobs, and create a sustainable regional economy.

The regional innovation strategy of Mersin was developed within the framework of the RIS Mersin project co-financed by the European Commission under the Sixth Framework Programme.



2. Vision and Objectives

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In realising this vision, the following main objectives will be reached:

- A well functioning regional innovation system with all required key actors will be established by 2009.
- At least 50 patent applications will be filed until 2009 and the number of patent applications will rise 10 percent per year starting from 2010. The first international patent application will be filed by 2010.
- At least 50 fast growth innovative companies will be established and 10 university spin-offs will be created per year starting from 2008. The number of innovative businesses will increase by 10 percent per year starting from 2009.
- 500 new researchers will be engaged in the R&D activities at research centres starting from 2008. At least one-fifth of them will be the researchers attracted to Mersin from other regions and countries. The number of researchers will increase by 20 percent every year starting from 2009.
- Unemployment rate in Mersin will fall to 7 percent in 2010 and will continue to go down every year (the target is 3 percent by 2016).
- GNP per capita in Mersin will go up to €6,000 by 2010 with a target of reaching €10,000 by 2016.



3. Current Situation

Another important component of the regional innovation system is Mersin's community. The region has young and entrepreneurial human resources, and the existence of a multicultural and multireligious environment in Mersin is considered as a comparative advantage.

3. Current Situation

3.1 General Characteristics

- Mersin is the eighth largest region in Turkey with 1.6 million inhabitants.
- Half of the population is younger than 25 years of age.
- Unemployment rate is almost equal to the average of that of Turkey (%10.2)
- The share of population with higher education level is 7.7 percent.
- Majority of its population is employed in agriculture (nearly 58 percent)
- The region accounts for % 2.75 of the Gross Domestic Expenditures of Turkey
- Mersin's annual export in 2005 was around €2 billion while import was €4 billion.

Sanayi:

- The industrial sector in Mersin accounts for 26.6 percent of the region's gross domestic products and the manufacturing industry contributes 3 percent to Turkey's value added.
- With 43,854 enterprises, Mersin ranks eighth in the country.
- 94.5 percent of the industry is formed by micro enterprises employing less than 10 staff. They generate nearly 39 percent of total employment and only 4.7 percent of value added.
- 1.6 million hectares surface area is agricultural land and 51 percent is forest and shrubbery.

*Statistical information is based on data provided by the Governorship of Mersin and Turkish Statistics Institution.

Major Infrastructures:

20.3 percent of the industry is located in industrial zones. The number of small industrial estates is 21 and there are two at the stage of establishment. Mersin-Tarsus Organised Industrial Zone, located on 380 hectares is the largest zone which hosts 135 enterprises.

- There are attempts to establish an industrial zone specialised in agriculture and two more organised industrial zones for manufacturing industry.
- Mersin Free Trade Zone plays an important role in the region's economy. Located on 786,000 square metres area, the zone hosts 491 companies one-fifth of which are either foreign direct investments or have foreign partnerships.
- Another important infrastructure in the region is the harbour which is the largest in Turkey with an area of 1,097,313 m² and a sea surface area over 3,250,000 m².
- The technology development zone (TechnoScope) established in 2005 is expected to play an important role in the region's economic and social development by increasing the R&D and innovation activities of the companies.
- There are two universities, one of which is a private university, and a vocational high school. The numbers of students and academics in three of them are about 23,000 and 1,329, respectively.

R&D and innovation:

According to the results of the demand survey conducted under RIS Mersin Project, only 17 percent of companies carry out R&D activities. The share of firms innovating in the region is 29 percent, and majority of them (87 percent) are innovating in-house. They mostly conduct product and process innovations.



