



PIRAEUS LOCAL ACTION PLAN

Part 1. Urban and policy context

1. Introduction

Piraeus (about 200,000 inhabitants) is part of the metropolitan region of Athens, and is best known for its port function for the region. Athens is the economic, cultural and administrative capital of the region, and it has expanded rapidly in the last decades. Since the 2004 Olympic Games, infrastructure has improved dramatically.

From Piraeus, passenger ferries link Attica with many islands, and also commercial traffic is large. Piraeus is also a major industrial city. It was one of the main industrial development sites in the region. But in the last decades, the industrial function has declined. The port (and its many related economic activities) continues to be the main economic engine of the city.

One of the main industrial sites (currently in decline) is the quarter of St Dionisios. The city and some stakeholders are now considering transforming part of that rather large area into a knowledge quarter. This could help to modernise the economic base and to create future prosperity.

There are no elaborated plans yet. The city is at the very beginning of a process towards change for the area. In the next few years, the results and the experience gained by the REDIS project could contribute to the progress of the initiative and the elaboration of plans.

This document does not contain an in-depth description of the knowledge quarter facilities or administration/ governance system, simply because the knowledge quarter is till nowadays more a vision than a project. However, it proposes some future development trajectories and identifies some challenges and risks (section 3).

Before describing the future challenges, we will firstly focus on the social-economic and political-administrative context in which the knowledge quarter would be developed (section 2). By the end of the analysis, we will provide some major issues relevant for Piraeus in the REDIS exchange.

2. Socio-economic context





In this section, we sketch the context in which the knowledge quarter in Piraeus would be developed. For this, we analyse the key ‘foundations’ of the knowledge based urban economy, as identified by van Winden et. al (2004): the urban economic base, the knowledge base, quality of life and accessibility. These foundations set the margin for the transition of a city towards a knowledge-based economy. But first we briefly sketch the political and administrative context.

2.1. Political/administrative context

Piraeus is part of the Attica region; in economic terms one of the most significant regions of Greece. Attica is home to the capital Athens, its many surrounding municipalities (that belong to the agglomeration), and several others. Since January 2011 there is a new regional division in Greece, according which, there are 13 regions and 325 municipalities, each administered by elected representatives. Piraeus is an autonomous municipality, but functionally the city is part of the capital agglomeration of Athens.

In the Athens metropolitan area, there has been a strong tendency of suburbanization. In the last 20 years, municipalities around central Athens have witnessed strong population growth. (see table 1).

Table 1 Suburbanisation in the Athens region

Peripheral Zones Km	Number of Municipalities	Population for the years					
		1951	1961	1971	1981	1991	2001
0-6	20	850.435	1.123.027	1.595.901	1.817.059	1.681.767	1.691.532
6-12	30	469.713	664.044	870.866	1.081.506	1.169.646	1.263.788
12-18	20	77.784	108.838	162.675	241.589	335.012	450.349
18-42	46	97.993	113.369	131.619	178.288	244.250	312.791
42-60	1	4.286	4.170	3.879	4.973	6.017	5.933
Total	117	1.500.211	2.013.448	2.764.940	3.323.415	3.436.692	3.724.393

[Note; The municipality stand in the table above for the previous administrative status]

Source: Rontos, Mavroudis and Geogiadis, 2006

In Greece, despite decentralization efforts, regions and municipalities depend largely on national policy and politicians. Policy fields such as innovation policy, education, and spatial planning are mainly domains of the national government. The relocation of universities and research institutes cannot take place without consent of national government. The most relevant ministries with the creation of technological scientific park are the ministries of Construction, Development, and Education.

It is important to say that urban policy making in Greece (especially project development) is politicized to a large extent. Much depends on individuals and interpersonal and political connections, alongside the formal planning bodies and procedures. There is little





tradition of institutionalized harmonious co-operation, for instance between municipality and university. This can render the development of a science quarter difficult.

It is worth mentioning that for the implementation of projects, Greek regions and cities rely heavily on European funding and also on Regional Operational Programmes. Most of the implemented projects in Greece the last ten years have been financed mainly by regional operational programmes. Every region is obliged to submit every four years an operational programme in which the main targets and priorities of the area in question are clearly described. For the region of Attica, for the next programming period, one of the priorities in the Operational Programme is to redevelop/reconvert declined industrial areas. This offers significant opportunities for the eventual redevelopment of Piraeus' old industrial sites into a knowledge quarters.

2.2. Economic base

Until nowadays Piraeus constituted a centre of a significant commercial, financial, strategic and economical activity. Currently, Piraeus is by far the most important port of Greece, and in fact, of the entire Eastern Mediterranean. The port is important as economic engine in its own right, but it also creates a lot of spin-off activity, such as trading, commerce, and retail, not in the least place for the many visitors that passes by. During the 1960s and 1970s it also developed as a major industrial centre. Many manufacturing plants were opened (especially food processing developed as a strong sector), and also the logistics function grew fast. 'Immigrant' workers (from the Greek islands but also abroad) came in, the cities' economy expanded and urbanization was fast (though largely unplanned and uncontrolled). From the 1980s, the manufacturing industries fared less well; many closed down, relocated, or went bankrupt. Especially in the Northern part of the city, this process is very visible. Meanwhile, the city had accumulated a large poorly-skilled workforce, and unemployment rise. Today due to the financial crisis the economic situation has worsen as affected and others industries apart from the manufacturing like the small commercial and retail business.

