

OPORTUNITIES AND CONSTRAINTS OF OEIRAS-CASCAIS AS A DRIVING FORCE SPACE

Presented by: Marco Cruz

Abstract

This present dissertation, given the accelerated changing process of the Lisbon Metropolitan area (AML), for which the current Territorial Management instruments have greatly contributed – particularly the Territorial Planning Regional Plan in which Driving Force Spaces are included – has sought to confirm the existence of the Oeiras_Cascais axis as a driving force space, identifying its diverse characteristics and limiting its dynamic and sphere of influence. Essentially, the main purpose is the clarification of a specific concept and an innovative space class applied to AML.

Besides the analysis of its expertise and competitiveness in a new knowledge economy, studying several economic and demographic indicators, there will also be a further analysis in order to decide which of the municipalities has presented a greater contribution in the enhancement of this particular axis in AML and how it occurs.

Subsequently, there was an approach on the impacts that took place in the territory through the creation of this space. The main goal was to understand if the potential created advantages were actually used.

Key words

Driving Force Spaces	PROTAML ¹
Knowledge Cities	Oeiras-Cascais axis
Innovation Hub	Tagus Park

Introduction

Throughout the 1960ies and 1970ies most of the developed countries' major cities growth rate slows down and in some cases, it even stops, due to a crisis in the industrial activities. This happens through a saturation of markets and successive increases on the price of energy, adversely affecting the existing economic growth models. The major companies, vertically ranked, get into a crisis once they manifest problems when adapting to a new stage in which, not only the development of the final product section of durable use, but also of capital goods, would be based on a constant stock renovation through a simultaneous innovation.

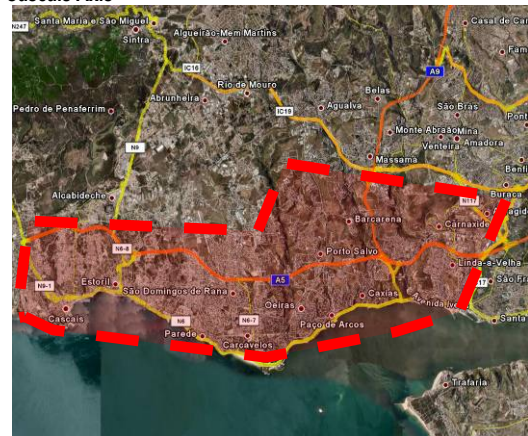
Presently, the age of information and knowledge is already saturated, not diverging from big cities in a great extent, increasingly emerging as the cities' only form of uniqueness and creativity.

In this knowledge economy, in which the concept of creative cities is translated in practice by the *Innovation Hubs (iHub)*, it is urgent to create spaces that might be appealing to companies, as well as highly qualified workers and, at the same time, rehabilitate and renovate those same spaces in the cities, in order to make it potentially more attractive to businesses.

Although these *iHub* are connected to new technologies and the concept of driving force space presented in the Metropolitan Area of Lisbon Territory Planning Regional Plan (PROTAML) doesn't hold that technological and creative connotation, its concerns coincide. As it doesn't have a technological connotation or any other type of market, in the Lisbon Metropolitan Area (AML) several driving force spaces emerge, with different characteristics and markets, that were identified within the scope of AML's territorial dynamics identification.

In this heterogeneity context, within the sphere of the present dissertation, the Oeiras-Cascais axis was chosen as a case study, for the fact that, in this age of knowledge it might be the one that can achieve more development potential through creative industries, supported by this axis' new technologies. However, although it is considered an interesting means to enhance the development of a territory, there might be or emerge inherent difficulties to this approach in what the planning of cities is concerned (which will also be a subject in this study).

Image 1 - Location of the Driving Force Space - Oeiras-Cascais Axis



Source: Google Earth, 2008 (adapt.)

The Urban Planning Models

The multiplicity of concepts that aim to identify factors and characteristics of spaces that might improve development, has consistently varied throughout the years. Nonetheless, one might state that the concept of centrality or central area is present in the core of all of them.

¹ Metropolitan Area of Lisbon Territory Planning Regional Plan

It is with Christaller (1933)², in his **Central Place Theory**, that we first come across with the notion of centrality. According to this theory, a given place has a relative importance when related to the region by which it is surrounded. The key factor for its concentration/dispersion in the territory is the existence and availability of goods in that same territory. The author believes that a central place in a superior level towards another one holds all its functions plus those that distinguish it.

Perroux (1955)³, in his **growth (or development) pole** theory stated that the growth process started from a driving force space or a growth pole, which was formed by a developed urban centre. O progresso deste centro urbano teria como base. In these poles an agglomeration process would normally occur, through complementary activities, as well as the effect of connection, a consequence of the creation of new road networks.

Years later, a new approach for urban planning comes up, as a way of specifically consolidating the knowledge centres and, simultaneously, favouring their connections with the companies – the **Science and Technology Parks**. These Technology Parks, Technopoles or even Scientific and Technology Parks, may vary in its definition according to the focus it is given. The *Associação Internacional Parques Científicos e Tecnológicos* (IASP)⁴ defines them as “an organisation managed by skilled professionals, whose fundamental goal is to increase the growth of its community, through the promotion of its associates’ innovation culture, whether they are companies or knowledge generating institutions. In order to achieve the abovementioned goals, a Scientific Park stimulates and manages the flux of knowledge and technology among Universities, R&D institutions, companies and markets. Furthermore, it promotes the creation and growth of innovative businesses, through incubation and spin-off processes and offers other value added services together with high quality space and infrastructure”⁵.