3.2. İnovasyon Characteristics

3.2.1. Innovation System in Mersin

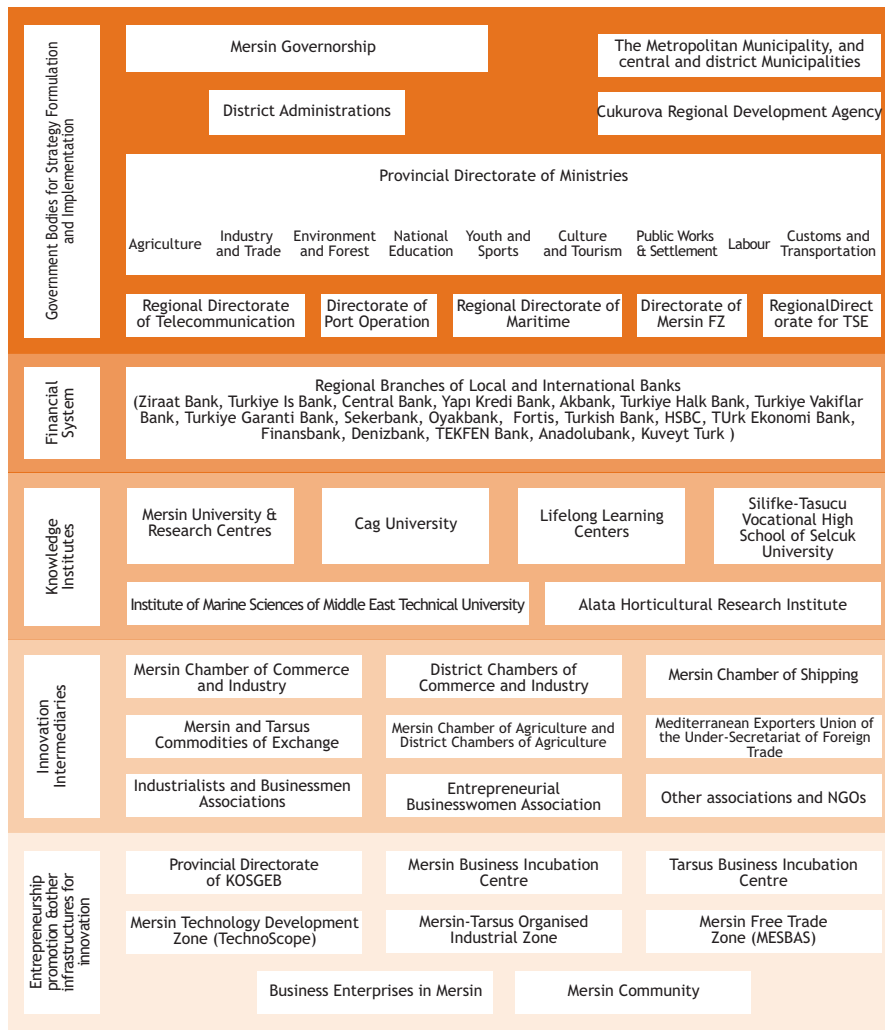
The major players in the Mersin innovation system are the government bodies, private sector companies, universities and research centres, associations, unions and other non-governmental organisations as intermediaries, innovation infrastructures such as the technology



park and business incubators, and banks as finance providers. The most important characteristics of the system are that it lacks regional innovation finance mechanisms and has low number of knowledge producing organisations. On the other hand, existence of almost all relevant regional government bodies and the vast number of non-governmental organisations as intermediaries is a remarkable feature of the system. An important actor which is expected to play a key role in the system is the regional development agency (so-called Cukurova Development Agency covering Mersin and Adana regions) established in mid-2006.

Another important component of the regional innovation system is Mersin's **community**. The region has young and entrepreneurial human resources, and the existence of a multicultural and multireligious environment in Mersin is considered as a comparative advantage.

Exhibit 1: The Regional Innovation System in Mersin




3.2.2. Demand Side Issues

Demand side issues from regional innovation perspective have been identified through surveys among the enterprises and potential entrepreneurs. A total of 958 respondents participated in the survey half of which are existing businesses and the rest are potential entrepreneurs.



The main findings of the survey are as follows:

- The technology and process needs of companies in Mersin concentrate in three areas: (a) Those related to the use of computer aided systems, (b) those related to the quality management and, (c) those related to the environment, energy and energy efficiency.
- For the companies, the most important issues to be urgently dealt with to increase the competitive advantage;
 - increasing the market share
 - entering new markets
 - decreasing the production costs
- The most important areas where companies need support to increase and sustain their competitive advantage are finance for investment, guidance for increasing productivity, and brand development.
- Majority of companies express that their human resources are the key element for their success and training opportunities to be provided to them are of great importance. They, at the same time, believe that there is not sufficient supply of qualified human resources in the region.

