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Plan4all

Cluster of Leading Organisations in SDI for Spatial Planning

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[1] OJ L 79, 24.3.2005, p. 1.

1 Conclusions

Cities in Europe are facing today major challenges: over 60 percent of the European population live in urban areas with more than 50,000 inhabitants. By 2020, about 80 percent will be living in urban areas, or much more, like in Belgium or the Netherlands, and the urban future of our continent is directly affected by urban land use.
Also technological progress and market globalization are generating new challenges for European cities. Townscape and social structures are in fundamental transformation processes, and the use of land is shifting from decline in one area of a city or city-region to growth in another.

Furthermore, the political framework of local stakeholders is shifting as well. The arena of decision makers in public and private sector is getting more fragmented. Cities have to cope with this, and small and medium sized cities in Europe especially have problems with this situation. Increasing number of brownfields and urban sprawl are visible signs of these processes.

A sustainable resource management (with direct and indirect impact on the environment) improves coordination of spatial development and urban planning as well as public-public and public-private investments, it involves local stakeholders in common visions: an integrated strategy of the European Community policy-making, taking into account the national, regional and local differences, can only be achieved by the establishment of an infrastructure for spatial information (INSPIRE Directive). By using this instrument, and through land use management with Spatial Data Information, cities and city-regions can benefit from the ongoing regional competition to overcome their lack of attractiveness and get competitive territories. Therefore, the **INSPIRE directive and the use of Spatial Data Information relates directly to land use and land use management** and **helps for better decisions** in urban and land use development.

Planning systems in each country and sometimes federal states in Europe have a lot of common instruments and levels. The most common instrument in the European planning systems is the land use local plan (with sometimes different denominations), followed by the regional plan (focussing on regional development and regional structure). At least one local plan (land use, zoning plan) is legally binding, while plans from the upper levels can be legally binding or not. The scale can differ, especially as in different countries there are one, two or even three plans on municipal level. On the local level, we can observe similar initiatives for a mobilisation of building land. All of them with relatively less success as the mayor or the municipal council are responsible for these plans and he will be re-elected in short periods.
Challenges of spatial planning in Europe are the differences of (planning) legislations all over Europe, sometimes even various in one county. Many terms are defined in the planning acts, sometimes in one state with several different meanings. So if we compare Germany and Austria with their various legislations in each federal state (16 and 9) the same terminus can mean something different. So plans with the same

content can mean something different due to different legislations. Challenges of exact translation of planning terms are additional very important.
Also on regional level, plans are establish on different scales, different administrative levels, and have also often different representations. For instance, plans are in France more schematic and in Germany really precise. Sometimes they are legally binding or not. Contents are also different, depending of the country, like sectoral plans. Even in one state there may exist regions with plans and others without. Also the time of updating is an important fact which varies.
On the national level, plans are established in different manner, depending of the political administration. This brings the question of the governance (centralised or decentralised countries). The Austrian role of the state in the planning system is limited as there is no competence of spatial planning and development on the national level but especially for the growing importance of EU policies the ÖROK, the Austrian conference on Spatial Planning, a federation of all nine federal states and the states, is coordinating spatial planning on the national level. Sectoral plans and concepts are made by individual authorities (ministries).

SDI is more and more present in spatial planning procedures. A description of the situation of SDI on the state, regional and local level of each member state of the consortium, related to spatial planning, is very useful. Links, insider knowledge and useful details, as well as the connection with the Spatial Planning Acts of each partner, also in the relation to INSPIRE, are necessary information for the development of a harmonization of Spatial Data Information in Europe. Compatibility of Spatial Planning Instruments and SDI are crucial for Plan4all, as demonstrated in the structograms: lack of SDI products or incompatibility between planning instruments and SDI structure can be found, e.g. in Bulgaria or Latvia, where SDI is not available on regional level; or in France, where SDI exists on the regional level, but does still not correspond to planning instruments.
A survey on Online Access of SDI planning instruments demonstrates that some important documents, like in Greece, Ireland or Italy, are online not accessible at all.

This report “Identification of leading regional and local administration in building SDI for spatial planning” starts with a description of the key-drivers of spatial planning in Europe for the 21st Century, describes on the basis of a European-wide survey the different planning systems in Europe and their relationship to SDI infrastructure, actual SDI projects in Europe, best practices of Planning and SDI, and indicates the concept of European Clusters.

2 Table of Contents

3 Introduction

3.1 Aims of the task

The Task 2.1 aims to identify the leading public administration dealing with spatial planning SDI. Identification of the leading public administration is a fundamental basis for the understanding of the building of Spatial Data Information throughout Europe, as they are the main users of the data.
A follow-up of this task will be the establishment of a Plan4all Forum, connected with the identification of European clusters.

The Task 2.1 aims to discuss following topics:

- Identification of leading regional and local administration in building SDI for spatial planning,
- Identification of administrations on local, regional and national level, also outside the consortium (open network) – integration in discussion
- Identification of public and private stakeholders as well as innovation leaders,
- Establishment of European Clusters,
- Vertical and horizontal integration of stakeholders,
- Construction of regional cooperation between clusters and policymakers,
- Establishment of cross-regional cooperation,
- Selection of best practices in the field of planning and SDI.

Furthermore, this task will be completed by the analysis of existing best practises for SDI for planning, provided through interactive events, including workshops, an annual conference, and the web 'portal'.

The methodological framework for the identification of the administration building SDI is following:

- short and comparable description and differences of the planning systems in Europe including a chart for quick comparison (inside the consortium and also all other countries of the European Union)
- the SDI in relation with the planning systems
- Status quo of quality of data in form of online access of planning data
- Table of most important SDI projects and structure
- short and comparable description of the SDI Situation
- the public and private companies as actors in the SDI structure in Europe
- the actual situation of European clusters in SDI, their cooperation and the development of integrated cooperation.

The project Plan4all will have a project life of 30 months; the Spatial Data Information in different countries will be improved; especially the amount of SDI projects and their online access situation will increase. Therefore, it will be interesting to see, after 2 ½ years, how this situation has been improved.

3.2 Report Overview

This document consists in a main part in contributions elaborated by the project members.
The chapters 4, 5 and 6 are describing this survey on analysis of planning systems and Spatial Data Information. The original contributions of the project partners are attached in the Annexes Chapter 10.

Chapter 3 is describing the challenges of spatial planning in Europe, more specifically the different trends in the European spatial and urban development, as a kind of introduction to the framework.

Chapter 4 is exploring the different European planning systems in and outside the consortium. As the consortium is not covering all planning systems, ISOCARP could organize the information, which is now integrated in this report. This chapter starts with definitions of some important notions, like land use or spatial planning, and continues with a description of the NUTS level categories, which are also relevant in the focus of spatial planning and Spatial Data Information. In the Annex we have a short and comparable description of spatial planning system of each country in the Consortium of Plan4All and even from all other countries in the European Union. As all countries have their own legislations the main question was what is equal in all planning systems and what the main differences are.

The themes of Chapter 5 are a short description of the Spatial Data Information (SDI) in each country of the consortium, the relation between SDI and Planning; online access to spatial planning documents and a list of the most important actual SDI projects inside the countries of the consortium.

Chapter 6 is considering the aspects of public and private companies with SDI, and finally in Chapter 7 European Clusters and the cooperation process are described, illustrated by some best practices.

3.3 Challenges of spatial planning in Europe

Key trends of the 21st century

Cities in Europe are facing today major challenges: over 60 percent of the European population live in urban areas with more than 50,000 inhabitants. By 2020, about 80 percent will be living in urban areas, or much more, like in Belgium or the Netherlands, and the urban future of our continent is directly affected by urban land use.
Also technological progress and market globalization are generating new challenges for European cities. Townscape and social structures are in fundamental transformation processes, and the use of land is shifting from decline in one area of a city or city-region to growth in another.

Furthermore, the political framework of local stakeholders is shifting as well. The arena of decision makers in public and private sector is getting more fragmented. Cities have to cope with this, and small and medium sized cities in Europe especially

have problems with this situation. Increasing number of brownfields and urban sprawl are visible signs of these processes.

A sustainable resource management (with direct and indirect impact on the environment) improves coordination of spatial development and urban planning as well as public-public and public-private investments, it involves local stakeholders in common visions: an integrated strategy of the European Community policy-making, taking into account the national, regional and local differences, can only be achieved by the establishment of an infrastructure for spatial information (INSPIRE Directive). By using this instrument, and through land use management with Spatial Data Information, cities and city-regions can benefit from the ongoing regional competition to overcome their lack of attractiveness and get competitive territory. Therefore, the **INSPIRE directive and the use of Spatial Data Information relates directly to land use and land use management** and **helps for better decisions** in urban and land use development.

The link to Land Use Management

Historically, the human society used to divide land in parcels or plots. Villages, cities and counties are all governed by setting affectations to parcels of land. Land is then subdivided into "pieces", which can be easier sold or developed. Each affectation or designation of land, so called "zoning", is determined by a list of approved uses to be legally operated on the zoned plot. All those affectations are regulated in the form of a governance document. In the capitalist system of land use, the signification of land property and its use is very high; land organisation reflects political, cultural and economic influence.

Real Property

This kind of property is referring to one of the main classes of the human property; the other properties are the personal and the intellectual ones. Real property is regulated by law in different sort of interests, like fee simple, fee tail, life estate, or leasehold.

Land use and land use management system

Land use can be seen as the human modification of natural environment or wilderness into built environment such as settlements, agriculture or pasture. By defining new functions to the land, also in term of changing the functionality of land, the human is transforming his environment consequently. The land structure resulting from this use of land has to be considered as the result and the mirror of his society and his culture, resulting of the action of different actors, mobile (households, companies) and immobile (communities, cities, investors).

As management is the human activity meaning the action of people working together in the aim to accomplish desired goals, land use management is a process of managing use and development of land, in which spatial, sector-oriented and temporary aspects of urban policy are coordinated. Resources of land are used for different purposes, which may produce conflicts and competitions, and land use management has to see those purposes in an integrated way. Therefore, land management covers the debate about norms and visions driving the policy-making, sector-based planning both in the strategic and more operative time spans, spatial integration of sectoral issues, decision-making, budgeting, implementation of plans and decisions and the

monitoring of results and evaluation of impacts. The Management System includes all processes, methods and tools used for organising, operating and supervising the urban environment including the factors influencing it. Management systems cover all phases from the visions behind the preparation of plans and decisions to their implementation and the monitoring of impacts. Planning practices, decision making processes and procedures, implementation and monitoring mechanisms and methods and tools used in the above-mentioned phases are all elements of management systems. In general, land use management is driven by various decisions taken at different levels of administration (local, regional, national). (EU Working Group on Urban Management, 2004)

Often, short-term orientation is conflicting the long-term ones. Therefore, a sustainable land use management will improve coordination of urban policy as well as public-public investments and public-private investments, and involves inhabitants and local stakeholders in common visions. In doing so, sustainable land management should act in a multi-level governance structure between an operational project level and a strategic level of urban management.

Origins of Spatial Planning

In the last centuries, the consideration of spatial planning changed radically; in the past, planning was more a traditional "own world" (Lewis Mumford, The city in history 1961), now the world has become a city. Globalisation and sustainability are affecting spatial planning today; globalisation requires new way of governing the city to take advantage of its benefits, while sustainability demands new attitudes toward the way of living as a whole. This double challenging context is imposing changes and structural reforms on the countries' administrative structures, including the traditional planning model and implementation mechanisms, which were clearly unable to respond to the existing economic, social and environmental problems.

Decentralisation, multilevel governance, public participation, bottom-up approaches, empowerment, local government, regional approach, environmental policies, strategic planning, participative budgets, council of regions, public private partnerships, administrative links, local agendas 21, low carbon concepts and climate change, vertical and horizontal integration, are some of the actual topics considered today in the legal bodies and planning practices.

Many expectations can be found in the early 21st century on spatial planning: scientific progress in communication technology, genetics, micro-biology, but also energy efficiency and data technology will influence the European spatial planning subsequently. But some recommendations (ISOCARP) on spatial planning remain:
- long term planning of the use and management of resources
- achieving planning objectives independently of economic growth
- improving public participation and implementation
- influencing politics through planning more adapted to the needs of the public
- nurturing robust professional ethics through ongoing appraisal.

Urban Sprawl

Most of the European population is living today in urban areas. By 2020, about 80% of the population will be "urban", some regions like Belgium or Netherlands have

already more then 90% of the population living in urbanised areas. Our daily consumption of land (conversion of agricultural land into built-up areas) is high; for example, Germany is "consuming" about 113ha/day (in 2007) open land into infrastructure and buildings.
Urban Sprawl, originally defined in America, consists in the "spreading of a city and its suburbs over rural land at the fringe of an urban area" (Sprawlcity.org, 2008) in a rapid low-density expansion, supported by the dependence of the population of its private car and of its preference for one-family-housing. Compared to American cities, the European were more compact in the past; however, since the 1960s, sprawling cities are all over Europe.

Urban Sprawl in Europe has become in the last years a common concern of the European Commission and the local authorities. Several studies and reports have been written regarding urban sprawl, especially the European Environment Agency (EEA), Copenhagen, worked on this issue in 2006. The report "Urban Sprawl – an ignored challenge" was a milestone related to this topic.

The EEA defined the urban sprawl as following: *"Urban sprawl is commonly used to describe physically expanding urban areas. The EEA has described sprawl as the physical pattern of low-density expansion of large urban areas, under market conditions, mainly into the surrounding agricultural areas. Sprawl is the leading edge of urban growth and implies little planning control of land subdivision. Development is patchy, scattered and strung out, with a tendency for discontinuity. It leap-frogs over areas, leaving agricultural enclaves. Sprawling cities are the opposite of compact cities — full of empty spaces that indicate the inefficiencies in development and highlight the consequences of uncontrolled growth."* (EEA, 2006)

In his book on "Urban Sprawl in Europe" (2007), Prof. Couch is making clear that Urban Sprawl has not to be considered "as a pattern of urbanisation, as is more usual in the literature, but rather as a process of urban change" (Couch, 2007). Citing the example of a sandcastle becoming waterlogged, where sand slips downwards and outwards, and the angle of slope is reduced, he demonstrated that urban sprawl "may be considered as the process by which this spreading occurs" (Couch, 2007).

Origins of sprawl in Europe
Urban Sprawl in Europe appeared in the second half of the 20th century: the urbanisation process, provoked by a long period of economic and population growth, evolved into a sub-urbanisation dynamic, and later on, into a de-urbanisation. In the Post-war period, many European authorities invested in urban expansion, mainly influenced by the Athens Charter, and took place as new towns or large peripheral extensions of existing urban structures. In France, the development of modern flats around the cities was "dedicated to the middle class or supposed to become so". (Petitet, 2008). It is also evident, that areas affected by sprawl are regions with a high population density and intense economic activity, but also regions having benefited from the EU regional policies (EEA, 2006). This financial support helped the development of new urbanisation patterns, e.g. around new transportation nodes (airports, high-speed trains, etc). Cohesion Funds and Structural Funds are pushing the economic development, but may consequently, and without adapted instruments, perturb the "organic" development of cities and regions.

An example could be the region of Maramures, Romania, where uncoordinated development of business parks is taking place today. But this development can be observed also along the coasts of Spain and France: high speculative developments for second houses areas of long-time tourists are now under financial pressure.

Today, urban sprawl is a challenge for the European cities and metropolitan regions, as they are becoming much less compact. Dense quarters of city's extensions are replaced by low-density housing areas, like "maisons unifamiliales" – one-family-house, semi-detached and detached houses with green space around. This model of space consuming is well sold by banks or investors, with the slogan of "My car-my house-my garden", or "A large house on a large lot, with good automobile access to facilities, is what most people seem to want." (UNFPA, 2007) This urban model is also supported by the NIMBY mentality.

Major trends and challenges in the EU
Trends of low-density urban development are evident in European cities. Due to the living space consumption in the last decades, which has more then doubled (e.g. in 2007, Ireland had the lowest floor space in Europe with 35 sqm, Denmark the highest with 50,6 sqm. Highest floor space had the USA with 68,1 sqm/person) (Statistisches Bundesamt Germany, 2007), the demand for larger housing areas increased, while population grew only very few (UNFPA, 2007).

However, demographic trends in Europe are influencing the development of sprawl: the total population of the Europe reached its peak accounting for 729.3 million in the year 2000, and is now declining with a negative annual rate, and will continue to decline from -0.08% during 2000-05 to -0.24 during 2020-25 (United Nations, 2006). This population decline trend is merged with the increase in the average age of the population. The proportion of population in 65+ age group will increase from 11.9% in 1985 to 19.8% in 2025, but the proportion of population in 0-14 age group is decreasing from 21.3% to 16.3% during the same period. In Eastern Germany and in other European countries as well, shrinking cities appeared in the last decade: cities were loosing population, and consequently economic power, due to migration, lack of investments and working places, and attractiveness.

On the other side, the actual developments in energy use (increase of energy costs linked to Oil dependency, lack of alternative energy resources) will influence the future urbanisation model of our regions. All those aspects have to be taken into account in future urban developments (low carbon urbanisation concepts).

Also **brownfields** are a challenge for European cities and European urban development.
Brownfields are abandoned or under-used industrial and commercial facilities, where expansion or redevelopment is complicated by real or perceived environmental contaminations. In urban planning, brownfield land (or simply a brownfield) is a land previously used for industrial purposes or certain commercial uses that may be contaminated by low concentrations of hazardous waste or pollution and has the potential to be reused once it is cleaned up. (Glossary of terms for Brownfields).

Origins of Brownfields in Europe

Over the past decades, Industrial change has affected a lot of European cities, which several consequences on land use. Industrial areas were the place of acute transformation, linked with an important loss of jobs and unemployment, and are the result of industrial occupation, real estate speculation and urban growth. Without a conversion and rehabilitation concept developed after the change of land use occupation, areas turned into derelict land or brownfields. There are approximately more then 20.000 Km2 derelict land in Europe today (German Ministry of Housing, 2007).

Several studies on derelict land have been done in the last years; references in Europe are the CLARINET (Contaminated Land Rehabilitation Network for Environmental Technologies in Europe) and the CABERNET (Concerted Action on Brownfields and Economic Regeneration) projects, part of the Fifth Framework Programme, 2001.

Brownfields have been identified in three main categories (CLARINET, 2001)

- Brownfields in traditional industrial areas
- Brownfields in metropolitan areas
- Brownfields in rural areas.

In traditional industrial areas, the massive loss of industrial jobs located in the coal, steel and textile industries in the 80's conducted to substantive structural urban change. Those brownfields are often large, situated in urbanised areas and with a poor environment, have low land value, and require intensive recycling and rehabilitation intervention, linked with high costs.

In metropolitan areas, the land market turned into a dynamic model influenced by the service sector. Old industries were pushed outside the city in the periphery, and reinforced the urban sprawl, illustrated by business and industry parks at the fringe of cities. Also urban areas of old railways, military and harbours have to be included in this category. Land speculation on those areas, because their attractiveness near city centre, exacerbate the difficulties of cities to find good solutions.

In rural areas, sites connected with primary economic activities (intensive agriculture and forestry, mining) were under strong transformation process, due to the abandonment of sites. Local authorities were often not able to develop instruments or strategies of revitalisation.

Major trends and challenges in the EU

The total surface of derelict land is growing every day in Europe; the figures from the German Federal Office of Statistics shows that the amount of derelict land, only in Germany, increased by 13 ha/day between 1993 and 2000 (German Ministry Statistics, 2003). Exact figures for the all of Europe are not available. The management of brownfields is a challenge for municipalities and urban planners, to be integrated in a logical and sustainable land use development strategy, considering also the attractiveness of green belt policies and implementations: a perfect example to be mentioned is the strategy developed for the Emscher Park Project.

Investment Competition and Real Estate Market

Demanding competition on investment and Real Estate Market processes are part of urban economics, the economic study of urban areas.

Investment Competition and Market forces

Urban Development is influenced by the location decision of companies and households, so called market forces. The nature and behaviour of urban markets are depending from the geographic situation: isolated location for a company will be e.g. different than a concentrated location. Also industrial clusters will be more attractive for companies than isolated one, especially if major companies and industries are well-known (creative identity).

Also on the field of land use management in metropolitan areas, market oriented companies and investors are looking for capitalisation effects. Spatial distribution of activities and housing areas, urban location and connections, urban economic addresses, control on land-use and price of land are evaluated and balanced.

Major Trends and Challenges of the European Real Estate Market

In the next future (until 2015), the European real estate market is expected to experience a complicated three-speed process. Corrections to the West, stabilisation in continental Europe, and a chase for possible yield compressions in Central and Eastern Europe. Regardless of the investment location, yield compression is no longer the main rationale for investment. (PriceWaterhousecoopers, 2008)

Overall, European economies are projected to slow; however, some forecast figures for gross domestic product remain strong. Nonetheless, financial turmoil, higher energy prices, a reduction in euro-based exports, and a cooling housing market will have an impact.

Due to the sub prime crisis in the United States, unleveraged equity investors will lead the capital march in Europe after losing out for years to highly leveraged players. According to survey results, this capital will come mainly from institutions, private property vehicles, and open-ended funds, mostly from the Middle East and the Asia Pacific region. European debt is still available; however, it will not be easy to find or come at a cheap price from 2008 on. Many investors believe a decline in availability of capital will lead to stronger real estate fundamentals and less of the quick buy-and-sell approach.

The publicly traded real estate market has continued to decline over the past year, with returns down over 30 percent. Larger losses in the REIT market seem to come from the West, with a slightly better outcome from continental Europe. Predator investors have kept an eye on this decline and believe that discounts to net asset value might just be becoming too wide to ignore this year.

Institutional investors are becoming more aware of the benefits of adding global real estate equity funds to their portfolios. Currently, there are more than 250 available global funds managing over US$81 billion in capital. Positive returns with projected low correlations to other equity and bond funds are appealing to all capital investors.

Capitalisation rates for all property sectors are expected to increase moving forward. Therefore, real estate executives are moving their interest from acquisition to

development with a focus on core assets in 2008. Some expected hurdles include construction cost increases and the challenge of financing projects in a real estate downturn.

European investors will continue to find opportunities to invest in direct real estate throughout Europe, focusing on the three main markets: the United Kingdom, Germany, and France. However, globalisation of real estate will be on all investors' minds as they head to Eastern Europe and Asia to attempt to take advantage of yield compression and higher returns.

Based on investment prospect ratings, the top five markets in 2008 are Moscow, Istanbul, Hamburg, Munich, and Paris. Development prospect ratings place Moscow and Istanbul again in the first and second slot, followed by Munich, Hamburg, and Lyon. Unfortunately, Moscow takes in a third category as well by being ranked the riskiest city.

The European property sectors will continue to offer good investment opportunities in 2008. Five out of the seven major property types are rated as "modestly good"; however, most rating values for each prospect are lower than last year. The top three closely ranked sectors include retail, mixed use, and hotels.

Because standard property sectors are no longer subject to yield compression, real estate players are starting to look at alternative investments, including nursing homes, self-storage, caravan parking, and petrol stations. Many professionals believe the shift from conventional real estate investing is being driven by opportunities for higher returns and discovery of the next big sector.

European infrastructure continues to be an area of focus in 2008, with its market size falling between €4 trillion and €5 trillion. Many pension funds, endowments, and other investors think of infrastructure as a long-term, fixed-income investment and an important aspect of their real estate business. (PrinceWaterHouseCoopers - ULI Urban Land Institute, 2008)

Governance

Governance is a crucial factor in the success or failure of the planning process. Political ambitions often entail short term preferences and over-ambitious projects, resulting in disillusionment of the key players in the development industry, as well as scepticism among the general public. The transition from government, with its traditional hierarchy, sectoral segregations, lack of transparency, poor internal communication, and sometimes authoritarian character, opacity in financing and outright corruption, to governance which promises subsidiarity, devolution including of tax raising powers, horizontal and vertical cooperation and coordination, and empowerment of the citizenry with effective participation is far from being achieved. Considering the wide variety of cultural and historic conditions, size and economy of countries, there is no optimum amount of levels of governance and no consensus about which lowest tier is best. Neither is there a single model for bottom up or top down decision making or any combination of the two, the latter being advocated in various forms but rarely achieved. Nor is there an optimum relationship between

political powers, professional input which includes planners and fiscal status at any level of governance.

Economic crisis and governance

Today, the global economy is experiencing one of its deepest and most widespread recessions in the post-war area, and the economic situation continues today to be exceptionally uncertain. This crisis is not the same crisis as those experienced in 1929, the 1980s, or the dot-com bubble in 2000. A huge uncertainty dominates at the global level: will we have an extension of the economic decline, how long will this economic decline persist, and what are the territorial consequences of this decline, or in other terms, when will the global recession be over, what will be the shape of the economic recovery, and are there risks of a relapse? The themes, related to economy and growth, are changing fundamentally for European cities.

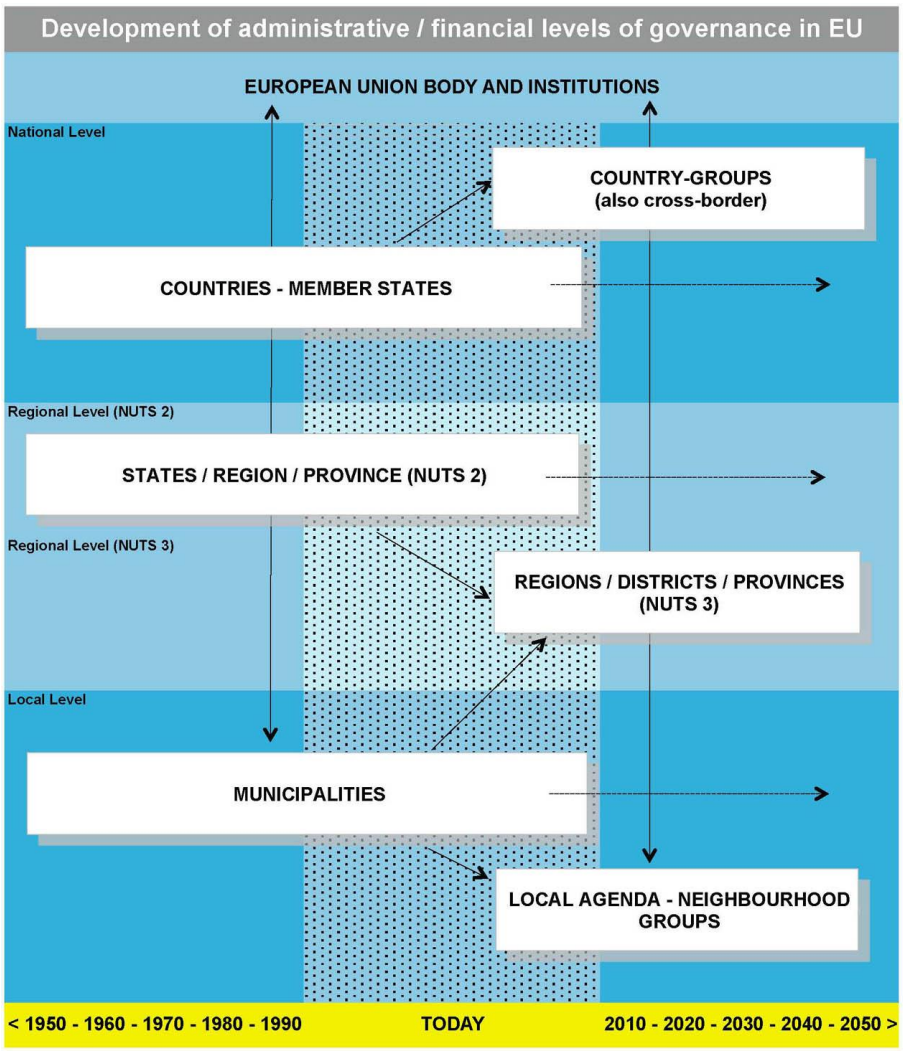
Cities and regions have been touched in two waves by the financial crisis: the first-wave of impacts started in 2008 in the financial sector, and were prolonged in 2009, while the second-wave affecting the urban economy, is more recent and expected to last for the coming years.

Impacts on cities may vary depending on countries involved and sectors of activities, as well as territorial patterns of impacts - on the other side, actual policies developed by member states will provoke different territorial impacts, resulting in rapid shifts over the next months and years. The global recession implies a territorial vulnerability in relation to national economy, export-oriented sectors, housing related sectors, the automotive industry and the tourism sector.

As a matter of fact, due to the systemic crises, Europe will experience in the next years a radical change in the driving forces and territorial trends, also because Europe is becoming more and more urban. Therefore, a feedback is needed on the prospects for territorial and regional policies.

Everywhere in Europe, a shifting in political and territorial governance can be identified. The actual governance structure, organized in a traditional way, is in a process of transformation: remodelling a situation which was mostly based on a model of the 19th Century and not reflecting the needs of the 21st Century, e.g. in the missing link between local actions and global issues. Structures of Country/Member states, states (NUTS 2) and municipality are shifting today into a new, flexible and un-“official” structure, with country-groups, regions (NUTS 3) and local (Agenda 21) – neighbourhoods (ISOCARP Working Group on the future of urban development in Europe, 2009).

This shift into new structures, new territorial responsibilities and new challenges (trend of metropolitan regions in the EU –Regional Focus “Metropolitan Regions in the EU, DG Regio 2009) is also accompanied by a shift into new financial structures, which will influence the different territorial trends in Europe.



New forms of governance in a future Europe –
ISOCARP Working Group on the future of urban development in Europe – Vancutsem 2009

Climate Change

Another challenge for cities, regions and spatial planning is the climate change phenomenon. Atmospheric levels of carbon dioxide are some 35% higher than they were before the start of the industrial revolution just over 200 years ago and they continue to rise. According to the United Nations' International Panel on Climate Change (IPCC): 'Warming of the climate system is unequivocal, as is now evident from observations of increases in the global average air and ocean temperatures, widespread melting of snow and ice, and rising global mean sea level'.

There will be a range of effects across all continents of the world, often through extremes of drought or flooding, and many of the world's major cities face a particular threat from sea level rise. If we are to avoid the worst effects of climate change, we will need to step up greatly the limited efforts that we are making so far to reduce greenhouse gas emissions. This will require an unprecedented level of international agreement and a concerted programme of action. 2009 will be the pivotal year for the environment because it will culminate in a major UN meeting to be held in Copenhagen in December.

This is charged with agreeing a successor to the Kyoto Protocol. We face the threats from climate change at a time of continuing world population growth, with rising material expectations over much of the globe, but growing concerns regarding the adequacy of food and water supplies and of other key resources, particularly oil.

