

## Intelligent territory: contributions for a new planning paradigm

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“...never [...] completely mature, neither on the ideas nor on the style, but always green, incomplete, experimental.”

Freyre, Gilberto (1926), *Tempo Morto e Outros Tempos*, Brasil (author's translation).

### Abstract

The Portuguese local and national authorities are facing the need for big changes on their attitude towards planning in the globalisation era.

The planning legislation, the organization and management models of the local authorities are still based on a passive attitude towards the city and regional planning and development, besides some significant improvements provided by a recent new legal framework.

The European Union and other regions of the world are assuming ambitious milestones and spending increasing resources in the development of the Information Society. Besides the potentialities of information technologies, local effects of globalisation (new urban development models, etc.) are raising the politicians and planners awareness for the urgent need of a new planning paradigm and methodologies.

The article presents a contribution for a comprehensive conceptual framework on the Intelligent Territory paradigm, based on practical examples from Portuguese public authorities (Sines municipality and the sub-region of Alentejo Coast). New forms of collaborative planning, governance and knowledge management are key issues in the Intelligent Territory concept. Critical factors of success are also pointed, based on practical examples.

The presentation of this essay will show the turnover period that is being designed for the planning theory and practice in Portugal, besides the presentation of the conceptual framework of the “Intelligent Territory” paradigm. This concept integrates contributions from some research projects in different fields: planning methodologies and process, organization and management models of local authorities, information technologies and knowledge management.



Figure 1 - Alentejo Coast location in Portugal and in the Mediterranean Basin.

## The obsolescence of the Portuguese planning system

Portugal is a young democracy. Only in the last 30 years (since 1974) has experienced planning in the context of a democratic regime. During this period, the urbanization process has been assumed by the private sector while public authorities confined themselves to a reactive and passive manner of planning.

From the “short-list” of critical issues of the Portuguese planning system the following – considered more relevant for the subject of this article – were selected:

- a) short territorial coverage with urban development plans;
- b) too long planning process (many times inconclusive), with an outstanding level of bureaucracy;
- c) major emphasis on the document (plan) and regulations to control the private initiatives, rather than on the planning process (public participation, public-private partnerships,...), strategy, objectives and its impact assessment;
- d) lack of understanding, transparency and integration of urban and land economics in the planning process and regulations;
- e) inadequate legal framework, specially in what concerns urban planning related laws (real property tax law; register of property code and it's obsolete information and archive system; etc.);
- f) Lack of a regional level of public administration (and planning);
- g) Lack of accountability and obsolete organizational design of central and local administration bodies, not designed for multi-level and multi-actor interoperability. Generally, public services maintain the same organization design since the last few years of the dictatorship period (Military Dictatorship and “Estado Novo” period: 1926-1974).

More recently, in the 80's, the Portuguese Minister of Planning made the municipalities access to the European Union structural and cohesion funds conditioned to the existence of a structure plan for the municipality (*Plano Director Municipal* – PDM). As a consequence of this, there was a massive production of structure plans in this period, improving the territorial coverage with plans. Nevertheless, only in the early years of the XXI century all municipalities achieve this basic condition: the approval of their structure plan (PDM).

Nowadays, most of the critical items, just mention above, still updated. However, in the late 90's a general change of the urban planning legal framework occurred (new planning structural law, planning instruments law, urban development law and construction permits law), bringing a positive impulse for a new planning paradigm in Portugal. The main changes consist on a bigger role given to the local authorities in the planning process and on the plan execution (management, public-private partnership and more public participation), a bigger cohesion of the planning legal framework (except with the above mentioned related legislation).

In the last decade, the globalisation phenomenon and its changing effect on the type of urban development operations, location of activities and people, migration, capital and ideas circulation and risk perception, brings increasing complexity and uncertainty to planning and development of cities and regions.

The European Union and other regions of the world are assuming ambitious milestones (e-Europe 2005) and spending increasing resources in the development of the so called Information Society. European and national programs made available significant resources that might give access to new information technologies. Besides the potentialities of information technologies, local effects of globalisation and the recent legislation “upgrades” are gradually raising the politicians and planners awareness for the paradoxes of the planning system and urgent need of a new planning paradigm and methodologies.