The only sector that remains strong and competitive is the shipping sector. Many shipping companies that had left Piraeus in the previous decades (mainly for tax reasons) are returning back to the city (again for tax reasons), and open new offices close to the port. They create a better employment environment and bring capital with them.





2.2.1. Shipping and Maritime sector –The Competitive Advantage of Greek National Economy

The shipping industry is one of the most vital branches of the national economy contributing 4,4% of GDP and providing employment for some 20.000 Greek seafarers. Moreover, Greek shipping renders indispensable the supply for various ancillary services, such as agencies, suppliers, banking, shipbuilding and ship - repairing.

The ratio of seafarers and people involved in shipping (4,5 % of the country's total population) is one of the highest in the world and an index of Greece's largest interest in providing shipping services.

The Greek owned merchant fleet remains on top of the world, totalling 16.1% of the world's total shipping capacity, according to the "Review of Maritime Transport 2010". The Greek owned fleet includes 3,150 ships, of 169.426.690 Deadweight tonnage dwt shipping capacity. This means that in 2010, the Greek fleet holds 15,96% of the international fleet, while in 2009, it held 15,33%. This increase in shipping activity is increasing the likelihood that Piraeus will become a shipping centre for these Greek fleets.

Piraeus is the ideal place for the development of clusters directed to shipping and maritime sector as there is the geographical concentration of a critical mass of professionals and companies.

2.2.2. The effect of Greek Financial Crisis

The current financial crisis and the dramatic change in the expectations in the near future make the environment very hostile for investments. Greek government and society seek for solutions and ways of development nationally and locally. The implementation of REDIS project could be an excellent example. As it takes advantage of the shipping and maritime sector that it is neither affected nor depended on national, but on global market, it can raise funds from international fund markets. As discussed above Piraeus is the ideal place where there is a critical mass of businesses that deal with international shipping and is the point of reference for every Greek tycoon.

Thus, shipping sector could be used as a key development factor to boost local and national economy.

2.2.3. Opportunities born from the crisis





In Piraeus it is observed a high unemployment rate of highly educated people, many of which used to work in research programmes. Also there is an increasing number of such people seeking for job abroad (brain-drain). Projects like REDIS could attract their interest and lead them to offer and apply their research - knowledge in these sectors. Alternatively the potential investor in high tech companies could very easily find specialized employees.

Another opportunity for the start and later implementation of the project due to crisis is the lack of alternative investment opportunities. Venture capitals, financial institutions and Real estate development companies seek investing opportunities, which do not follow the previous development model and do not depend on the national economy. The REDIS project could increase the possibilities of such an investment through the dissemination of its results to a specific target group, such as Region, Ministries, Chambers, Educational Institutes etc.

Lastly the public sector is more willing, than ever before, to attract investments and help their development. Many institutional reforms have been made to this direction. The political will is clear in central and local level.

2.3. Knowledge base

Piraeus is not known at all as a knowledge city, but it does have some institutes of higher education and research.

The first one is the University of Piraeus. The University of Piraeus was founded in 1938 under the title of the "School for Industrial Studies", by the Industrialists and Tradesmen Association. It offers courses mainly in the domains of finance, industry and economics, and informatics. The university is located in downtown Piraeus, but its premises are currently too small. Also, student housing has become a more pressing problem over the years.

Relatively close to the municipality are located two technical Educational Institutions (TEIs), TEI of Piraeus and TEI of Athens. TEI of Piraeus is a polytechnic school (or university of applied sciences). It has about 9,000 students and 550 staff members. It used to be focused on technical studies only (namely automation and ICT), but more recently the institute also has business administration and economics departments. It also conducts research, in an attached organization called the Centre of Technological Research (CTR). The research focuses on the same fields, and is conducted by professors and staff that also teach at TEI.





Although the TEI carries the name of Piraeus, the institute is not located in the city but in Athens (though very nearby the Piraeus border). By the time of its foundation, the Greek ministry of Education considered it the best spot (as there were no good alternatives in Piraeus). Some years ago (by 2002), there were some ideas to relocate this research unit and bring it closer to Piraeus. It would become more involved in social projects in the city, and conduct research projects in the interest of the municipality. But ultimately, the move was called off. The TEI has a tradition of co-operation with local industry. For instance, contract research is conducted for local firms.

TEI of Athens is the third biggest educational institution in Greece and is located next to TEI of Piraeus. It constitutes from 5 faculties, 36 departments in which they study 30.000 students. The faculties are a) technological applications, b) management and economics, c) health and caring profession, d) food technology and nutrition and e) fine arts and design.

Like the University of Piraeus, both TEIs indicates to have shortages of student (and temp staff) housing. This common issue could be a first lead for co-operation with the University of Piraeus in the knowledge quarter.