Associated with the issue of poles and its task of enhancing regional development, we are nowadays faced with a new definition for pole, namely **Competitiveness Pole**, which differs from prior definitions, because it is based on partnership projects with two levels of actors: businesses and R&D institutions, teaching and training and with financial institutions and public administrations in the several territorial levels that will support each pole project.

Moreover, as can be easily observed, the concept of enhancing space for the development of a

given city or region can vary according to the season or location. Their common feature is the fact they all are at the forefront of their time. Although all of these spaces have the common goal of competitiveness, they can actually achieve it in markets as distinct as the industrial, services or technology market.

Consequently, it is in this sense and within the specific scope of this dissertation, that driving force spaces emerge, included in *Plano Regional de Ordenamento do Território da Área Metropolitana de Lisboa* (PROTAML). In its report, these specific spaces are defined as “highlighted in AML’s current functional expertise process, through its capacity to attract and settle new high-level activities and functions, as well as urban renovation and rehabilitation. The functions can be accomplished through the enhancement of the public space, the structuring of the main roads network, the increase of the level of urban services and the improvement of the quality of the housing stock offer”. As a result, it leaves open the possibility of numerous ways to achieve this attractiveness and/or urban renovation and rehabilitation. An example of that is the consideration of driving force space, in such different locations as the Oeiras-Cascais, Almada-Seixal, Setúbal-Palmela axis and Coina’s Industrial and Services Area.

Knowledge as a way of competitiveness

In city planning and in an increasingly global economy, in which innovation is a requirement to enter into the cities market, knowledge emerges as the new model for cities which seek to compete in the global market.

Thus, the different concepts of knowledge city attempt to link both attraction and settlement capacities directing it towards foreign students and other population groups connected with knowledge and creativity, providing well being conditions and a competitive approach - which can be varied or possess superior expertise - of knowledge activities.

The following image clarifies the aforementioned three concepts – knowledge, innovation and competitiveness – that are strongly connected and intertwined. Innovation is perceived as a process, from which competitiveness depends on, given that knowledge can be translated as the system’s “recipes” and the “ingredients” that must be processed.

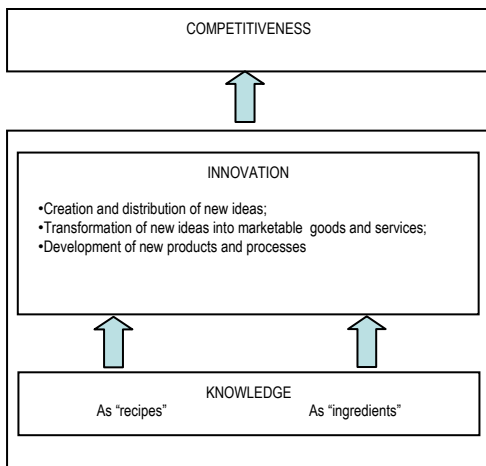
² CHRISTALLER, Walter - **Die Zentralen Orte in Suddeutschland**, C.W. Baskin translation (1966), Central Places in Southern Germany, New York, 1966.

³ PERROUX, F. - **Note sur la notion de pôle croissance: Économie Appliquée**, Paris, ISEA, 1955.

⁴ International Association of Science and Technology Parks

⁵ <http://www.iasp.ws/publico/index.jsp?enl=2>

Image 2 – Relationship between Competitiveness, Innovation and Knowledge



Source: Robert Huggins, Global Index of Regional Knowledge Economies, 2001 (adapt.)

The Knowledge City in the Global Economy

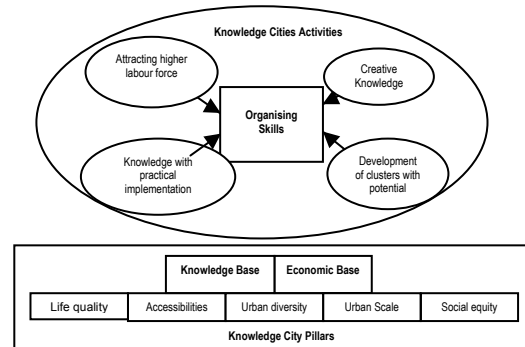
Cities will show a greater capacity for competitiveness as they are increasingly more capable of alluring and settling competitive activities. This dynamism must be based on innovation factors, with the ability to create higher productivity and quality levels for their inhabitants. In addition to this dependency in the competitiveness of its activities, it must also provide externalities that make it more attractive.

In an environment such as the one of global economy, in which cities are forced to compete, in which the access to cheap raw material and labour force is increasingly higher, the creation of high added value for a given product depends gradually more on innovation (of which knowledge is its main input). It is with this specific thought that the concept of “Economy based on knowledge” emerges, in which the importance of production, distribution and use of knowledge in modern economies is recognised. This concept is materialised with Romer’s New Growth Theory (1996)⁶, in which knowledge comes in 3rd place in production factors, side by side with work and capital. In this new age of Economy, science and technology tend to play a crucial role in dynamics, whether in the creation of new sectors of activity with great influence in economic growth (such as the pharmaceutical industry and information technology), and other activities that are impelled by the new sectors.