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- The other important weaknesses of the region listed by the companies -also connected with the human resources issue- is related to training, education and information provision. Companies cite the need for sufficient number and quality of training and education facilities and consultancy services as well as information centres.
 - Companies in Mersin consider that the lack of qualified personnel is the most important barrier for them to innovate which is followed by the lack of financial resources and the lack of expertise and knowledge within the firm.
 - Although majority of companies believe the importance of innovation, only 29 percent of them allocate resources for this purpose.
 - Interfirm co-operation as well as co-operation between firms and universities is low. The main reasons for the lack of co-operation with universities are related to the communication issues between companies and universities.
 - Majority of potential entrepreneurs interviewed (79 percent) claim that they are ready to set up their businesses if necessary conditions exist in the region.

3.2.3. Supply Side Issues

Supply side issues in Mersin were identified through a supply survey among the knowledge institutes and intermediaries. According to the results of the survey,



- Majority of service providers in Mersin are university centres. 20 percent of the service providers are not sector specific, while the others mainly provided services in the fields of agriculture, machinery and ICT.
- Co-operation between organisations in Mersin is not sufficiently developed. R&D and innovation co-operation is not common at the regional, national and international levels.
- The service providers and intermediaries in Mersin mostly provide training, and information collection and dissemination. Only a small number of them provide services directly related to innovation (such as support and consultancy for product and process development and improvement, and access to finance for innovation) although they think such services are of particular importance to companies in Mersin.
- Nearly 40 percent of respondents believe that there is not a demand for their services since companies do not have enough information about them.
- Service providers believe that companies in Mersin should urgently establish quality systems, comply with environmental standards, improve their working conditions and improve their products and services in order to gain and sustain competitive advantage.
- Most of the service providers and intermediaries (70 percent) in the region do not innovate.
- More than 30 percent of the respondents think that there is lack of awareness on innovation in their organisations.



4. SWOT Analysis

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The SWOT analysis aims to understand the strengths, weaknesses, opportunities and threats of physical, human, social and economic capitals of the region from the innovation point of view. It was conducted with the participation of 126 people from the representatives of the regional innovation system (decision-makers, including the governor, mayors, and high-level representatives from public organisations, chambers and other non-governmental organisations; SMEs, large companies, universities, intermediaries and financial organisations).

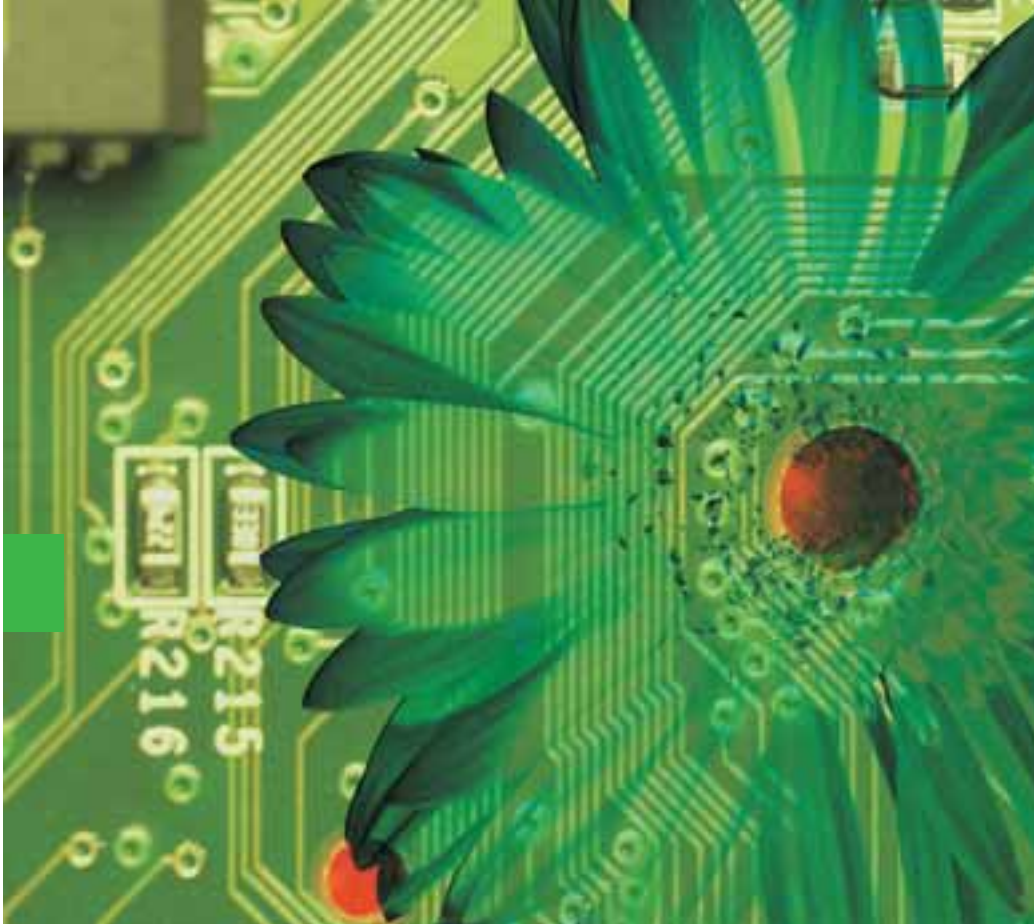
The strengths, weaknesses, opportunities and threats identified are shown in the following table.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">■ Strategic location as a gateway to the Middle East and Mediterranean sea■ Renewable energy resources (sun, water, wind)■ Natural and historical heritage■ Fairly developed infrastructure (harbour, roads, railways, airways, broadband ICT network, industrial free-zone, organised industrial zone, technopark, incubators, etc.)	<ul style="list-style-type: none">■ Lack of strategies for the renewable energy resources and existing energy problems (e.g. high costs for enterprises and black-outs)■ Environmental problems and pollution caused by rapid immigration and unplanned urbanisation■ Need for creating an innovative tourism sector due to high level of competition from neighbourhood regions



STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">■ Highly productive soil and the favourable climate for agriculture throughout the year■ Young and entrepreneurial human resources■ Existence of universities and other reputable education institutes■ Existence of life-long learning facilities, and branches of public organisations (like KOSGEB) which deliver company-level training■ Existence of a multicultural environment■ Diverse and dynamic economic activities caused by simultaneous growth of agriculture, services and industry sectors■ Existence of an accumulated financial capital in the region■ Existence of foreign direct investments and investments from other regions in the country	<ul style="list-style-type: none">■ Need for further improvement of physical infrastructure■ Emigration of qualified human resources and immigration of unqualified people■ Low levels of demand for life-long learning■ Need for balancing supply and demand of human resources across the sectors■ Need to improve the investment climate and attract quality foreign direct investment■ Low levels of awareness on innovation among the stakeholders (particularly in firms and in society)■ Need to improve the co-operation and communication between the stakeholders of the regional innovation system■ Need to improve the regulation and the infrastructure for increasing the research and technology transfer activities■ Need to increase the diversity of innovation intermediaries■ Low levels of incentives and finance for innovation (e.g. regional funds, venture capital and business angels investments)■ Low levels of investment in R&D and innovation

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ■ Development and successful implementation of the regional innovation strategy ■ Successful implementation of Mersin's transformation plan ■ Active participation in the EU and national programmes on research and innovation ■ Increasing the co-operation with neighbourhood regions and countries on innovation ■ Increased commitment of the government in regionalisation and establishment of a regional development agency ■ Increased commitment of the government in R&D and innovation ■ Activities to promote the image of Mersin nationally and internationally and developing "Mersin" brand ■ Turkey's integration with the EU 	<ul style="list-style-type: none"> ■ Lack of regional commitment in implementation of strategies ■ Macroeconomic and political instabilities ■ Continued immigration growth ■ Continued problems caused by unregistered economy ■ Unsuccessful implementation of national regionalisation plans ■ Tensions and instabilities in the Middle East



5. Main Elements of Strategy

The existence of networks of relationships based on trust is of utmost importance for the effective functioning of the system as a whole

5. Main Elements of The Strategy

Based on the analysis of the current situation, the innovation strategy of Mersin is shaped around four main strategic goals to achieve its vision of becoming a region with a high quality of life and sustainable economy based on knowledge and innovation:

- Improving the innovation system and culture in Mersin
- Stimulating investment in innovation
- Exploiting regional potential in key sectors
- Developing knowledge producers