The third institute to mention is the Greek National Technical University of Athens (NTUA). It is not placed in Municipality of Piraeus but 15 Kilometers away in Municipality of Zografou next to Athens. The NTUA has the following fields: civil-, mechanical, naval, marine, chemical, rural and surveying, electrical and computer-, engineering, architecture, naval architecture and school of Applied Mathematics and Physics. High Standard research is conducted; assisted by post-graduate students and a considerable number of external collaborators. NTUA undertakes with increasing frequency scientific and research projects sponsored from both the public and private sector. Such a project was sponsored few years ago from Piraeus Municipality from which had as a result the development of an “urban observatory” following key social and economic indicators for the purpose of area development. National Technical University of Athens University has managed and developed successfully a relative effort with the “REDIS St Dionisios project” in Attica region, the Lavrion Technological and Cultural Park. It has the know-how of such projects and at the same time the proper scientific background to support advanced applied research.

2.4. Accessibility





Piraeus is well connected to Athens and the airport both by road and public transport. There is an electrical railway that begins from the port and connects Piraeus with the center of Athens and with the northern suburbs of Athens as also a suburban railway. A new metro line extension is being constructed that will further improve the link with Athens and the neighbor municipalities. This line will end at St. Dionisios area. The port crucially depends on transport connections. The growth of the port and the centralization of the administrative services, authorities and chambers have increased (heavy) traffic jam in the last decades. As a result, there is a lot of congestion (and consequent pollution) from lorry traffic. The renewed airport of Athens (since the 2004 Olympics) is well accessible, at about an hour driving from Piraeus, and also by different public transport means.

2.5. Quality of Life

Piraeus has largely grown in a rather unplanned and uncontrolled way, this mainly happened due to the need raised by the concentration of population during the 20s – 30s.

Also, the sea around Piraeus has become polluted by the industries. However, recently, action is taken to restore the ecological balance and some fish species that disappeared in the past are starting to come back. The Most important action was the construction of the wastewater treatment plant in Saronic Gulf (funded by EU funds);

The city has several attractive amenities: a range of good quality restaurants, a yacht port, and some cultural amenities, including the archaeological museum of Piraeus, the maritime museum, and some beautiful old churches. Also, a number of buildings have distinction and witness the wealth and influence of the Greek commercial shipping merchants.

The municipal Theatre of Piraeus is very well known and people from Athens are coming to attend its events. It was designed by Ioanni Lazarimo between 1881 -1883 and its construction began at 1884. There are also some theatres in the wider area of Piraeus. The historic centre of Piraeus was declared a 'traditional site' from 1982, and in 1987, 360 more buildings obtained a status of heritage sites. The city is not very popular as a residence for the citizens with higher income. Due to the gradual degradation of the area, many of them moved out to better quality residential areas, but still work in Piraeus. The quality of the housing stock in the city is rather poor, on





average, due to the fact that the greatest part of the city has been developed in the previous decades.

2.6. Characteristics of the area of St Dionisios

The area of St. Dionisios is located close to the harbour of Piraeus. It borders the North side of the central port of Piraeus. On the north, the district borders a railway track. St Dionisios is an industrial transformation area of substantial size (30Ha). As a consequence of the relocation and closure of industries, several industrial plants in the area of St Dionisios, are no longer used. There are several empty factories and structures, for instance a large tobacco factory that no longer produces anything. But also, there is industrial heritage of good architectural quality. The district faces heavy transit traffic to and from the port, and the traffic situation is far from optimal. At the East end of the district, some shipping companies have developed new office buildings.

The area is well accessible by public transport: it is located very close to the suburban railway station and metro station that offer links to Athens. Moreover, the new metro extension will make it even better accessible, as one new metro station will be constructed in the area.

3. Towards a new use?

The city faces the decision whether to leave the district to its own devices (and let it deteriorate further), or take some positive action towards transformation. The creation of a knowledge quarter is currently being considered as a viable option. It's important to stress that this idea is not new. Back in 1992 (when the area already started to run down), a similar plan was developed by a consultancy firm (commissioned by the City and the Trading Association and the Industrial Chamber of Piraeus). Nothing has happened since, however, as the visionary plan never boiled down into concrete initiatives.

Recently, again, the idea of the creation of a Science Quarter has popped up. REDIS project could help to speed things up. It is the city's goal to examine the ideas already developed for the alteration of abandoned areas through the integration of international partners and to thereby bring new life into the area. The REDIS project appears to be a chance for the alteration of this specific area. The adoption of a local action plan, which should be discussed and agreed between the municipal authorities and interested parties will step this undertaking up.





3.1. Towards a local Support Group that can bring the change

Piraeus needs new energies for its local economy, to propel it into the 21st century. It must make the shift from an industrial economy to a knowledge economy. Creating a knowledge quarter in St Dionisios could be an important bullet in this respect. This quarter would need to be linked with local industrial and knowledge strengths, such as maritime industries & technologies, trade, and ICT. However, the sheer complexity (dispersed ownership, different interest, politicized planning, and a lack of co-operative culture, to name the main issues) will make it a difficult exercise to transform the large district into a knowledge quarter. Therefore, it would be wise to reduce complexity as much as possible and create a step-by-step approach with concrete results rather than starting from a Grand Vision (that would probably never be realized).