Although several approaches can be regarded as correct, the best option is a mixed

scenario. In this is this sense that Windem and Berg⁷ create their interpretation of Knowledge Cities, in which these are understood as urban spaces where knowledge is created and applied, based in the inducement both of workers and knowledge, which leads to the creation of clusters for activities that produce goods and/or innovating and competitive services. These activities should grant a unique feature to each knowledge city, giving it a distinctive mark. Based in this fact, the abovementioned authors believe that the key-processes that are developed in these cities and the foundations that sustain them are ranked in two levels, as can be observed in the following scheme:

Image 3 – Knowledge cities in the global Economy



Source: Windem and Berg, 2004. (adapt.)

From knowledge city to intelligent cities

The notion of intelligent city comes out as a result of the crossing of the digital city (that Komninos (2006)⁸ defines as being a “digital community space that is used to ease and increase the activities and functions that occur in the city’s physical space”), with the knowledge city. Komninos defines it as a territory “with high level learning and innovation skills that is built through its citizen’s creativity, by its knowledge creation institutions and by its communication and knowledge management digital infrastructure”. Therefore, intelligent cities are the passageway to innovation of the knowledge and digital space systems, and its main tasks are territorial promotion and the appeal for people and investments.

One of the instruments used in this specific concept of city, the *Innovation Hub* (that will be subsequently mentioned), associates the use of pre-existing spaces to promote its expertise in knowledge based activities, within a framework of strong digitalization and connectivity.

⁶ ROMER, P. - **Science, Economic Growth and Public Policy**, in B. Smith and C. Barfield, eds., Technology, R&D, and the Economy, Brookings Institution and American Enterprise Institute, 1996.

⁷ WINDEM, W. van; BERG, L. van den - **Cities in the knowledge economy: New governance challenges**, Discussion paper, EURICUR, Project STRIKE, 2004.

⁸ KOMNINOS, N. - The architecture of intelligent cities; Integrating human, collective, and artificial intelligence to enhance knowledge and innovation, 2nd Conferência Internacional em Ambientes Inteligentes, Institution of Engineering and Technology, Athens, 2006.

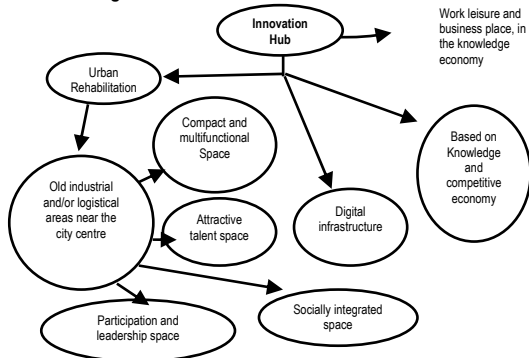
The “Innovation Hub” as an Instrument for “Intelligent Cities”

The *iHub*'s goal is to create innovation and creativity spaces within the cities, linking attraction conditions to knowledge workers and providing the installation of a cluster for knowledge enhancing and generating activities in the city centre, usually through the rehabilitation of empty urban spaces.

As it can be observed, the *iHub* focal point is not only urban rehabilitation. Besides creating higher wellbeing physical conditions within the cities, focused in quality housing, in the settlement of cultural and entertainment services and in personal services, it combines the attraction of new productive activities that might create an economic base, in order to return the city to its functions of innovative and productive centre with an international scale.

The entrepreneurial, science and technology, teaching and training sectors of civil society are connected in one same goal: the creation of a sustainable development through innovation, in a multidisciplinary environment of uses, so as to reduce the frontiers between housing, work place and/or learning and leisure place. Through these multiple assets, the *iHub* is defined as a community within the city, directed towards specific productive purposes.

Image 4 - Innovation Hub Characteristics



Source: DPP, Proyecto “Cidades Inteligentes”, 2007. (adapt.)
“iHub” - Casos de estudo

From the several *iHub* cases throughout the World, three were chosen so as to better understand this concept - *Arabiaranta* (Helsinki – Finland); *One North* - Singapore; *The Digital Hub* (Dublin - Ireland).

As the urban context and its interaction with the environment are concerned, the three projects present a few differences both regarding its location in the city and its external relations. In terms of location, the *Digital Hub* is the one less distant from the city centre, establishing interdependency relations and connections with the city that might be critical for its success. On the other hand, the *One-North*, although farthest from the city centre, presents weaker infrastructures, keeping a strong relation with the surrounding area, mainly with residential areas and cultural facilities. As for *Arabiaranta*'s, it is located in the frontier between the suburbs and the city limits, and when comparing the three Hubs, it is

easily detected that this is the one with less external relations, creating thus an “island” effect.

Table 1 – Inherent characteristics if each project

<i>iHub</i> projects	Pre-existing characteristics
Arabiaranta	Historical presence associated to the foundations of the city Riverfront; Location near the city centre; Existence of an important University; Interest of the city in the project.
One-North	Government and inhabitant's commitment and enthusiasm; Strategic location within the technological corridor adjacent to the science and technology structures.
The Digital Hub	Government's will to create an audiovisual cluster; Location within the city limits and near important infrastructures; Historical, industrial and cultural presence.

Source: CUNHA, Inês, Creative urban spaces: Innovation Hub as an instrument of urban policy, 2007 (adapt.)

Using these same study areas as a base, the author has made a comparative analysis.