The IPCC scientists tell us that if we are to stabilise greenhouse gas concentrations in the atmosphere at a level that would avoid potentially catastrophic climate change, we must act to ensure that global emissions peak within the next ten years or so, and then steadily decline. But the present trend is in the wrong direction. The world continues to increase its use of fossil fuels, we consume ever more, car and air travel continue to expand and deforestation, which reduces the earth's capacity to absorb carbon dioxide, continues on a massive scale.

Over half of the world's population now lives within cities. Because they concentrate people and activities, they place a particular burden upon the world's resources. Thus, in terms of ecological footprints, the extent to which places draw from beyond their own boundaries to sustain current levels of consumption and waste discharge, London is thought to have a footprint almost 300 times its geographical area. Thus, cities are crucial in the search for sustainability and, if we are to put the world on a lower carbon path, action based upon the cities will form a major part of the solution.

Accordingly, spatial planning is highly relevant in risk assessment and risk management. Risk assessment is the procedure in which the risks posed by inherent hazards involved in processes or situations are estimated either quantitatively or qualitatively. In the life cycle of a chemical for instance, risks can arise during manufacture, distribution, in use, or the disposal process. Risk assessment of the chemical involves the identification of the inherent hazards at every stage and an estimation of the risks posed by these hazards. Risk is estimated by incorporating a measure of the likelihood of the hazard actually causing harm and a measure of the severity of harm in terms of the consequences to people or the environment.
In broad terms risk assessments are carried out to examine the effects of an agent on humans (Health Risk Assessment) and ecosystems (Ecological Risk Assessment). Environmental Risk Assessment (ERA) is the examination of risks resulting from technology that threaten ecosystems, animals and people. It includes human health risk assessments, ecological or ecotoxicological risk assessments, and specific industrial applications of risk assessment that examine end-points in people, biota or ecosystems.
Risk management is the decision-making process through which choices can be made between a range of options which achieve the "required outcome". The "required outcome" may be specified by legislation by way of environmental standards, may be determined by a formalised risk-cost-benefit analysis or may be determined by another process for instance "industry norms" or "good practice". It should result in risks being reduced to an "acceptable" level within the constraints of the available resources.

Agriculture and rural development
Spatial planning is dealing also with rural development and agriculture. With over 56 % of the population in the 27 Member States of the European Union living in rural areas, which cover 91 % of the territory, rural development is a vitally important policy area. Farming and forestry remain crucial for land use and the management of

natural resources in the EU's rural areas, and as a platform for economic diversification in rural communities. The strengthening of EU rural development policy is, therefore, an overall EU priority.

Agriculture continues to be the largest user of rural land, as well as a key determinant of the quality of the countryside and the environment. The importance and relevance of the CAP (Common Agriculture Policy) and rural development have increased with the recent enlargement of the European Union. Some key elements of the CAP are:
- a single farm payment for EU farmers, independent from production; limited coupled elements may be maintained to avoid abandonment of production,
- this payment will be linked to the respect of environmental, food safety, animal and plant health and animal welfare standards, as well as the requirement to keep all farmland in good agricultural and environmental condition ("cross-compliance"),
- a strengthened rural development policy with more EU money, new measures to promote the environment, quality and animal welfare and to help farmers to meet EU production standards starting in 2005,
- a reduction in direct payments ("modulation") for bigger farms to finance the new rural development policy,
- a mechanism for financial discipline to ensure that the farm budget fixed until 2013 is not overshot,
and also revisions to the market policy of the CAP:
- asymmetric price cuts in the milk sector: The intervention price for butter will be reduced by 25% over four years, which is an additional price cut of 10% compared to Agenda 2000, for skimmed milk powder a 15% reduction over three years, as agreed in Agenda 2000, is retained,
- reduction of the monthly increments in the cereals sector by half, the current intervention price will be maintained,
- reforms in the rice, durum wheat, nuts, starch potatoes and dried fodder sectors.

According to those elements, strong economic performance must go hand in hand with the sustainable use of natural resources and levels of waste, maintaining biodiversity, preserving ecosystems and avoiding desertification. To meet these challenges, the CAP and its future development should, among its objectives, contribute to achieving sustainable development by increasing its emphasis on encouraging healthy, high-quality products, environmentally sustainable production methods, including organic production, renewable raw materials and the protection of biodiversity.

The future rural development policy until 2013 is focusing on three key areas: the agrifood economy, the environment and the broader rural economy and population. The new generation of rural development strategies and programmes will be built around four axes, namely: axis 1, on improving the competitiveness of the agricultural and forestry sector; axis 2, on improving the environment and the countryside; axis 3, on the quality of life in rural areas and diversification of the rural economy; and axis 4, on Leader.
Under axis 1, a range of measures will target human and physical capital in the agriculture, food and forestry sectors (promoting knowledge transfer and innovation) and quality production. Axis 2 provides measures to protect and enhance natural resources, as well as preserving high nature value farming and forestry systems and

cultural landscapes in Europe's rural areas. Axis 3 helps to develop local infrastructure and human capital in rural areas to improve the conditions for growth and job creation in all sectors and the diversification of economic activities. Axis 4, based on the Leader experience, introduces possibilities for innovative governance through locally based, bottom-up approaches to rural development.

Related to Farming, some innovative drivers can be identified; they include not only direct research, but also Information and communication technologies (ICT), education and investment: Knowledge based bio economy - Knowledge-Based Bio-Economy (KBBE) can be concisely defined as "transforming life sciences knowledge into new, sustainable, eco-efficient and competitive products", Research and development in Agriculture, Information and communication (effective knowledge transfer), Education -The 'Knowledge Economy', and investments into biotechnologies and bio-energy.

Therefore, priorities in the agricultural and forestall sector are appearing: we will experience in the next years and decades a restructuration and modernisation of the agriculture sector, which will continue to play an important role in the development of many rural areas, particularly in the new Member States, an improvement of the integration in the agrifood chain as Europe's food industry is one of the world's most competitive and innovative, but it is facing increasing global competition, a facilitation of innovation and access to research and development (R & D), an encouragement of the take-up and diffusion of information and communications technologies, the fostering of dynamic entrepreneurship, the development of new outlets for agricultural and forestry products, and the improvement of the environmental performance of farms and forestry. Further aspects of the rural development policy are the improvement of the environment and countryside, the improvement of quality of life in rural areas and the encouragement of the diversification of the rural economy.

Different Actors and Partners in Land Management

Usually, the typology of actors, or players, defines two different profiles: the private and the public actors. Private actors are e.g. farmers, residents, entrepreneurs and speculators, property dealers and developers; on the other side, public actors are e.g. urban administration, local bureaucracy, political representations, planning bodies, civic supplies, or police.

In the field of land use, all actors are interested in land, and are playing different roles. A political ecology approach (Bryant and Bailey's, 1997) assumes that land is strongly influenced by the way different actors interact in a local place and vice-versa. Actors are present at the micro-level, which is the level of a village, as well as at higher levels, like regional level, acting and interacting within a political framework. Interest of these actors can be complementary and/or conflicting, and can of course lead to different alliances or main conflicts. (Kaiser, 1995)

Actors may have different roles in the land use, also in terms of active or passive:

Private Actors	*Role*
Farmers, agriculture	Farming, leasing
Residents	buying or renting out residential space
Entrepreneurs and speculators	buying, renting land, building Leasing
Property dealers taking	Mediation in transaction, information, care-
Developers	Financing, planning, speculation
Planners	Planning

Public Actors	*Role*
Urban administration	Urban land supply, protection, taxation
Local bureaucracy	Economic and social development
Planning bodies housing	Urban design, planning, land supply and
Civic supplies etc)	Provision of infrastructure (Water, Electricity,
Land registration	Mapping and registration of land ownership
Justice	Resolving disputes about land Approbation on land-use policies
Police	Preservation of illegal land occupation

Vancutsem, 2009

Difference between Actors and Stakeholders

Actors are stakeholders, also a subclass of the stakeholder class. Not every stakeholder will have direct interaction with the product, but a stakeholder by definition has an interest of some kind in the outcome of the project. Actors are stakeholders, therefore, a way to find the actors is to identify and examine the stakeholders.

Stakeholders can be different actors in the field of Land Use Planning, for example:

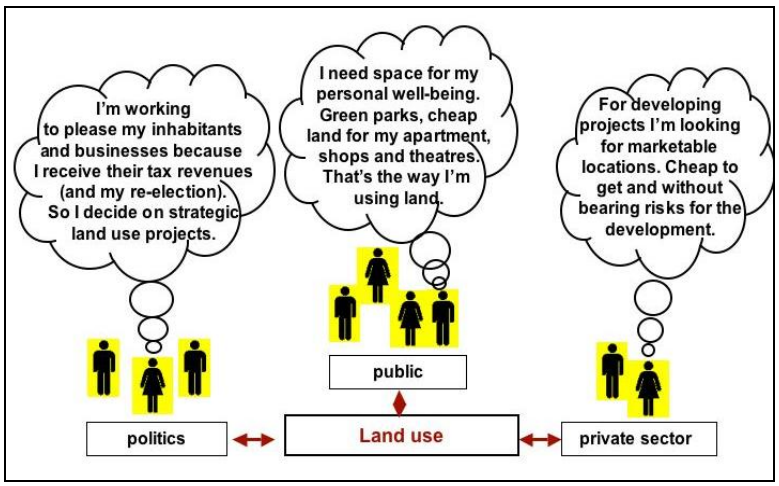
- People who are interested in some action and able to influence it, but not directly involved with doing the work. In the private sector, examples include managers who are affected by a project, process owners, people who work with the process under study, internal departments that support the process, the financial department, suppliers, and even customers.
- People who are (or might be) affected by any action taken by an organisation or group. Examples are parents, children, customers, owners, employees, associates, partners, contractors, suppliers and people that are related or located near by. Any group or individual who can affect or who is affected by achievement of a group's objectives.
- An individual or group with an interest in a group's or an organization's success in delivering intended results and in maintaining the viability of the group or the organization's product and/or service. Stakeholders influence programs, products, and services.

- Any organisation, governmental entity, or individual that has a stake in or may be impacted by a given approach to environmental regulation, pollution prevention, energy conservation, etc.
- A participant in a community mobilisation effort, representing a particular segment of society. School board members, environmental organizations, elected officials, chamber of commerce representatives, neighbourhood advisory council members, and religious leaders are all examples of local stakeholders.

Essential partners of an urban development policy are the cities and urban regions that provide economic, social and cultural impulses. Cities are magnets for investors, scientists and the professional workforce. Strong cities and urban regions, along with great flexibility at local level, are the preconditions for an efficient urban development. A new culture of responsibility is required which is administered by cities together with the citizens, the local economy, educational facilities, cultural institutions and other stakeholders. This will allow locally organised 'alliances of urbanity' to make a significant contribution towards strong urban development policies. When linked, these alliances can have a widespread effect and contribute to a citizen-centric urban development policy. Such co-operations are successful if they focus on actual problems by prompting clearly defined actions ('economy takes responsibility', 'better schools for the quarter…). Urban development can only be successful if it reaches citizens through activities, events and information, and if it stimulates participation. Furthermore, sustainable urban development can only take place with the cooperation of all stakeholders connected to a problem or place.

Trialogue as a solution?

Therefore, it appears important to develop a kind of "Trialogue" between public actors, private sector and politics so to integrate the diverging perceptions of a problem and by this means to overcome the gap between planning and implementation and between long-term and short-term objectives (FLAIR Project, Engelke, 2008).



Trialogue, FLAIR Project - Engelke

Different planning systems in Europe

Many European countries have complex but also general or vague planning systems, all with different legislations, as well as –sometimes- overcomplicated related administrative structures. Hierarchic systems include often land use plans, regional plans, medium and long term national development strategies are sometimes missing (e.g. in France as centralized country); sometimes also, countries use national land use plans as a general instrument for land use management. Countries with newer legislations like the Netherlands have long term strategic plans, others have to cope with legislations being older than 50 years. Those disparities appear in the following chapter describing the different planning systems of all European Member States, the one inside and outside of the consortium.

4 Description of the Planning Systems

4.1 Definition of land use, spatial, regional and urban planning

Before to start in the short description of the different planning systems in Europe and their link with the Spatial Data Information, some elementary notions and definitions are necessary and have to be clarified: land use and land use planning, spatial planning, regional planning, and urban planning.

Land Use
Land use is the human modification of natural environment or wilderness into built environment such as fields, pastures, and settlements. The major effect of land use on land cover since 1750 has been deforestation of temperate regions. More recent significant effects of land use include urban sprawl, soil erosion, soil degradation, salinization and desertification. Land-use change, together with use of fossil fuels, are the major anthropogenic sources of carbon dioxide, a dominant greenhouse gas.
It has also been defined as "the total of arrangements, activities, and inputs that people undertake in a certain land cover type" (FAO, 1997a; FAO/UNEP, 1999).

Municipal land use
Each designation, known as a parcel's zoning, comes with a list of approved uses that can legally operate on the zoned parcel. These are found in a government's ordinances or zoning regulations.

Land use and the environment
Land use and land management practices have a major impact on natural resources including water, soil, nutrients, plants and animals. Land use information can be used to develop solutions for natural resource management issues such as salinity and water quality. For instance, water bodies in a region that has been deforested or having erosion will have different water quality than those in areas that are forested.

According to a report by the United Nations' Food and Agriculture Organisation, land degradation has been exacerbated where there has been an absence of any land use planning, or of its orderly execution, or the existence of financial or legal incentives that have led to the wrong land use decisions, or one-sided central planning leading to over-utilization of the land resources - for instance for immediate production at all costs. As a consequence the result has often been misery for large segments of the local population and destruction of valuable ecosystems. Such narrow approaches should be replaced by a technique for the planning and management of land resources that is integrated and holistic and where land users are central. This will ensure the long-term quality of the land for human use, the prevention or resolution of social conflicts related to land use, and the conservation of ecosystems of high biodiversity value

Land Use Planning
Land use planning is the term used for a branch of public policy which encompasses various disciplines which seek to order and regulate the use of land in an efficient and ethical way.

Despite confusing nomenclature, the essential function of land use planning remains the same whatever term is applied. The Canadian Institute of Planners offers a definition that: "[Land use] planning means the scientific, aesthetic, and orderly disposition of land, resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of urban and rural communities"

In the English speaking world, the terms land use planning, town and country planning, regional planning, town planning, urban planning, and urban design are often used interchangeably, and will depend on the country in question **but do not always have the same meaning**, as they are defined in the national or regional legislations. In Europe the preferred term is increasingly spatial planning.

At its most basic level land use planning is likely to involve zoning and transport infrastructure planning. In most developed countries, land use planning is an important part of social policy, ensuring that land is used efficiently for the benefit of the wider economy and population as well as to protect the environment.
Land use planning encompasses the following disciplines: Architecture, Environmental planning, Landscape architecture, Regional Planning, Spatial planning, Sustainable Development, Transportation Planning, Urban design, Urban planning, Urban Renaissance, Urban renewal.
Architecture, urban design, urban planning, landscape architecture and urban renewal usually address the selection of physical layout, scale of development, aesthetics, costs of alternatives and selection of building materials and impact upon landscape and species.
Environmental planning, will often address the implications of development and plans upon the environment, for example Strategic Environmental Assessment. At the very local level environmental planning may imply the use of tools to forecast impacts of development decisions, including roadway noise, and pollution, surface runoff and flooding assessments.
Because of the many disciplines and knowledge domains involved, land use planners are increasingly making use of Information Technology, such as Geographic Information Systems, and Spatial Decision Support Systems, to assist with analysis and decision-making.

Soil Surveys provide extensive land use planning information such as limitations for dwellings with and without basements, shallow excavations, small commercial buildings, and septic tank adsorptions. These can be obtained most easily with the Web Soil Survey. With the Use of a SDI, they can be viewed with the Soil Data Viewer.

Spatial Planning
Spatial planning refers to the methods used by the public sector to influence the distribution of people and activities in spaces of various scales. Spatial planning includes all levels of land use planning including urban planning and land use planning, regional planning, national spatial plans, cross-boarder plans and in the European Union transnational and international levels.

There are numerous definitions of spatial planning. One of the earliest definitions comes from the European Regional/Spatial Planning Charter (often called the 'Torremolinos Charter'), adopted in 1983 by the European Conference of Ministers responsible for Regional Planning (CEMAT): "Regional/spatial planning gives geographical expression to the economic, social, cultural and ecological policies of society. It is at the same time a scientific discipline, an administrative technique and a policy developed as an interdisciplinary and comprehensive approach directed towards a balanced regional development and the physical organisation of space according to an overall strategy."
Numerous planning systems exist around the world. Especially in Northwestern Europe spatial planning has evolved greatly since the late 1950s.

In 1999, a document called the European Spatial Development Perspective (ESDP) was signed by the ministers responsible for regional planning in the EU member states. Although the ESDP has no binding status, and the European Union has no formal authority for spatial planning, the ESDP has influenced spatial planning policy in European regions and member states, and placed the coordination of EU sectoral policies on the political agenda.
At the European level, the term territorial cohesion is becoming more widely used and is for example mentioned in the draft EU Treaty (Constitution) as a shared competency of the European Union; it is also included in the Treaty of Lisbon. The term was defined in a "scoping document" in Rotterdam in late 2004 and is being elaborated further using empirical data from the ESPON programme in a document entitled The Territorial State and Perspectives of the European Union. At the minister's conference in May 2007 in Leipzig, a political document called the "Territorial Agenda" was signed to continue the process begun in Rotterdam.

Regional Planning
Regional planning is a branch of land use planning and deals with the efficient placement of land use activities, infrastructure, and settlement growth across a significantly larger area of land than an individual city or town. The related field of urban planning deals with the specific issues of city planning. Both concepts are encapsulated in spatial planning using a eurocentric definition.

Regions require various land uses; protection of farmland, cities, industrial space, transportation hubs and infrastructure, military bases, and wilderness. Regional planning is the science of efficient placement of infrastructure and zoning for the sustainable growth of a region. Advocates for regional planning such as new urbanist Peter Calthorpe, promote the approach because it can address region-wide environmental, social, and economic issues which may necessarily require a regional focus.
A ‘region’ in planning terms can be administrative or at least partially functional, and is likely to include a network of settlements and character areas. In most European countries, regional and national plans are ‘spatial’ directing certain levels of development to specific cities and towns in order to support and manage the region depending on specific needs, for example supporting or resisting, polycentrism.

Specific interventions and solutions will depend entirely on the needs of each region in each country, but generally speaking, regional planning at the macro level will seek to:
Resist development in flood plains or along earthquake faults. These areas may be utilised as parks, or unimproved farmland.
Designate transportation corridors using hubs and spokes and considering major new infrastructure.
Some thought into the various 'role's settlements in the region may play, for example some may be administrative, with others based upon manufacturing or transport.
Consider designating essential nuisance land uses locations, including waste disposal.
Designate Green belt land or similar to resist settlement amalgamation and protect the environment. Set regional level 'policy' and zoning which encourages a mix of housing values and communities. Consider building codes, zoning laws and policies that encourage the best use of the land.

Urban Planning
Urban, city and town planning is the integration of the disciplines of land use planning and transport planning, to explore a very wide range of aspects of the built and social environments of urbanized municipalities and communities. Regional planning deals with a still larger environment, at a less detailed level. Based upon the origins of urban planning from the Roman (pre-dark ages) era, the current discipline revisits the synergy of the disciplines of urban planning, architecture and landscape architecture, varying upon from the intellectual strategic positioning from university to university. Another key role of urban planning is urban renewal, and regeneration of inner cities by adapting urban planning methods to existing cities suffering from long-term infrastructural decay.

4.2 NUTS Levels description in Europe

The Nomenclature of Territorial Units for Statistics (NUTS, for the French "Nomenclature d'unités territoriales statistiques") is a geocode standard for referencing the subdivisions of countries for statistical purposes. The standard is developed and regulated by the European Union, and thus only covers the member states of the EU in detail. The Nomenclature of Territorial Units for Statistics is instrumental in European Union's Structural Fund delivery mechanisms.

For each EU member country, a hierarchy of three NUTS levels is established by Eurostat; the subdivisions in some levels do not necessarily correspond to administrative divisions within the country. A NUTS code begins with a two-letter code referencing the country, which is identical to the ISO 3166-1 alpha-2 code (except UK instead of GB for the United Kingdom). The subdivision of the country is then referred to with one number. A second or third subdivision level is referred to with another number each. Each numbering starts with 1, as 0 is used for the upper level. In case the subdivision has more than nine entities, capital letters are used to continue the numbering. A similar statistical system is defined for the candidate countries and members of the European Free Trade Association, but they are not technically part of NUTS governed by the regulations.

There are three levels of NUTS defined, with two levels of local administrative units (LAUs) below. These were called NUTS levels 4 and 5 until July 2003, but were officially abolished by regulation, although they are sometimes still described as such. Note that not all countries have every level of division, depending on their size. One of the most extreme cases is Luxembourg, which has only LAUs; the three NUTS divisions each correspond to the entire country itself.

Countries		**NUTS 1**		**NUTS 2**		**NUTS 3**	
EU-27			**97**		**271**		**1303**
Austria	AT	Groups of states	3	States	9	Groups of districts	35
Belgium	BE	Regions	3	Provinces (+ Brussels)	11	Arrondissements (Verviers split into two)	44
Bulgaria	BG	Regions	2	Planning regions	6	Oblasts	28
Cyprus	CY	—	1	—	1	—	1
Czech Republic	CZ	—	1	Oblasts	8	Regions	14
Germany	DE	States	16	Government regions (or equivalent)	39	Districts	429
Denmark	DK	—	1	Regions	5	Lands	11
Estonia	EE	—	1	—	1	Groups of counties	5
Spain	ES	Groups of autonomous communities	7	Autonomous communities and cities	19	Provinces + Islands + Ceuta and Melilla	59
Finland	FI	Mainland Finland, Åland	2	Large areas	5	Regions	20
France	FR	Z.E.A.T. + DOM	9	Regions + DOM	26	Departments + DOM	100
Greece	GR	Groups of development regions	4	Peripheries	13	Prefectures	51
Hungary	HU	Statistical large regions	3	Planning and statistical regions	7	Counties + Budapest	20
Ireland	IE	—	1	Regions	2	Regional Authority Regions	8
Italy	IT	Groups of regions	5	Regions (Trentino-Alto Adige/Südtirol split into two)	21	Provinces	107
Lithuania	LT	—	1	—	1	Counties	10
Luxembourg	LU	—	1	—	1	—	1
Latvia	LV	—	1	—	1	Regions (+ Riga)	6
Malta	MT	—	1	—	1	Islands	2
Netherlands	NL	Lands	4	Provinces	12	COROP regions	40

Poland	PL	Regions	6	Voivodeships	16	Subregions	66
Portugal	PT	Continent (+ Azores and Madeira)	3	Regional Coordination Commissions + Autonomous regions	7	Groups of municipalities	30
Romania	RO	Macroregions	4	Regions	8	Counties + Bucharest	42
Sweden	SE	Regions	3	National areas	8	Counties	21
Slovenia	SI	—	1	Macroregions	2	Statistical regions	12
Slovakia	SK	—	1	Oblasts	4	Regions	8
United Kingdom	UK	Government Office Regions (England); Country (Wales, Scotland, Northern Ireland)	12	Counties (some grouped); Inner and Outer London (England); Groups of unitary authorities (Wales, Scotland, Northern Ireland)	37	Upper tier authorities or groups of lower tier authorities (unitary authorities or districts) (England) (Groups of unitary authorities in Wales, council areas in Scotland, districts in Northern Ireland)	133
Candidate countries			**14**		**30**		**110**
Croatia	HR	—	1	Regions	3	Counties	21
Macedonia	MK	—	1	—	1	Statistical regions	8
Turkey	TR	Regions	12	Sub-regions	26	Provinces	81
EFTA countries			**4**		**16**		**48**
Iceland	IS	—	1	—	1	Capital area / Rest of country	2
Liechtenstein	LI	—	1	—	1	—	1
Norway	NO	—	1	Regions	7	Counties	19
Switzerland	CH	—	1	Regions	7	Cantons	26
Countries		**NUTS 1**		**NUTS 2**		**NUTS 3**	
EU-27			**97**		**271**		**1303**

Source: Wikipedia “NUTS”

The NUTS-region are based on the existing national administrative subdivisions. In countries where only one or two regional subdivisions exist, or where the size of existing subdivisions is too small, a second and/or third level is created. This may be on the first level (ex. France, Italy, Greece, and Spain), on the second (ex. Germany) and/or third level (ex. Belgium).[1] In smaller countries, where the entire country would be placed on the NUTS 2 or even NUTS 3 level (ex. Luxembourg, Cyprus,

Ireland), levels 1, 2 and/or 3 are identical to the level above and/or to the entire country.

The thresholds in the table below are used as guidelines for establishing the regions, but they are not applied rigidly. For example, both Cornwall, population 531,600 in 2007, and Lombardy, an Italian region with a population of nearly ten million, are NUTS 2 regions.

Level	**Minimum**	**Maximum**
NUTS 1	3 million	7 million
NUTS 2	800 000	3 million
NUTS 3	150 000	800 000

NUTS First level in the EU

The description of the first level of the European Union is as following:

Code	Name	Corresponding second level subdivisions
AT	**Austria**	
AT1	**East Austria**	Burgenland, Lower Austria, Vienna
AT2	**South Austria**	Carinthia, Styria
AT3	**West Austria**	Upper Austria, Salzburg, Tyrol, Vorarlberg
BE	**Belgium**	
BE1	**Brussels Capital Region**	Brussels Capital Region
BE2	**Flemish Region**	Antwerp, Limburg, East Flanders, Flemish Brabant, West Flanders
BE3	**Walloon Region**	Walloon Brabant, Hainaut, Liège, Luxembourg, Namur
BG	**Bulgaria**	
BG3	**Severna I Iztochna**	Severozapaden, Severen tsentralen, Severoiztochen, Yugoiztochen
BG4	**Yugozapadna I Yuzhna Tsentralna**	Yugozapaden, Yuzhen tsentralen
CY	**Cyprus**	
CY0	**Cyprus**	Cyprus
CZ	**Czech Republic**	
CZ0	**Czech Republic**	Prague, Central Bohemia, Southwest, Northwest, Northeast, Southeast, Central Moravia, Moravia-Silesia
DE	**Germany**	
DE1	**Baden-Württemberg**	Stuttgart, Karlsruhe, Freiburg, Tübingen
DE2	**Bavaria**	Upper Bavaria, Lower Bavaria, Upper Palatinate, Upper Franconia, Middle Franconia, Lower Franconia, Swabia
DE3	**Berlin**	Berlin
DE4	**Brandenburg**	Brandenburg-Northeast, Brandenburg-Southwest
DE5	**Bremen**	Bremen
DE6	**Hamburg**	Hamburg
DE7	**Hessen**	Darmstadt, Gießen, Kassel
DE8	**Mecklenburg-Vorpommern**	Mecklenburg-Vorpommern
DE9	**Lower Saxony**	Braunschweig, Hanover, Lüneburg, Weser-Ems
DEA	**North Rhine-Westphalia**	Düsseldorf, Cologne, Münster, Detmold, Arnsberg
DEB	**Rhineland-Palatinate**	Koblenz, Trier, Rheinhessen-Pfalz
DEC	**Saarland**	Saarland
DED	**Saxony**	Chemnitz, Dresden, Leipzig
DEE	**Saxony-Anhalt**	Saxony-Anhalt
DEF	**Schleswig-Holstein**	Schleswig-Holstein
DEG	**Thuringia**	Thuringia
DK	**Denmark**	
DK0	**Denmark**	Hovedstaden, Zealand, South Denmark, Central Jutland, North Jutland
EE	**Estonia**	
EE0	**Estonia**	Estonia
ES	**Spain**	

ES1	**North West**	Galicia, Asturias, Cantabria
ES2	**North East**	Basque Community, Navarre, La Rioja, Aragon
ES3	**Community of Madrid**	Community of Madrid
ES4	**Centre**	Castile and Leon, Castile-La Mancha, Extremadura
ES5	**East**	Catalonia, Valencian Community, Balearic Islands
ES6	**South**	Andalusia, Region of Murcia, Ceuta, Melilla
ES7	**Canary Islands**	Canary Islands
FI	**Finland**	
FI1	**Mainland Finland**	East Finland, South Finland, West Finland, North Finland
FI2	**Åland**	Åland
FR	**France**	
FR1	**Île-de-France**	Île-de-France
FR2	**Parisian basin**	Champagne-Ardenne, Picardie, Haute-Normandie, Centre, Basse-Normandie, Bourgogne
FR3	**Nord-Pas-de-Calais**	Nord-Pas-de-Calais
FR4	**East**	Lorraine, Alsace, Franche-Comté
FR5	**West**	Pays de la Loire, Brittany, Poitou-Charentes
FR6	**South West**	Aquitaine, Midi-Pyrénées, Limousin
FR7	**Centre East**	Rhône-Alpes, Auvergne
FR8	**Mediterranean**	Languedoc-Roussillon, Provence-Alpes-Côte d'Azur, Corse
FR9	**Overseas departments**	Guadeloupe, Martinique, French Guiana, Réunion
GR	**Greece**	
GR1	**Voreia Ellada**	East Macedonia and Thrace, Central Macedonia, West Macedonia, Thessaly
GR2	**Kentriki Ellada**	Epirus, Ionian Islands, West Greece, Central Greece, Peloponnese
GR3	**Attica**	Attica
GR4	**Nisia Aigaiou, Kriti**	South Aegean, North Aegean, Crete
HU	**Hungary**	
HU1	**Central Hungary**	Central Hungary
HU2	**Transdanubia**	Central Transdanubia, Western Transdanubia, Southern Transdanubia
HU3	**Great Plain and North**	Northern Hungary, Northern Great Plain, Southern Great Plain
IE	**Ireland**	
IE0	**Ireland**	Border, Midland and Western, Southern and Eastern
IT	**Italy**	
ITC	**North West**	Aosta Valley, Liguria, Lombardy, Piedmont
ITD	**North East**	Emilia-Romagna, Friuli-Venezia Giulia, Trentino-Alto_Adige/Südtirol, Veneto
ITE	**Centre**	Lazio, Marche, Tuscany, Umbria
ITF	**South**	Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia
ITG	**Islands**	Sardinia, Sicily
LT	**Lithuania**	
LT0	**Lithuania**	Lithuania
LU	**Luxembourg**	
LU0	**Luxembourg**	Luxembourg
LV	**Latvia**	
LV0	**Latvia**	Latvia
MT	**Malta**	
MT0	**Malta**	Malta
NL	**Netherlands**	
NL1	**North Netherlands**	Groningen, Friesland, Drenthe
NL2	**East Netherlands**	Overijssel, Gelderland, Flevoland
NL3	**West Netherlands**	Utrecht, North Holland, South Holland, Zeeland
NL4	**South Netherlands**	North Brabant, Limburg
PL	**Poland**	
PL1	**Centralny**	Łódź, Mazovia
PL2	**Poludniowy**	Lesser Poland, Silesia
PL3	**Wschodni**	Lublin, Subcarpathian, Świętokrzyskie, Podlaskie
PL4	**Pólnocno-Zachodni**	Greater Poland, West Pomerania, Lubusz
PL5	**Poludniowo-Zachodni**	Lower Silesia, Opole Voivodeship
PL6	**Pólnocny**	Kuyavian-Pomeranian, Varmia-Masuria, Pomerania
PT	**Portugal**	
PT1	**Mainland Portugal**	Norte, Algarve, Centro, Lisbon, Alentejo
PT2	**Azores**	Azores
PT3	**Madeira**	Madeira

RO	Romania	
RO1	One	North-West, Centre
RO2	Two	North-East, South-East
RO3	Three	South-Muntenia, Bucharest-Ilfov
RO4	Four	South West Oltenia, West
SE	Sweden	
SE1	East Sweden	Stockholm County, East Middle Sweden
SE2	South Sweden	Småland and the islands, South Sweden, West Sweden
SE3	North Sweden	North Middle Sweden, Middle Norrland, Upper Norrland
SI	Slovenia	
SI0	Slovenia	Eastern Slovenia, Western Slovenia
SK	Slovakia	
SK0	Slovakia	Bratislava Region, Western Slovakia, Central Slovakia, Eastern Slovakia
UK	United Kingdom	
UKC	North East England	Tees Valley and Durham, Northumberland and Tyne and Wear
UKD	North West England	Cumbria, Cheshire, Greater Manchester, Lancashire, Merseyside
UKE	Yorkshire and the Humber	East Yorkshire and Northern Lincolnshire (Humberside), North Yorkshire, South Yorkshire, West Yorkshire
UKF	East Midlands	Derbyshire and Nottinghamshire, Leicestershire, Rutland and Northamptonshire, Lincolnshire
UKG	West Midlands	Herefordshire, Worcestershire and Warwickshire, Shropshire and Staffordshire, West Midlands
UKH	East of England	East Anglia, Bedfordshire and Hertfordshire, Essex
UKI	Greater London	Inner London, Outer London
UKJ	South East England	Berkshire, Buckinghamshire, Oxfordshire, Surrey, East Sussex, West Sussex, Hampshire, Isle of Wight, Kent
UKK	South West England	Gloucestershire, Wiltshire and Bristol/Bath area, Dorset and Somerset, Cornwall and Isles of Scilly, Devon
UKL	Wales	West Wales and The Valleys, East Wales
UKM	Scotland	Eastern Scotland, South Western Scotland, North Eastern Scotland, Highlands and Islands
UKN	Northern Ireland	Northern Ireland

Source: Wikipedia

4.3 Description of the Planning Systems of the Consortium

A survey of the different planning systems of the countries of the consortium has been done on the different levels as follows:
• Political and administrative organisation,
• Administrative competence for planning,
• Main planning legislation,
• Planning and implementation instruments,
• Development control,
• Planning system in practice,
• short facts and settlement structure

As this survey is quite extensive, we decided to put the original contributions in the Annex. The following text is a resume of the contributions.
Following European countries have been surveyed: Austria, Bulgaria, Czech Republic, France, Germany, Greece, Ireland, Italy, Latvia, Malta, Netherlands, Portugal, Romania and Spain.