First, it makes sense to mobilize the positive forces of change. These sit in the two organizations mentioned above, but maybe also in the local knowledge institutes. Moreover, we have identified that the university and the TEI share common problems (space constraints and housing), and there could be an opportunity to bring that into one line. Another step would be to identify a plot of land that is in the hands (or under control) of a public sector organization. That would reduce the complexity of ownership conditions.

The organisation of an Urban Local Support Group (ULSG) within REDIS could bring these actors together and could bring the public and private sector bodies to a new level of cooperation. The ULSG would carry out the network tasks at the local level on an ongoing basis and to develop the local action plan for the creation of a Science Quarters. The ULSG could propose the creation of a new campus with housing facilities and perhaps some other shared facilities. That would already be a great achievement, as it can be the bullet project that evokes more change in the subsequent years. Moreover, REDIS could help in the creation of new ideas, as a source of inspiration from abroad. Also, it could help to secure funding for redevelopment.

3.2. Policies developed for the area in the past

Till this point, the above mentioned challenges and ideas remain an ambition between the Mayor and the City Council. However, such a serious undertaking entails the development of guidelines for the change in usage and functions of





abandoned industrial plants as an integrated concept, which is a completely different project and influences directly the creation of a science quarter.

3.3. Investments already made before REDIS project

The municipality of Piraeus few years ago was seeking to come across with the issue of area redevelopment. For this reason asked from the –National Technical University of Athens to draft a study about the socioeconomic and demographic characteristics of the area in order to measure the main socioeconomic indicators. The results of this study were the development of an “urban observatory” in which the main indicators will be registered. The “urban observatory would provide changes in employment per each sector, changes in empty shops and houses, the geographic mobility of the population and many others. "In other words, the system would count how many people have lost their job, what are the dynamic sectors of the market, where there is degradation and where there are new opportunities.

The goal is the municipal authority, to know at any moment what is happening to the city and to be able to take more effective measures to tackle unemployment and labour utilization, upgrading areas, etc.

3.4. Links with other European programmes

There are no links with other European programmes. Nevertheless, the recent regional reforms in Greece and the new economic situation create the circumstances and stimulate the interest for increased involvement of the municipality in the European programmes.

3.5. Stakeholder analysis and ownership conditions

Given the fact that there is no specific project yet, we cannot speak of stakeholders properly. Rather, there are some organizations that may or may not be or become involved in the redevelopment of St. Dionisios into a science quarter. In this section, we discuss the role of potential stakeholders.

First, it is relevant to understand the ownership conditions of the area: the owners of the land are critical stakeholders by definition. In general, one may conclude that the ownership of land in the area is highly dispersed. Some plots are municipal land; some belong to the port authority (a national public organization); most land belongs to the private sector, either to companies that operated their business in the area, or to banks that obtained the land as the occupying





industrial firms went bankrupt. The dispersed ownership situation makes the development of an integrated plan for the district a difficult venture. It will be hard to unite all the different interests, and there are no mechanisms that put the stakeholders around the table.

This challenging role is to be played by the Municipality of Piraeus. The Municipality of Piraeus, as a key stakeholder, has the willingness to motivate the rest of the stakeholders, to bring them together and to create a new vision for the city. It is the municipality that has to create perspectives to boost the economy and change the character of the city toward the knowledge quarter.

A critical stakeholder that has the most to gain from such a project is the Shipping Chamber. The aim is the applied research in the terms of maritime and shipping, that could lead to the increase of the productivity, the economy and the efficiency of the ships. The close cooperation of representatives of the shipping industry would be very beneficiary in both scientific and commercial side.

Another key stakeholder is Piraeus Port Authority. The port is very close to St Dionisios region and could largely benefit from the research conducted there, also from the other uses of the land. The cultural and entertainment character of the park focus mainly on the ferry passengers (about 12 million per year). The Port authority could take advantage of the development of the project for making the region friendlier for passengers.

There are two significant stakeholders that have a positive attitude towards redeveloping (parts of) St Dionisios into something like a science quarter. These are the two 'sister' organizations that unite the business sector in the city: the Traders Association and the Commercial and Industrial Chamber. They already played a role in earlier attempts to start things off in the area, and they are willing to co-operate again. They can play a positive role, mainly as 'non politicized' neutral organizations that have an interest in bringing Piraeus forward.

Other key stakeholders are the knowledge institutes in Piraeus, the University of Piraeus, the TEI of Athens, the TEI of Piraeus and The National Technical University of Athens. They would be the new engines of the area in case a knowledge quarter would be developed. Currently there are no signs that they will take active steps to set up shop in the area. Nevertheless, University of Piraeus and TEI need new premises, and share the problem of having shortages of staff and student housing facilities. Therefore, they could be motivated to join if





the Dionisios area would provide a solution for them. A complication is that working relations between the University of Piraeus and the Municipality are not optimal at the current time.

Finally, there are stakeholders at a distance that nevertheless could play a key role. These are national government officials that have a final say in several affairs. For instance, even if the knowledge institutes would prefer to relocate to St Dionisios, they would require approval from the ministry. And furthermore, the funding of any reconversion plan would have to come from national government and European funding, which requires close co-operation with the region (for funds of the Operational Programme). This makes the planning process very complicated and probably very slow as well.