Table 2- The three case studies in the different spheres

<i>iHub</i> pre-requirements	Arabiaranta	One-North	The Digital Hub
Leadership	Public and private partnerships with a <i>bottom-up</i> management	<i>Top-down</i> management led by the government.	Public and private partnerships with a <i>bottom-up</i> management
Digital connectivity	<i>Living lab</i> based on a local network – virtual community	Business focused network	Business and community connecting network
The existence of different sectors	Arts and design.	Biomedics e <i>media</i> .	<i>Digital media</i> .
Talent and social commitment	Concern about its integration in the community valuing it	Attraction science and creative talents	Concern about its integration in the community valuing it
Space Architecture	Combination of uses supported by urban art, great public spaces, an organic and dynamic network, and buildings with an original architecture	Combination of uses supported by urban art, great public spaces, an organic and dynamic network, and buildings with an original architecture	Reference buildings supported in a combination of uses
Cultural environment	Historical and cultural heritage, granting an identity to the place	Lack of connection with the past, thus preserving and integrating the already consolidated areas	Historical and cultural heritage, granting an identity to the place
Natural surrounding	Riverfront	Creation of a central park that crosses the whole area	Was not taken as pertinent

Source: CUNHA, Inês, Creative urban spaces: Innovation Hub as an instrument of urban policy, 2007 (adapt.)

The Innovation Hub as a driving force space form

The *iHub* are considered an instrument of intelligent cities and, consequently, can be seen as economic development promoting spaces for a given city or region, i.e., it can be a way of turning a space into a region's development driving force. Although

the scale cannot be considered the same, this form of planning at neighbourhood scale might contribute for the economic expertise of a municipality, therefore encouraging what PROTAML considers a Driving Force Space for the whole of the Lisbon Metropolitan Area.

The Lisbon Metropolitan Area Territorial Planning Regional Plan was decided upon in the Council of Ministers in the 7th of February, and currently under review, defines the strategic options for AML's development and its spatial translation, establishing a territorial pattern and identifying the main systems, networks and regional levelled articulations. The Plan also sets down the standards that must guide the Central and Local Administration's decisions and plans, constitutes the reference framework for the conception of the Territorial Management Instruments and establishes the undertakings programme for its execution through the identification of actions and investments in the different spheres.

Bearing in mind the changing dominant dynamics and tendencies in AML, PROT, as aforementioned, considers this axis as a driving force space. The Oeiras-cascais axis is the most representative, besides the Almada-Seixal and Setúbal-Palmela axis and Coima's Industrial and Services Area.

In such cases, the zoning process is firstly carried out, in order to encourage Driving Force Spaces as AML's development and internationalization accelerators, but also to intervene in Problem Spaces and Critical Urban Areas with the purpose of restricting degradation and disqualification trends, introducing social and urban rebalance dynamics, and reinforcing social cohesion mechanisms.

In addition to Driving Force Spaces, PROT-AML contemplates **Emerging Spaces**, that might be considered as candidates to driving force spaces, depending on their management and thus, on its development towards it. This is how - in the framework of territorial dynamics - the following spaces are considered: Tejo and Sados's estuaries riverfront; Odivelas-Loures; Cascais-Sintra axis; Alcochete and Montijo and Belas.

The **Peripheral Dynamic Areas** emerge within AML spaces, although with a few differences in the economic development capacity. While somewhat peripheral, these areas show a high degree of autonomy in the relations with AML centre, also showing excellent skills when it comes to the business and housing attraction. It differs from driving force spaces, because it does not belong to AML's urban continuous, since it does not present functional relations with the Central Metropolitan Area and, finally, for not showing concern for urban rehabilitation. It is possible to include Malveira-Mafra, Carregado-Azambuja, Samora Correia- Benavente, Marateca-Pegões and Sesimbra-Santana in this type of area.

In what centralities are concerned, PROT-AML recognises the Oeiras-Cascais axis as being a part of two structuring centralities of AML's polinucleada structure proclaimed in PROT: Oeiras-Tagus Park axis and Algés-Carnaxide axis (No 4)

The role of the Oeiras-Cascais axis in a polinucleada AML

In 2001, the Lisbon Metropolitan Area concentrated 25,2%⁹ of the Portuguese population, 28,2%¹⁰ of the business units and 41,2%¹¹ of the population with a Higher Education, which means a great degree of metropolitan *know-how*. As it is mentioned in PROTAML, "this is the country's most important capital and urban pole", which means that in here there is a "significant part of the national strategic resources for innovation and development", as well as a remarkable set of equipments, infrastructures, competences and knowledge systems, that attribute a specific role to this region on the whole of the national territory".

As it was pointed out in PROTAML's definition of driving force space, these specific spaces must play a highlighted role in the region's functional expertise process, through its attractive ability for new activities and functions in a superior level. Furthermore, PROTAML defines another criterion that might or not include the former, namely, "urban renovation and rehabilitation through the enhancement of public space, the structuring of the main road network, and the improvement of the quality of housing offer". However, as it would be rather hard to make a quantitative analysis, not only through indicators, but also through the collection of data, the option chosen was the analysis of the economic sphere of this definition.

Consequently, it is now important to check if the Oeiras-Cascais Axis is really a driving force space given this definition, its evolution and also, which of the two municipalities contributes the most and which presents a greater degree of dynamism in this field. In this perspective, several indicators were chosen, both demographic and economic, that might translate the economic dynamism of the several AML municipalities, so as to check which is the position of Oeiras and Cascais in the context of AML, creating thus a *ranking* for each indicator.