Political and administrative organisation
Regarding the political and administrative administration, the European countries of the consortium are organised on the national level, mostly in federal states/ districts or regions, counties / provinces and municipalities. Some states, like Germany, are federalised; they have a distribution of competence and functions between the three

levels of government, others like Italy have four levels. An important difference is also if the country is federalised like Germany or Austria or centralized like France.
Essential purposes of spatial planning are elaborated and implemented in those three or four levels: federal spatial planning, state spatial planning as well as regional planning, province level and local level. Other countries, like Greece, have administrative regions and prefectures, or Bulgaria, planning regions, but having no administration and directly governed by the Ministry of regional development.
In Ireland, the planning responsibility is distributed in 88 local planning authorities, which can be broken down into county councils, city councils and town councils.

Administrative competence for planning

Most of the countries are organized with competent bodies on the national, regional and local level. However, the Ministry is mostly the leading institution in the elaboration of regional policy, like in Latvia.
One exception is Austria, which has no legal national level of spatial planning. For the understanding of planning within the nine federal states and also in case of representation of Austria towards the European Union the Austrian Conference on Spatial Planning, an agency at the Federal Chancellery of the Republic is responsible for the coordination.
Old laws, like in Italia, are still hierarchical with the four different planning levels; higher level (coordination planning) as a state competence, general regional, more detailed provincial level and local level still municipally competence.
The linking element all over Europe is that municipalities are autonomous, like in Germany, and responsible for spatial planning in their territory, but according to the principles and guidelines defined by higher levels. A top-down regulation on those three or four levels is often the case by the most of the European countries.
On the local level, local planning instruments like preparatory land-use plan, zoning plan and binding detail plan are the instruments used for the urban development. In Greece, the Directorate of Spatial Planning and Environment is responsible at regional level for the definition of national spatial planning guidelines; at the prefecture level, the prefects have competences related to spatial planning delegated from the ministries, but also land expropriation licensing for industrial development and specific activities. Municipality's role remains mostly advisory, with exception of certain competences like granting building permits and controlling unauthorized construction. Ireland's development is guided by a "Local Government Act (2000)", which defines planning authorities, reflecting expansion of statutory development control system meeting demands arising from economic growth, public concern in environmental control, but also reflecting a growing European dimension.

Main planning legislation

Planning legislation is sometimes relatively new (Netherlands), or old (Italy); generally, it can be observed that new European member states renewed their main planning legislation: for instance, the Bulgarian legislation was established in 2001 (Spatial Planning Act, as major legal instrument), or the new Building act in the Czech Republic (2007), or on the other side the Italian one (1942). The French legislation has been actualized in 1999, the German one amended in 1990, the Greek actualized in 1999 and 2006. Also the Spanish planning system is the result of a process started in 1956: it defines a set of principles which are through the years still valid.

The planning legislation's date of approval reflects the current planning philosophy; e.g. climate change and energy consumption is a relatively new topic, as environmental impact assessment relates to the 80ies and 90ies of the last century. **The mobilisation of brownfields** is also an important issue, with similar efforts in several countries. The linking problem is that in most of counties the major of a municipality is responsible for the building permit (or the municipal council) and he /they want to be re-elected in short periods.
Another important theme is the frequency of planning document updates: mostly within the period of ten years (or if any important planning criterias have changed), but those regulations are predominantly found in newer planning Acts as the older one doesn't have any regulations on renewing the plans.

Planning and implementation instruments
Different frameworks and instruments can be distinguished. For instance, according to the Spatial Planning Act of 2001, Bulgaria is using spatial development schemes at national and regional level, and Master and detailed regulatory plans on local level.
Austria is using the land use plan and the zoning plan, made by the municipalities. They are based on the development plans and concepts of the federal states and include sectoral inputs on the national level.
The Czech Republic planning tools such as planning materials (analytical), spatial development policy document (binding document), spatial development principles, as well as local and regulatory plans.
The French State is using multiple instruments on three levels: spatial planning documents (territorial directives), strategic spatial planning document (SCOT), and local land use plans (PLU).
Germany as a federal state, is using regional planning documents (regional plans) and local planning instruments (preparatory land-use plans and binding land-use detailed plan). Greece has, similar to Bulgaria, the two level instruments system: strategic spatial planning, and local spatial and development planning (Masterplan, general City plan).
Ireland is using regional guidelines, development plans and local plans. In Italy, which has a planning law from 1942, is using many planning instruments on different levels: the instruments are superimposed on same areas with specific design and rules for land use, that refer to different administrative procedures and institutional competences. In Netherlands, traditionally strong in planning instruments, regional plans are prepared by the provincial governments, which are providing a framework for urban, industrial and recreational development; municipal structure plans are also providing a framework for spatial development.
In Rumania, different planning instruments have been developed: on national level the national territory plan, on regional level, the strategic concept for territorial planning (not binding), a regional territory plan and a zonal territory plan. As a territorial planning documentation, the county territory plan, the general urban plan and the detailed urban plan. Also Spain is using instruments on national, regional, provincial and municipal level.
All over the European Union the planning documents on the local level include at least one legally binding plan (zoning plan, land use plan on different scales and sometimes covering the whole municipality or only parts like the built up land) while on the upper levels the plans and/ or strategic visions can be legally binding or on the level of a recommendation. Relations and binding forces among plans and materials in

different levels are sometimes more or less strictly defined. Newer Planning Acts put more emphasize on strict definitions. Regulations of the lower level are never allowed to be oppositional to the upper one.

Development control

Planning instruments are in the member states differently controlled: submitted to the ministry for approval, or to the federal state, the region or province. Also procedures of approval are different depending to the states: it takes more or less time, sometimes the update of the planning instruments correspond with the political elections, sometimes there are reports that have to describe the status quo whether a plan has to be renewed or not. In France, the ministry is responsible for defining the planning development procedure.

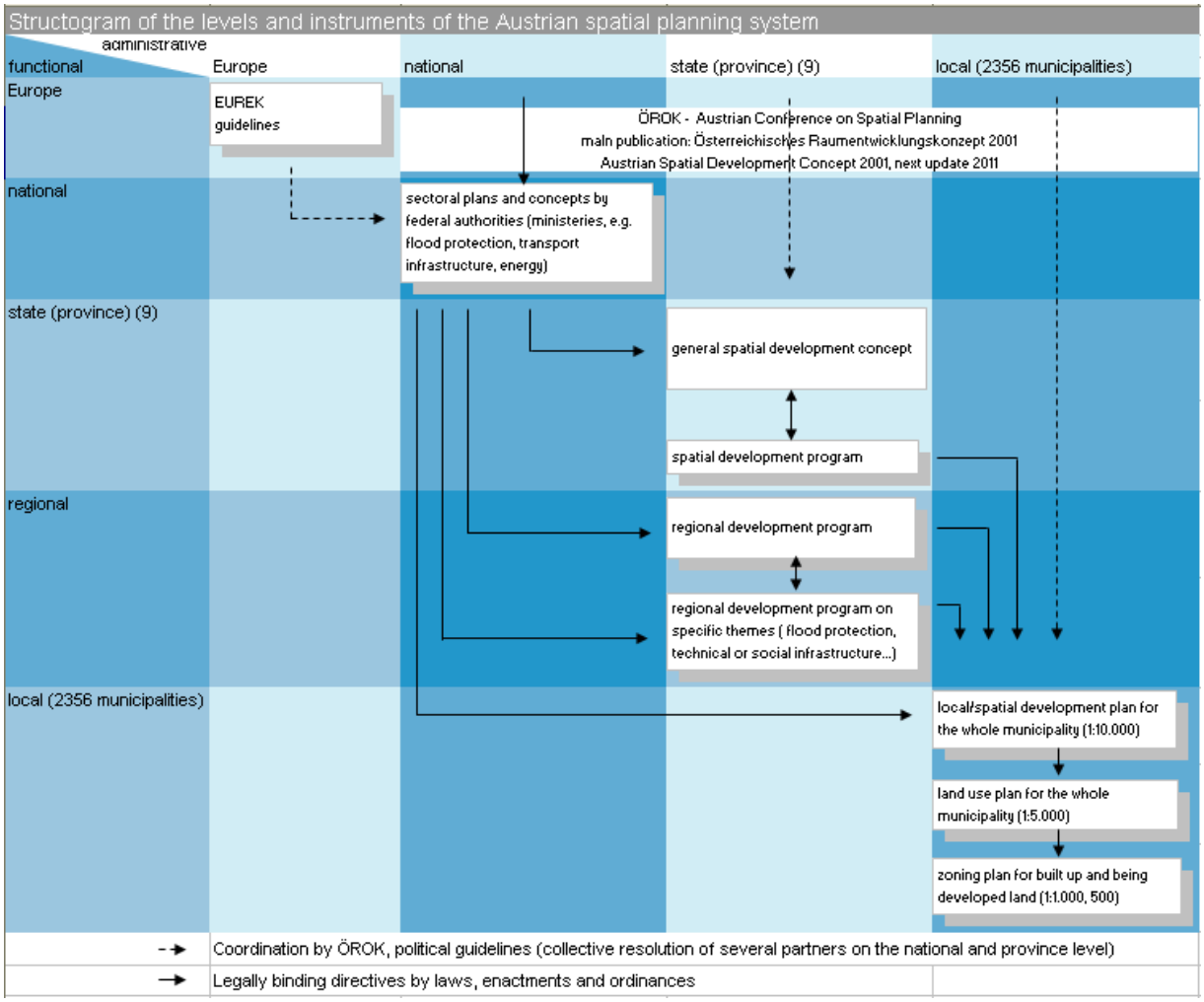
Planning system in practice

In practice, all of the described planning systems are hierarchic organised and functioning in a top-down procedure; local plans have to take account spatial development frameworks, as well as regional plans have to respect national plans – if they exist.

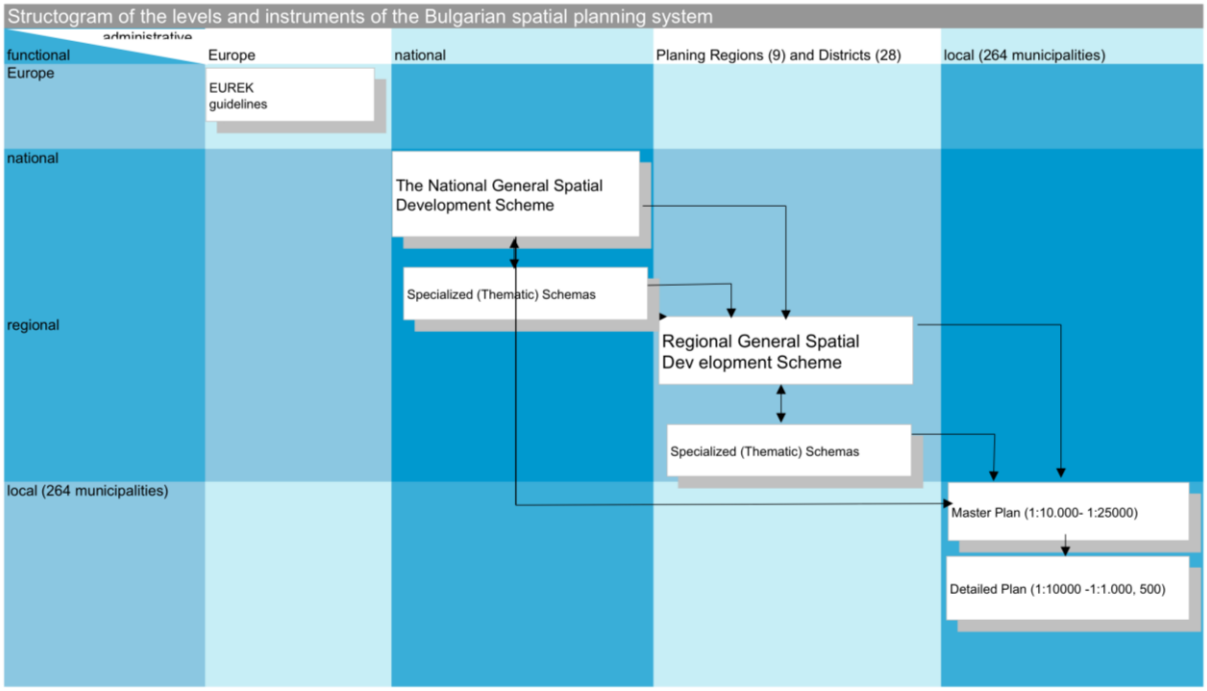
Levels and instruments of the spatial planning systems

The following structograms describe the different functional levels in comparison with the administrative levels: In many states we have three levels beside Europe, sometimes we find four levels. The diagrams give a good and rapid overview of the different levels and instruments of spatial planning in all countries of the consortium (Malta and Portugal are missing).
At this point we will not give further informations beside the structograms. More detailed information is given in the Annex in the description of the planning system of each country (Annex 8.1).