Part 2. Actions for the future concerning the science quarter

A Shipping and Maritime Science Park

“Science parks are sources of entrepreneurship, talent, and economic competitiveness, and are key elements of the infrastructure supporting the growth of today's global knowledge economy. By providing a location in which government, universities and private companies cooperate and collaborate, science parks create environments that foster collaboration and innovation. They enhance the development, transfer, and commercialization of technology.”

As a model scenario presenting the role that the Shipping and Maritime Scientific Park could play, we take the hypothesis that the research of Technical University of Athens in energy consumption results into an innovative method, with which there is, increased efficiency in the fuel consumption.

The Park will offer the students the services and resources in order to accelerate the successful development of an entrepreneurial company. These services could be financial planning and legal advices, as also bringing the researcher in touch with a network of potential customers or venture capitalists. In this way the Park would incubate the start up businesses and at the same time add value to the companies that will use this patent. With more successful research results like the hypothesized above, more business will grow in the same park and they will be encouraged (through the use of shared facilities and space, sharing the same network) to interconnect with each other, thus producing even better results. Companies out from the university will be attracted to place their research sector inside the park and more and more companies will be willing to benefit from the research results. A big number of companies that will take advantage of these patents will benefit and become more competitive. Universities taking part will benefit by being exposed to the business world and connecting to the cutting-edge research being conducted outside their walls in industry. Finally local community will benefit from the expansion of employment opportunities and the development of local economy.





There are many possibilities of such a scenario coming true from research in the fields like fuel efficiency, green technologies, satellite and wireless telecommunications, telematics, control systems, robotics, advanced material and many others. Such research in these fields is conducted already from the TEIs and the NTUA, but is, neither strongly directed, nor connected to shipping and maritime sector. The same applies also for the fields like logistics and management systems, finance and market analysis and modeling which are mainly focused in University of Piraeus.

1 Vision for St. Dionisios - A World Class Shipping & Maritime Research Institute

The overall goal of the development is the transformation of the area of St Dionisios into a world class knowledge centre directed exclusively to shipping and maritime industry, where educational and research institutions will co-exist and co-operate with innovative businesses.

Taking into account the leading role of Greek fleet, the number of Greek ship owning companies with headquarters in Piraeus or having connections with the region, their financial background and the Greek tradition in shipping, the knowledge centre of St Dionisios could become an ideal place where the accumulated knowledge and experience would be combined with high tech systematic research, production of advanced knowledge and innovation development with a worldwide impact.

The creation of such a centre can advance significantly the technology of ships and the services offered around shipping sector and add value to the sector.

The vision is that this project could become the pilot for the transformation of wider regions of the municipality, promote development by taking steps towards the knowledge era; attract direct investments and business with innovative character and high capitalization and at the same time add value to the shipping sector which is the key economic sector for the development of the region.

Local economy can become very attractive for entrepreneurs, business and scientists. Secondary, the creation of a space with cultural and entertainment character, where for example interactive exhibition and festival can take place, could be an additional goal for the area and the quality of the citizens' life. This place could host important events and attract great numbers of visitors, as the place is next to the port which is the main gate for million of passengers every year.





At last the lack of green spaces could be overcome by the creation of a green space – park benefitting local inhabitants, workers and visitors as well.

The goal is the whole project to have durable/sustainable character.

2 Steps towards the vision

The transformation of the area requires multi level change of use and attracting different kind of institutions. In order this transformation to become reality and be successful; there is a number of clearly distinct and different steps that have to be taken. The first is the development of the educational character of the area, which can easily be achieved, reinforced by the presence of universities and students. The next step will be the conduct of research under the institutional umbrella of universities. The challenge is the result of this R&D to be connected with commercial use and applied use of the space. Through this phase start up companies could pop up. The main target of this phase will be the nurturing and developing of these companies and the connection between the business sector and the research. With so much youth population in this area it would be relatively easy to develop a cultural and entertainment character; setting the target that New St. Dionisios shall be an area where innovation, wealth and culture can be born.

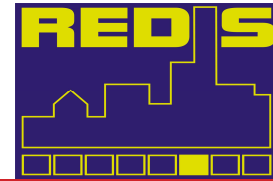
The proposed actions can be grouped in 6 phases (steps)

1. The development of the plan
2. The development of Land and facilities
3. The development of educational character
4. Research and development
5. Businesses
6. The development of cultural character.

2.1 KNOWLEDGE CENTRE

Activities table

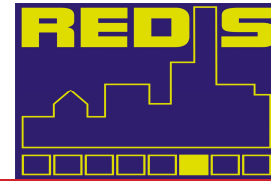




Overall objective:	The transformation of the area of St Dionisios into a world class knowledge centre directed exclusively to shipping and maritime industry, where educational and research institutions will co-exist and co-operate with innovative businesses.			
Activities	Intended outputs	Risk and Assumptions	Responsible	Timescale