In this article it's given an overview on some conceptual framework and practical cases that are being developed in the south-west coast of Portugal (Alentejo Coast) in order to manage the above mention critical issues of the planning system and some of the local effects of globalisation.

## **eEurope & IT: how relevant for Portuguese planning system?**

eEurope is the action plan of the European Union (EU) Information Society. The "eEurope 2005: An information society for all" will succeed the eEurope 2002 action plan endorsed by the Feira European Council in June 2000 (Portugal). eEurope 2002 is part of the Lisbon strategy to make the European Union the most competitive and dynamic knowledge-based economy with improved employment and social cohesion by 2010.

According to the EU, to create a knowledge economy, eEurope 2002 focused on extending Internet connectivity in Europe. In order to generate growth, connectivity needs to be translated into economic activities. This is the focus of eEurope 2005: stimulating services, applications and content that create new markets and reduce costs and eventually increase productivity throughout the economy.

Developing content, services and applications and rolling out the underlying infrastructure is, considered by the EU, predominantly up to the market. Therefore, the action plan will concentrate on those areas where public policy can provide an added value and contribute to creating a positive environment for private investment.

During eEurope 2002 some remarkable progresses were reported by the EU:

- Internet penetration in homes has doubled;
- Telecom framework in place;
- Internet access prices have fallen;
- Almost all companies and schools are connected;
- Europe now has world's fastest research backbone network;
- e-commerce legal framework largely in place;
- More government services available online;
- A smartcard infrastructure is emerging;
- Web accessibility guidelines adopted and recommended in Member States;

The eEurope 2005 proposes the following activities for the introduction of modern online public services:

- providing broadband connections for all public authorities by 2005;
- the adoption by the Commission, by the end of 2003, of a framework for interoperability to facilitate the provision of pan-European e-government services for citizens and businesses. Interoperability means the capacity with which two programmes (a client and a server, for example) are able to exchange and interpret their data properly;
- interactive public services which are accessible to everyone via broadband networks and multi-platform access (telephone, television, PC, etc) by the end of 2004;
- most public supply contracts to be awarded electronically by the end of 2005;
- ease of access for all citizens to public access points to the Internet (PAPI).

During the Italian Presidency of The European Union (July, 2003) the delivery of e-government services was assumed by the EU as a priority for the next few years.

## **The Portuguese situation**

In Portugal the Government approved the "Internet Initiative" in 2000 as a strategic national priority to boost the Internet use in schools, families, business and public administration. However, besides the positive and fast evolution, Portugal keep on behind the European average in most of the Information Society indicators (for example, in November 2002, the percentage of the population that uses internet in the EU was 43% while in Portugal was 32%).

After the Internet Initiative and eEurope 2005 documents, the Portuguese Government and the EU approved the Operational Program for the Information Society (POSI) with the financial support of the EU funds, making available 625 million euros (approximately 60 euros/per person) for the period 2000-2006. In the context of POSI, the Government "forced" the municipalities to organise join / regional projects, encouraging them to work together in co-operation, to take the best benefit of the available funds for the Information Society. Eventually, this inter-municipality co-operation will create an informal platform for a future design of a regional level of public administration.

Nevertheless, some of the key factors of success are considered by local authorities to be very difficult to overcome. Namely the ones that are more related with the universal broad band access to the Internet and the organizational obsolescence of public services:

- Territorial coverage of the broadband telecommunications network and its use by the population;
- User costs;
- GDP *per capita*;
- Level of education of the population;
- Adequacy of the information technologies interfaces, its contents and online services to the technological competences and needs of all kinds of users, in their everyday life activities (recreation, citizenship, work, shopping, etc.);
- Organizational architecture and culture receptive to changes and innovation, focused on citizen needs and policy outcomes.

## **What are IT doing for planning: real possibilities or fiction?**

In the last few years several information technologies (IT) became accessible for public authorities, private companies and an increasing number of citizens. Some of these technologies were very recently looked as a scientific fiction view of the near future. Nowadays, we are getting more and more familiar with fast developments on this field. However, its needed some time to think in which way IT can really provide us new possibilities, leading to new urban and regional planning paradigms.