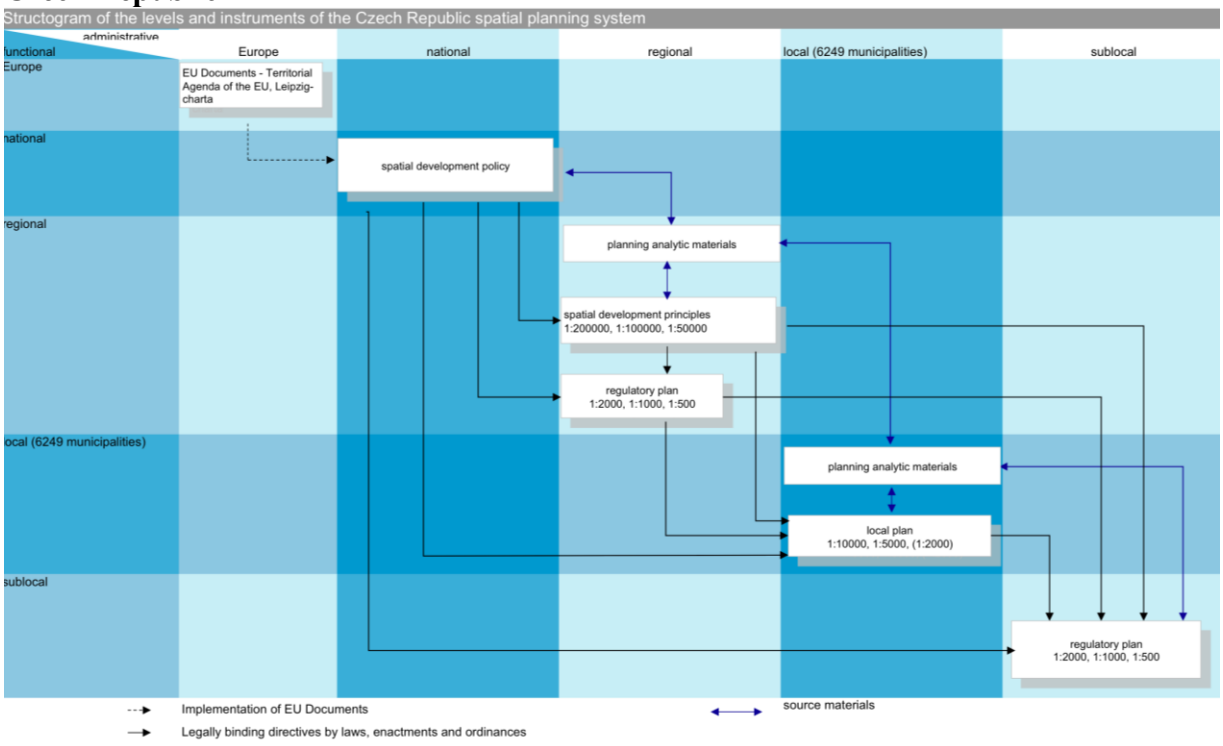
Austria



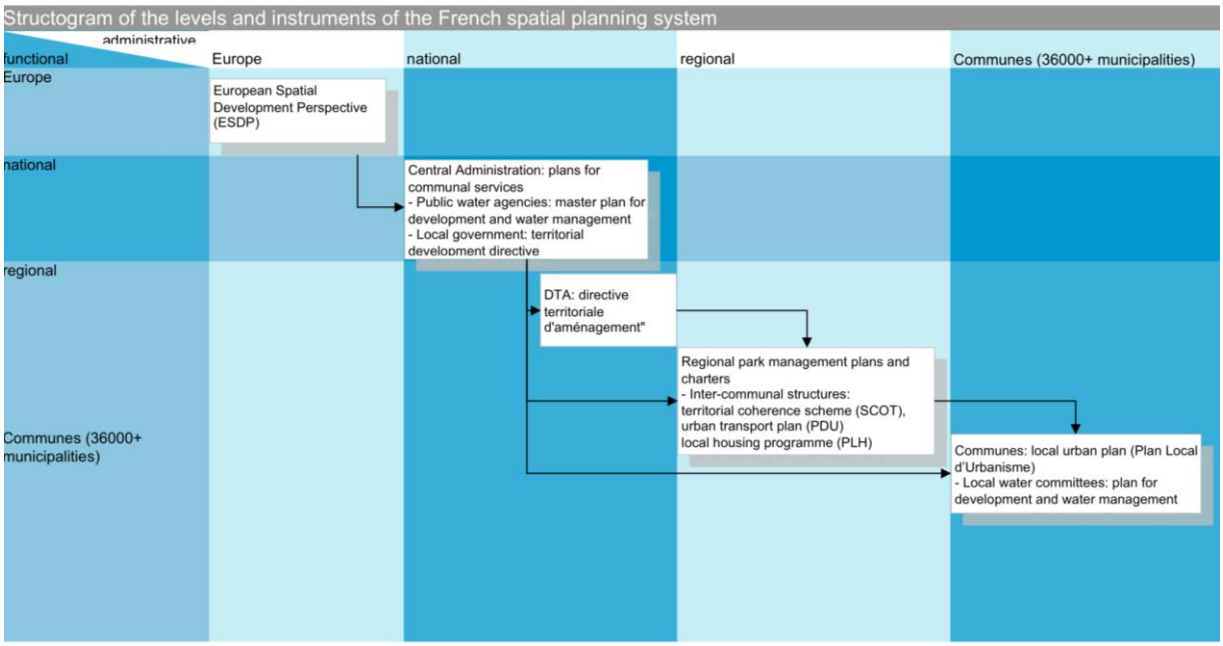
Bulgaria



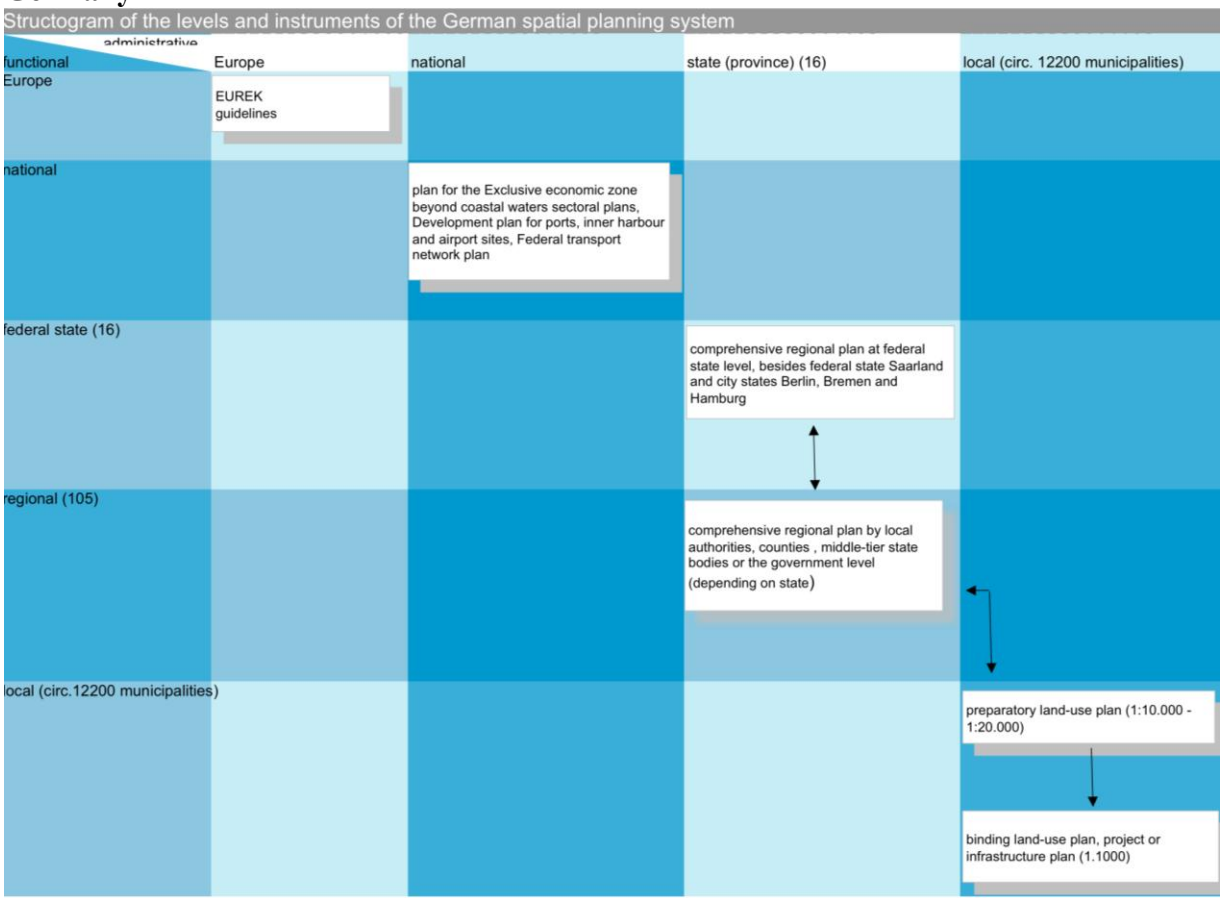
Czech Republic



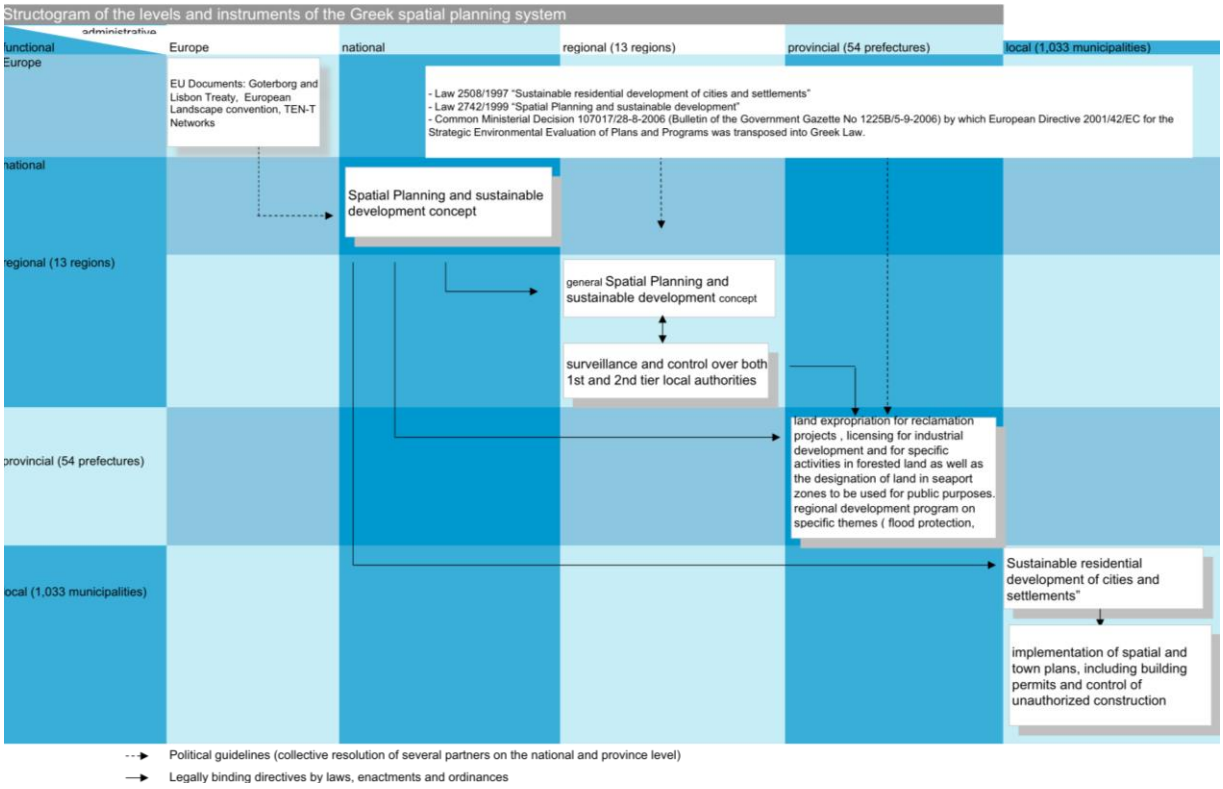
France



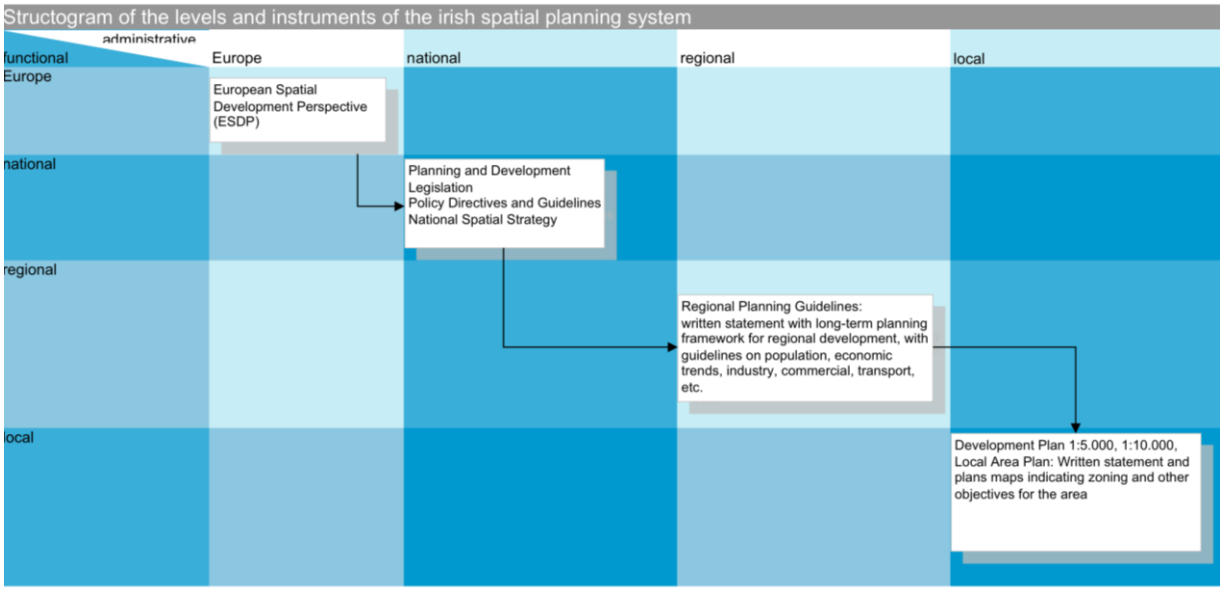
Germany



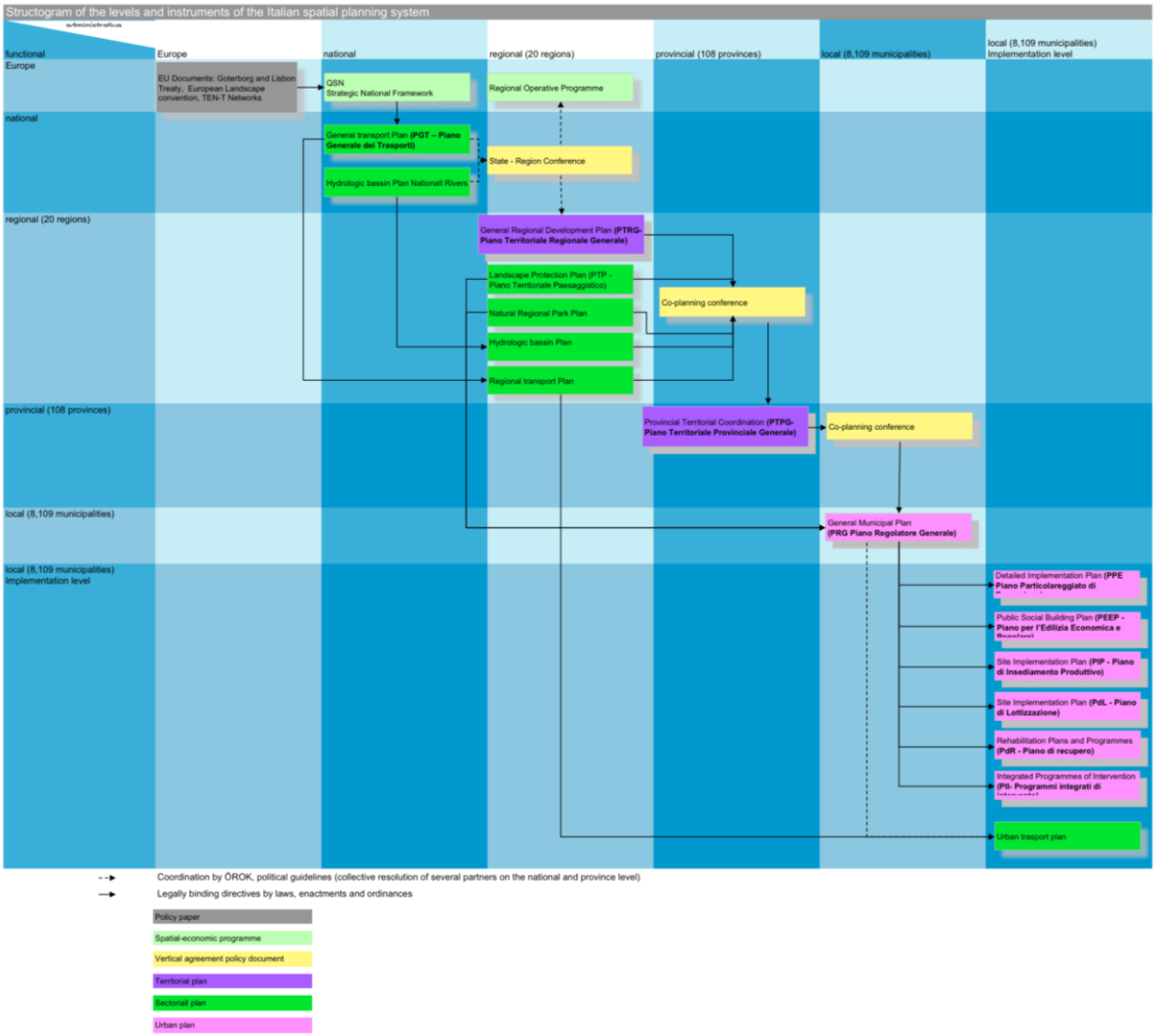
Greece



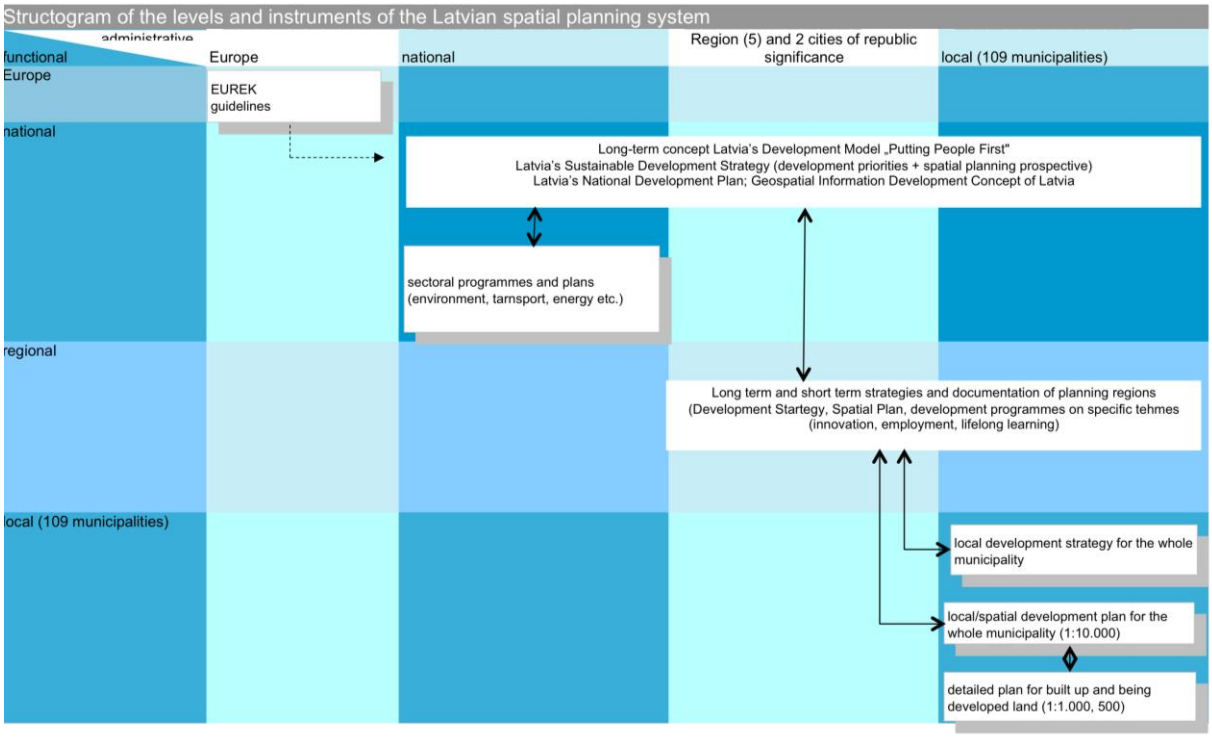
Ireland



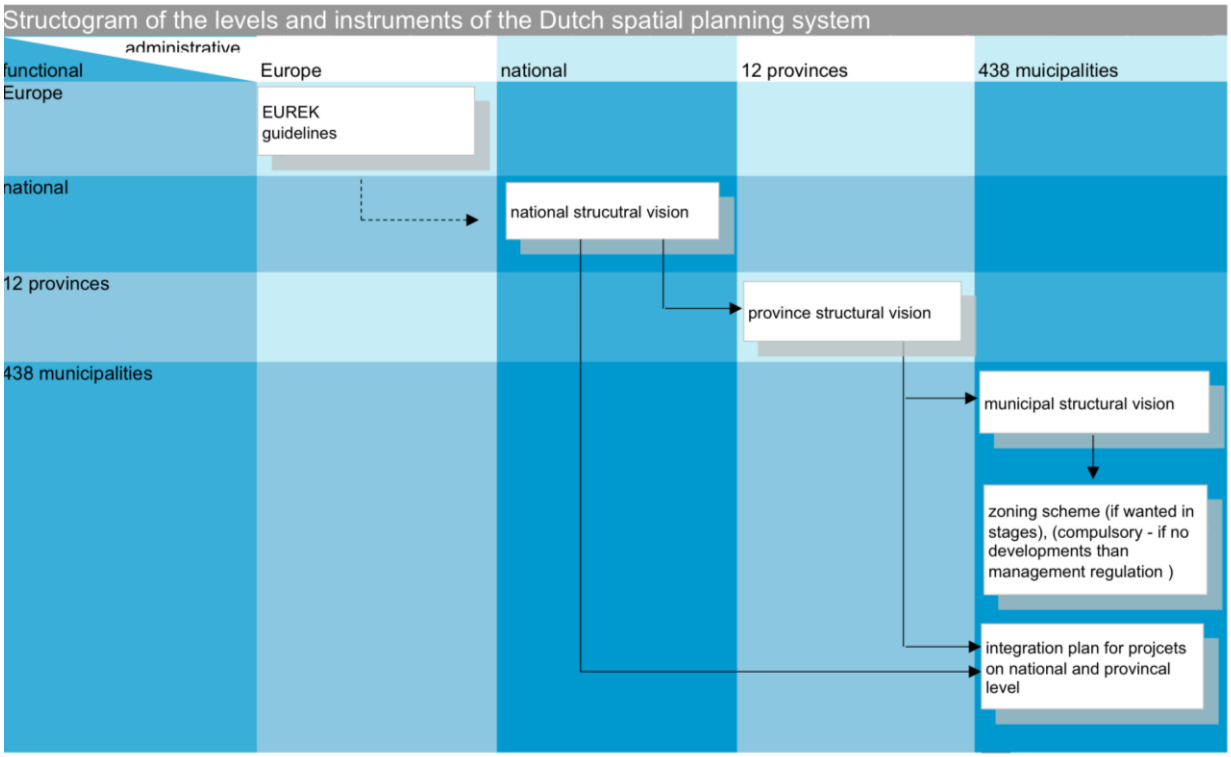
Italy


Structogram of the levels and instruments of the Italian spatial planning system
functional
administrative
Europe
national
regional (20 regions)
provincial (108 provinces)
local (8,109 municipalities)
local (8,109 municipalities) Implementation level
EU Documents: Goterborg and Lisbon Treaty, European Landscape convention, TEN-T Networks
QSN Strategic National Framework
Regional Operative Programme
General transport Plan (PGT – Piano Generale dei Trasporti)
State - Region Conference
Hydrologic bassin Plan Nationall Rivers
General Regional Development Plan (PTRG- Piano Territoriale Regionale Generale)
Landscape Protection Plan (PTP - Piano Territoriale Paesaggistico)
Co-planning conference
Natural Regional Park Plan
Hydrologic bassin Plan
Regional transport Plan
Provincial Territorial Coordination (PTPG- Piano Territoriale Provinciale Generale)
Co-planning conference
General Municipal Plan (PRG Piano Regolatore Generale)
Detailed Implementation Plan (PPE Piano Particolareggiato di
Public Social Building Plan (PEEP - Piano per l'Edilizia Economica e
Site Implementation Plan (PIP - Piano di Insediamento Produttivo)
Site Implementation Plan (PdL - Piano di Lottizzazione)
Rehabilitation Plans and Programmes (PdR - Piano di recupero)
Integrated Programmes of Intervention (PII- Programmi integrati di
Urban trasport plan
Coordination by ÖROK, political guidelines (collective resolution of several partners on the national and province level)
Legally binding directives by laws, enactments and ordinances
Policy paper
Spatial-economic programme
Vertical agreement policy document
Territorial plan
Sectoriall plan
Urban plan

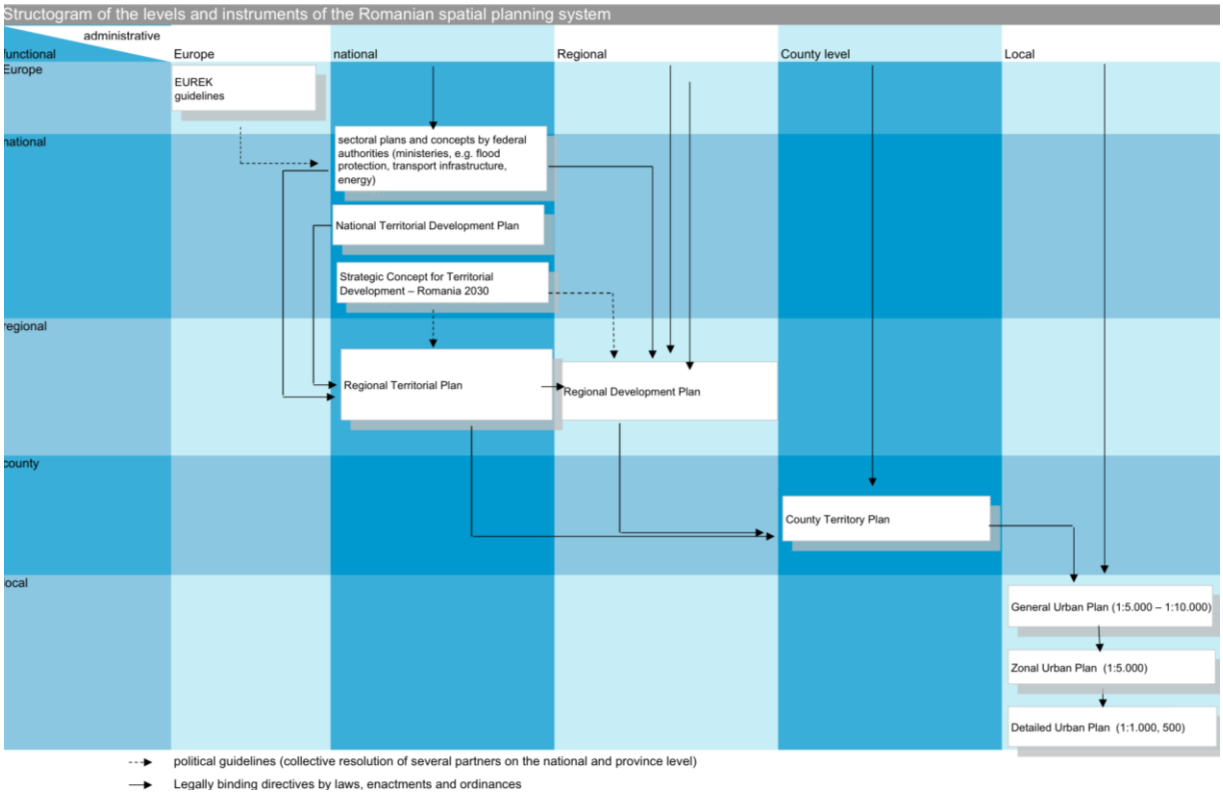
Latvia



Netherlands



Romania



Spain

4.4 Planning Systems outside of the Consortium

Other Members of the European Union outside of the consortium are:
Belgium, Cyprus, Denmark, Estonia, Finland, Hungary, Lithuania, Luxembourg, Poland, Slovakia, Slovenia, Sweden, United Kingdom.

In the Annex 8.2 there is the same structure of the description of the planning systems in these countries as those inside the consortium. All general remarks given in point 4.3 are also adequate to these descriptions of the planning systems.
Overall this comparison of the planning systems of all European countries is extremely valuable.

4.5 Conclusions

The learning of the planning systems descriptions: planning systems in Europe have a lot of common instruments and levels. The most common instrument in the European planning systems is the land use local plan (with sometimes different denominations), followed by the regional plan (focussing on regional development and regional structure). At least one local plan (land use, zoning plan) is legally binding, while plans from the upper levels can be legally binding or not. The scale can differ, especially as in different countries there are one, two or even three plans on municipal level. On the local level, we can observe similar initiatives for a mobilisation of building land. All of them with relatively less success as the mayor or the municipal council are responsible for these plans and he will be re-elected in short periods.
One big challenge of the whole project is that we have to cope with many (planning) legislations all over Europe, sometimes even various in one country. Many terms are defined in the planning acts, sometimes in one state with several different meanings. So if we compare Germany and Austria with their various legislations in each federal state (16 and 9) the same terminus can mean something different. For example, in some federal states of Austria, a “Baufluchtlinie” is different to a “Baulinie”: “alignment” and “building line”. In this example we don’t have any translation problem but including also the translation we have to be aware that the whole consortium is speaking from the same terminus. This brings the challenge of exact translation of building law denominations: several building regulations can not be translated into a common language - e.g. English -, especially because of the different legal basis in different countries. Further definitions of (same) terms in all countries are necessary.
Another case are the regional plans: those plans are establish on different scales, different administrative levels, and have also often different representations. For instance, plans are in France more schematic, and in Germany really precise. Sometimes they are legally binding or not. Contents are also different, depending of the country, like sectoral plans. Even in one state there may exist regions with plans and others without and also the time of updating is an important fact which varies. Some, especially younger legislations include periods within certain plans have to be updated but often there are no consequences for the administrations if they refuse to update them.
On the national level, plans are established in different manners, depending of the political administration. This brings the question of the governance (centralised or

decentralised countries). The Austrian role of the state in the planning system is limited as there is no competence of spatial planning and development on the national level but especially for the growing importance of EU policies the ÖROK, the Austrian conference on Spatial Planning, a federation of the federal state and all nine states, is coordinating spatial planning on the national level. Sectoral plans and concepts are made by individual federal authorities (ministries).

5 Description of the existing SDI inside the consortium

5.1 Overview of SDI

This chapter is giving the overview of the SDI situation in each country of the consortium and on the relationship between the Planning Systems and the SDI, as well as the Online Access of the SDI and the most important SDI projects.

5.2 SDI Situation

AUSTRIA
National level:
As Austria is rather decentralised, planning is not an important theme on the national level, neither for spatial planning nor on other themes. The cadastre of Austria is based on the national level, which is fundamental and the base map of spatial planning (www.bev.gv.at). Another major institution is the ÖROK – Austrian conference on Spatial Planning, which is responsible for the ÖROK-Atlas, an online Atlas, with a wide variety of national wide thematic themes as well as a lot of themes on the European level. Maps can be shown by the visitor but also produced by himself with the opportunity to make new clusters.

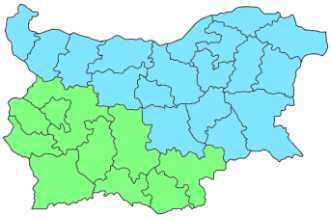
Ministries can also offer online services, but there are only a few, neither on mobility on the national level nor on spatial planning nor brownfields. Environmental themes such as flood protection, water bodies (flowing or latent, underground of above) and their quality are online:
http://www.umweltbundesamt.at/umweltinformation/karten/karten_gis/.

The Inspire coordination point is situated in the ministry of environment.

State level:
The state level is by far the most important level of SDI in Austria. As Austria has nine states, all these nine SDI systems vary more or less but basically they have the same themes. The most important portal is by far the portal of all nine states, which is constantly adjusted: www.geoland.at. Over this portal you can get information in different deepness about: the base maps (cadastre, Austrian map, and orthophoto), spatial planning (on the local level), nature and environment, water, agriculture and forestry, culture, health, leisure, civil protection.

Local level:
One of the main tasks of municipalities in Austria is spatial planning. Nowadays all plans are digitally produced but due to the legal situation still the sign and stamped plans are the legal base. Therefore several, especially bigger municipalities or those in states with a very good online system on the state level such as Vorarlberg offer online views, but legally not binding.

Land use plans and zoning plans are mainly based on two Software products: ResPublica and Gemgis based on ESRI.



BULGARIA
National level:
According to the legal framework in Bulgaria at National Level there one basic Spatial planning instrument, called National Spatial Development scheme. There two types of such schemes- General and Specialized. At the moment they are existing only "on paper"- in the Spatial Planning Act, which is clear evidence that for now this is not important theme for the government. The only available for the public facility for data accessibility is integrated information system for the cadastre and the property register, which was released recently. At the moment it covers only about 60% of the country territory and has three main components:

• 1. Cadastre, which is developed at the Geodesy, Cartography and Cadastre Agency (GCCA).
• 2. Property registration, which is developed at the Registry Agency.
• 3. Web portal, which provides online access for all customers.

More information could be find at: www.cadastre.bg
There is no Ministries, which are offering online services, related to geoinformation.

The Inspire coordination point was situated in the State Agency for Information Technologies, but it was closed recently. The new government will allocate it in the near future.

Regional and District levels:
There are no SDI at regional and district levels at the moment.

Local level:
One of the tasks of municipalities in Bulgaria is spatial planning, but only few municipalities have actual spatial plans (General master plans). Most of the plans are digitally produced but due to the legal situation still the sign and stamped plans are the legal base.

The publishing of spatial data and information, resulting form spatial planning is not a common practice in Bulgaria. In fact there only few examples of such initiatives:

- The Genaral plan of Sofia municipality (http://ims.gis-sofia.bg:8080/JisofMap/jspMap.jsp#)
- The general plan of Varna (in preparation)
- Planning data and information for Yambol municipality (http://www.openyambol.org/gis/)

CZECH REPUBLIC

In The Czech Republic there is centralised and hierarchical planning system. That ensures that the plans prepared at the local level have regard to the provisions of the plans drawn up by the states and at regional levels which, in turn, do have regard to national policies and standards.
The new building Act with 4 implementing decrees to Building Act, related to town and country planning, set out the legal framework for land planning in Czech Republic - regulate the position and competences of planning authorities and other special authorities at the level of ministry, municipalities, municipalities with extended authority and regions. Furthermore in planning process there are determined data sources that can be used for plans on different levels. General specification is included in Decree 500/2006 coll., on Planning analytic materials, planning documentation, and planning activity filing. Data sources for planning analytical materials are specified in methodical materials issued by The Institute of Spatial Development (ÚUR).

At present the Czech SDI is under construction. The organisation interested in building Czech SDI:
Ministry of the Environment http://www.mzp.cz
Ministry of the interior http://www.mvcr.cz
Czech office for Surveying, mapping and Cadastre http://www.cuzk.cz
CENIA Czech Association for Geoinformation http://www.cagi.cz
The association Nemoforum http://www.cuzk.cz/nemoforum
The cadastre of Czech Republic is based (like of Austria) on the national level, which is fundamental and base map of spatial planning.

National level:
The most important portal for spatial planning is Portal of the public Administration - PORTAL. GOV.CZ. The Map Services of this portal are intended for the broadest range of users – starting from the public to public administration as well as the self-governance at all levels. Users gain territory-bound, state-guaranteed information (environment, population, Czech Post, bath water, transport, old maps, noise maps, Public Administration, pollution registry, cadastral maps, orthophoto maps) which are described in the form of metadata, and which is the result of natural processes as well

as human activities in the territory of the Czech Republic. This information is provided pursuant to Act No. 106/1999 Coll., on Free Access to Information. The Map Services form a separate part of the Portal of the Public Administration, which is operated by the Ministry of the Environment. The Ministry of the Environment is also the operator of the Map Services, while the operation itself is provided by CENIA, Czech Environmental Information Agency. In addition to the web interface, the map services are accessible via IMS and WMS services.
http://geoportal.cenia.cz
Further organisation that providing thematic datas through the owns web portal are for example
The Agency for Nature Conservation and Landscape Protection of the Czech Republic (ANCLP) - a governmental body established by the Ministry of the Environment (www.ochranaprirody.cz/)

Czech geological survey (OGS) (www.geology.cz)

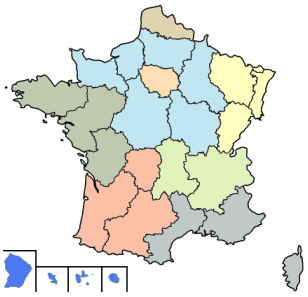
Inspire coordination
Inspire implementation ensure CENIA, Czech Environmental Information Agency, which operates as a state-subsidised organisation under the Ministry of the Environment. The main focus of CENIA is to provide information concerning the environment, so that all Czech nationals are granted access to such information in accordance with Act No. 123/1998 Coll., on the Right to Environmental Information.

Regional level
Spatial development principles:
Sets general conditions and requirements for purposeful and economic arrangement of region's territory.
Content of spatial development principles is specified in Decree No. 500/2006 Coll. Appendix no.4
Text part contains region development concept specifying the fundamental requirements for the region's reasonable and economic layout
Graphic part contains:
- detailed delimitation of development areas and axes from policy
- detailed delimitation of the areas with specific values and specific problems
- Areas and corridors with super-local importance (including area system of ecological stability – ecological networks)
- Public works, measures, reclamations and demolitions of super-local importance
- localities, areas, and corridors of super-local importance where the verification of changes in their use is required by a study, or the procurement and issue of a regulatory plan is required

7 of 14 regions have there Spatial development principles available on web.

Local level
The plan determines the basic concept of the development of the municipality, protection of its values, its areal and spatial arrangement, arrangement of the landscape, and the concept of the public infrastructure. Content of local plan is specified in Decree No. 500/2006 Coll. Appendix no.7

Local plans within area of authority with extended power have been elaborated in several formats (unless they are only analogue). Most popular formats are Bentley .DGN, Autodesk DWG, in recent times we have experiences with SW ArchiCAD. Older documentation is available only in analogue format despite it was elaborated using digital technologies. It is due to authority power changes in Czech Republic since 2002. These documents are scanned and stored in TIFF format. Some of the plans are available on internet, same are available only in paper form it depends of municipality.



FRANCE

National level:

Local spatial Planning in France is the responsibility of municipalities. About half of the 36000 municipalities have local spatial planning documents (Plan d'occupation des sols POS now being replaced by Plan local d'urbanisme PLU and cartes communales CC). At an upper level (group of municipalities) may exists a more general spatial planning document (SCOT Schema de coherence territoriale) by 2017 all the French territory will be covered by a SCOT. In larger areas with a strategic aspect, the state administration may decide to have an even more general spatial planning document (DTA, directive territoriale d'aménagement).

The Cadastre of France is the responsibility of the state administration under the ministry of budget (DGFiP direction générale des finances publiques). 100 local services (1 per département - NUTS3 level) maintain digitally the cadastral sheets managed per municipality, they are either vector when local funding is available (group of municipalities) or scanned otherwise. An Internet facility enable everyone to view the cadastral sheets (www.cadastre.gouv.fr). The French government gave the responsibility to IGN-France (www.ign.fr) to assemble and re-project the cadastral sheets into a seamless database that can be overlaid over orthophotos (Composante parcellaire du RGE).

No spatial planning SDI exists in France so far, but IGN-France is willing to make available spatial planning documents on the French geoportal (www.geoportail.fr) subject to local government's decision. The National council for geographic information (CNIG) propose standards at national level for PLU (www.cnig.gouv.fr).

Services over the Internet by several ministerial departments that have connection with spatial planning: risk prevention plan for all (http://cartorisque.prim.net/), biodiversity information for registered people (www.naturefrance.fr), water for all related to the water framework directive (www.eaufrance.fr) or soil (http://www.gissol.fr).

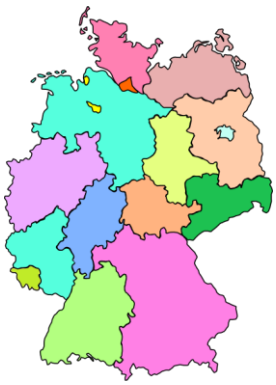
The INSPIRE coordination point is the Ministry of ecology, energy, sustainable development and sea (MEEDM). A liaison group has been set up by CNIG to help coordinating the interested parties in contributing to the implementation of INSPIRE

Regional level:
The regional level (26 Régions administratives) is by far the most important level of SDI in France. 24 regions are developing SDI systems, some of them being already operational. AFIGéO (www.afigeo.asso.fr) undertook a survey of international SDIs within the framework of eSDINet+ identifying 32 initiatives. Nine of them are a combined effort of the regional government together with services of the national government that are deconcentrated at the regional level, these initiatives are the most efficient as far as land planning is concerned. The other initiatives are handled by of one of the above. Most of them will offer services around spatial planning documents. The Pays de la Loire (http://www.geopal.org) is one of the most successful Spatial Planning SDI-like initiative in France.

Local level:
One of the main tasks of municipalities in France is spatial planning. Nowadays plans are mainly digitally produced but the stock of non digital spatial planning documents is still important. The legal situation is that the signed and stamped paper plans are still the legal base. Several, especially bigger municipalities, offer online views, but legally not binding. The format of on-line spatial planning documents belongs to three categories:

- Electronic copy of PLU (PDF-like)
- CAD copy (Autocad-like)
- GIS copy (web mapping services)

Land use plans and zoning plans in digital form are mainly based on the following Software products: Autocad, MapInfo, ESRI.



GERMANY
National level:
As Germany is rather decentralised, planning is not an important theme on the national level, besides the plan for the exclusive economic zone beyond coastal waters sectoral plans and the development plan for ports, inner harbour and airport sites. The federal ministry of transport, building and urban affairs is responsible for the federal transport network plan.

The cadastre of Germany is based on the state level (sixteen states). The GeoDatenZentrum (http://www.geodatenzentrum.de) at the "Federal Agency for Cartography and Geodesy" (BKG) delivers digital topographic-cartographic information (basic geodata) of the territory of the Federal Republic of Germany centrally for the Federal Administration and for third parties. The offered large- and medium-scale data in the scale range from about 1:25,000 to 1:100,000 are produced by the Surveying Authorities of the Federal States. The GeoDatenZentrum verifies, harmonizes and edits them consistently. The small-scale data and map series from the scale 1:200,000 on and smaller are generated and maintained at the BKG.

Another major institution is the BBSR – "Federal Institute for Research on Building, Urban Affairs and Spatial Development", which is responsible for operation of a spatial information system for current observation and evaluation of spatial and city development and as a basis for continual reporting about spatial development. Maps are provided as WMS (http://78.46.82.146/raumbeobachtung/).

The Inspire coordination point is situated in the federal agency for cartography and geodesy

State level:
The state level is a very important level of SDI in Germany. As Germany has sixteen states, all these sixteen SDI systems vary. It is possible to search for federal state and state WMS or WFS with the help of the central environmental Information portal (PortalU: http:www.portalu.de) for Germany. PortalU offers access to several 100.000 web-pages and database records from public authorities and institutions in the German Federal States and the Federal Government. A map-viewer allows to specify spatial queries and to visualize digital maps that were retrieved through PortalU Search.

Local level:
One of the main tasks of municipalities in Germany is spatial planning. Nowadays nearly all plans are digitally produced (either CAD or GIS) but due to the legal situation still the sign and stamped plans are the legal base. Several, especially bigger municipalities and the three city states (Hamburg, Berlin, Bremen) offer online view services, but legally not binding.

Binding land use plans and preparatory land-use plan are either based on CAD Software (mainly bases on AutoCAD Map and the urban planning AutoCAD application WS-LANDCAD (http://www.widemann.de/produkte/wslandcad/stadtplanung.htm) or GIS Software (mainly based on ESRI products).