Activities	Intended outputs	Risk and Assumptions	Responsible	Timescale	
Step 2	1.3 Creation of working Group	Gathering and selection of representatives from the main stakeholders for the creation of a working team meeting regularly in order to develop a plan, including business model , land use, free space	Low risk. The willingness may exist. There is no previous example of cooperation between those stakeholders.	Municipality of Piraeus for coordination and steering the discussions	1 year from the introduction of LAP
	1.4 Developing the plan	Cooperation between stakeholders and experts in order to develop the best possible plan,	stakeholders can largely benefit from the plan, have expressed their first willingness for continue. Big number of small	Municipality of Piraeus for coordination, Working Group of Stakeholders	2 years from the introduction of LAP
	2.1 Establishment of company responsible to control and manage the project	Establishing of a company that will firstly manage the development of the project and after will manage the developed area. Under any scenario wilrepresentatives from public sector and local authority will be involved	Low risk	Municipality of Piraeus for coordination, Working Group of Stakeholders, Between the shareholders and the management will be included representatives form tboth private and public sector	2 years from the introduction of LAP





	4.2 Establishment of Matching institution	Creation of a limited company co-financed by shareholders from both private and public sector	Medium risk. No previous Greek experience.	Shareholders may be Municipality, Region of Attica, Universities, Shipping Companies, Shipping Chamber , Port Authority	5 years from the introduction of LAP
Step 5	5.1 Start –up Business and Supporting actions	From the PhD students and the applied research will appear start up companies, which will be supported by actions from institutional offices that will give business and legal advice	Medium Risk for the first start up companies due to lack of mature mechanism	Matching Institution, universities, Private companies	6-10 years from the introduction of LAP
	5.2 Clustering	Enhancing Clustering between the businesses	Low risk if the critical mass of business has been established	University, Matching institute, private companies, area managing company	8-10 years from the introduction of LAP
	5.3 Establishment of Innovation Lab	The limited company (private and public shareholders) which scan all the developments and new trends all over the world and inform the proper department of the park for the implementation of these new ideas	Low risk no previous Greek experience	Local authorities, private companies	7 years from the introduction of LAP
	5.4 Attracting investments – promoting actions	Attracting start up entrepreneurs, business, venture capital funds. Promoting the area	Low risk, if the previous steps are successful.	Local authorities, Area management company.	7-8 years from the introduction of LAP





Step 6	6.1 Developing the entertainment Character	Café- bars, concentration of youth population, ferry passengers	No risk concentration of youth population, ferry passengers Attention to te character to be compatible with the areas.	Area management company, municipality	4 years from the introduction of LAP
	6.2 Culture	Small theatre, cinema. Festivals	No risk concentration of youth population, ferry passengers	Area management company, municipality	4 years from the introduction of LAP





First steps and beyond

Step 1: Development of the plan

The first step toward the development of this project is the gathering and selection of representatives from the main stakeholders for the creation of a working team meeting regularly in order to develop a plan, which all stakeholders will be committed to support.

This team has to come up with clear distinct roles for each one of the stakeholders and with a particular timeframe. According to the different scenarios each stakeholder may have different roles and respective commitment. In the current phase we could identify as key stakeholder the municipality of Piraeus who will bear the responsibility of bringing the stakeholders together and steer the group towards the implementation of the project.

Step 2: Development of the land and the facilities.

This step is the implementation of the plan agreed in the previous step. It includes the establishment of a company that will be responsible to manage the project, the land acquisition and the development of the facilities.

The main problems in redeveloping the area seems to be the diversification of the land owners, the differences related to land uses and finally the different perceptions by different stake holders.

More specifically the diversification of the land owners causes extra problems to the reformation of the area. The Municipality in each effort to change the area will be captive by the willingness of each land owner, even if it holds the right to alter the use of land. The small pieces of land and the numerous land owners is the most important obstacle for this project.

As it is mentioned above the Municipality holds the right to change the use of the land, in order to lead the area to a specific sight with a specific brand name. But there is still a serious financial issue which arises by the compulsory purchase of the land. This means that under the present situation of economic crisis, the Municipality will not be able to afford the construction of a science quarter.

Step 3: Development of Educational Character

The existence of Universities (cooperation of the University of Piraeus, TEI and NTUA) should be the lighthouse for any other research activity. Suitable space and





buildings will be formed in the area to support this activity.. The universities will use these facilities to hold complete courses like masters and PhD and specific lectures mainly related to shipping and maritime industry to post/graduate students. These facilities will be also used for lectures by specialized associations or private institutions addressing to groups or individuals interested in fields that have to do with shipping or maritime (i.e. Broker Association) or for labs and conferences. Given also the housing problem faced by educational institutions in the region, as an alternative option, these areas could be used for the accommodation of students. The aim is to bring together in one place and unite those who will be asked in the next years to cooperate and innovate.

Another way through which this can be enhanced will be the development of housing for the students, the researchers and professors that will be occupied in the area. There is already a problem with the housing for the students; the rents of apartments are high, transformation problems like traffic jams and bad public transport. So, the relatively cheap and quality accommodation of staff, in or near the area could be a very serious motivation for the students and researcher to move in and thus co-exist and co-operate.

Step 4: Research and Development

In the initial plan there will be the provision of laboratories which can be further developed. An applied research in the relative centres and shall be conducted by post-graduate and PhD students and private research institutions in the fields of maritime. There will be practical research units in maritime fields, economics/business and technology, energy saving in ships, fleet management, telecommunication, logistics/island transport, and ship finance etc. There will be also an open database centre for shipping and maritime.