Some of the most recent and well known information technologies, relevant for planning authorities, planners, developers and citizens are:

- Cellular phones (allowing communication of voice, data and image; wireless access to internet services,...);
- Geographical Information Systems (with several functions for urban and regional planning, environment protection, hazard management,...);
- Satellite remote sensing (making possible to monitor land use/ earth cover dynamic, weather forecasts, environment protection, security and so on);
- Electronic work-flow management, digital archive and electronic procurement services (making easier and faster the work of local authorities on urban management, accountability, construction permits, public participation, etc.);
- Virtual 3D images of urban development plans, projects, buildings,... (allowing new and more efficient ways of public participation, *ex ante* impact assessment, etc.)

- Multi-channel Citizen Relationship Management – CRM (creating new and more effective channels for citizenship, improving government transparency and accountability);
- Broadband universal accessibility, providing increasing access to personal and corporate communications, services and contents, boosting the territorial coverage, quality and reduced prices of public services delivery and collaborative platforms.

The fast information technologies development, at the Moore Law speed, their progressive cost reduction and the available public funds is raising some important questions on planners, local authorities and government agencies.

Recently, the Improvement and Development Agency in the UK (I&DeA) was raising the following questions:

- How can we ensure that new technology supports local government's role of community leadership and accountability?
- How can we ensure that it doesn't turn citizens into mere consumers of public services; and that it enables authorities to provide citizen-focused service delivery?

For planners and local authorities at least one additional question should be raised: are our educational programmes, work methodologies and organizational architecture taking the best benefit of IT?

## **Fall of strategic plan & Rise of strategic planning**

Some people claim that planning and strategy are a paradox in terms. Nevertheless, these two concepts are very frequently related, including as a designation of a certain type of document: the strategic plan.

Like urban and regional planning in Portugal, strategic planning has been very much document-focused. Too much time is spent on producing long reports, collecting data and so on. Therefore, after the public presentation of the strategic plan there is a surprising felling of "mission accomplished": the document is done and approved!

Too often, there is no time at all for action, multi-actor and multi-level co-ordination, leadership, outcome and impact assessment, monitoring, effective public participation, accountability and finance plan for the proposed projects, actions and policies. The attitude of Portuguese public authorities on strategic planning continues very much passive, rather than pro-active.

The access to new information technologies and the organizational changes that are expected for its use on public services might give a new perspective of the role of the public administration in planning.

For urban and regional planning this is a major issue.

The architecture of the institutional and informal relationships between municipalities, universities, research centres, government, private corporations and citizens is changing. The question is how can we add value to planning practice and learning from this changing process?

Private corporations have been developing a concept and organizational models to endorse collaborative platforms, integrated on their development strategy. There are several benchmarks on this subject which might inspire planners, universities and public authorities.

The key issue is related with knowledge management and collaborative networks of cities, organizations, professionals, citizens and universities. Numerous projects are being developed all over the world, like the one ISoCaRP is participating: "Proyecto CITIES".

In the next chapters its presented the conceptual framework and first lessons from a case study in Portugal, on the Alentejo Coast Region and Sines Municipality.





The urban structure of this sub-region is relatively balanced, having 5 small cities (less than 15.000 inhabitants each) and several villages. Three of the human settlements have particularly strong relationships: Santiago do Cacém, Vila Nova de Santo André and Sines.

Sines municipality is considered the energetic centre of Portugal and one of its three most important logistic platforms. It has an international deep waters port, with the biggest cargo movement of the country (especially oil, fuel, coal and gas), oil terminal and refinery, coal power plant, gas terminal and some chemical industries.

Besides industry, energy and transportation infrastructures located in Sines, Alentejo Coast is mostly famous by its beautiful beaches and rural landscape. By this reason and its geo-strategic location, some of the biggest investments in the tourism sector are being developed here (Figure 2).

During the last decades, the economic model of development has been top-down. Alentejo Coast is, therefore, particularly sensitive to national and international socio-economic context and investments.