GREECE

National level:

There is no national, wide scale, organized, digital SDI in Greece at the moment. Any digital SDI available has only partial data (for some regions only usually with maps before 1983) and even less metadata information.

However, the public bodies that sustain most spatial information in Greece are the HMGS (Hellenic Military Geographical Service), the NSSG (National Statistical Service of Greece), the IGME (Institute of Geology and Mineral Exploration), the Cadastre S.A., the Ministry of the Environment, Physical Planning & Public Works (HMCO – Hellenic Mapping & Cadastral Organization, Directorate of Environment, Directorate of Planning), the Ministry of Rural Development and Food (Directorate of Forests, Directorate of Topography) and the HMHS (Hellenic Military Hydro graphic Service). It is important to note that there are other bodies that maintain spatial information.

At the moment Hellenic mapping & cadastral organization HEMCO is working hard and fast on changing the current situation and a wide discussion is taking place in the country for the next steps and technical details for this implementation. In parallel, a large number of municipalities perform the same creation of SDI for the local level (Patras is a city with such an ongoing project – Georama's establishments).

HEMCO is a state organization, under the auspices of the Ministry of Environment, Physical Planning and Public Works, and it is governed by a seven member board, appointed by the Minister of Environment, Physical Planning and Public Works, for a three year term, which could be renewed without any restriction. HEMCO is responsible for

• The creation of basic and derivative maps, diagrams as well as to update, revise and maintain them. The approval, the coordination and the supervision of all the cartographic and cadastral programs of the public sector.

• Executing of aerial photography and photogram metric programs for public services

• The cooperation with the public services for the creation and maintenance of thematic maps.

• The creation and maintenance of the Geek Cadastre and of an information system for land and environment.

• The drawing up of specifications, regulations and prices for related works.

• The development of research and informatics regarding all the above fields.

• The execution on any additional project, necessary for the accomplishment of its mission.

HEMCO is at its first stage of implementation using the company "Ktimatologio S.A." which aims to digitize ad create the largest, complete and most updated Spatial Data Infrastructure for the whole country of the Hellenic Republic (Greece).

The company "Ktimatologio S.A." is a Legal Entity of Private Law and its mission is the study, development and operation of the Hellenic Cadastre. The sole shareholder of the company is the Ministry of Environment, Physical Planning and Public Works
With the new areas to be included in the National Cadastre, Cadastre SA will have covered 2/3 of the country's population.
• 3.1 million Stemmas (1000m2) will be surveyed and 6.7 million rights will be registered in the Cadastre.
• The cadastral survey of the new areas will have been completed by the end of 2010, that is in a record time compared to the past projects which took a decade to be completed

Thematic maps can also be provided with the collaboration of the national statistic agency.
The Hellenic military Geographical Service (HMGS) portal provides partial data for some city Plans of scales 1:5.000, 1:10.000 and 1:25.000 in Greek and Latin series, either in paper or in raster (scanned) format.
As regards environmental data, the Ministry of Environment collects, manages and distributes it. The data is not directly associated with an SDI though.

Headquarters of municipalities and communities from 1991 until the enforcement of low 2539/87

Observing the data recording, we can determine the following:
• A large number of duplicate recordings of same or similar data are found. That means that two or more public bodies maintain similar information usually in non digital format.
• There are information gaps in some public bodies, regarding scale and geographical coverage.
• There are subject fields for which minimum or no data are maintained.
• It appears that there is much data for which there exists no information or the existing information is limited. This indicates that the public bodies do not know exactly what data they maintain.
• Generally the data stored aren't updated.
• The main volume of information is kept in HMGS, MEPPPW and MRDF and then lower participation in the information volume appears to have the NSSG, the Cadastre S.A., IGME and HMHS.
• For the "administrative units" the main volume of information is in MEPPPW and IGME.
• For almost all subject fields there exists no public body to maintain information at different scales depending on the nature of data and also to cover all or almost all of the geographic area of the country.
• Finally, it is important to note that there is a medley of standards and procedures regarding the technical requirements, which are followed not only between public bodies but also between different data sets of the same body.
As far as the technical specifications are concerned, it is examined whether the public bodies harmonize with some of the 20 components of INSPIRE. These components in fact include and attempt to address the full range of possible situations that could create discrepancies between the spatial data sets, which could prevent their harmonization.

Regional / Prefecture level:
Most Greek Prefectures don't have their own digital SDI. It can be said that the Greek Prefectures are generally not advanced at all from this point of view. There are few prefectures that have recently acquired or will soon have online WebGIS services (e.g. Dramas prefecture) with rich maps about urban planning, land use, distribution networks (public services, fibre optics etc) and thematic maps. Most prefectures though rely only on non digital maps of the town planning agencies at the regional level. Some of these services also provide information on the executive plans of municipal level.

Local level:
Some municipalities have only recently acquired or will soon have online WebGIS services (e.g. Patras WebGIS is expected to be delivered before 6/2010) with maps about urban planning, land use, distribution networks (public services, fibre optics etc) and thematic maps. Most municipalities though rely only on non digital maps of the town planning agencies at the regional level.
Some of these services also provide information on the executive plans of sub-municipal level.
Municipalities do have town planning and building offices which can provide maps but in no case in digital format. Partial digital data exist only in cases where private companies have delivered a study for partial base maps of a prefectures region in an independent project.
However, currently speaking municipalities are the most important level as regards spatial planning in Greece, until the Ktimatologio SA completes its project at the national level.
Where online information is available, it is only possible to download the pdf or raster files of the municipal land use plans.

IRLAND
Ireland's spatial planning system was first introduced on the 1st October 1964, when the Local Government (Planning and Development) Act, 1963 came into effect. This Act provided for the orderly planning and development of the country on a local government basis with Local Authorities also designated as planning authorities. It was a system heavily based on the English planning system of that time and with an onus on 'trend' planning.

The large body of Irish planning legislation and regulations in the years since then, consolidated and updated in the Planning and Development Act of 2000, reflects the expansion of the statutory development control system to meet the demands arising from economic growth, rising public concern in the area of environmental control, and a desire, on the part of the public, for a statutory and independent planning appeals system. The Act also reflects a growing European dimension arising from Ireland's membership of the European Union. The core principles of the new legislation are to ensure that the planning system of the twenty first century would:

(a) be strategic in approach,
(b) have an ethos of sustainable development, and
(c) deliver a performance of the highest quality.

As part of the new legislation, a clear hierarchical planning system was introduced within the context of an Irish National Spatial Strategy (NSS), with regional planning and its associated guidelines being put on a statutory footing for the first time.

Following on from the publication of the European Strategic Development Perspective (ESDP) in 1999, the Department of Environment, Heritage and Local Government (DoEHLG) published the Irish National Spatial Strategy (NSS) in November 2002. The NSS provides an overall framework for planning in Ireland. Plans at regional and local level (i.e. Development Plans, see below) must have regard to the NSS. The hierarchy of plans for Ireland is summarised in the figure.

National level:

At a national level two main organisations have responsibility for planning in Ireland:

• The Department for the Environment, Heritage and Local Government (DoEHLG) and
• An Bord Pleanála (Planning Appeals Board).

As the main overseer of the planning system in Ireland, the DoEHLG is responsible for the framing of planning legislation as well as the preparation and issue of policy guidance. The DoEHLG is, therefore, responsible for devising a national planning framework and for the issuing, as required, of guidance documents in respect of national planning issues such as rural housing, wind energy, retailing, etc.

Ireland is unique among European countries in that it has an independent third party planning appeals system which is operated by An Bord Pleanála, (the Planning Appeals Board). The appeals board provides an arbitration forum in which any decision made by a planning authority on a planning application can be reviewed at the request of the applicant or another interested party. Another national organisation, the Environmental Protection Agency (EPA), was established in 1993, thereby restricting planning consideration to essentially land-use functions.

Regional level:

In addition the Regional Authorities, of which there are eight, have responsibility for drawing up and implementing Regional Planning Guidelines (RPGs) to support strategies for regional development.

Local level:
The implementation of the physical planning system in Ireland is the responsibility of the 88 local planning authorities: this can be broken down into 29 County Councils, 5 City Councils and 49 Town Councils. At this level, the planning system primarily consists of the preparation of a Development Plan, Development Control (i.e. the planning application process) and Enforcement.

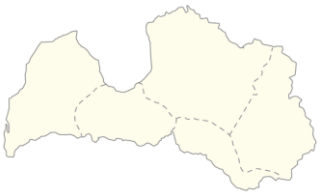
ITALY
National level:
There are different national SDIs, basically without coordination among themselves.
The Ministry of Environment provides thematic maps through its National Cartographic Portal, with data provided by national institutions, river basin authorities, local authorities and other institutions.
There is also an experimental SDI (DBPrior 10k) with base data, produced by a specific association among Regions aimed at the coordination of the geographic and statistic instruments.
As regards environmental data, the SINAnet collects, manages and distributes it on behalf of the Ministry of Environment. The data is collected through the "Regional Focal Points" and the Regional Environmental Agencies.
The CNIPA (Centro Nazionale per l'Informatizzazione della Pubblica Amministrazione) through a specific committee (National Committee for the Technical Rules on Territorial Data) is currently working on rules and guidelines to be adopted at national level, compliant to the INSPIRE Directive. This set of recommendations – yet not legally binding – appears to be reliable enough to be used as a stable reference for current territorial data management.

Regional level:
Most Italian Regions have their own SDI, but the situation is quite heterogeneous. It can be said that the northern Regions are generally more advanced from this point of view.
Some WebGIS services give the possibility to view and overlay a variety of base and thematic maps, plus the spatial plans, sometimes up to the municipal level (for example, some Regions give the possibility to view a regional mosaic of all the municipal land use plans).
Some Regions have different WebGIS services for each sector or spatial plan, and this doesn't give to the user the possibility of making overlays.
It is often possible to download data, sometimes only in pdf format, sometimes also in raster and vector formats.

Some Regions provide data catalogues with more or less functional search tools. As for metadata, some Regions have a deeply structured information system, often complying with ISO standard.

Provincial level:
Many Italian Provinces have their own SDI, and the situation is quite heterogeneous here too.
Basically, what said about the regional level is valid also for the provincial level.

Local level:
The municipal level is the most important level as regards spatial planning in Italy.
Many municipalities provide WebGIS services with information on their general land use plans. Some of these services also provide information on the executive plans of sub-municipal level. Often, where online information is available, it is only possible to download the pdf or raster files of the municipal land use plans.



LATVIA
National level:
The Latvia state laws and regulations define the planning processes in all levels. The Republic of Latvia consists of 5 Regions, 109 Counties and 9 Republic Cities.
The Ministry of Regional Development and Local Government of the Republic of Latvia is the leading state administrative institution in the field of planning and coordination of state and regional development, local government development, spatial planning, state investment and land policy, as well as e-government, information society and information technology area. The Ministry ensures the coordination of state development planning process. (http://www.raplm.gov.lv).
Ministry of Defense as the responsible for implementation of state policy in sphere of geodesy, cartography and geospatial information together with holders of geospatial data will be responsible for all the questions in connection with formation and maintenance of geospatial data. The State agency 'Latvian Geospatial Information Agency' is a state administrative institution under supervision of Minister of Defence, which implements the policy in the field of geodesy, cartography and geospatial information (http://www.lgia.gov.lv).

At this moment in Latvia is worked out and attested "Geospatial information development concept of Latvia" Which aim is to create theoretical and legal basis and state guidelines so that in further development period could create potentialities to harmonize and ensure needs of various institutions for geospatial information, to economize state funds and resources by ensuring common usage of sphere products, wide accessibility to products and services and usage efficiency both in public, and private sector.
Infrastructure of geospatial information in the state is under development stating for state administration the necessary geospatial data sets and assigning them to various

levels of priorities, assigning the responsible institutions (data holders) for formation and maintenance of these data sets, step by step improving quality of already existing data sets and their mutual interoperability, as well as step by step creating new geospatial data sets. First draft law "Law on geospatial information" (01.04.2009) is elaborated.

Regional level:
The Planning regions' competence is to ensure planning, coordination of regional development, collaboration of municipality and other state administration institutions, including:
1. To state long-term basic principles, aims and priorities of the region;
2. To work out, manage and supervise elaboration and implementation of long-term and medium-term development planning documents (programs of territory planning and development) in collaboration with municipalities and state administration institutions;
3. To prepare conclusions on national level development planning document's correspondence to interests of planning region;
4. To evaluate and render conclusions of applications of local municipalities or private person's projects on reception of regional development state support.

Local level:
One of the main tasks of local municipalities in Latvia is spatial planning. Nowadays all plans are digitally produced but due to the legal situation still the sign and stamped plans are the legal base. Main scale for elaboration of graphical part in municipality territory planning is M 1:10000, M 1:25000. If the main scale does not ensure sufficient detailization, populated areas and other established parts of municipality territory are worked out in larger scale (M 1:2000, M 1:5000).

MALTA
National level:
No legal initiatives for a national SDI framework have been taken until now. However, the Development Planning Act specifies as one of the Authority's main activities, the maintenance of a National Mapbase to facilitate its operations.

The production, management and dissemination of (rather large scale) spatial reference and core thematic data is almost the exclusive responsibility of the Malta Environmental and Planning Authority (MEPA) in general and the subordinate National Mapping Agency (NMA) in particular. In addition, there are other organizations that are producing spatial information and conducting spatial information system projects. These include the Land Registry, the National Statistics

Office and the Local councils. The private sector seems to play an increasing role in data production, besides systems development and consultancies. Utilities are also increasingly looking at GIS as a means to develop and manage their business.

Although MEPA/NMA have no specific mandate to develop a National SDI, they conduct efforts which may provide the basis for a future NSDI in Malta.

• Have a legal role to provide mapping data and produce national datasets such as topographic data, thematic data, planning data, environmental protection data, marine habitats data, Posidonia data etc;
• Honour the Planning Mandate;
• Honour the Environment Mandate.

Participation in EU-funded and other international projects has clearly contributed to raising awareness for SDI-issues. MEPA has also committed itself to participate in the EuroRegionalMap Project and to implement the ERM on a Geodatabase, a pan-European seamless topographic database at medium scale resolution.

Progress with respect to legal issues is mainly driven by obligations resulting from the Aarhus convention. Malta signed the Convention on Access to Information, Public Participation in Decision Making and Access to justice in Environmental Matters in December 1998 and ratified the convention in April 2002.

Core data are available at small scale and for 50% of the territory at larger scales. Implementation of metadata by the NMA is planned. The utilities and the private sector are also increasingly looking at GIS as a support to or the subject of their business. DataTrack IT-services Ltd is a major company in the GI-sector dealing with digital and hard copy mapping, orthophoto production, land surveying, distribution and processing of satellite imagery, web-GIS-solutions etc. It offers data products covering the whole island and beyond. No NSDI-policy framework is in place. Nevertheless mainly the planning agency is increasing the use of GIS across several areas.

Currently, access to digital information is not easy. In addition there is:

• A lack of updated reference data such as addresses and postcodes;
• Embryonic metadata and a lack of culture of data documentation, though this is now gaining ground;
• Non transparent practices such as data hoarding, high pricing limiting access and overprotection of some key datasets;
• Lack of resources to convert digital data.

There are plans to create a socio-economic and reference database and to provide data such as environmental data via the web to the public, including 3D mapping applications. This already exists in a full blown web-GIS developed for the MEPA through which users have access to an e-government site on all development planning applications.

National GI association

Following an initiative initiated in 2000 between Saviour Formosa and the Umbrella Organisation for Geographic Information (EUROGI) based on GI research carried out at the University of Huddersfield, an invitation to discuss the GI situation in Malta with the EUROGI/GINIE (Geographic Information Network In Europe) was taken up. This initiative resulted in the launching of an exercise that saw all Maltese GI-related organisations being invited to set up a Maltese Association for Geographic Information.

As Malta has been involved in the GI sector for over a decade and the specialisations are growing in diverse sectors, it was imperative that a forum would be created to discuss the issues, research trends and promote professionalism. In view of the rapid changes that are occurring in the GI sector, the need was felt to promote strong interactivity between the various government, research, commercial and industrial sectors.

Such an association offered the opportunity to keep up to date with new developments in the sector, review new products, and set up specialized groups on issues such as metadata, data management, dissemination, interactivity, interoperability, multi-disciplinarily, etc. It also offered the opportunity to interact with professionals within the European framework, invite speakers and participation in multi-lateral activities. It is anticipated that the Maltese Association for Geographic Information will become a member of EUROGI to facilitate this interactivity and give us a wider scope.

The Association's objectives include:

• The setting-up of a spatial infrastructure around a Web-GIS, through which the benefits of GIS are highlighted for public participation. A system already exists, as developed by the MEPA (Malta Environment and Planning Authority) which covers the planning development database, and environmental and archaeology data, amongst others. Users can extract information from aerial imagery, base maps and print reports and data;

• The initiation of laws regarding information and access to the same information;

• The spreading of GI knowledge across major interested parties and development of GI in such areas as crime, cadastral layers, utilities and environmental areas;

• Involvement of the private sector, which is however restricted by the limitations of a very small market though this may develop into a Mediterranean-wide initiative. Following initiatives are mentioned as they may provide a basis for initiation and development of a NSDI in Malta.

Considering the Maltese GI/SDI-scene, it can be concluded that the two major (potential) public SDI players are the National Mapping Agency and the National Office of Statistics. Currently both are mainly in charge of building up and maintaining GI- databases.

The National Mapping Agency is to be considered as the main potential driver for the implementation of GIS in Malta. The Agency forms part of the Malta Environment and Planning Authority, which has already enabled greater integration of GIS in different areas and applications, away from the purely physical and land-based issues into the socio-economic domain (population change, employment, crime mapping).

The MEPA is the authority charged with the implementation of the Environment Protection Act as well as Spatial Planning through the Development Planning Act (92).

Funding model for SDI and pricing policy

With regard to topographic mapping, the MEPA maintains a partial cost recovery approach through which major users of map data are charged for use of the data. All minor distribution is charged at marginal cost levels. Government contributes additional funds to complete the costs recovered from sales and distribution. Production and maintenance of thematic datasets are largely funded directly from Government, particularly where national coverage is required. A sustainable funding model remains a key challenge.

Scale and resolution: European, National, Regional, Local, Other

Data is available with the NMA at 1:25.000, 1:10.000, 1:2.500 and 1:1.000, i.e. the so- called local scale range. Given the small size of the island of Malta, smaller scales are not useful.

The main reference datasets with coverage over all Malta comprise:

- Vertical and Horizontal Geodetic reference points;
- Large Scale Digital Topographic Mapping (1:2.500, 1:1.000);
- Colour Orthophotos at 0.15 m ground pixel;
- Medium Scale Digital Topographic Mapping (1:50.000, 1:25.000);

NETHERLANDS

National level

From the 1st January 2010 onwards, all new spatial plans in the Netherlands will have to be in digital form. A parliamentary act obliges all government bodies to publish these spatial plans in the form of authenticated, detailed, geographic datasets. These authenticated plans have to be used by those same bodies and in legal proceedings as well. It is unique! Most Spatial Data Infrastructures (SDI) try to gradually change existing processes. This Spatial Planning SDI has a direct impact on existing planning processes and legal processes. This means that everything that is involved in this SDI had to be carefully thought through. Legislative, organisational, semantic and technical interoperability had to be realised between the more than 450 organisations involved. But this was not invented at the drawing table, far away from the field. A long encouragement programme preceded the implementation phase. In this paper I will give an overview of the years 2000-2010 in which geographic information significantly shaped a business process that is meant to achieve transparency, effectiveness and efficiency in intergovernmental processes.

Spatial Planning in a nutshell

In the Netherlands, spatial planning (land use & urban planning) is a thorough process with a great many stakeholders. Central governments, provinces and municipalities set down their policy and regulations in spatial plans that show what they think the Netherlands should look like in the future. As the Netherlands is a very densely

populated country and one in which consensus is preferred over imposed instructions in decision-making, all government levels are greatly involved at each stage, from national outlines to detailed building regulations. Lobby organisations try to exert influence as well. The Spatial Planning Act stipulates how these plans are made and which procedures have to be followed. In general, the spatial planning process 'starts' with a global national vision which is developed in more detail by regional and local governments. The lowest level encompasses building regulations. But a detailed, legally binding spatial plan can conflict with national or regional interests. So spatial plans made by municipalities can be overruled by higher authorities or by citizens through the Council of State (the administrative court). Once 'established', all urban and rural developments have to be in accordance with the spatial plans and are closely monitored at different levels of government.

Spatial planning used to be an analogue process.

Purpose of the overall project

The Dutch government is aiming to provide better services to its citizens and to companies and to be more effective and efficient through ICT. The Spatial planning SDI is one of the largest and most important e-government programmes. It offers major benefits to the various stakeholders in spatial planning. It has a very strong foundation due to its legal basis in the new Spatial Planning Act. The general aim of SDI can be formulated as such: 'In ten years from now, all spatial plans in the Netherlands as referred to in the new Spatial Planning Act will be digital, exchangeable and comparable and available as digital documents with legal status.' Digital plans can be used for spatial planning processes, allowing the public, the business community and various levels of government to carry out or realise their roles, tasks and possibilities effectively and efficiently in the chain of spatial planning.

The encouragement programme

In 2000, a sense of urgency arose when it was realised that spatial planning data should be offered digitally and be harmonised in order to facilitate the exchange between organisations in the planning process. An official programme was initiated to facilitate and encourage these initiatives. The focus was to activate all stakeholders in the field of spatial planning, support their ideas and initiatives and realise structural developments based on advice and experience. Although supported financially mainly by the national government, representatives of all governmental stakeholders cooperated in this encouragement programme. It yielded a number of results that can be considered intermediate and conditional for the establishment of the current spatial planning SDI.

First of all, preliminary standardisation took place. It started with semantic standardisation. In order to encode these plans, an information model in Geography Markup Language was provided. After that, emphasis was placed on the value of the information in the chain of spatial planning processes. A great deal of effort was put into obtaining results through research, an expert desk, leaflets, booklets and conferences.

During the encouragement phase, the use of these standards was voluntary. Digital plans had numerous advantages such as transparency, effectiveness and efficiency.

But the digital plans had no legal status. Organisations that used digital maps had two work flows: an analogue one with the legally binding plans and a digital workflow for a more effective and efficient working process. An undesirable situation. The advantages would only be truly realised if digital plans were given the same legal status as the analogue plans.

Implementation programme of the new Spatial Planning Act
In the period from 2006 to 2010, an implementation programme was carried out as a direct result of the encouragement phase in the preceding years. Its focus was, and still is, on achieving tangible results and no longer on stimulating initiatives. Its aim can be described as follows: consolidation of the innovations of the preceding project in the chain of spatial planning between organisations and in the workflow within these organisations so as to meet the requirements of the new Spatial Planning Act.

When the Dutch government proposed a new Spatial Planning Act in 2002, the use of new technological developments was already included in the concept. The consolidation was enforced by the new Spatial Planning Act, which states that organisations should provide spatial plans digitally from the 1st of January 2010. Legally, organisations are obliged to at least offer all new digital plans publicly, according to a set of spatial planning standards.

But to get from voluntary ‘nice to have’ and ‘proof of concepts’ towards implementation in all processes and ‘must have’, takes a massive step. All governmental organisations are now preparing for these obligations by realising changes in their processes in the disciplines of spatial planning practice, geo-information, ICT and legal practice.

Now the exchange is based on act, the new way of spatial planning processes in the Netherlands is a thematic SDI. People (professionals, citizens, businesses) who use spatial (planning) data can rely on policies (the law), standards for semantic & technical interoperability and an access network.

Here I will discuss the different aspects of the process, from the encouragement phase to the implementation of these Spatial Planning SDI and the lessons learned so far.
_ Development of the Spatial Planning Standards
_ Spatial Planning Online
_ True interoperability
_ Information models & presentation
_ Policy & Access network
_ Legal Framework & Spatial Planning Standards

Development of the Spatial Planning Standards
One of the main components of any SDI is an appropriate level of standardisation. It starts with the semantics. Agreement between central government, provinces and municipalities was reached on issues like the meaning of “agriculture with natural values“ and the designation of a “town centre“ as a neighbourhood with a high density of commercial and residential properties. In order to encode these plans, an information model in Geography Markup Language (GML) was provided. A spatial plan thus became an object-oriented GML dataset with references to HTML and PDF

files with the appropriate regulations for the geographic object. Software vendors joined and delivered customised CAD and GIS software in order to produce the necessary standardised datasets. And planning consultancy agencies contributed the expertise to deal with these standards during a spatial planning project. In this way they became stakeholders as well.

A national project group was responsible for the development of the Spatial Planning Standards. All major stakeholders participated in this group: municipalities, provinces, national government, the Dutch water boards, several spatial planning agencies, software vendors and lawyers. Separate research projects on specific topics were carried out to provide this project group with expert knowledge. Decisions were taken by formulating recommendations on the basis of consensus. Formal decisions on these recommendations were made by a project board that consisted of official representatives from the three governmental levels.

A few things should be highlighted. The first set of standards only focused on the encoding of the spatial plans. There were no infrastructural demands. Plans were sent by e-mail, CD-ROM or FTP. We still needed to come to an agreement on how the discovery and transfer of data would have to be organised. This is a key factor of the network component in any SDI. So, a cooperation profile was discussed. In what way could the exchange of datasets be realised, given the technological maturity level within the chain of organisations, and considering the short timeframe before the Act would take effect and the wording of the Act? The Spatial Planning Act stipulated that all governments must make their spatial plans publicly available so that they can be electronically accessed by everyone.

Web services – based on the OGC standards – would be used to make a major implementation effort for the 430 municipalities. Web Feature Services (WFS) proved not to be feasible due to the operational immaturity of this technology. Similarly, web-based mapping services (WMS) were found to be unable to meet all user requirements, such as the analysis of plans using other plans, and the selection of data on specific attributes. It would require the use of Styled Layer Descriptor (SLD), which is rarely supported by GIS and CAD software. The solution is a variant of the ‘publish-find-bind’ paradigm. The digital plans are publicly available as ‘plain’ datasets. They are a coherent set of widely recognised files (GML, HTML, PDF, XML and several image files). They are structured in a specific way and their web locations are catalogued in an XML file, which has to be acknowledged at a national index service. Anyone who wants to use digital plans can discover the web locations through the national index service. The integrity, authenticity and completeness of the datasets are safeguarded by the digital signature of the authority on the separate files or plan and in the XML file catalogue of all the digital plans of that authority.

Spatial Planning Online

Spatial Planning Online is a national spatial planning facility. A web portal and a set of web services have been introduced to provide aggregated and cartographic information as well as an interface to the national SDI of the Netherlands and to Inspire. A national spatial planning facility was required because of the poor accessibility of decentralised datasets for end users, the need to make aggregated information available, independent of the source organisation, and the necessity of

connecting spatial planning information to other national and local e-government facilities. The core task of Spatial Planning Online is the central distribution of decentralised datasets. It is available at http://www.ruimtelijkeplannen.nl/ and became operational by the end of 2008.

In the encouragement phase of the project, the national spatial planning facility was always thought of as a central place for everything to do with spatial plans through a graphic web interface. But in its implementation we distinguished the use of spatial plans on the one hand (find a plan, find all plans at a certain location) and the specific needs of all kinds of organisations (mostly searching the facility with their own data sources) on the other. This means the website is limited to a few uses, which serve 80% of all necessary functions, while web services are available to introduce other uses that might be required to the systems of the requesting organisations. These web services are based on WMS and WFS.

Spatial Planning Online makes use of the publish-find-bind pattern to collect and validate the decentralised datasets, and publishes them via website and web services. The fact that the program visualises plans from all levels of government automatically greatly reduces implementation efforts. If the web services were used for publishing the data, these web services would need a high availability and reliability. In terms of binding, Spatial Planning Online uses the information offered by governmental organisations. Once a dataset is removed by an organisation, it will also be removed from Spatial Planning Online in the daily update. By means of this very straightforward mechanism, the owners of the data always control which plans are available and which are not.

In Dutch geo-information infrastructure the motto is “data from the source”. But many national facilities set up on behalf of e-government collect data from the source to facilitate overall use. The facilities then have online web services which meet up with the required high availability and reliability as well. It is another profound way of reducing the implementation effort of (the planning) authorities. The Dutch Inspire legislation will designate Spatial Planning Online as the facility for delivering data to the Inspire infrastructure and not the individual sources. And the real architectural principle is "ask once, use many times" and not “data from the source”.

True interoperability

Harvesting the available spatial plans was a laborious task in the beginning. No plan yet conformed to the standards. The main reason for this was that the previous set of standards was not unambiguous enough for ‘true interoperability’ purposes. They had also never been tested according to these standards. In order to make digital spatial plans legally binding, the plans should fully comply with the official Spatial Planning Standards and interoperable geometry. To achieve this true interoperability on a semantic and technical level, we developed a national validation service (http://validator.ruimtelijkeplannen.nl). It is important to realise that real interoperable geometry is more than mere compliance with the GML standards, but also has to do with specific ways in which to facilitate their use in a broad range of GIS and CAD systems. We in fact use a Dutch variant of the OGC Simple Feature profile.

In the near future, all other domain-specific information models of geographic data in the Netherlands will use this validation service, and will comply with the limitation of encoding geometry so as to enable the use of the data in all kinds of systems.

Information models & presentation
Another point to highlight is the presentation of these datasets. GML files cannot easily be read by users. They should be made visible in a GIS and CAD system or GIS web application. This means all authorities are responsible for the visualisation of their spatial plans and can use Spatial Planning Online to comply with the relevant legal requirements.

We imposed the comparability requirements for only one type of spatial plan, namely the main 'bestemmingsplan' (physical zoning plan). Each 'bestemmingsplan' can be visualised according to the Spatial Planning Standards. For the others, there was no support for creating a visualisation standard at the time that the Spatial Planning Standards were being established.

Spatial Planning Online revealed the lack of visualisation standards for the other type of plans. If there is no standard, how should a plan be made visible? If each plan has its visualisation, how can an aggregated and cartographic information system provide useful information? But even the visualisation is not encoded in the information model. This currently proves an enormous challenge.

Policy & Access network
The question arises whether legislation should have taken the concept of infrastructure as its fundamental starting point instead of the provision of digital data, and whether this could have resulted in a clearer and more consistent legal framework at less effort. The problem was that the stipulations of the Act and the results of the encouragement programme were combined in a very late phase. An Act (or policy) which has a profound impact on business processes and IT between and within organisations should be tested and simulated in a practical way. A checklist could reveal the consequences of the implementation for all stakeholders – for their information processes, organisation and people.