The achievement of a project like this, demands the active and fully engaged participation of all the educational institutions operating in Piraeus.

Step 5: Business

The primary goal in this step is the emergence of successful start up companies. These companies can come from the student's research as spin offs. These spin offs should be incubated in order to further develop. The research field should not be restricted only in the university field. There could be provision for shared infrastructure that individual small firms can use.





A match making institution should be established that can organize the co-operation of private firms and local research expertise.

The final goal is the creation of clusters of innovation tech companies and shipping companies. The enhancement of the clustering will boost even further the competitiveness and the total profits of the businesses and will make the area more attractive for direct investments, entrepreneurs and specialized highly educated scientists.

The development circle will go on by advancing the competitiveness of the shipping sector through the results of R&D which will contribute to the economic development of the area as shipping is a key development sector. More funds will be available for further investments, development, education and social welfare.

Step 6: Development of Cultural character (Culture - Entertainment)

Due to the concentration of youth and the number of ferry passengers a need emerges for café and bars or other small business with entertainment character. The challenge will be to have some standards and some characteristics that will be compatible with the desired character of the area. With the proper cooperation of local authorities and institutions the 'new St. Dionisios' area will be an anchor point for the city, a hotspot where there is always something to see or do. Interactive exhibitions could take place: for example about the latest trends in 'green shipping', new concepts for connecting islands, maritime history etc. The Main target group will be ferry passengers, (school) children, inhabitants but also visitors from Athens. Cafés, restaurants etc. could exist in the quarter to support this visitor function. Different types of festivals or events will give the area a lively touch and would attach and commit citizens as well as visitors to the place. Festivals will be organized related to the theme the area will represent. Of course a green space for resting and relaxing could be created since Piraeus lacks from free spaces.

2.2 POTENTIAL SOURCE OF FUNDING

The potential sources of funding for the Science quarter of St. Dionisios will be presented below, even if the project still remains an idea.

Firstly, ship owning companies with important financial background could fund such activities as they will benefit from the results of the research for their fleet. Nearby St. Dionisios area some companies with high capitalization are already located, like





COSCO and a few NASDAQ USA listed companies and important international financial institutions that could be used as a critical mass and help into attracting and developing a concrete market with direction to innovative solution for maritime and shipping. It is worth mentioning that Greek shipping companies on contrary to the state and the rest of the private sector find no difficulty in raising funds from the world capital markets.

Another key stakeholder who is directly affected by the project is the Port Authority of Piraeus. The Port Authority could also fund a great part of the project because part from the research could multi benefit for the other uses of St. Dionisios quarter. As one of the aims of the project is the creation of spin offs, venture capital would be highly interested to finance successful ideas of such start up companies.

Other potential funders are the direct investments from private Real Estate Development Companies or private investor and entrepreneurs. The experience of such projects in other countries shows that there is a high return on investment. Apart from the research character the area will have also alternative uses (entertainment, culture); the businessmen of this sector could easily be funded by Greek banks.

In addition to these funding proposals, European programmes, which have been designed specifically for these uses, could be triggered. Through Jessica project could be funded a public private partnership for the development of the area. Funds can also be raised through the European Investment Bank or through the Operational Programme of Attica. The companies that will be wiling to run their business at the science quarter can use a number of funding tools like Jeremie, ESRF and others.

2.3 BUSINESS MODELS AND GOVERNANCE OF THE AREA

➤ Development of the project

Since the discussions for the implementation of such actions are considered to be early as there is no agreed plan, only the different scenarios that may be followed shall be presented, given the fact that Municipality alone can not bear the cost of development

The first scenario is the development of the project to be co-financed from a Ministry and the Municipality of Piraeus. This Ministry could be the Ministry of





Development or the Ministry of Maritime affairs, islands and fisheries. The ministry will fund the biggest part of the plan and will take the main responsibility for the execution. Municipality role will be crucial as it falls to its responsibility to define the use of land.

The second scenario is the submission of this project as a proposal to the Regional Operational Programme of Attica for funding, under which i actions for the redevelopment of dilapidated industrial areas shall be included.

The priorities of the operational programme are the improvement of attractiveness of investments, the competitiveness through R&D and new technology, improvement of quality of life and protection of the environment, improvement of employment. As the target of the programme are the same with the aims of the project could be funded from this source.

The third scenario is the private public partnership. There could be co-finance within the Municipality and a private company, which could be a financial institution or a real estate development company. In this scenario specialized European funds like Jessica can be used. The private company would profit from exploitation of some part of the land after the project is finished (e.g. the housing of students or the coffee – bar area). The land under exploitation will have to follow strictly the predetermined terms of use and the restrictions agreed.

In any case the final plans should have been discussed and agreed between the stakeholders.

➤ **Managing the area**

The model proposed for Piraeus science quarter is a body responsible for the development and the management of the project under the legal entity of a limited company constituted from shareholders from both the private and the public sector, already mentioned above. (There could be for example municipality, port authority, universities, shipping chamber and shipping companies).

The managing board:

- will be composed by representatives from both private and public sectors, so that there will be balance and equality in the representation of the main stakeholders.