Subsequent to the analysis of those indicators and understanding each municipalities' position, the Oeiras-Cascais axis (summarised in the image below), it is easy to realise a higher tendency of the municipality of Oeiras, when compared to Cascais, in the contribution for a polinucleada AML, with expertise in new technologies.

Although Cascais economic dynamic is important for AML's development (with a strong expertise in the Tourism sector and focused in

⁹ INE

¹⁰ INE

¹¹ INE

transports and logistics), in this age of economy, Oeiras reveals a higher tendency for AML's elevation to an international economic level.

For this reason and for the concern in understanding the political directions and the developed actions that made Oeiras one of AML's technological centre, this municipality shall be thoroughly studied and its purpose will be to understand the reasons that lead to this success.

Image 5 - Oeiras as one of AML's technological expertise pole



Source: Own elaboration

The importance of the tertiary sector in economy: Oeiras Municipality

Lisbon's constraints and Oeiras's offer

In the last decades there haven't emerged new centralities skilled enough to intertwine employment and activities in the space that comprises the Metropolitan Area of Lisbon. This fact has generated numerous problems in the city of Lisbon, namely regarding mobility conditions, traffic flow and high operating costs, increasing the degradation of the population's quality of life.

Given the significant increase in the licensing of offices in the 1980ies, several houses were, legally or illegally, converted into offices, which resulted in a considering lack of order of the urban functions. On the other hand, the exemption from parking regulations in the licensing of residential and office buildings made the lack of parking lots as a serious obstacle to the city's urban quality of life to which can also be added traffic congestion (increase of 15,7 p.p. in the use of TI in commuter traffic movements between 1991 and 2001)¹².

Besides the issues of accessibilities and parking, it is also quite important to concentrate the activity in the same place, so as to increase the efficiency and its common relations and/or the development of the activity. Among the symptoms of malfunctioning, resulting from the spreading of the

services throughout several characteristic locations of the city of Lisbon, the following can be highlighted: overspending in terms of energy in the management of relations between departments; difficult communication between the companies' different roles; and slow response to clients and suppliers requests.

Within this context, there has been an increase in the transferral of activities, tertiary and industrial functions, companies' headquarters and university centres to peripheral municipalities or even to other regions of the country. The strong enhancement of properties combined with an increasing growth of costs and the lack of public supply for spaces with an industrial, scientific and technological scope also explain many of the rental behaviours.

Several municipalities around Lisbon, seeking to benefit from the effects of the improvement in accessibilities, are trying to induce investments, to persuade the dissatisfied population of the capital, enhance its own locations' resources and advantages, among which are the minor installation costs, a rich supply of soil, decongestion, a few areas of environmental quality. Among these municipalities are the following: Loures, Sintra, Amadora, Oeiras and Cascais, which have already benefited from the road network restructuring, namely through the construction of A8 (Lisbon – Torres Vedras), CREL, CRIL, IC19 and A5 (Lisbon-Cascais).

Com efeito nos Planos Directores Municipais destes

In order to effectively understand and attest the reasons for the implantation of businesses in the municipality, a survey was conducted to the organizations within the scope of the Professional Competence Charter, carried out by the Municipality of Oeiras. In all of the presented reasons, the proximity to the city of Lisbon was the most often mentioned by the respondents, with 21,5%, followed by the location in Development Poles (14,6%) and finally, with about 12%, the municipalities dynamic attitude and a diversified and quality real estate offer.

These answers disclose the municipality's policies, in what the three last reasons are concerned. Through its dynamism and the creation of a proper offer of spaces (of which buildings and office parks are an example), it was possible to create development poles within the municipality, which consequently leads to the attraction of more businesses.

Table 3 – Oeiras municipality's attractiveness features

Attractiveness factors		Accomplishments in the municipality
Good transports network	Local	Bypass 249-3; bypass 249-4;
	Regional	EN6;A5; IC19; CRIL; CREL;
	International	Short distance from the Lisbon International Airport and to the Lisbon Secondary Airport in Tires
Scientific and technological Institutions		16 Institutions located in the municipality besides PCT
Highly qualified labour force		AML's municipality with a higher % of population with a higher education
Quality residential areas and corresponding equipments		3 rd municipality in AML with higher number of condominiums and 476,65 ha of green spaces
Hotel and restaurant		243 Rooms

¹² INE, *Movimentos Pendulares e Organização do Território Metropolitano 1991 – 2001*, Lisboa, INE, 2003.

services	
Availability of spaces with specific use	22 Office buildings and 4 Office Parks
Good local image associated to a good trademark	Concern about innovating (Eg: SATUO, 1 st Municipality to conduct the selective collection of glass containers)
Availability of Funds outside the municipality	58 successful tender applications to community and national programmes
Collaboration among municipalities	Eg: Creation of the Trajouce's Intermunicipal Urban Waste Treatment Plant
Incentives for the accomplishment of private projects	Swift bureaucracy process in the progress of projects; taxes are only launched every two years; low property taxes; credit granting regarding the construction area;
Support to the construction of dedicated infrastructures	2 nd Major institution in <i>Tagus Park's</i> initial capital
Concern for the Municipality's monitoring	Creation of the Municipal Development Office

Source: Own elaboration

The Development Poles within Oeiras's Driving Force Space

As it would be expected, the distribution of functional units in the municipality of Oeiras is not homogeneously done, that is to say, the businesses are not geographically distributed by the eight parishes, choosing the location of their companies' headquarters according to several criteria.