Legal Framework & Spatial Planning Standards
The new Spatial Planning Act refers directly to the formal Spatial Planning Standards. The standards were implemented by software vendors and they discovered a number of small errors, such as spelling errors and inconsistencies. Users and Courts of Justice can easily work around those, but computers cannot! A single typo in the Standards, which number over 1000 pages, is a big problem. In order to change such an error, you have to go to the Minister herself and ask for a new formal instruction to create a new version of the Standards.

Other problems arose when the Standards allowed for different technical possibilities. During the structural meetings with vendors, certain working agreements were made and implemented in the business logic or geometry checks of the validation service. So in a way, the validation services became the semi-official standard.

For the future, it is worthwhile to consider not legally appoint the (Spatial planning) standards themselves, but rather the process of maintaining them.

Conclusions

Digital spatial planning is a thematic SDI because it includes all aspects of an SDI: people, data, access networks, policies and standards. It has a very strong foundation because of its sound legal basis. The requirements of the new Spatial Planning Act with respect to digitization are the result of a phase of encouraging the use of digital plans. In this encouragement phase, the necessary collaboration between all the stakeholders, the semantics and part of the technical interoperability were achieved. But a complete spatial data infrastructure can only be achieved through legislative or policy pressure. Good intentions alone are not enough.

Real technical interoperability requires validation and is beyond the standards of the OGC specifications as people use GIS and CAD systems. The implementation and knowledge of OGC standards are still in their infancy – certainly too immature to be used as a replacement in a fully operable existing process.

Exchanging information while neglecting to standardise visualisation can cause problems, because 'a map says more than a thousand words'.

Any bill with an impact on IT should be tested and simulated in advance, not after it has already been passed and set in stone.

Where most SDIs try to gradually change existing processes or introduce new processes, this Spatial Planning SDI is specially equipped to replace the analogue exchange with a digital one with immediate effect, both in the existing planning process and the legal process.

Authors

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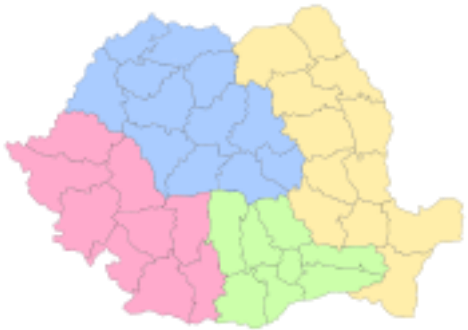


ROMANIA

National level

From the point of view of spatial planning, Romania is a pretty centralized country, most of the planning being done at national level. The National Agency for Cadastre

(ANCPI) is also a national level organization, although it has offices in all counties. It mainly gathers information from orthophotos, which, at a certain resolution can be visualized in their website (www.ancpi.ro). They also have the digital map of Romania at a scale of 1:500.000 including the following layers: planimetric elements such as railways, road-network, settlements, administrative boundaries and place names; hydrography such as main rivers, lakes, the Black Sea and Danube Delta; elevation at an interval of 100 meters (from which also a DTM has been derived). The topographic map database exists at a scale of 1:50.000. It has more spatial and semantic detail as compared to the previous map, but not all the elements were digitized. It is not clear which layers are not in the database. The original maps from which they are scanned are at the scale of 1:25.000. Both databases were developed starting from the original paper maps. The maps were scanned, geo-referenced, spatial objects were vectorized by tracing and then coded. In addition to this many other ministries and other government organizations are working to develop their own systems, like the Ministry of Agriculture, the Romanian Waters Agency, the Ministry of Agriculture, Ministry of the Environment (about the Natura 2000 sites in Romania), etc. each suited for their specific needs.

Regional Level

The regional level is not a very important level in from the point of view of an SDI. Although many institutions that are involved in spatial planning have regional offices these usually act as contact points and information offices. The North-West Region does not have a regional geoportal and neither have the other regions from Romania. Most portals that operate with spatial data are either at national or at county/local level.

County level

One of the tasks of the county councils in Romania is spatial planning, although not every county does it in the same way. Usually the data is gathered from different sources, their collection not being harmonized. They come from the digitization of old maps, measurements from orthophotos. Also, usually every county has them at a different scale (if they have them at all).

Local level

Local level is the lowest level on which spatial data are collected. As in the case of counties, their gathering is not standardized and although every municipality is obliged by law to have these maps in digital format many of them still don’t, the main reasons being the lack of infrastructure, lack of qualified personnel and lack of data. Each of them stores the data in different formats, starting from shapefiles to Autocad files and others used by own or free software.

SPAIN

National Level

In accordance with the INSPIRE initiative to develop Spatial Data Infrastructure in Europe, the Permanent Commission of High Board Superior Geography (the State's superior, consultative and planning body within the realms of cartography) in its meeting at 10 on April of 2002, has established a working group for the development of Spatial Data Infrastructures in Spain (IDEE). The IDEE project is an initiative to incorporate all the national, regional and local, as well sector and private, SDIs together. The Geomatic Commission of High Board Superior Geographic, which defines and develops the IDEE, has set up a technical open working group, integrated by representatives and experts of geographical information from state, regional and local public organizations as well as from the University and the private sector. This Working Group has carried out periodic meetings three times a year, to present technical guidelines, to agree and approve Recommendations for the SDI in Spain, and also to exchange experiences and to show the IDEE development at the national and regional level. Moreover, nine sub-groups have been established to deal with specific technical and thematic issues to support the IDEE implementation. Specific recommendations have been issued with regard to metadata, web map services, and gazetteers implementation.

Regional Level

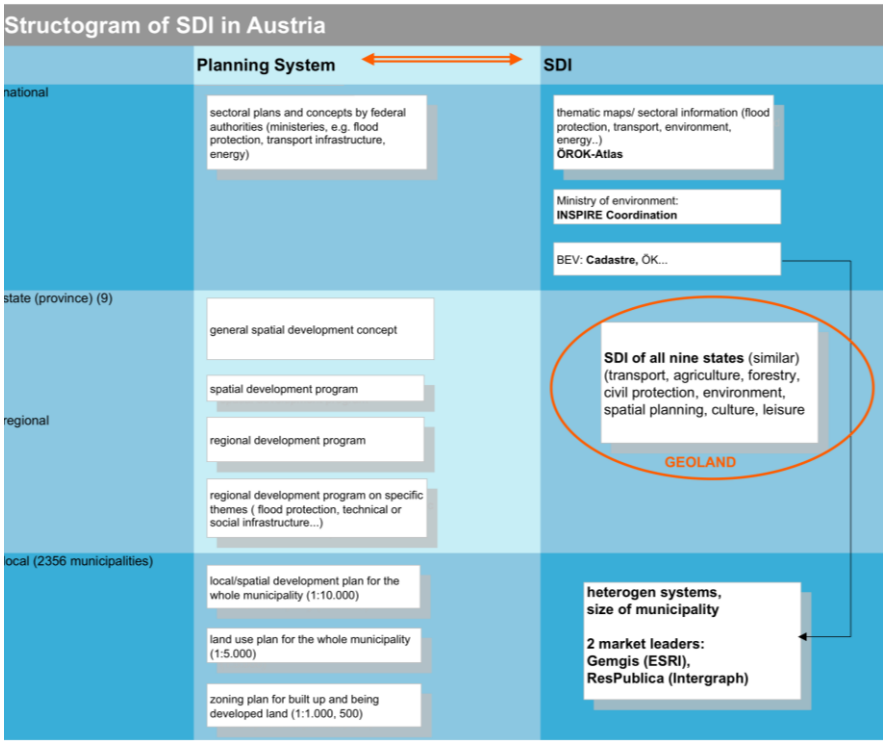
In the last decade the Government of Navarra has gone through several Technology Plans (2000-036/2004-07/2008-11) towards innovation. The strategy of the plans was to improve regional competitiveness, quality of life, and sustainability of development through improved sectoral, regional and European integration. Navarra enjoys a high level of autonomy within the framework of the Spanish Constitution, and levies its own taxes with a contribution then transferred to central government. Of particular relevance to the development of the regional SDI, is that the Government of Navarra also has responsibility for land and property registration (cadastre).

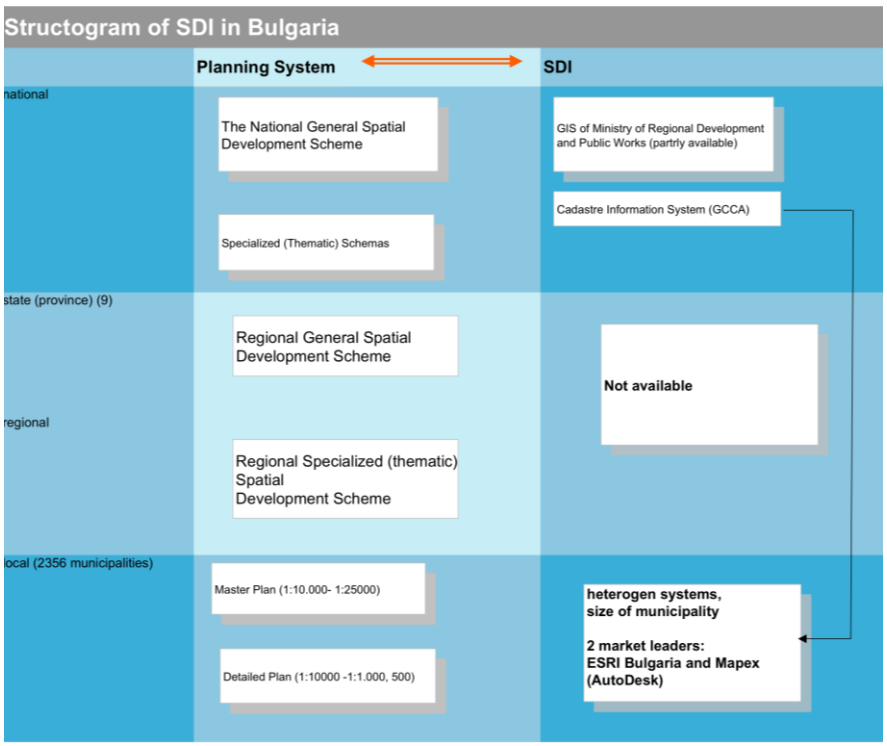
In line with a process of modernization of the public administration in Navarra, the regional SDI has been created through the evolution from restricted corporate systems to an open development infrastructure. The Territorial Information System of Navarra (SITNA) has evolved in the last decade into the regional SDI of Navarra (IDENA) improving integration and giving operative support to a wider number of users.

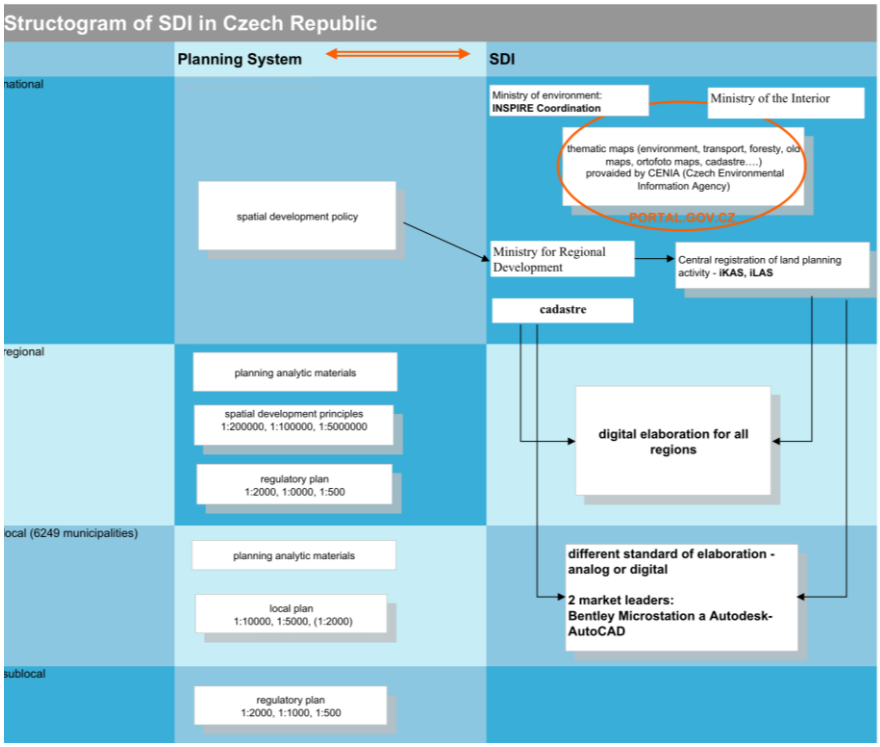
5.3 Planning System versus SDI

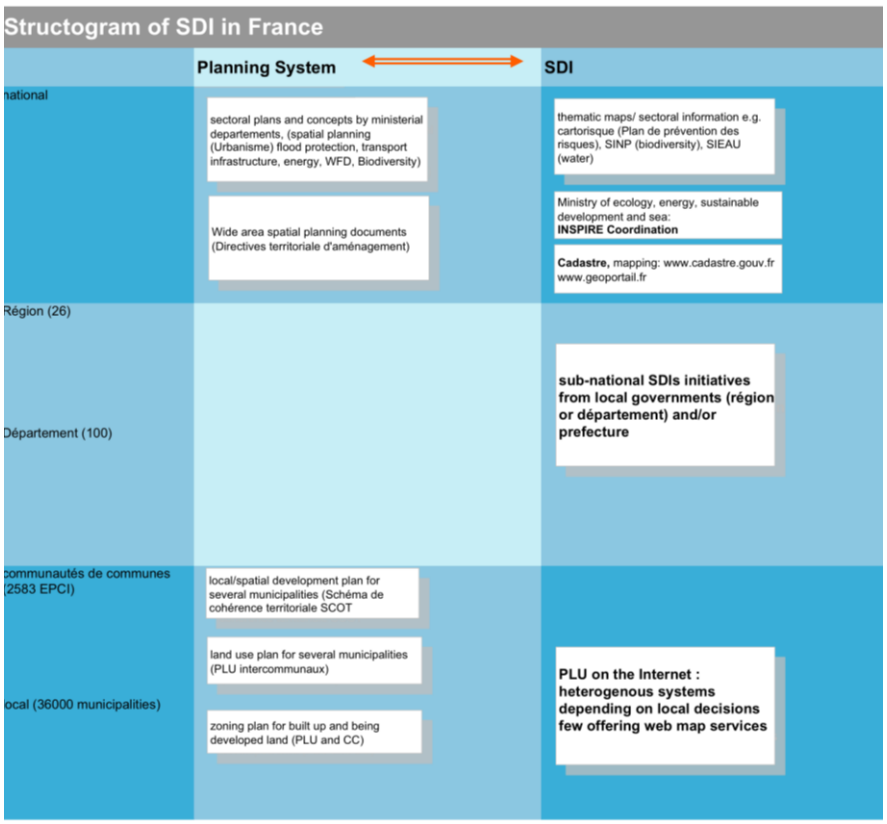
Comparison of Planning System and SDI

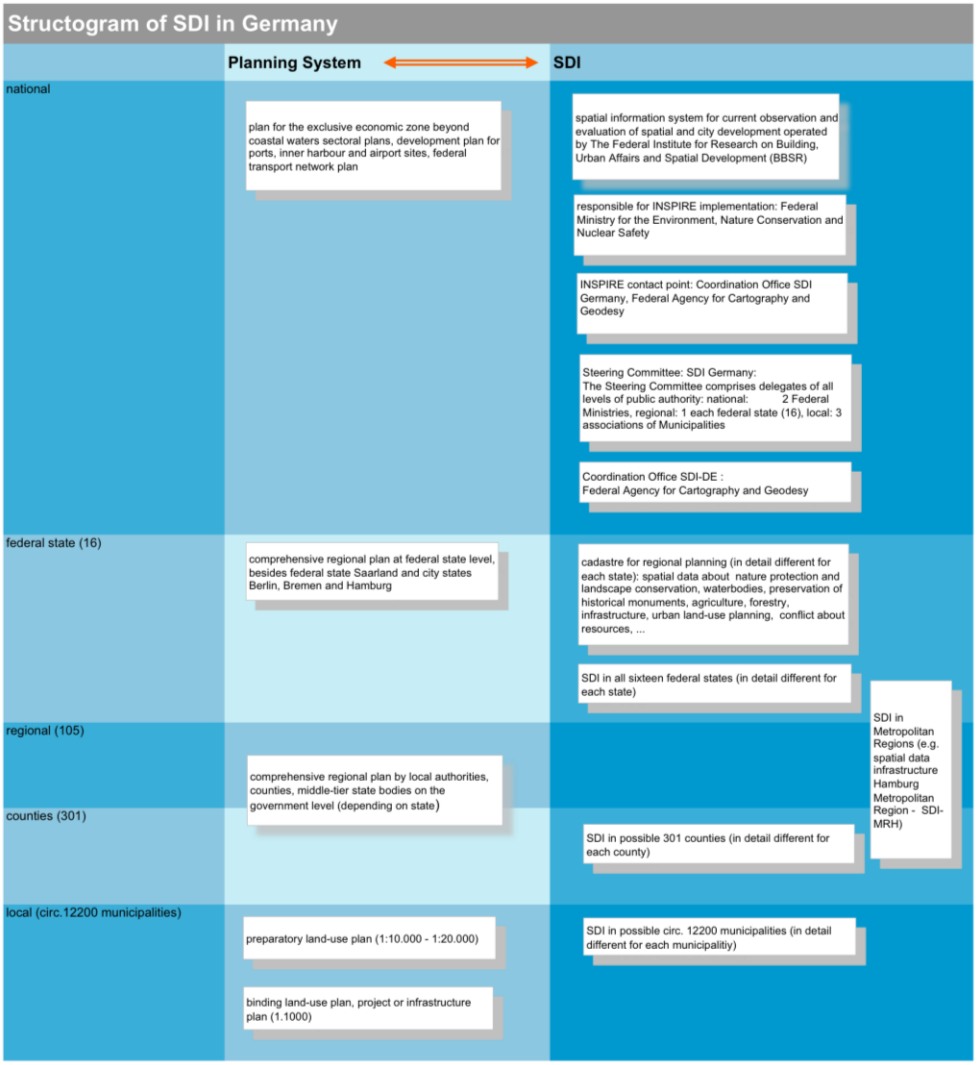
Although SDI covers much more than only Spatial Planning we put our focus on comparing the Spatial Planning situation in each country and the relation to the SDI. With the understanding that planning is more or less centralised in each country this is to be reflected in the SDI projects of the country.

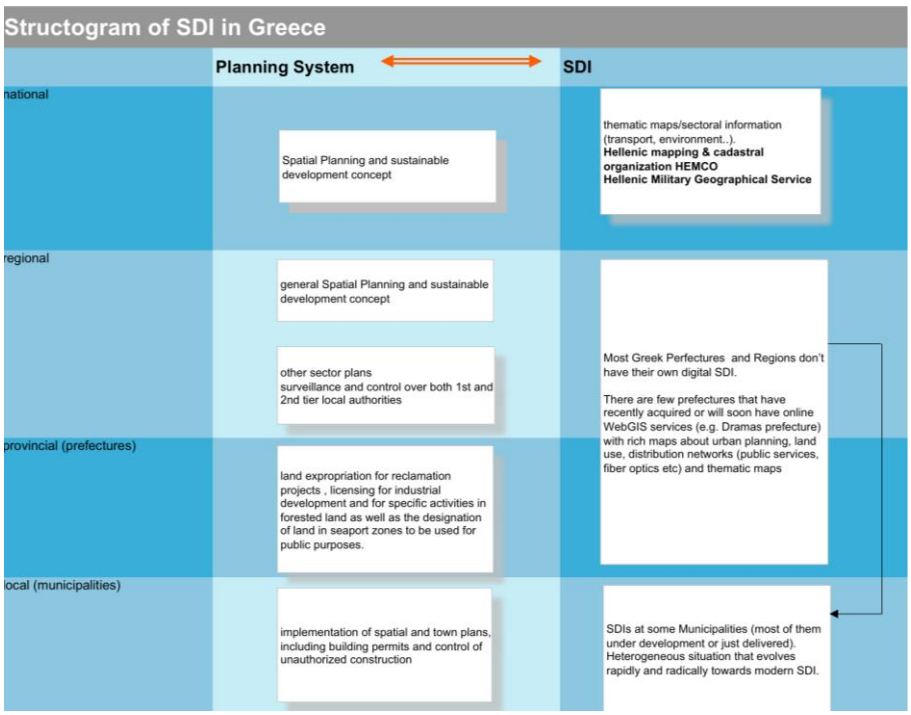


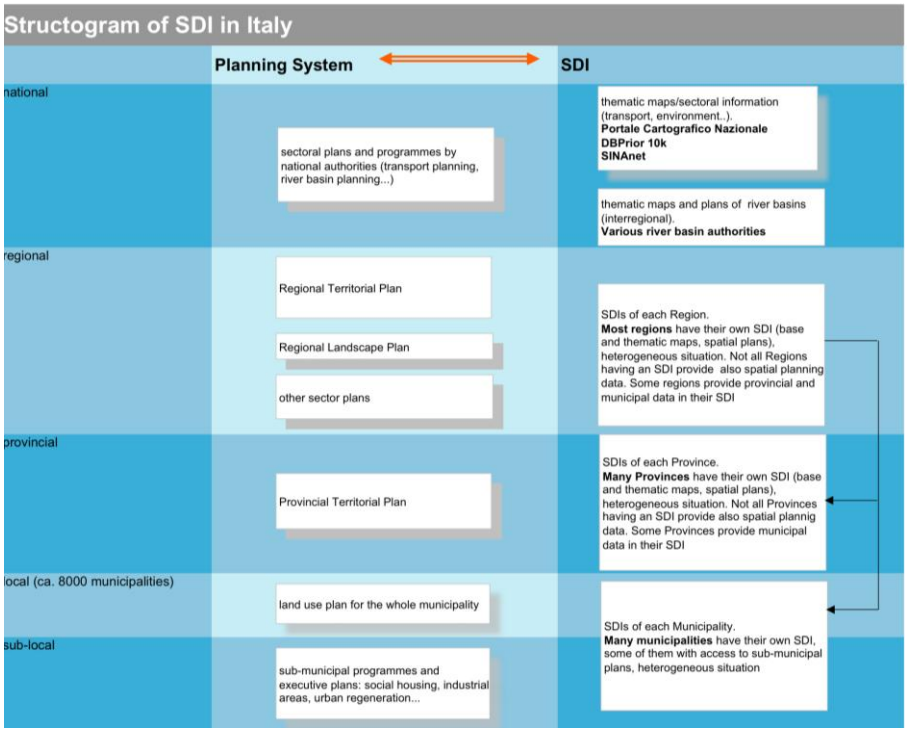


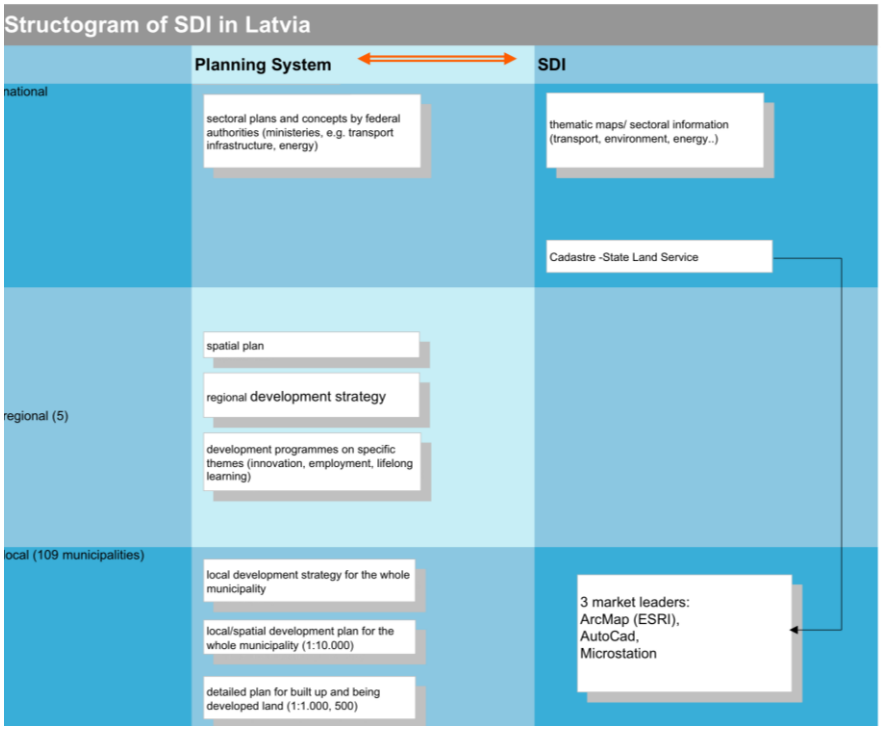

Structogram of SDI in Czech Republic
Planning System
SDI
national
Ministry of environment:
INSPIRE Coordination
Ministry of the Interior
thematic maps (environment, transport, foresty, old maps, ortofoto maps, cadastre....)
provaided by CENIA (Czech Environmental Information Agency)
PORTAL.GOV.CZ
spatial development policy
Ministry for Regional Development
Central registration of land planning activity - iKAS, iLAS
cadastre
regional
planning analytic materials
spatial development principles
1:200000, 1:100000, 1:5000000
regulatory plan
1:2000, 1:0000, 1:500
digital elaboration for all regions
local (6249 municipalities)
planning analytic materials
local plan
1:10000, 1:5000, (1:2000)
different standard of elaboration - analog or digital
2 market leaders:
Bentley Microstation a Autodesk-AutoCAD
sublocal
regulatory plan
1:2000, 1:1000, 1:500

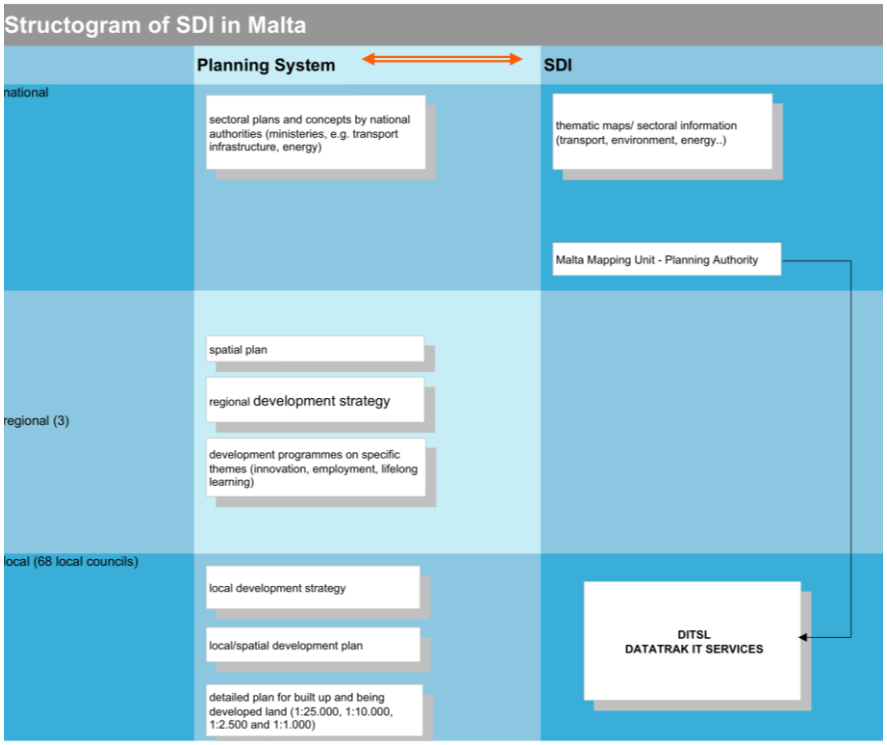

Structogram of SDI in France
Planning System
SDI
national
sectoral plans and concepts by ministerial departements, (spatial planning (Urbanisme) flood protection, transport infrastructure, energy, WFD, Biodiversity)
thematic maps/ sectoral information e.g. cartorisque (Plan de prévention des risques), SINP (biodiversity), SIEAU (water)
Wide area spatial planning documents (Directives territoriale d'aménagement)
Ministry of ecology, energy, sustainable development and sea:
INSPIRE Coordination
Cadastre, mapping: www.cadastre.gouv.fr
www.geoportail.fr
Région (26)
Département (100)
sub-national SDIs initiatives from local governments (région or département) and/or prefecture
communautés de communes
(2583 EPCI)
local/spatial development plan for several municipalities (Schéma de cohérence territoriale SCOT
land use plan for several municipalities (PLU intercommunaux)
local (36000 municipalities)
zoning plan for built up and being developed land (PLU and CC)
PLU on the Internet : heterogenous systems depending on local decisions few offering web map services

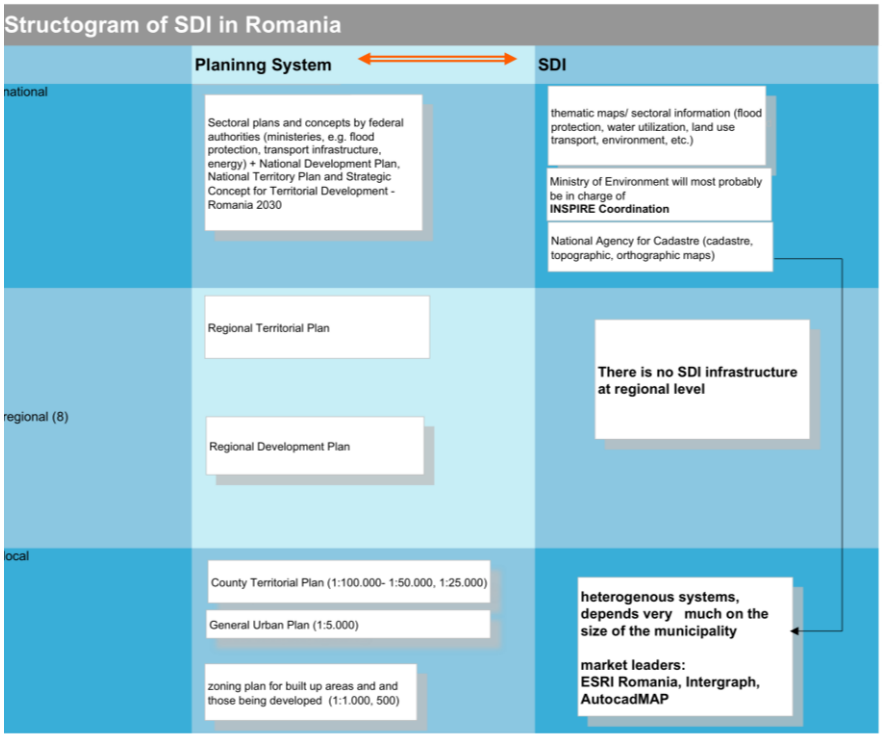

Structogram of SDI in Germany
Planning System
SDI
national
plan for the exclusive economic zone beyond coastal waters sectoral plans, development plan for ports, inner harbour and airport sites, federal transport network plan
spatial information system for current observation and evaluation of spatial and city development operated by The Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR)
responsible for INSPIRE implementation: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
INSPIRE contact point: Coordination Office SDI Germany, Federal Agency for Cartography and Geodesy
Steering Committee: SDI Germany:
The Steering Committee comprises delegates of all levels of public authority: national: 2 Federal Ministries, regional: 1 each federal state (16), local: 3 associations of Municipalities
Coordination Office SDI-DE :
Federal Agency for Cartography and Geodesy
federal state (16)
comprehensive regional plan at federal state level, besides federal state Saarland and city states Berlin, Bremen and Hamburg
cadastre for regional planning (in detail different for each state): spatial data about nature protection and landscape conservation, waterbodies, preservation of historical monuments, agriculture, forestry, infrastructure, urban land-use planning, conflict about resources, ...
SDI in all sixteen federal states (in detail different for each state)
regional (105)
comprehensive regional plan by local authorities, counties, middle-tier state bodies on the government level (depending on state)
SDI in Metropolitan Regions (e.g. spatial data infrastructure Hamburg Metropolitan Region - SDI-MRH)
counties (301)
SDI in possible 301 counties (in detail different for each county)
local (circ.12200 municipalities)
preparatory land-use plan (1:10.000 - 1:20.000)
SDI in possible circ. 12200 municipalities (in detail different for each municipalitiy)
binding land-use plan, project or infrastructure plan (1.1000)