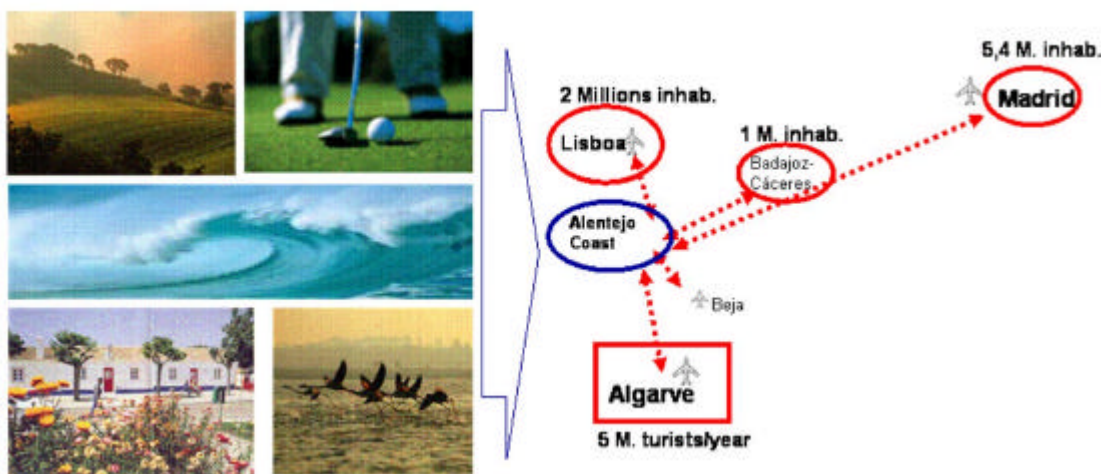


Figure 3 - Alentejo Coast natural resources for tourism and its geo-strategic location

### The Digital Region project

The Alentejo Coast Digital Region started with the design of a methodology of work, following a strategic approach with the strong commitment of the municipalities and their regional association (AMLA), at the highest level.

There was no previous experience of explicit integration of structural projects like this one in the strategic concept of the region: there is no strategic plan for the Alentejo Coast. This process had to be very fast and informal due to the political agenda (at the national level). Therefore it was based on existing local and national plans, reports and programmes with a strategic view of the region and its integration on national and European policies. The debate was developed involving staff members from all municipalities and, in a second moment, all the Mayors, directly.

After answering the first questions of the agreed methodology (Figure 3): “who are we?” and “where are we?” it was possible to build a common vision off what were the weaknesses, opportunities and dynamic competitive factors of the region. For this propose, a conventional SWOT analyse was putted in practice.

Answering to the question “where do we want to go?” all the organizations involved in this process could easily agree on the statement of the strategic concept of the region. The statement was accepted by all the Mayors, main private corporations and non-profit organizations.



Figure 4 - General methodology for the Digital Region: a strategic thinking approach.

Later on, the answer to the question “how can we get there?” consisted on the definition of the projects, actions and policies that could take the best benefit from the available recourses, considering the SWOT analyses result, the strategic concept of the region and the Information Society objectives, expressed in the national and European programmes and plans (eEurope 2005, POSI, etc.).

The Digital Region projects are giving its first steps, standing by for the financial recourses of the Government and EU. Meanwhile, the work is being developed on the conceptual framework of the project and regional governance, promoting co-operation and co-ordination of actions and policies between the five city councils, government agencies regional offices, main private corporations and non-profit organizations. More recently, the regional governance initiatives are being enlarged to other digital regions (under construction) in order to improve coordination on regional economy clusters and key factors of success (tourism, transportation infrastructure, broadband telecommunication network, health, education, e governance, etc.).

The main objectives and principles of the Digital Region are:

- **Universal access to the Information Society:** direct (financial) and political efforts to ensure 100% coverage of the population with broadband communications network, public access points, information technologies adequate to citizens with special needs, massive training programme in basic IT competences for the people;
- **Information technologies usefulness for the strategic concept of the region:** the Digital Region takes the best use of projects in order to reduce its structural weaknesses, add value and boost its dynamic competitive factors;
- **Local e-government:** the Digital Region stimulates the change to a better paradigm of relationship between the local governments, the people and corporations, delivering integrated services in co-operation with other public agencies, trough new channels of communication (Internet, Intranet, email, citizen shops, etc.) with the best convenience, efficiency and transparency;
- **Focused on citizen needs:** the Digital Region provides contents and service delivery are focused on the satisfaction of the big diversity of needs and interests of the final users (people, corporations and other organizations);
- **Intelligent territory:** the Digital Region creates new technological resources, organizational architecture and relationships models that can generate a new paradigm for strategy and territorial planning, based on a collaborative knowledge network;



- **Social inclusion and cohesion:** projects and partnerships developed on the Digital Region contribute to shorten distances with whom is distant or isolated and allows to those that can't go out to travel in a different way.