From the investment in the offer of various entrepreneurial infrastructure areas, Carnaxide's parish (70 companies) stands out, as the one with the highest number of large businesses. Carnaxide is followed by Algés, with 45 companies, although its offer of entrepreneurial infrastructure areas is one of the lowest, which can be seen as a sign of its territorial absence of planning. The remaining parishes come up in the next sub-group, with numbers between 20 and 30 companies of the municipality's 250 larger businesses.

For the aforementioned values, the importance of the contribution of each sector of economy differs according to the parishes that are analysed. While in Carnaxide and Algés the most influent sectors are similar (Food Group, Equipments, General Trade and Services, Health and Pharmaceuticals), in Barcarena the companies related to Health and Pharmaceuticals are the most influential. However, in Paço de Arcos the equipments sector is the most prominent, whereas in Linda-a-Velha and Porto Salvo, the companies connected to Communications and Information Technology are the ones with a higher percentage in the economic structure of these parishes and in the case of Porto Salvo, the Construction Works sector has a higher weight.

Taking a look at the 2007 values, but considering the 300 larger companies of the Oeiras municipality in a national context, Carnaxide maintains a highlighted leadership when it comes to the actual number of companies, given that 94 of the 300 are located in this parish. However, Algés is enclosed in a second group of parishes, with Porto Salvo and Paço de Arcos containing, correspondently, 50, 41 and 42 of the largest companies. Right behind them is Barcarena (24 companies) and Linda-a-Velha (28 companies) that,

by separating themselves from the previous group regarding 2005, currently show a lower degree of tendency to attract large businesses.

The Development Poles in the Municipality

Nowadays, the offer of venues for companies is distributed in six sets of spaces: Science and Technology Park (1), Office Park (2), Research Complex (1), Entrepreneurial Industrial Area (4); Services Area (1), with different characteristics, so as to create a proper offer for the companies that demand it.

Analysing the following table, it is possible to conclude that each space presents some kind of expertise feature and, associated to this fact, a differentiating character. Accordingly, *Taguspark* is characterised by ICT, *Qtª da Fonte* by the presence of a pharmaceutical cluster, *Lagoas Park* by ICT and construction works, *Qtªdo Marquês* by research, Paço de Arcos by Multimedia, Outorela/Portela by Wholesalers and Miraflores by ICT.

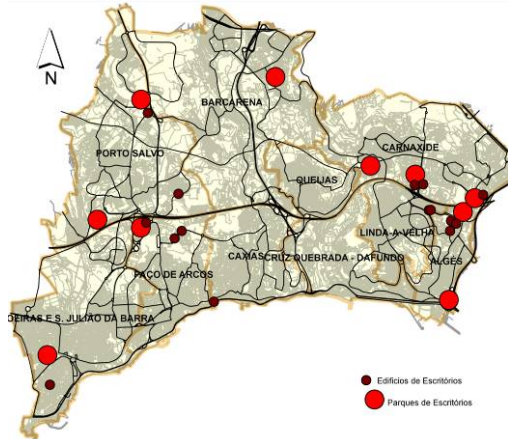
Table 4 – Main Entrepreneurial Spaces of the Oeiras Municipality (June 2006 Estimates)

Entrepreneurial centres	Type	Area (ha)	Entities (nº)	Large Companies (%)	Expertise (%)	Employment
Taguspark	PCT	116	160	25	75 - TIC 5 - Biotechnological	8.000
Qtª da Fonte	OP	44	55	70	27 - Pharmaceutical cluster 23 - TIC	3.300
Lagoas Park	OP	46	65	70	40 - TIC 35 - Construction	3.500
Qtª do Marquês	CI	131	8	-	90 - Research 10 - Administration	2.200
Paço de Arcos	ZIE	35	45	45	30 - Multimedia 15 - Car sector 10 - Equipments	3.500
Carnaxide/Linda-a-Velha	ZIE	673	250	45	12 - TIC 11 - Equipments 10 - Food Sector	14.500
Outorela / Portela	ZIE	67	130	30	28 - Wholesalers 14 - Equipments 12 - Food sector	9.500
Queluz de Baixo	ZIE	35	190	40	12 - Pharmaceutical cluster 12 - Edition 10 - Wholesalers 10 - Marketing/multi media	8.000
Miraflores	ZS	27	260	51	20 - TIC 13 - Construction 12 - Financial	14.000
Total		1.174	1.163			66.500

Source: GDM/CMO, 2006

Notes: PCT – Science and Technology Park; OP – Office Park; CI – Research Complex; ZIE – Entrepreneurial Industrial Area; ZS – Services Area.

Image 6 – Location of Buildings and Office Parks in the Municipality of Oeiras



Source: Own elaboration

Taguspark as an approach to the iHub

In the specific case of Tagus Park, its overall goals are to create “a space in which certain vectors are reprocessed: teaching/training, research/development, technology innovation/transfer, high value added production, in a qualified environment and complemented with urban and leisure functions that allow the occurrence and development of synergies contributing to the reinforcement of its dynamic and success growth” (Tagus Park, 1993).

From the crossing between concepts associated to the *iHub* and to Science and Technology Parks, more precisely in the case of Tagus Park, there are both converging and diverging points.