- will be also composed by managers with experience and knowledge from the technology or shipping sector, and
- will be small and flexible that can take fast decisions

The main aim of the company will be the support of scientific research and the transfer of scientific knowledge and technology. Though the aim of this company will not be the profit maximization, it is desirable to have profits, so as to be financially viable and durable.

The revenue will come mainly from annual fees that its members will pay, as a refund for a number of services and revenue from rent schemes.

Other missions of the “science quarter’s company” will be to provide incubating services for start ups, to promote the science quarter, to attract of new businesses and to manage the well functioning of facilities provided.

If the whole project is successful, it is expected to attract private real estate owners who would be interesting to invest in the area. There will be also public space as it will be pre-agreed for the functioning of the universities, the festivals etc.

➤ **Towards realization**

As the development of the project is still in very early stages there is no concrete involvement from the relevant stakeholders. The project activities are designed and discussed as to clearly present and persuade the main stakeholders about the mutual benefit and its importance for the local economy.

The most crucial point for the success is the well functioning of a business-driven co-operation between the firms (shipping, technological and Port Authority) and universities (University of Piraeus, TEI, NTUA) as will be the core of the project. TEI has a tradition of co-operation with local industry, and there are bonds between the University of Piraeus and the shipping firms, NTUA developed “Lavrion Technological and Cultural Park”.

The active support of the Shipping Chamber, the Port Authority and especially the support from big shipping companies are the most important for the success of the whole project as they are expected to finance a large part of it and cooperate closely with the research institutions.





The Municipality of Piraeus is willing to take the initiative and organising meetings of the initial working teams and steer the first step of the development of the plan. Also, the Municipality is willing to support the development in any way and co-finance it. Apart from the municipality, public sector, and more specifically the state, has to be involved in many ways: as a key stakeholder through the Ministry of Maritime affairs; as one of the land owners; and as many parts for the development deal or depend on government official decisions (recent legislation that helps the development of investments called - fast track- can accelerate the procedures). Even if the involvement of governmental officers is linked negatively with bureaucracy, government at the current stage is urgently in need of the development of initiatives that will boost the economic growth, thus it is expected to strongly support the project. The most challenging issue in the whole development is the diversification of land to many citizens and local firms.





Part 3. Added value of REDIS

In Piraeus the REDIS project really helped to spread the idea of redevelopment of St. Dionysios Area among the various stakeholders. The implementation lab was successful in bringing the stakeholders together and hearing all the different perspectives.

During the implementation lab, apart from the transformation of the region into a science quarter, new concrete ideas and suggestions came up. The most interesting were proposed from the Commercial Chamber and are; the creation of stock exchange market for shipping finance goods; the creation of local market of fresh agricultural foods and; the creation of a logistic warehouse that can be used from the shops and firms in the local market. Although these ideas were appreciated, did not match with the current priorities of the municipality.

However, it became obvious to everybody that there are plenty of good ideas that if supported and developed can be fruitful for everybody.

The implementation lab helped to clarify the perspective and the potential of Piraeus stepping towards the knowledge era. It was clearly presented and persuaded to the stakeholders that this is a feasible perspective which remains unexploited. The transformation the region of St Dionisios could become the first step for greater transformation towards that direction.

The site visits, as also in other implementation labs happened, were of tremendous importance as there were no real experience and knowledge from the Greek side. Especially the city of AARHUS stood as best example for the operation part, as a place where co-exist and co-operate university, companies, Chambers and representatives from a variety of institutions.

The positive part is that even if the main stakeholders are not gathering regularly for the project (since the recent economic crisis brought at the surface other pressing priorities), there is still an open channel of communication with them, since the network is set and there is commitment and willingness to go on.





Conclusion

During the last decades a new international division of labour has emerged. Globalization has led to the transfer of industrial manufacturing businesses from developed to the developing countries where products can be produced with much lower cost. This has led to the problem of high unemployment between industrial workers and the need for a different development and employment model.

Since 90s the developed economies in order to solve this problem have been directed to the knowledge industry and specifically to the field of high tech and R&D. The key for this transformation is considered to be, the development of successful network of technology transfer (i.e. Science and Technology Parks) to industry.

The effects of this phenomenon can be observed in Greece as also in the Municipality of Piraeus where all the economic industries have declined except shipping. The desired transformation towards the knowledge has not yet been totally achieved.

Shipping and maritime sector are a national competitive advantage for Greece. There is a big concentration of the world fleet on Greek ownership combined with a long tradition in Shipping. Most of the companies of the sector are concentrated in Piraeus or in the wider region of Athens. The high capitalization of these companies and their dependence on the international trade lead to the conclusion that shipping sector could be a vehicle for the “desired” transformation towards the new era of knowledge and development. The creation of clusters between shipping and innovative technological companies and research institutions can produce a world class knowledge centre in Piraeus, which from an economic perspective will boost dramatically the local economy, advance the profits of shipping and maritime companies and expand the employment opportunities.

Such an initiative can have also mixed space with different kind of business like café and bars. The youth population, the cultural festivals and the entertainment spaces inside the Park will “colour” the whole area and make it “alive”; offering this way easy access to the citizens, to entertainment and civilization.