## Intelligent territory

### The concept

Intelligent territory is the most relevant concept and project of the Alentejo Coast Digital Region (Figure 5). This concept benefits from all the dynamic process of changes in the planning system, information technology, new models of relationships (institutional, social and personal), new attitude of planners and public administration towards planning, etc..

The conceptual work already developed and its practical application is boosting a regional and local culture for innovation, co-operation and receptivity to organizational and philosophical changes.

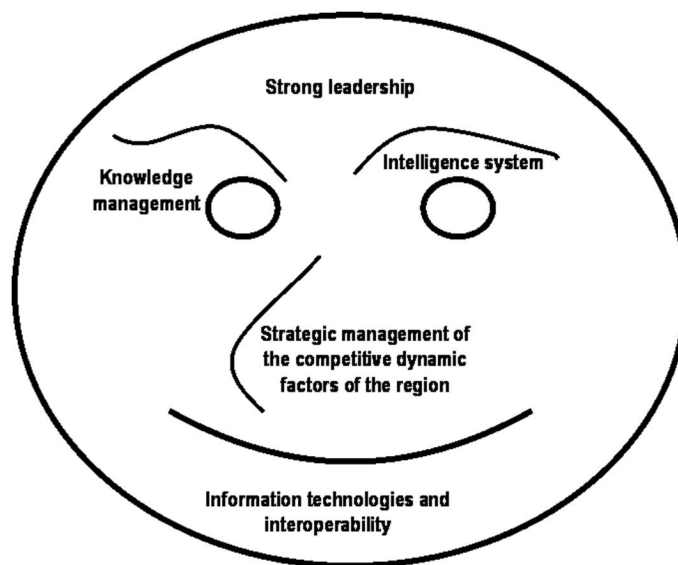


Figure 5 - The Intelligent Territory concept

The key factors for the success of Intelligent Territory project are – at this stage – the following:

1. **Strong leadership**, at the highest level of each organization, to ensure a sustainable and gradual process of change, but radical for the urban and regional planning in its philosophical and practical terms.
2. **Access to adequate information technologies and systems engineering** in order to provide technological and functional interoperability between: local governments, central government agencies, universities, research centres, private organizations and citizens. This will generate new synergies and collaborative dynamics.
3. The Planning Intelligence Unit supports the monitoring functions of the territorial dynamics (social, economic, physical,...), self-assessment, policies outcome evaluation. This planning intelligence unit provides systemic and relevant information for regional governance, relating the information provided by all the partners of the project (government agencies planning departments, local governments, universities, commercial and industrial associations, etc.). Data are delivered and shared in a secure and electronic way (internet and Intranet) between all the members.
4. The **Knowledge Management Collaborative Network** transforms shared data in