Exhibit 2: Main Elements of The Innovation Strategy

Main Elements of the Mersin Innovation Strategy (2006-2016)				
Vision	The vision of Mersin is to become a region with a high quality of life and sustainable economy based on knowledge and innovation.			
Strategic Goals	Improving the innovation system and culture in Mersin	Stimulating investment in innovation	Exploiting regional potential in key sectors	Developing knowledge producers
Strategic Objectives	To strengthen linkages and ensure coordination in favour of innovation	To increase the number of innovative companies with high potential to grow and to generate jobs	To increase innovation activities in the sectors which are vital for the economy of Mersin	To strengthen the knowledge base of the region for increasing innovation performance of companies
Operational Objectives	Stimulating the creation of new actors which are important for the system	Improving administrative and legal environment	Developing long term innovation strategies for tourism, agro-food and logistics	Developing high quality researchers and attracting qualified researchers
	Upgrading the capabilities and capacities of intermediaries	Developing skills and competencies of human resources in companies	Establishing regional, national and global networks, synergies and partnerships	Creating R&D centres in the areas strategic to Mersin
	Establishing a regional governance system	Creating financing mechanisms to support innovation&starting up of innovative firms	Mobilising financial resources for innovation activities of companies	Improving the existing R&D centres
	Creating a culture of innovation and building consensus & confidence	Increasing co-operation within firms and between firms and knowledge producers	Investing in the development of human capital	Developing mechanisms for transfer of technology & research results to economy
	Building an attractive image for the region	Removing the barriers caused by infrastructure		

5.1. Strategic Goal 1: Improving the Innovation System and Culture in Mersin

The existing regional innovation system in Mersin should not only be supported by the creation of certain missing elements but also by increased co-operation and co-ordination between actors. The existence of networks of relationships based on trust is of utmost importance for the effective functioning of the system as a whole. The goal of improving the innovation system and culture in Mersin will be achieved through the following operational objectives:



1. Stimulating the creation of new actors which are important for the system:

Although the basic institutional framework for the Mersin innovation system exists, a number of new actors are needed to increase its effectiveness. Those include, but not limited to, the following:

- Clusters and business networks,
- Structures to facilitate technology transfer from universities, publicly funded research institutes and laboratories,
- Innovation finance mechanisms (regional public funds for innovation, venture capital funds, institutional funds and angel investors)
- Consultancy firms providing advice on advanced business and technology services (intellectual property rights, technology, knowledge and innovation management, technology forecasting and auditing, etc.)
- Organisations providing technological information
- One-stop-shops for local and foreign investors and entrepreneurs.

2. Upgrading the capabilities and capacities of intermediaries:

There are a large number of intermediaries in Mersin which provide general business services to enterprises. It is required to upgrade their capabilities and capacities in order to increase their effectiveness in meeting innovation related needs of firms.

3. Establishing a regional governance system:

In order to facilitate better coordination and resources management, an effective regional innovation governance system is required which involves both the public and private sectors. In addition to the regional government, the newly established regional development agency is expected to play an important role in the innovation governance system. It is important to create a 'Regional Innovation Council' with the representation of regional stakeholders as the highest level body responsible for innovation governance.

4. Creating a culture of innovation among the actors of the innovation system and building consensus and confidence on innovation based development:

A culture of innovation requires entrepreneurship, creativity, risk-taking, and networks to share knowledge and ideas, as well as shared values, attitudes and beliefs. Creating an innovation culture in a region is a long term process and can be built through a number of actions supported by incentives. The success of Mersin in achieving its vision depends on how well a culture of innovation is developed among all stakeholders including firms, public organisations, universities, research institutes, non-governmental organisations and the society at large.

5. Building an attractive image for the region:

An attractive regional image in the global economy is important to attract human and financial resources both from other regions in the country and from other countries. Mersin has a large number of assets (historic, social, natural and cultural values) which would make it attractive for knowledge workers. Development of a regional image around these assets is required to assure the success of the strategies.

Strategic Goal 2: Stimulating investment in innovation



Increasing the innovation activities of enterprises and encouraging creation of innovative companies in Mersin are the key requirements for achieving its vision. The following operational objectives will be reached for this purpose:

1. Improving administrative and legal environment:

An administrative and legal environment conducive to innovation is needed to increase the level of innovation activities in enterprises. Such an environment requires a number of measures such as effective IPR enforcement, administrative simplification and improved conditions for company creation, operation and liquidation. A more favourable environment should be created in Mersin not only by reducing barriers stemming from the implementation of rules and regulations but also by lobbying at the national government level for the improvement of the legislations.

2. Developing skills and competencies of human resources in companies:

Improving the technical and managerial skills of personnel in companies is of crucial significance for increasing their innovation performance. Companies in Mersin strongly emphasise their need for qualified human resources. It is important to provide companies with incentives and opportunities to raise the qualifications of their employees and managers.