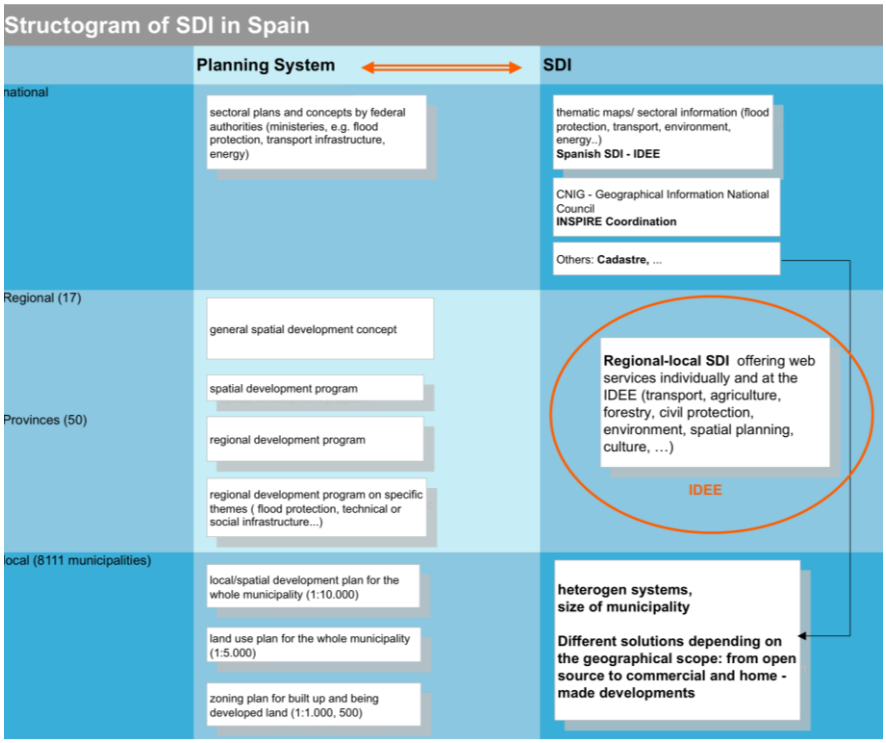

Structogram of SDI in Greece
Planning System
SDI
national
Spatial Planning and sustainable development concept
thematic maps/sectoral information (transport, environment..).
Hellenic mapping & cadastral organization HEMCO
Hellenic Military Geographical Service
regional
general Spatial Planning and sustainable development concept
other sector plans
surveillance and control over both 1st and 2nd tier local authorities
Most Greek Perfectures and Regions don't have their own digital SDI.
There are few prefectures that have recently acquired or will soon have online WebGIS services (e.g. Dramas prefecture) with rich maps about urban planning, land use, distribution networks (public services, fiber optics etc) and thematic maps
provincial (prefectures)
land expropriation for reclamation projects , licensing for industrial development and for specific activities in forested land as well as the designation of land in seaport zones to be used for public purposes.
local (municipalities)
implementation of spatial and town plans, including building permits and control of unauthorized construction
SDIs at some Municipalities (most of them under development or just delivered). Heterogeneous situation that evolves rapidly and radically towards modern SDI.


Structogram of SDI in Italy
Planning System
SDI
national
regional
provincial
local (ca. 8000 municipalities)
sub-local
sectoral plans and programmes by national authorities (transport planning, river basin planning...)
thematic maps/sectoral information (transport, environment..).
Portale Cartografico Nazionale
DBPrior 10k
SINAnet
thematic maps and plans of river basins (interregional).
Various river basin authorities
Regional Territorial Plan
Regional Landscape Plan
other sector plans
SDIs of each Region.
Most regions have their own SDI (base and thematic maps, spatial plans), heterogeneous situation. Not all Regions having an SDI provide also spatial planning data. Some regions provide provincial and municipal data in their SDI
Provincial Territorial Plan
SDIs of each Province.
Many Provinces have their own SDI (base and thematic maps, spatial plans), heterogeneous situation. Not all Provinces having an SDI provide also spatial plannig data. Some Provinces provide municipal data in their SDI
land use plan for the whole municipality
SDIs of each Municipality.
Many municipalities have their own SDI, some of them with access to sub-municipal plans, heterogeneous situation
sub-municipal programmes and executive plans: social housing, industrial areas, urban regeneration...


Structogram of SDI in Latvia
Planning System
SDI
national
regional (5)
local (109 municipalities)
sectoral plans and concepts by federal authorities (ministeries, e.g. transport infrastructure, energy)
thematic maps/ sectoral information (transport, environment, energy..)
Cadastre -State Land Service
spatial plan
regional development strategy
development programmes on specific themes (innovation, employment, lifelong learning)
local development strategy for the whole municipality
local/spatial development plan for the whole municipality (1:10.000)
detailed plan for built up and being developed land (1:1.000, 500)
3 market leaders:
ArcMap (ESRI),
AutoCad,
Microstation


Structogram of SDI in Malta
Planning System
SDI
national
sectoral plans and concepts by national authorities (ministeries, e.g. transport infrastructure, energy)
thematic maps/ sectoral information (transport, environment, energy..)
Malta Mapping Unit - Planning Authority
regional (3)
spatial plan
regional development strategy
development programmes on specific themes (innovation, employment, lifelong learning)
local (68 local councils)
local development strategy
local/spatial development plan
detailed plan for built up and being developed land (1:25.000, 1:10.000, 1:2.500 and 1:1.000)
DITSL
DATATRAK IT SERVICES


Structogram of SDI in Romania
Planinng System
SDI
national
Sectoral plans and concepts by federal authorities (ministeries, e.g. flood protection, transport infrastructure, energy) + National Development Plan, National Territory Plan and Strategic Concept for Territorial Development - Romania 2030
thematic maps/ sectoral information (flood protection, water utilization, land use transport, environment, etc.)
Ministry of Environment will most probably be in charge of
INSPIRE Coordination
National Agency for Cadastre (cadastre, topographic, orthographic maps)
regional (8)
Regional Territorial Plan
Regional Development Plan
There is no SDI infrastructure at regional level
local
County Territorial Plan (1:100.000- 1:50.000, 1:25.000)
General Urban Plan (1:5.000)
zoning plan for built up areas and and those being developed (1:1.000, 500)
heterogenous systems, depends very much on the size of the municipality
market leaders:
ESRI Romania, Intergraph, AutocadMAP



Description of Planning Systems and SDI

It seems to be important to mention that in the field of planning the local level with the land use plan and the zoning plan are of major relevance. Especially small municipalities but also bigger one all over Europe can be overstrained by using SDI particularly if there is no doubt that these plans should have more value than an hand drawn one.

We also have to be aware that the INSPIIRE directive is still not known by many users / end consumer of these plans.

Some federalised states, like Austria (compare the first structogram, www.geoland.at), initiated SDI portals on the federal state level and now step by step they are filled with content. This enables the nine states of Austria to harmonize their own plans, to see the differences between the states and in a long term to take the “best plans” of one content as a best practise for the other states. Additionally the municipalities get support in producing their SDI plans and can compete against each other. The implementation of the INSPIRE directive will be much easier by working with this portal.

States like Czech Republic or Spain have similar solutions on the highest administrative level (www.portal.gov.cz and www.idee.es).

Important questions at the moment are the legal binding of theses online plans as still in many cases the stamped plan in the city administration is the legal binding one.

Another topic is the scale and exactness of plans: sometimes the second (or third) level of administration makes some guidelines for the local one, but they are not allowed to do it exactly on the line of lots (e.g. for the boarder of built up land). With layers of cadastre and aerial photograph these lines are exact and can lead to legal problems.

(Cross-boarder projects /initiatives will be mentioned in 5.5.)

Further questions are the copyright of those plans and who has the right of publicise it. Can there be in the long run a list of all relevant spatial planning plans and concepts on different levels. Can these legally binding contents be shown in one map /plan all over Europe and how to cope with different legal definitions (what does "built up land" mean in different countries. How to deal with the component of time.
In several countries there doesn´t exist a map /plan of actual land use (especially if they should be keep up to date).

5.4 Online Access to Spatial Planning Documents

One important point of SDI is the online access, either for free or not. One main question is the availability for the public on the internet. Sometimes there are closed areas so that only especial groups of persons can use these contents (e.g. planners). Especially on the municipal level, as for land use plans and zoning plans, small municipalities can be overstrained to publish their plans. In some countries the administrative higher levels overtook the duties to publish these plans. If they are legally binding, there are in many counties the discussions if these published documents are legally binding or not (so the printed and stamped plan is the legally binding document). The following tables shows the actual situation in the counties of the consortium in autumn 2009. We are expecting, that at the end of the project in 2011 the situation will have improved, so that we will renew this tables and it will be exciting how much the situation will have changed in each country.

We have contributions from following countries: Austria, Bulgaria, Czech Republic, Germany, Greece, Ireland, Italy, Latvia, Romania and Spain.

Legend for all tables

Green: available on internet for public
Blue: partly available (e.g. for especial groups of persons)
Red: not available but existing

Austria

Institution	Plan	national	regional (9 states)	local (2.200 municipalities)
PGO	Centrope map		1 province, 2 parts of provinces, neighbouring provinces of Czech Republic, Slovakia, Hungary	✓
All nine states of Austria	Geoland	✓ wide variety of plans spatial planning, flood		

		protection, culture, mobility, forestry, agriculture,…		
Austrian Conference on Spatial Planning	ÖROK-Atlas	✓ spatial planning data and a wide variety if data		
Upper Austria	land use plan (1:5.000), made by municipalities			✓ Not online, excerpts possible if plausible interests
Tyrol	land use plan (1:5.000), made by municipalities			✓
Salzburg	land use plan (1:5.000), made by municipalities			✓ Available on a different scale and generalized (1:25.000)
Lower Austria	land use plan (1:5.000), made by municipalities			✓

Vorarlberg	land use plan (1:5.000), made by municipalities			✓
Carinthia	land use plan (1:5.000), made by municipalities			✓
Styria	land use plan (1:5.000), made by municipalities			✓
Burgenland	land use plan (1:5.000), made by municipalities			✓
Vienna	land use and zoning plan (1:5.000)			✓ without legal guarantee
all states except Vienna	zoning plans 1:1.000 - 500			✓ in most municipalities and cities (except: Graz, Schwechat…)
BEV	Austrian Map online	base map , 1:50.000… ✓		
UBA (Umweltbundesamt) (Federal office of environment - excluded from the ministry of environment	Maps on water protection (over and under ground)	✓		

Bulgaria

Institution	Plan	national	regional (6) and District (28) level	local (264 municipalities)
GCCA	Cadastre			60% of the municipalities
Ministry of Regional Development	GIS of MRDHP	wide variety of general spatial data		
Water Basins Directorates	Maps on water protection (over and under ground)			
Sofia Municipality	General master plan			
Varna Municipality	General master plan			
Yambol Municipality	Spatial planning data (not a plan)			

Czech Republic

Institution	Plan	national	regional	local (6249) municipalities)
Ministry of Regional Development	**Spatial development policy**	instrument of spatial planning, graphic supplement process into schema		
Centre of Regional Development of the Czech Republic	**RIS**		RIS is run over all regions of Czech Republic in standard structure. Lots of Thematic layers, base maps, orthophoto...	
Ministry of the Environment, Ministry of the interior and CENIA - Czech Environmental Information Agency	**PORTAL. GOV.CZ (IMS, WMS)**	Wide variety of datas: environment, population, Czech Post, bath water, transport, old maps, noise maps, Public Administration, pollution registry, cadastral maps, orthophoto maps		

City of Prague	**Local plan** **Planning analytic materials** **Atlas of environment** **Flood 2002** **Prague city center from bird´s-eye view**		map portal id divided into 4 thematic parts: basic maps, thematic maps, specialized maps (for land planning) and other maps. ✓ Core dataset – fee is charged	
Středočeský kraj (region)	**Planning analytic material (PAM)**, made by Regional office		*(core data from PAM for planning engeneeres only- according to law)* ✓	
Jihočeský kraj (region)	**PAM**, made by Regional office **Spatial development principles**, procures by Regional office		✓ Different scale (1:100 000, 1:50000) ✓	
Plzeňský kraj (region)	**PAM**, made by Regional office **Spatial development principles**, procures by Regional office		✓ Different scale (1:100 000, 1:50000) ✓	

Karlovarský kraj (region)	**PAM**, made by Regional office **Spatial development principles**, procures by Regional office (the matter in hand)		✓ Different scale (1:100 000, 1:50000) ✓	
Ústecký kraj (region)	**PAM**, made by Regional office		✓	
Liberecký kraj (region)	**PAM**, made by Regional office		✓	

Pardubický kraj (region)	**PAM**, made by Regional office		✓	
Kraj Vysočina (region)	**PAM**, made by Regional office **Spatial development principles**, procures by Regional office		✓ Different scale (1:100 000, 1:50000) ✓	
Jihomoravský kraj (region)	**PAM**, made by Regional office		✓	
Olomoucký kraj (region)	**PAM**, made by Regional office **Spatial development principles**, procures by Regional office		✓ Different scale (1:200 000, 1:100000) ✓	
Zlínský kraj (region)	**PAM**, made by Regional office **Spatial development principles**, procures by Regional office		✓ Different scale ✓	
Moravskoslezský kraj (region)	**PAM**, made by Regional office **Spatial development principles**, procures by Regional office **Municipalitie´s Land use plans**		✓ Different scale (1:100 000) ✓	✓ *Project – "Planning documentation of Moravskoslezský kraj" – supported by a grant from Iceland, Liechtenstein and Norway through the EEA
Municipality with extend power	**PAM**, procured by planning offices			available for each municipality with extend power (accorditn to law) ✓

Municipality office, Planning office	**Land use plans and Regulatory plans** procured by municipalities			Some of the plans are available on internet, same are available only in paper form. (Except all municipalities belonging to Moravskoslezský kraj – these municipalities have internet access thanks project *
Czech office for Surveying, mapping and Cadastre (COSMC)	**Cadastral maps, base maps, orthophoto, ZABAGED**	Geoportal COSMC - Cadastre data is accessible by using the following services: cadastre viewing, remote access and remote access web services. Core dataset – fee is charged		
Czech geological survey (OGS)	map applications, which allow access to **geoscientific data** from geodatabases and the Digital Archive of the CGS	Map Server Core dataset – fee is charged		
The Agency for Nature Conservation and Landscape Protection of the Czech Republic (ANCLP) - a governmental body established by the Ministry of the Environment	**WEB PORTAL**			

Note to **Planning analytic materials (PAM)**:
Accessible for public is above all graphic part – drawing of area value, a drawing of limits on an area use, a drawing of intentions to perform changes within an area and a drawing of problems.
Core data from PAM can be provide (according to law) only for planning activity, establishing and keeping the technical map and for the activity of the designer of the planning documentation and the planning study

FRANCE

Institution	Plan	national	Regional (26 régions)	NUTS 3 (100 départements	local (36 000 municipalities)
MEEDDM	PLU&CC SUP	National initiative GeoADS		✓	Initiative connected with the building permits instruction
GeoPAL	PLU&CC		Regional initiative between Regional council and Région prefecture	✓	Initiative coordinated with the municipalities and handled operationally by DDEA
DDEA72	PLU&CC SUP			All municipalities of Sarthe (72) ✓	
Municipalities (Boulogne-Billancourt, Nice, Poitiers, Rouen, Vannes, …) Group of municipalities CC Vallet, CU Bordeaux, CU Brest …)	PLU				PLU on web mapping services ✓
Municipalities (Meaux, …) Group of municipalities CU Lille, CU Lyon …)	PLU				PLU on the Internet as CAD data services (…) ✓
Municipalities (Grenoble, Jouy en Josas, Reims, St Nom la Bretèche, Chambourcy, Souffelweyersheim …) Group of municipalities (CC Bièvre Est, CC du pays d'Argentan …)	PLU				PLU on the Internet as PDF files (…) ✓
Group of municipalities (CC Rhôny Vistre Vidourle, …)	PLU&CC SUP				PLU as a „restructed ✓ Web mapping service

PLU on the Internet: List of URL

Name	Population (inhabitants	URL	
DDEA de la Sarthe		http://ads72-dev.cete-ouest.i2/	GIS
Communauté urbaine de Lyon	1 253 179	http://plu.grandlyon.com/	CAD
Communauté urbaine de Lille	1 107 861	http://www.lillemetropole.fr/index.php?p=126&art_id	CAD
Communauté urbaine Marseille Provence Métropole	1 023 972	http://www.marseille-provence.com/	PDF
Communauté urbaine de Bordeaux	702 522	http://www.lacub.fr/projets/02_plu.asp	GIS
Ville de Nice	347 060	http://carte.ville-nice.fr/ig/default.asp	GIS
Communauté urbaine de Brest	210 117	http://www.cub-brest.fr/plu/plu_online.htm	GIS
Ville de Reims	183 837	http://www.ville-reims.fr/fr/urbanismelogement/plan-local-d-urbanisme/consultation-du-plu-en-ligne/index.html	PDF
Ville de Grenoble	156 107	http://www.ville-grenoble.fr/jsp/site/Portal.jsp?page_id=503	PDF
Ville de Boulogne-Billancourt	110 000	http://www.boulognebillancourt.com/cms/index.php?option=com_content&task=view&id=356?&leftid=532&mpid=2&submid=2&Itemid=532	GIS
Ville de Rouen	107 904	http://plu.rouen.fr/index.php	GIS
Ville de Poitiers	88 776	http://sig.agglo-poitiers.fr/caplu/SetTabActiveButtonInTabs.do?GROUP=activeTab&ACTIVE_BUTTON=legend#	GIS
Ville de Vannes	53 079	http://www.mairie-vannes.fr/la_mairie/amenagements_urbains/urbanisme/plan_local_d_urbanisme/1004/index.html	GIS
Ville de Meaux	48 842	http://www.carto.meaux.fr/apps/accueil_internet/index.php	CAD
Communauté de commune de Rhony-Vistre-Vidourle	22 570	http://www.cc-rhony-vistre-vidourle.fr/	GIS
Communauté de communes Bièvre-Est	19 000	http://www.cc-bievre-est.fr/rubrique.php3?id_rubrique=186	PDF
Communauté de commune du pays d'Argentan	18 402	http://www.argentan.fr/plu.php	PDF
Communauté de commune de Vallet	17 860	http://www.cc-vallet.fr/index.php?id=11162	GIS
Ville de Jouy-en-Josas	8 055	http://www.jouy-en-josas.fr/plu.php	PDF
Ville de Souffelweyersheim	6 219	http://www.souffelweyersheim.fr/plan_local_urbanisme.asp	PDF
Ville de Chambourcy	5 812	http://www.chambourcy.fr/spip.php?article58	PDF
Ville de Saint-Nom-la-Bretèche	4 845	http://www.mairie-saint-nom-la-breteche.fr/vm_Dossier_PLU.html	PDF
Ville de Les Hermites	547	http ://www.ville-leshermites.fr/services_plu.php	PDF

Progress in PLU creation

http://www.territoires.gouv.fr/zonages/carto/cete.php

http://cartelie.application.equipement.gouv.fr/cartelie/voir.do?carte=DocUrba_cartelie&service=DDEA_14

http://cartelie.application.equipement.gouv.fr/cartelie/voir.do?carte=planification_jourJ&service=DDE_33

Germany

Institution	Plan	national	Federal state level (16 states)	regional level (105 regions)	local (12.200 municipalities)
GeoDatenZentrum	Offering harmonised large- and medium-scale data in the scale range from about 1:25,000 to 1:100,000 produced by the Surveying Authorities of the Federal States. The small-scale data and map series from the scale 1:200,000 on and smaller are generated and maintained at the Federal Agency for Cartography and Geodesy.	✔ At no charge: 1:1.000.000 0 1:500.000 1:200.000			
Federal Institute for Research on Building, Urban Affairs and Spatial Development	current observation and evaluation of spatial and city development	✔ spatial planning data and a wide variety if data			
Baden-Württemberg	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✔ pdf Format	✔ For two regional plans WMS available	✔ For large cities WMS available (e.g. Heidelberg)
Bavaria	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use		✔ pdf Format	✔ WMS	✔ For large cities and other selected cities WMS available (e.g. Regensburg)

	plans and preparatory land-use plans made by municipalities				
Berlin	binding land use plans and preparatory land-use plans				✓
Brandenburg	comprehensive regional plan at federal state level, sectoral regional plan, binding land use plans and preparatory land-use plans made by municipalities		✓	✓ For one regional plans WMS available	✓ For selected cities WMS available
Bremen	binding land use plans and preparatory land-use plans				✓
Hamburg	binding land use plans and preparatory land-use plans				✓
Hesse	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✓ WMS	✓ WMS	✓ For large cities and other selected cities WMS available (e.g. Frankfurt)
Lower Saxony	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✓ WMS	✓ For some regional plans WMS available	✓ For large cities and other selected cities WMS available (e.g. Hannover)
North Rhine-Westphalia	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and		✓	✓ pdf Format	✓ For large cities and other selected cities WMS available (e.g. Bonn)

	preparatory land-use plans made by municipalities				
Mecklenburg-Western Pomeranja	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✓ pdf Format	✓ pdf Format	✓ For large cities and other selected cities WMS available (e.g. Rostock)
Rhineland-Palatinate	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✓ pdf Format	✓ WMS	✓ For large cities and other selected cities WMS available (e.g. Mainz)
Saarland	comprehensive regional plan at federal state level, binding land use plans and preparatory land-use plans made by municipalities		✓ WMS		✓ For selected cities WMS available (Saarbrücken)
Saxony	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✓ WMS	✓ pdf Format	✓ For large cities and other selected cities WMS available (e.g. Leipzig)
Saxony-Anhalt	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✓ pdf Format	✓ pdf Format	✓ For large cities and other selected cities Mapping Services available (e.g. Magdeburg)

Schleswig-Holstein	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✔ WMS	✔ WMS	✔ For large cities and other selected cities WMS available (e.g. Kiel)
Thuringia	comprehensive regional plan at federal state level, comprehensive regional plan, binding land use plans and preparatory land-use plans made by municipalities		✔ pdf Format	✔	✔ For large cities and other selected cities Mapping Services available (e.g. Erfurt)

Greece

Institution	**Plan**	**national**	**regional (perfectures)**	**local (municipalities)**
Hellenic mapping & cadastral organization HEMCO (A new national organization responsible for GIS data in Greece)	land use plans, regional plans, municipality plans	✔ Digitization Under development	✔ Digitization Under development	✔ Digitization Under development
Hellenic military Geographical Service (HMGS) (The only functional organization responsible for GIS data in Greece - military)	Regional plans	✔ Possibility to choose a region and order online a digital or paper copy.	✔ Possibility to choose a region and order online a digital or paper copy.	✔ Possibility to choose a region and order online a digital or paper copy.
EEET (Hellenic Telecommunications and Post Commission)	thematic maps – data networks	✔ possible to view and access the data online, but there is no option to take an offline copy	✔ possible to view and access the data online, but there is no option to take an offline copy	✔ possible to view and access the data online, but there is no option to take an offline copy
Ministry of Health	thematic maps	✔ possible to view and access the		

		data online, but the data you can download is only partial		
Municipality of Patras (in the city where Georama main offices are, 3rd largest city in Greece)	Urban plans, land use, thematic maps (fibre optics network, water supply network, roads, city details etc)			☑ Digitization Under development; finalized within 1st semester 2010
Municipality of Kalamata (Capital of Region, Medium Town of Greece in terms of population)	thematic maps			✓ possibiiity to view and download maps of the urban plans (coordination plans, sector plans), thematic networks, public service transportation networks etc.
Municipality of Kavala (Capital of Region, Medium Town of Greece in terms of population)	Urban plans , thematic maps, land use			✓ possibility to view and download maps of the urban plans (coordination plans, sector plans), thematic networks, public service transportation networks etc.
Municipality of Rethumno (Capital of Region, Medium Town of Greece in terms of population)	Urban plans , thematic maps, land use			✓ possibiiity to view and download maps of the urban plans (coordination plans, sector plans), thematic networks, public service transportation networks etc.
Municipality of Sofades (Small Town of Greece in terms of population)	Urban plans, thematic maps			✓ possibiiity to view and download maps of the urban plans (coordination plans, sector plans), thematic networks, public service transportation networks etc.

Perfectures - town planning agencies	Regional plans, urban plans, land use		✓ Possibility to get a paper copy only. Some plans are partly available also in digital format for special groups only	✓ Possibility to get a paper copy only. Some plans are partly available also in digital format for special groups only
RoadExplorer.gr	Urban plans	✓ possible to view and access the data online, but there is no option to take an offline copy	✓ possible to view and access the data online, but there is no option to take an offline copy	✓ possible to view and access the data online, but there is no option to take an offline copy
Navigation.gr	Urban plans	✓ possible to view and access the data online, but there is no option to take an offline copy	✓ possible to view and access the data online, but there is no option to take an offline copy	✓ possible to view and access the data online, but there is no option to take an offline copy

Ireland

Institution	Plan	national	regional	local municipalities
Department of Communications, Energy and Natural Resources	ISDE[2] (Irish Spatial Data Exchange) – OGC/ISO19115 compliant & likely to be INSPIRE compliant.	1. Coastal and Marine Resource Centre at UCC[3] 2. Department of Communications, Energy and Natural Resources[4] 3. Environmental Protection Agency[5] 4. Geological Survey of Ireland[6]	✓	

[2] www.isde.ie
[3] http://cmrc.ucc.ie
[4] www.dcenr.gov.ie
[5] www.epa.ie

Institution	Plan	national	regional	local municipalities
		5. Department of Environment, Heritage and Local Government[7] 6. Marine Institute[8].		
Regional Authorities (1) Border Region, (2) Dublin and Mid East Region, (3) Midlands Region, (4) Mid West Region, (5) South East Region, (6) South West Region (7)West Region	Regional Planning Guidelines (RPGs) to support strategies for regional development (1:25,000)		Available on paper & as PDF downloads. ✓	
All 29 County Councils and 5 City Councils.	land use plan (1:5.000)		All are available on paper, and most have PDF downloads. ✓	
All 88 Local Planning Authorities (consisting of 29 County Councils, 5 City Councils and 49 Town Councils)	zoning plans 1:1.000 - 500		All are available on paper, some by PDF download & some interactively online (see next) ✓	
County Council Planning On-line Planning service in the following County Councils Donegal, Galway, Mayo, Monaghan, Waterford, Wexford &	gPlan – based on GeoMedia WebMap (GWM).	Provided Nationally by the Local Government & Computer Services Board (LGCSB)[9]		7 of the 29 County Council Planning Authorities, and 3 of the 49 Town Councils, allows full interactive Public access. More are likely in the future. ✓

[6] www.gsi.ie
[7] www.environ.ie/en
[8] www.marine.ie/Home
[9] www.lgcsb.ie

Institution	Plan	national	regional	local municipalities
Wicklow. And following Town Councils: Bray Arklow Wicklow				

Italia

Institution	Plan	national	regional (20 regions)	provincial (ca. 100 provinces)	local (ca. 8000 municipalities)
Regione Piemonte	Regional and provincial plans; land use plans of the municipalities		✓ possibility to download shape files of the regional plans (territorial plan, sector plans)	✓ possibility to download shape files of the provincial plans	✓ mosaic of the urban land use plans available on the regional WebGIS
Regione Toscana	Regional plans		✓ possibility to download some of the regional sector plans	✓	✓
Regione Veneto	Regional plans		✓ possibility to view and download maps of the Regional Territorial Coordination Plan in pdf	✓	✓
Regione Lombardia	Regional and provincial plans; land use plans of the municipalities		✓ possibility to view and download maps of the regional plans (coordination plan, sector plans)	✓ possibility to download shape files of the provincial plans	✓ mosaic of the urban land use plans available on the regional WebGIS
Regione Liguria	Regional plans; land use plans of the municipalities		✓ possibility to view and download maps of the regional plans (coordination plans, sector plans)	✓	✓

Regione Val d'Aosta	Regional plans		✓ possibility to view maps of the Regional Landscape Plan	✓	✓
Regione Friuli-Venezia Giulia	Regional plans		✓ possibility to view and download maps of the regional plans (coordination plans, sector plans)		✓
Regione Emilia-Romagna	Regional and provincial plans; land use plans of the municipalities		✓ possibility to view and download maps of the regional plans (coordination plan, sector plans)	✓ possibility to view and download maps of the provincial plans	✓ mosaic of the urban land use plans available on the regional WebGIS
Regione Umbria			✓	✓	✓
Regione Abruzzo			✓	✓	✓
Regione Marche			✓	✓	✓
Regione Molise			✓	✓	✓
Regione Lazio	Regional plans		✓ possibility to view maps of the Regional Landscape Plan	✓	✓
Regione Campania	Regional plans; land use plans of the municipalities		✓ possibility to download Regional Territorial Plan	✓	✓ mosaic of the urban land use plans available on the regional WebGIS

Regione Puglia			✓	✓	✓
Regione Basilicata			✓	✓	✓
Regione Calabria			✓	✓	✓
Regione Sardegna	Regional plans; land use plans of the municipalities		✓ possibility to view maps of the Regional Landscape Plan	✓	✓ possibility to view the urban land use plans on the regional WebGIS
Regione Sicilia			✓	✓	✓
Provincia Autonoma di Bolzano	land use plans of the municipalities		✓	✓	✓ mosaic of the urban land use plans available on the provincial WebGIS
Provincia di Roma	provincial plan; land use plans of the municipalities			✓ General Provincial Territorial Plan	✓ possibility to view and download the urban land use plans on the provincial WebGIS
Comune di Mantova	Piano Regolatore Generale				✓ Possibility to view and download the urban land use plan

Latvia

Institution	**Plan**	**national**	**regional (5 region)**	**local (109 municipalities)**
The Ministry of Regional Development and Local Government of the Republic of Latvia	Sustainable Development Strategy of Latvia	✓ Development corridors; Polycentric development; Accessibility;		

		Energetics		
All 5 regions of Latvia	Territory Plans		✓ wide variety of plans spatial planning, development axis, accessibility, science and technology centres, tourism development, woodlands	
All 109 municipalities of Latvia	land use plan (1:10.000), made by municipalities			✓

Romania

Institution	**Plan**	**national**	**regional (8 regions)**	**local (municipalities)**
ANCPI	The digital map of Romania	✓ layers: planimetric elements such as railways, road-network, settlements, administrative boundaries and place names; hydrography such as main rivers, lakes, the Black Sea and Danube Delta		
ANCPI	topographic map database	✓ not all the elements were digitized		
APIA	Digital map	✓ for monitoring the agricultural land use by photogrammetry (restricted access, password required)	✓ also at regional level (restricted access, password required)	also at local level (restricted access, password required)
Bistrita City Hall	Ortophotoplan (map of municip.)			✓ Not online
Bistrita City Hall	Digital map of city			✓ Available to the public
Bistrita Nasaud County	N/A			

Maramures County	N/A			

Spain

It exist in Spain several initiatives working for improving efficiency in managing of Urban information.