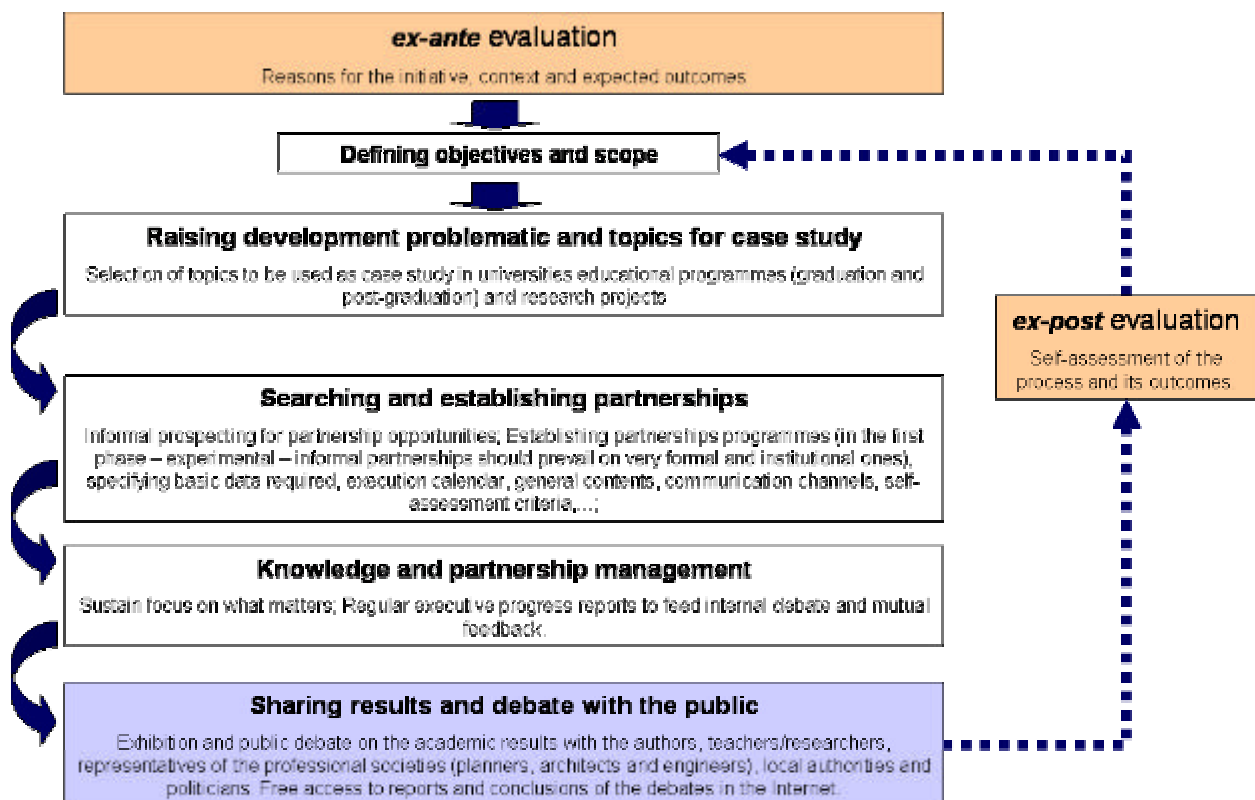


The first steps of this project are being taken by Sines Municipality, which, in the last three years, has putted in practice a protocol of collaboration, on urban planning issues, with one of the most prestigious research centres in Portugal: CESUR (Centre of Urban and Regional Systems of the Technical University of Lisbon). Under this protocol, several development plans have being produced, according to the very recent urban planning legal framework. These plans have been considered and debated in national meetings as they are some of the few pioneer plans produced in the new legal context.

The countless meetings and internal debates about the development plans and strategy for the municipality with senior and junior researchers from CESUR made the City Council and its staff more and more receptive to innovation.

Considering the lessons (good and bad) of this previous experience, the dynamic of the municipality and region, the Digital Region project and its new possibilities, the City Council of Sines is debating the methodology (Figure 7), case study list, etc. in order to start this experience in the beginning of the academic year of 2003/2004.

The action plan also provides for measures for the analysis, identification and dissemination of good practices, in particular through the internet portal, exhibitions and public debates. In the framework of the collaborative exercise launched by this project, it is planned that a list of indicators and a renewed methodology will be put in place at regional level by the end of 2004.



**Figure 7 – Methodology for the experimental phase of the Knowledge Management Collaborative Network.**

The main objectives of the Knowledge Management Collaborative Network on urban and regional planning issues are:

- To promote and take the best possible benefit from collaborative synergies between centres of excellence in urban and regional planning (universities, research centres,

consultancy agencies), the practitioners (planners, developers and local governments) and students (graduation and post-graduation levels); putting the intelligence units of the country and planning students energy and creativity working on the best interest for regional and local development.

- To promote public participation and awareness about the key issues of the regional and local development agenda, debating academic alternatives for action and planning about local problems and potentialities, putting planners, researchers, teachers, students, residents, investors and politicians debating with each others in a pedagogical way.
- To promote a favourable environment and trust between the urban developers, citizens and local government in order to boost the effectiveness of plans and urban policies.
- To create an organizational culture in the municipality receptive to innovation, continuous learning and changes.
- To promote benchmarking and create benchmarks, making them available on the Internet.

For the moment, the initiative is being very well accepted by the universities, meanwhile contacted informally to explore possibilities of cooperation, making stronger the link between teaching, research and practice.

In the next summer (2004) further developments and lessons will be available for sharing and learning.

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