3. Creating financing mechanisms to support innovation in companies and to help starting up of innovative firms:

In order to increase the level of innovation activities and innovation success, a variety of financing options should be developed and implemented towards existing companies. It is important to design and implement these mechanisms according to the needs and characteristics of the regional companies. Stakeholders in Mersin should play a role both in mobilising regional financial resources in formulation and implementation of such mechanisms and attracting national and international resources for this purpose. Equally important is to encourage creation of new innovative companies. Seed and start-up funds should be developed and existing funds should be pulled to the region. In addition, mentoring and consultancy schemes should be designed and implemented to facilitate company start up and growth.



4. Increasing co-operation within firms and between firms and knowledge producers inside and outside the region:

operation within firms, between industry and the academic knowledge base, and between knowledge producers is one of the determinants of innovation performance. Necessary infrastructures and measures should be developed to stimulate innovation co-operation within and outside the region.

5. Removing the barriers caused by infrastructure

It is well known by the stakeholders that improvements in the physical capital in Mersin are required in order to improve the innovation environment. These improvements also have the potential to increase the innovation activities in regional firms. Based on the results of analysis of the current situation, the removal of energy problems through investing in renewable energy resources, the elimination of environmental problems and pollution caused by rapid immigration and unplanned urbanisation, and the improvement of the transport infrastructure, for instance by building an underground system, are important steps to be taken for this purpose.

5.3. Strategic Goal 3: Exploiting regional potential in key sectors

The strategy makes a specific emphasis on the following sectors those are vital for the economy of Mersin and have the potential to become more competitive in a shorter period of time through innovation intervention:

- Tourism
- Agro-food
- Logistics

To enable these sectors gain and sustain competitive advantage, the following operational objectives will be reached:

1. Developing long term innovation strategies for each sector:

Sectoral innovation strategies and action plans should be prepared and implemented with active participation of stakeholders from each sector. These strategies should aim to maximise the potential of sectors by increasing the innovation activities and performance of companies in a way that they create more jobs, and acquire and maintain competitive advantage at the global level.

2. Establishing regional, national and global networks, synergies and partnerships:

Co-operation, networking and partnerships for innovation are fundamental to economic development and provide new opportunities and information systems for the firms in the region. Companies in above sectors should be provided with guidance and incentives to establish and participate in regional, national and global networks and collective efforts for innovation.



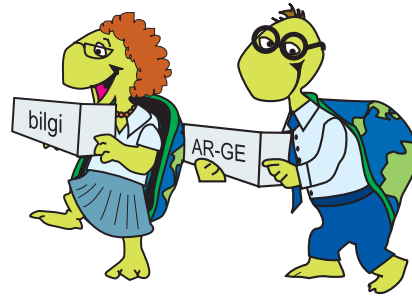


3. Mobilising financial resources for innovation activities

Financial support measures specifically designed for the companies in above sectors are important for leveraging investments in innovation. This should be done by both mobilising the financial resources in the region and attracting finance from other national and international resources.

As qualified human resources is the most critical element in innovation process, specific measures should be taken in Mersin to develop human capital for above sectors.

5.4. Strategic Goal 4: Developing knowledge producers



Creating and diffusion of knowledge plays an important role in innovation performance of companies. Both the number and quality of knowledge producers should be increased in Mersin in order to strengthen its knowledge base. The operational objectives to be achieved for this goal are as follows:

1. Developing high quality researchers and attracting qualified researchers from other regions and countries:

High level education and training as well as technological and research environment should be created in Mersin in order to develop and attract researchers. This requires a wide range of actions from encouraging research as a career path to marketing the quality of life and educational, technological and research environment in Mersin.

2. Creating R&D centres in the areas strategic to Mersin:

At the moment there are not sufficient R&D centres in Mersin which will help the development of the knowledge base and skills required for the regional economy. It is important to establish centres with excellence in research in targeted areas.



3. Improving the existing R&D centres:

scientific, technological and human capacities of existing R&D centres in the region should be evaluated and upgraded in a way that they can better address the innovation needs of firms.

4. Developing mechanisms for effective transfer of technology and research results to Mersin economy:

Transfer of technology from universities to private sector and transforming the results of R&D into economy is important for innovation and growth. Supportive regulatory and incentive regime should be developed at the universities in the region in order to encourage scientists and academics to undertake a higher level of R&D efforts and its subsequent transfer to the industry in the form of new and improved products and processes. This will also require development of an entrepreneurial culture among university researchers, academics and students, and development of early stage financing options for them to start up their businesses to commercialise R&D results. Creation of synergy and interaction between the industry, academia and R&D institutions is also important in that respect.



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