Table 5 - *iHub* Vs *Tagus Park*

Common Characteristics	Diverging Characteristics
<ul style="list-style-type: none"> Promote the region's economic development; Attraction of knowledge companies and workers; Create a cluster of innovation; Seek support in the presence of education and research institutes; Attempt the creation of synergies and ranks; Pleasant, functional and relaxing physical environment, providing creativity with leisure spaces ; Distinctive architecture; Concern about environmental sustainability; Safety; Both digital and physical connectivity (public and private transports); General services (catering, banking, leisure...); Reduced costs regarding renting, acquisition and adaptation of spaces and regarding taxes; Swift, flexible and effective bureaucracy processes; Clear leadership and strategy, assumed for the aimed region, in a long term; Presence of equipments, such as schools; 	<ul style="list-style-type: none"> Spirit and local identity; Urban rehabilitation; Socially including space; Usually in the city centre; Quality night life; Cultural equipments (art galleries, Museums, Libraries); Multifunctional Space, with quality residential purposes, cultural services and entertainment, personal services and services directed to companies, in order to shrink the borders between housing, workplace and/or learning and leisure place; Privileges consolidation in detriment of growth in extension; It's not only restricted to R&D, but also to creative industries; Does not imply the promotion and creation and the growth innovating companies;

Source: Own elaboration

Opportunities and constraints in driving force spaces

In the production of the Territorial Dynamics scheme, the concern was not so much in the classification of spaces, but in understanding and realising that there were different dynamics in AML, which dynamics were settled and how. That specific concern lead to a less scientific and strict delimitation, becoming a quite schematic representation, both in terms of characterization and quantification.

In the delimitation of these particular dynamics, several criteria was taken into consideration, in which existing and projected accessibilities, mainly for the creation of emergent areas, played a crucial role:

1. Population and businesses attractiveness;
2. Urban and environmental Quality;
3. Urban and Regional Accessibilities;
4. Public and Private investment;
5. Critical social and economic conditions;
6. Areas' ability to create their own positive dynamics;
7. Need for external support to territory changes;
8. Companies location;
9. Medium quality and medium high quality residential location;
10. Large shopping centres and logistic areas location.

Besides accessibilities, when choosing a location as a driving force space, the intervention of municipalities in the territory's dynamics was also considered an essential pre-requirement, given that if a municipality that doesn't respond in due time to problems and opportunities, it will not be able to generate wealth and, consequently, will not be able to promote the attraction of businesses.

In practical terms, from AML's Territorial Dynamics scheme, specifically the creation of Critical Areas, PROQUAL (Lisbon Metropolitan Area Suburban Areas Qualification Integrated Programme) was created, and its main goal was to intervene in these areas, in order to qualify them.

Not realising the advantages of having a part of its territory considered as one of AML's Critical Areas, which grants them with a higher claiming power for new qualification programmes, such as PROQUAL, these municipalities' reactions were quite strong: Some municipalities, such as Moita, considered that their municipalities were negatively regarded. Notwithstanding, some of the municipalities included in Potential Areas (such as the former Lisnave factory and Parque das Nações) had a positive reaction.

The difficulties in delimiting the areas covered by Critical Areas and Problem Areas were a sign of this discontentment. On the contrary, the delimitation of the Oeiras-Cascais Driving Force Space was consensual from the very beginning, as attractive residential areas were considered, as well as

different businesses, quality tourism offer – a reflection of the municipalities' economic strategy.

Although the definition of driving force space regards the possibility of a given space to be a driving force for AML, through its economic boosting or its urban quality, it is worth noting that a space can only be considered as one if it includes both fields. Otherwise, it is not understandable that areas such as these located between A5 and IC19 – considered a Problem Area – that, albeit its lack of planning and dispersion, its economic boosting is not enough to be considered as belonging to the driving force space.

This overview is only justified if these driving force spaces include only economic activities in which the image and urban quality components are prominent, such as those connected to the upscale tertiary sector or to tourism. On the other hand, in what logistics activities are concerned, by needing large dimensioned land, the issue of the location's image does not occur as crucial criteria, for the reason that these locations are associated to higher land prices. Thus, since they need larger dimensioned lands, they choose locations in which m² is lower, creating thus a huge dispersion in the territory, like it is the case of Tires and Abóboda. Consequently, there are disqualified areas in the territory, attractive to several kinds of companies, and that reason does not prevent them from being spaces with large economic dynamism.

In this territorial model, in the space that was considered in the scheme of territorial dynamics as a driving force, there are two types of zoning: one close to the coastal area considered as an urban area that needs stabilising, and another one within the space considered as an urban area that needs structuring and ordering. As reference to a driving force space there are the Algés, Oeiras and Cascais poles as equipments and services poles at sub-regional level, Tagus Park as a research and development pole and a central axis, connecting it to Oeiras. In the remaining space there is no reference to the driving force space delimited in the dynamics in which it corresponded almost completely to the municipality of Oeiras and a large part of Cascais.

Subsequently, there isn't a strong transposition to the territorial model of the dynamics established in Oeiras-Cascais driving force space, which is a reflection of the Oeiras municipality's feeling: albeit "Oeiras' regional strategic importance, recognised in PROTAML currently in force, by conferring it with the driving force space status, although this wasn't translated in the creation of proper conditions to the functioning of this driving force, in which regional/national"¹³ initiatives are concerned.

Given the municipality's feeling, it is impossible to uncover great opportunities and constraints that this classification might have created, because the driving force space, for not having been truly considered in the territorial model, wouldn't

come to influence it neither positively nor negatively. In the case of Oeiras, what happened was a prolongation of its development path, merely reinforcing its central role in AML.

Image 7 – Opportunities and constraints in Driving Force Spaces



Source: Own elaboration

CONCLUSION

1. The multiplicity of concepts that intend to identify factors and characteristics of development increasing spaces has changed significantly throughout the years. However, it can be stated that the concept of centrality or central area is in the basis of all of them, namely: Christaller's Central Place Theory (1993), Perroux's Growth Poles theory (1955), Science and Technology Parks and, more recently, the Competitiveness Pole.
2. In city planning and in an increasingly global economy in which innovation is a pre-requirement for the access to the cities market, knowledge comes up as the new paradigm for cities that wish to compete in the global market, seeking the concepts of knowledge city, combining attraction and settlement skills for workers and knowledge inhabitants, through the offer of wellbeing and knowledge activities, we are at an age of "Knowledge Economy" and, consequently, of the knowledge cities.
3. Thus, Driving Force Spaces emerge in AML's territorial dynamics and are regarded in PROT in a competitiveness context. They are defined as "spaces highlighted in AML's current functional expertise process (...)", and Oeiras-Cascais is among them the one with the highest potential in this age of development, through creative industries, supported by the new technologies in this axis.
4. The intelligent city emerges from the crossing between digital city and knowledge city. Its basis is substantiated in its population creativity, in its knowledge creation institutions and by its

¹³ Revista Oeiras Actual, n. 173, July 2007.

- knowledge management and communication digital infrastructure, one of its instruments being used in this specific concept of city: the *Innovation Hub*.
5. The *iHub*'s goal is the creation of innovation and creativity within the cities, merging the knowledge workers' attractiveness conditions, and providing the installation in the city centre, usually through the rehabilitation of empty urban spaces, of an activity *cluster*, that generates and enhances knowledge. The following cases are a practical example of these policies: *Arabianranta* (Helsinki – Finland), *One North* - Singapore and *The Digital Hub* (Dublin - Ireland).
 6. In a set of Municipalities of an AML with such a huge concentration of knowledge systems, both human and physical, specifically in the Oeiras-Cascais axis, there is a higher tendency from the Oeiras municipality in the contribution for a polinucleada AML, with an expertise in the new technologies. This fact, among other indicators, is a sign of a large number of great technological companies, % of population with higher education levels, % of overall employment in ITC activities, % of employment on public limited companies and the volume of arrivals and imports.
 7. The fact that in the last few decades there were no new centralities able to further polarising employment and activities in AML's space, besides the strong valorisation of land property, with an increasing growth of costs and the lack of public supply of industrial, scientific and technological spaces has created serious problems in the city of Lisbon, namely, in what traffic flow and high operating costs are concerned. This leads to the relocation to other peripheral municipalities or even to other regions of the country of industrial and tertiary activities and functions, companies' headquarters and university centres.
 8. The following factors were crucial for Oeiras' attractiveness to this entrepreneurial relocation: its dynamic attitude, location and accessibilities, urban and environmental quality, development poles location and qualified and diversified real estate offer.
 9. The following must be emphasized as development poles: Taguspark, by its expertise in ICT; Qt^a da Fonte, by its Pharmaceutical Cluster; Lagoas Park, in ICT and construction works; Qt^a do Marquês in research; Paço de Arcos in Multimedia; Outorela/Portela in Wholesalers; and Miraflores in ICT.
 10. When comparing the concept operated in *Tagus Park* and in the *iHub*, it is worth mentioning its common grounds: the promotion of the region's economic development, in attracting knowledge companies and workers, research and teaching institutes and first-class connectivity. Regarding its divergences, it is important to mention the urban rehabilitation character, the presence of cultural equipments and a multifunctional space.
 11. When it comes to the delimitation of Territorial Dynamics in PROT, in which the concern was not so much the classification of spaces, but to understand that there were actually different dynamics in AML, which dynamics were set up and how (and consequently, its base was not so strict as it was schematic), several criteria was taken into account: existing and projected accessibilities, mainly towards the creation of emerging areas, and each Municipality's dynamics, played a decisive role. From this analysis exercise, specifically of the creation of Critical Areas, the PROQUAL (Lisbon Metropolitan Area Suburban Areas Qualification Integrated Programme) was generated.
 12. Although the definition of Driving Force Space includes the possibility of a space to be considered as AML driving force, through its economic boosting or its urban quality, it is obvious that a given space can only be considered as one if it includes both fields, leading to areas which, albeit its lack of planning and dispersion, its economic boosting is not enough to be considered as belonging to the driving force space.
 13. This specific territorial model, within the space in which it was considered in the scheme of territorial dynamics as a driving force, Algés' poles are the only ones referred to as driving force spaces; Oeiras and Cascais' poles are referred to as sub-regional levelled equipments and services pole; Tagus Park as a research and development pole and a central axis, connecting it to Oeiras, revealing a weak achievement for the territorial model of Oeiras-Cascais driving force space, which it translated into the few opportunities and constraints created.
 14. As opportunities, this choice has improved the axis' regional and national visibility, through the image of a dynamic area, the possibility to create synergies with other driving force spaces, the attractiveness of companies, population and universities and the assertion as contenders to Lisbon's centrality.
 15. Regarding constraints, the following are worth mentioning: the limitation to the development of spaces that are not considered as driving forces, the undervaluation of dynamic but disqualified spaces, the lack of accomplishment of this dynamic attitude in the territorial model and the probable overload of its infrastructures and equipments.