- Regional scope systems: Navarra (SITNA), Basque Country (UDALPLAN), Rioja (SIU), Extremadura (SIGCAT), Castilla y León (PLAU), Murcia (SITMURCIA), Galicia (Web Xunta de Galicia), Madrid (GEOMADRID), Asturias (SITPA).
- Provincial scope systems: Huelva, Almería, Sevilla, Valencia, Barcelona (SUDOE).
- Municipal or local scope systems: Including the Town Councils of the principal cities in Spain.
- Professional College of Architects: Alicante, Almería, Canarias, Ciudad Real, Extremadura, Jaén, La Rioja, León, Sevilla, Galicia, Salamanca, Ávila.

The previous initiatives are working for Improving urban planning management and dissemination and can be divided in two levels

- Systems publishing static information:
  These Systems usually are including pdf or jpg documents allowing navigation through the documents and in some cases some interactivity with users (zooming, panning)
  Some others use additionally web map services with digital plans, but are a minority.

- Systems providing a real digital planning linked with legal information
  - Canarias: (SDPUSIPU).
    It includes legal planning documents and graphical information according to specific requirements.
    It's an initiative for building Planning systems

  - Castilla y León: (ITPLAN)
    Similar to Canarias graphical and documents should be incorporated according to specific requirements in order to create digital planning. It also includes some extension from CAD applications allowing preparing final documents.

  - Junta de Extremadura: Is working now for preparing digital information in this area according to specific characteristics and tools that takes part as mandatory in all the calls for Planning launched by Junta de Estremadura.
    It pursues the harmonization in digital planning information but it's only applied in new planning.

Other regions are working for providing these real Planning information systems and also at National level there is an initiative working for preparing

Urban Information system in a collaborative way with the participation of the regional Governments.

Evaluation of the Online Access to Spatial Documents
The tables of the online access of spatial planning documents shows a good overview of the actual status. Several countries have nearly all important plans online and available for the public and mostly free of charge e.g. Czech Republic. In some countries also .pdf-Files are mentioned as plans: e.g. Germany: comprehensive regional plans at federal level. Other countries like Greece have a big backlog and as mostly of these plans are under construction it will be interesting how the table of Greece will change within the duration of the Plan4All project (ending in 24 month). In Italy we find big differences among the regions: e.g. while Piemont, Emilia Romana, Lombardia and Roma have all plans online and available, regions like Umbria, Abruzzo, Marche, Molise, Puglia, Basilicata, Calabria and Sicilia don´t have any plan online. A paradigm in online access is Latvia, which has all plans online and available.

5.5 SDI Projects

One of our main duties in the deliverable was to give an overview of all (important) SDI projects in all countries of the consortium being developed or under development. If only the most important five to ten projects in one country would be verbal described this would lead to an enormous amount of pages, so we decided "only" to make a table of the most important project of each country with a very short description including a link and address to get further informations. (Following criteria have been selected: cross-border level, type of plan, project, name, operator, operator address, email-Address, short description, description, data type, critical comment, scale and link. The projects have been identified on the different levels: national, regional, local). This very rich collection of projects illustrates the complexity of projects and the interaction of governance levels.
As we can not here put the list of the all projects developed, we would like to list the most impressive and interesting projects selected out of this survey. Short informations of these projects are also in Annex 10.3.
The complete table of projects is in the Annex Point 10.3. (only situated there for a better readability of the deliverable).

Austria: www.geoland.at (portal of federal states)
Czech Republic: portal.gov.cz, www.geoportal.cenia.cz (portal of public administration)
France: large number of SDI projects on national level as well as on level of departments and regions
Germany: Deutschland Online Project Geographic Data: http://www.deutschland-online.de/DOL_en_Internet/broker.jsp?uMen=1d7071d6-f2a2-114f-bf1b-1ac0c2f214a8 and
on the regional and local level: Metropolitan Region Hamburg http://www.geodaten.metropolregion.hamburg.de

Ireland: GeoDirectory (portal and base map) is the complete database of buildings in the Republic of Ireland. It assigns each property its own individual fingerprint – a unique, verified address in a standardised format, together with a precise Geocode: www.geodirectory.ie
Italy: large number of project on all levels, several regions have all plans online like Emilia Romagna (Planning Center Emila Romagna http://www.regione.emilia-romagna.it/planningcenter/ for plans, Archivio Cartografica Regione Emilia Romangna http://archiviocartografico.regione.emilia-romagna.it/bookshop/mappeonline.html for base maps and thematic maps)
Latvia: Development of GIS of the State Land Service (SLS)" – SLS GIS, ambitious goal – to create modular geographic data system of State Land Service on national level, www.eulis.org
Malta: Local governments territory planning, infrastructure and supervisory system (TIS), Implementation of GIS in Malta, www.mepa.org.mt
Spain: large number of projects on the national, regional, local and others are listed, also Interreg IIIA one between Spain and Portugal: e.g. Spatial Data Infrastructure for rural territory in Galicia-Northern Portugal (SIGN II), Its purpose is to develop an SDI adapted to the peculiarities of the target area, employing the last programming languages, programs and existing applications, which are able to solve efficiently the required services, and specially those related to cartography and database management. SIGN II

5.6 Best Practices SDI inside and outside the consortium

CORP Conferences (www.corp.at)
Since fifteen years the CORP Conferences, International Conference of Urban Planning and Regional Development in the Information Society, are annually hold in spring time in Vienna, Austria, (and last year in Sitges next to Barcelona, Spain), dealing with Planning and ICT. The main targets are bringing people together, working in an academic field, in administrations and on the private sector, dealing with urban planning, spatial planning, regional planning, surveying, landscape planning, architecture, mobility planning, energy planning and climate change and SDI and ICT: Each year there are more than 120 presentations including reviewed and non-reviewed papers which are all online available: www.corp.at (some in German language, all others in English). Over the years there are dozens of best practises in SDI documented so it is hard to decide which one of the papers should be presented here. **Further projects can be seen online.**
During fifteen years of dealing with the theme some important changes can be recognized:
In the middle of the 90ies SDI was a tool, only a few (young) planners were able to use it and it was the question how can SDI be implemented in the daily work of planning. So working with SDI was not an own profession, but an additional qualification especially young planners had. Many planners were interested in this field while nowadays we can more and more detect that working with SDI is so complex that after having a technical education, either in spatial planning, geography, landscape planning, surveying or architecture…, these people get specialists in SDI.

CentropeMAP - Information Infrastructure for a dynamic cross-border region in the heart of Europe

(CORP 2009:
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www.centropemap.org
Compare also with deliverable 2.2. and in Annex 10.3

Abstract

Centrope is the name of the cross-border region around the boundary quadrangle between the Czech
Republic, Slovakia, Hungary and Austria. For a common development of this region, cross-border access to adjusted and standardized spatial data sets is essential. The aim of CentropeMAP is to provide an interface for geodata stored in four different countries. The project was initiated in the year 2003 introducing a base map of the region on behalf of the public planning association PGO, a co-operation of the three Austrian federal provinces Lower Austria, Burgenland and Vienna. In the beginning, data exchange took place only offline by distributing CD-ROMs among the project partners.

The CentropeMAP map server client went on air in the year 2005. Since this time the user receives maps showing data from servers all over the region together in the same view. Having established and permanently improved the online CentropeMAP portal since 2006, there will be very soon an important extension: CentropeSTATISTICS which will also include statistic data for the whole region. Again, datasets come from local authorities and are put together in the same table. These data can be queried, exported, aggregated, and even visualised via the CentropeMAP portal. This paper has a short look at the history of CentropeMAP, but mainly deals with the current status of the project and its future challenges.

In the first step (2008/2009) of CentropeSTATISTICS the tables and datasets are stored centrally at the CentropeMAP server. There is no problem of realising distributed data storage from the technical point of view, however, the administrative structures in the four countries are still too different from each other so that distributed data storage still remains a dream of the future.

Regular meetings (approximately twice a year) with representatives from the statistic offices of the regions and countries help to ensure that all efforts are put on a solid, official ground. In an upcoming phase of CentropeSTATISTICS also spatial planning experts will be invited to these workshops to help specify the data demand. A prototype version is already running, the first release available for the public is expected at the beginning of 2009.

The CentropeMAP project is hosted on a Linux operated server. Geodata on the server are stored either as shapefiles or in a PostgreSQL geodatabase with PostGIS extension. The map application is powered by two open source software pieces: UMN Mapserver and the Mapbender Client, a PHP and Javascript web browser interface.

The CentropeSTATISTICS extension is a PHP and Javascript application that interacts with Mapbender and is developed by CEIT Alanova. Thematic maps are created using Styled Layer Descriptor (SLD), an XML standard defined by the Open Geospatial Consortium (OGC) to define the appearance of map layers. The statistic

data is linked with an XML generator which allows the user to create chloroplethic thematic maps on the fly.

Adding Value on Geospatial Data Infrastructure with CommunityViz Future Growth Scenarios of Local Communities in Suburb of Warsaw, Poland
(CORP 2009:
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Community of Łomianki is located 25 kilometers northwest from the center of Warsaw Metropolitan Area over the bank of Vistula River. Neighbourhood of Kampinoski National Park wildlife habitats and the landscape compose healthy environment that attracts new residents. Community has experienced dynamic residential real estate development over past 12 years, the population increased by 50% up to about 26000 people.
Lomianki is not purely residential community but also known location of many little craft firms so it's urban fabric a mix of some commercial development concentrated along a highway and surrounding residential areas of various densities.
Lomianki hired Centre for Spatial Management, a consulting firm in Warsaw, to envision potential strategies of development. The part of that project was to define three alternative growth scenarios. The first scenario reflected development under current growth plan. The second scenario reflected more conservative approach focused at on reduction of some undesirable effects of development. The third scenarios called “defensive” was aimed at bridging “local infrastructure gap” In this scenario, development was concentrated and it's density was increased by transferring growth from open-space areas.
On a base of existing GIS system storing , cadastral landuse information, environmental data and zoning regulations Centre for Spatial Management used CommunityViz® software to define spatially scenarios of future growth. As a result interactive “game” combining both spatial and non-spatial assumptions (possibly similar to SimCity) could be used during public discussions on development strategies. Citizens and decision-makers engaged in the planning process could explore and modify alternative growth scenarios, anticipating “on the fly” potential impacts of land-use decisions as well as challenging planning assumptions. The set of indicators that were used was centered around issues of build-out capacity under different zoning regulations, environmental protection; community budget, cost of infrastructure, access to affordable housing and solid support of future economic development.
CommunityViz turned out to be powerful educational tool for both decision-makers and the citizens of Lomianki. They could incorporate specific local values and goals into the planning process and gain better understand of the complexity, difficulties and impacts of land-use issues. CommunityViz is a GIS based tool that allows to build easily added value on existing data infrastructure. We found it to be very productive in domains of “hard” analysis and calculations, “soft” mediation and argumentation, as well as “symbolic” inspiration based on local values what makes it usable for both shortterm and long-term perspectives.

Geological data infrastructure for spatial planning in Poland

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GEOLOGICAL DATA

Serial maps

Activity of Polish Geological Institute (**PGI**) as the geological mapping was concerned, has been generally focused on the construction of multisheet, serial maps, covering the whole territory of Poland or some specific regions. Serial maps, in scale of 1: 300 000 to 1: 10 000, present geological, hydrogeological, engineering - geological, geo-environmental, economic - geological, geophysical and geochemical problems. Presently, basic multisheet serial maps, covering the whole country, are constructed in the scale of 1: 50 000. They include three maps: *Detailed Geological Map of Poland, Hydrogeological Map of Poland and Geological Economical Map of Poland*, fully compiled with the use of digital GIS technology. 1:50000 *Detailed Geological Map of Poland* (**DGMP**) database as the most important and basic geological map exist in E-information market as professionally prepared product, as a final result of advanced, computer-aided processes. This program (DGMP) started in 1994 and have been developed with advanced GIS systems. DGMP database contains data depicting lithology, stratigraphy and the origin of rocks on:

· geological surface map (2 meters below ground level)
· boreholes and mineral resources map
· geological crossections
· synthetic geological profiles

All geological data are gathered during field works using 1:25000 topographic base-maps. Poland is divided into 1069 sheets of 1:50000 geological map. 715 sheets of DGMP have been digitally prepared, that gives app. 67% of database content (fig.1). Except geological data DGMP contains topographic and hydrological raster datasets. This year all field works will be finished but final digital processes are to be ended in 2014.

In 2006 new, complementary program of 1:50 000 Lithological Map of Poland (LMP) was implemented. LMP database will be generalized picture of DGMP emphasizing lithology and origin of surface deposits shown on shaded relief map. Advanced digital technology of joining separate LMP sheets will make possible to prepare seamless geological map for all country area and can be used for environmental analyses on selected areas (e.g. communes, provinces, regions).

New Projects

In 2009 also new, pilot program of 1:10 000 Geological 3D Model for 2 communes in western Poland will be implemented. This project will join additional field works, analyses of geological surface map, boreholes, water intakes and crossections (geological and geophysical) to obtain integrate picture of strata's down to 20-30 meters below the ground level. This model, containing data about mineral resources, lithology and thickness of stratas, first water table location and surface infrastructure and analysed with integrated information systems (*ArcGis* and *CommunityViz*), can be successfully use by authorities and decision makers. To show the real influence of geological data on decision making, author of this project decided to implement some examples of Dynamic Analyses of Influence (DAI) for selected investments using *CommunityViz* software. To show interactions between geology and spatial planning,

the example of waste disposal location have been chosen. The following elements of DAI have been taken into consideration:
· geological data – infiltration map (fig.4); brown colour – not permeable stratas
topographic data – road network and build-up area borders (fig.4); orange colour – build-up area
· indicator data – costs and decision validity parameters (fig.4)
· dynamic attributer and their values (fig.4)
In this example, the following dynamic attributes characterize 2 variants of waste disposal location:
· isolation folia costs for permeable grounds (item: koszt_izolacji, costs in PLN)
· waste disposal distance from build-up areas (item: odl_zabud)
· area of not permeable grounds under the waste disposal in square meters and % (items: pow_np and
procent_np)
· scoring system depending on validity of selected attributes (item: punktacja)

IMPLEMENTATION AND PRODUCT AVAILABILITY

All sheets of DGMP which have been prepared both with analog and digital methods so far, are available for users. Price list settles the fees only for preparing database information. The costs are as follows:
· Plotter print of one map composition (B1 format) - 50 PLN, (12,5 EURO)
· Map explanations - 30 PLN, (7,5 EURO)
· Complete set of vector data for DGMP sheet (*.e00; *.shp) - 50 zł, (12,5 EURO)
· Map composition in raster format (*.tif) - 25 PLN, (6,25 EURO)
· Map explanations in raster format (*.pdf) - 20 PLN, (5 EURO)
· Polish Geological Institute makes digital data available in following vector and raster formats:
ArcInfo *.e00, ArcView *.shp and *.png, *.tif , *.pdf. All information about geological maps are on POLISH GEOLOGICAL INSTITUTE web page: www.pgi.gov.pl

CONCLUSION

Many research teams, stakeholders, planners, officials and teachers ought to be interested in such prepared geological data which can be used in all projects concerning spatial planning, environmental studies, decision processes and education. Polish Geological Institute carries out preliminary works connected with geological data implementation in spatial planning. These projects deal with:
· location of point investments (e.g. water intakes)
· location of line investments (e.g. pipe lines)
· location of area investments (e.g. waste disposal sites, housing estates)
· special-purpose maps (e.g. flood-hazard map, building ground map)
Geological data are verified, complemented and analysed with integrated information systems (ArcGis and CommunityViz) and can be successfully use in many projects to solve environmental and planning problems.

EU-Project: Cross-border Spatial Information System with High Added Value (CROSS-SIS)

(CORP 2007:
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Austria (Austria), Gelderland and Overijssel (The Netherlands), Navarra (Spain) and North-Rhine Westphalia (Germany))

INTRODUCTION

The objective of CROSS-SIS project is to enhance the use of spatial data for spatial decision making in crossborder settings, promoting the modernisation of the regional administrations, the use of INSPIRE and the development of the information society.

COOPERATION IN CHANGE ON BORDERS

In the developing Information Society the access to spatial information will be a key factor for spatial related decision making and could be defined as an infrastructure component. Therefore, Spatial Data Infrastructures (SDI) is currently developed on different levels from local to European.

A set of organisations collect geographical data but they have little or no contact with other organisations doing similar work in neighbouring regions (from the European point of view the INSPIRE directive will focus on the harmonisation of the European developments).

The CROSS-SIS-project is partly financed by the European Union within the Interreg III C program with the aim to enhance the use of spatial data for spatial decision making in crossborder settings, promoting the modernisation of the regional administrations, the use of INSPIRE and the development of the information society (www.cross-sis.com). Some further objectives are to achieve greater efficiency in the acquisition, maintenance, management and distribution of spatial data both at regional and cross-national level. The ambitions of the project are closely related to the directives of INSPIRE (http://inspire.jrc.it/) – so a decentralized approach is favoured, also to go further in modernizing the regional administrations and finally arrive at e-government.

In 2005 all participants Lower Austria (Austria), Gelderland and Overijssel (The Netherlands), Navarra (Spain) and North-Rhine Westphalia (Germany) analysed the available SDIs in their regions. A method to evaluate SDI initiatives in a cross-border context was developed by the Institute for Geoinformatics at the University Münster and used to identify a best-practice in each region. Based on this exchange of knowledge and experiences two pilot-projects are currently implemented in 2006. They should serve as an “opener” for a European spatial data infrastructure as envisioned by INSPIRE.

The application of this spatial data at a cross-border level is undoubtedly a crucial element for the support of crossborder management of various domains, e.g. water management, tourism, environmental protection, statistics, etc. This could also be a drive for the development of both cross-border services and strategies even to the extent of common policies on Spatial information and data management.

GENERAL OBJECTIVES OF CROSS-SIS

The objective of CROSS-SIS project is “To enhance the use of spatial data, as a crucial source for spatial decision making in cross-border settings”. The general objectives of the proposal are:

• Demonstrate how Spatial Information Systems can be a strategic tool and contribute to the strategic objectives and decision-making process in cross-border regions.

• Provide solutions/services for cross-border spatial information use by the customers in the European Regions.

• Promote spatial data as a decisive component for spatial decision making in cross-border scenarios.

• Optimise and share investment, human resources, and technology applied to spatial information in cross-border regions.
• Promote the modernisation of the regional administrations and the use of INSPIRE to attain effective e-government.
• Promote spatial data as a crucial component of the development of the information society.
• Provide a collaboration reference for other institutions and regions.
• Improve the know-how on cross-border SIS of the experts participating in the different workgroups defined in the project
• Spread the knowledge of the experiences on spatial management and policies of the regions participating in the project
• Execution of studies and prototypes of the management of cross-border issues in the areas of statistical and planning.
• Increase the know-how and experience of the experts participating in the Workgroups with regards to the technologies and standards to be implemented in the European regions for achieving a European Spatial Data Catalogue.
• Increase the efficiency of the use of SIS as a key tool in the management of cross-border activities and issues in the areas of statistics and planning
• Detect potential collaboration ideas on these subjects for deepening in the cooperation work between the regions.

PILOT APPLICATIONS

In the CROSS-SIS project pilot applications are currently set up in two specific areas:

Planning

The purpose of the planning pilot is to develop a WEB-GIS-client that presents comparable regional planning data as interactive maps at a European level. The added value of this pilot is not only to present planning data in a cross-border context free of charge via the internet, but also to follow a service-oriented architecture by utilizing OGC (Open Geospatial Consortium) -compliant technologies. Using these, the planning data is integrated into the WEB-GIS-application via standardized Web-Map-Services (WMS) that each partner will set up. One advantage of this process is the fact that the preparation and the up-dating process for the data are both done decentralized by each partner region. Another advantage of the WEB-GISclient is the easy-to-use approach for both beginners and experts. The technical architecture is structured to conveniently enable users to interact with the application (choose regions, level of plans, show the related documents).

The next step in this project will be an investigation, how reference systems could be changed automatically (a new topic, during the CROSS-SIS-project an approach to handle this topic came up). In addition the integration of additional decentralised services should be supported.

Statistics

In the area of statistic the difficulties in harmonizing European data are obvious, showing living conditions in Europe. However, with CROSS-SIS it will be demonstrated that with distributed interoperable web service technologies, which constitute the base for any modern SDI, it is possible to discover, retrieve, visualize and analyze spatial data regardless of the factual physical location of spatial data repositories and geoprocessing facilities. This is a precondition for a seamlessly integrative application of spatial data by statistics professionals in cross-borer settings. But the demonstration will not avoid addressing current semantic data problems. In contrary, it shall also reveal fields for future research. The purpose of the statistical

pilot is to develop a WEB-GIS-client that presents regional statistical data as interactive maps at a European level. The added value of this pilot is to present statistical data in a cross-border context, free of charge via the internet, and also to follow a service-oriented architecture by utilizing OGC (Open Geospatial Consortium)-compliant technologies. Using these, the statistical data is also integrated into the WEB-GIS-application via standardized Web-Map-Services (WMS) that each partner will set up. As a special option it is possible to search for customized selected indicators from EUROSTAT on a regional European level. The search results are visually represented in maps.

CONCLUSIONS

The author wants to give an overview of the CROSS-SIS project, including the state-of-the-art of the SDI Initiatives in the participating regions. He also wants to explain the basic principles that have been developed to implement a spatial data infrastructure at a regional European level and that direct the specification of the two pilot projects. As the project is closely linked to the INSPIRE principles the main objective of the project is achieved if the prototypical system provides the platform for European regions to represent their kind of data.

Beside the CORP Conferences there is a second very important annually held conference on SDI in Austria: **AGIT**, Symposium und Fachmesse für angewandet Geoinformatik, Symposium and trade fair on practical geoinformation, which is mainly held in German, partly in English. The symposium is organised by the University of Salzburg, center of Geoinformatic Salzburg (Z_GIS). The themes of the symposium are much wider than at the CORP, AGIT is dealing with all kinds of GIS /SDI information in connection with all fields of planning and environment but also with health, education and all fields of information technology in connection with maps and plans (**www.agit.at**). Each year a book of the proceedings is published but in comparison to the CORP, the proceedings are not online and there is no service of finding several papers online.

5.7 Conclusions

A description of the situation of SDI on the state, regional and local level of each member state of the consortium, related to spatial planning, is very useful. Links, insider knowledge and useful details, as well as the connection with the Spatial Planning Acts of each state, also in the relation to INSPIRE, are necessary informations for the development of an harmonization of Spatial Data Information in Europe. Compatibility of Spatial Planning Instruments and SDI are crucial for Plan4all, as demonstrated in the structograms: lack of SDI products or incompatibility between planning instruments and SDI structure can be found, e.g. in Bulgaria or Latvia, where SDI is not available on regional level; or in France, where SDI exists on the regional level, but does still not correspond to planning instruments.

A survey on Online Access of SDI planning instruments demonstrates that some important documents, like in Greece, Ireland or Italy, are not online accessible at all.

6 Public and Private Companies and SDI

Actors in SDI and Spatial Planning can be identified in different classes and at different levels: public, public/private and private. Also the scale that they are working with can be different: international, national, regional or provincial, municipal level or on the level of several lots.
This chapter is identifying the different stakeholders and actors in the fields of SDI and spatial planning.

Some further information on this topic can be found in the deliverable of Task 2.4: analysis of user requirements on planning systems.

6.1 Stakeholders and Actors in SDI

Public Companies
Public companies do mostly follow the structure of public administration and are often outsourced or founded by one especial kind of administration, never mind on which level. Some of these public companies which are using planning data and SDI are not producing the planning data by themselves but concluding a contract to planning data companies for analysis.
The following public companies are the most important:

- Business agencies for the states, the regions or (bigger) cities, which have several areas and lots which will be developed during the next years. The main target of these companies is providing new jobs. The lots will be used for commercial purposes.
- Dwelling agencies also working on all administrative levels try to provide enough living space for the population. In most cases they try to offer cheap lots, so that developing companies can create flats on an affordable price. With this both instruments the public administration and politicians have much influence on the development of an area / region.
- Public transportation companies working also on all levels and also transportation associations for whole regions. They have to analyse their patches for passengers and find the cheapest routes with the highest number of passengers. If new routes are being built they have also to analyze the best routes.

Additional there can be other public companies, which mostly follow the spirit of time of privatisation.

- Land surveying offices and agencies for the whole state, sometimes structured in several / many branch offices all over the country,
- Further transportation companies which follow especial political targets e.g. support of waterways and their development.
- Railway companies with different structures all over Europe
- Owner of transport and technical infrastructure
- Federal environment agencies, which work more on a scientific level than the administration of the ministries of environment.

- Public system and software companies who provides support to administrations also in the field of SDI. These companies can be essential for the further developments of SDI in the countries. In most cases big computer applications for public administration are made by them e.g. SDI projects on special themes like flood protections or noise.

Private Companies
The borderline if companies are public, partly public or private are sometimes hard to draw, especially if you compare several states in Europe. In our situation it is not important to which group they belong as this does not have any direct effect on using SDI.

Private companies can be planning engineers, civil engineers and city planners and of course SDI companies on their own. In the wide field of real estate development there are Investors (e.g. banks, insurance companies), real estate owners (public, partly public or private or private ones), real estate agents and development companies.

Universities and students at universities are also important key-players, especially as innovation leaders. NGOs, especially on the environmental field, do also need these technologies.

The wide field of the general public should also be mentioned. Especially during the last decades planning changed in the field of having more participation in the planning process. Environmental impact assessment, mediation in the planning process and local agenda 21 process offer the general public more input to the planning process. The easy and readable preparation of complex planning data are essential to the result of these procedures.

7 European Clusters and Cooperation

7.1 European Clusters

Clusters are seen as an important factor for the explanation of the empirical phenomenon of geographical concentration of economic and innovation activities. More than one definition of clusters exists, depending on its purpose and the specific context of its use. In many discussions no clear distinction is drawn between clusters as a real economic phenomenon and cluster policies and initiatives which are more of a normative function.

Many definitions of clusters exist. Definitions are, by default, context-related and driven by purpose. Whereas from an economic point of view the main purpose is to better understand the drivers of competitiveness and growth, other definitions may follow different objectives, such as providing a legal framework for funding or a reference model for statistical measurement. Whereas definitions aiming at conceptualising clusters are either descriptive or abstract in order to capture the broad range of elements characterising clusters, legal definitions are necessarily defined in stricter and more technical terms in order to provide the framework for the application of State Aid rules and other forms of financial support.
The "Community Framework for State Aid for Research and Development and Innovation" defines innovation clusters as "groupings of independent undertakings — innovative start-ups, small, medium and large undertakings as well as research organisations — operating in a particular sector and region and designed to stimulate innovative activity by promoting intensive interactions, sharing of facilities and exchange of knowledge and expertise and by contributing effectively to technology transfer, networking and information dissemination
among the undertakings in the cluster."

In more general terms, clusters can be defined as a group of firms, related economic actors, and institutions that are located near each other and have reached a sufficient scale to develop specialised expertise, services, resources, suppliers and skills.12 A common element of most cluster definitions is the aspect of a concentration of one or more sectors within a given region as well as the emphasis on networking and cooperation between companies and institutions.

Clusters are defined by relationships, not memberships and their spatial boundaries are variable and not necessarily corresponding with political borders. Cluster geography may be defined by the distance and time that people are willing to travel for employment and that employees and owners of companies consider reasonable for meeting and networking. Geography is therefore not a stable concept but influenced by factors such as travel conditions, cultural identity, and personal preferences. New forms of transport and communication, such as the Internet, are also changing the spatial dimensions of a cluster.

The set-up of cluster organisations or networks is often supported by a clear mandate and public funding from authorities at regional level or more spontaneously initiated within the triangle of universities, incubators and finance, in view to overcome

obstacles to cooperation and allow trust building between partners. When mature and successful, cluster organisations tend to raise the majority of their operating costs themselves by membership and service fees, participation fees for training and conferences, sponsoring etc.

The continuous success of clusters depends on their capability to change and to adapt. The high degree of specialisation associated with clusters bears the risk of greater vulnerability to market shocks if a region's portfolio of clusters is too concentrated, which makes it difficult for a region to adjust timely to market changes. Openness and international cooperation work against these risks.
Besides that, a higher agglomeration of economic activities is likely to cause over time agglomeration disadvantages in terms of increasing factor costs (labour, real estate) or traffic congestions, which may at some point outweigh the advantages of clusters. Finally, the potential benefits of clusters may lead to the pitfall of regions aiming to create clusters from scratch especially in promising growth sectors, without consideration of regional strength or a necessary critical mass in a global context, however defined.

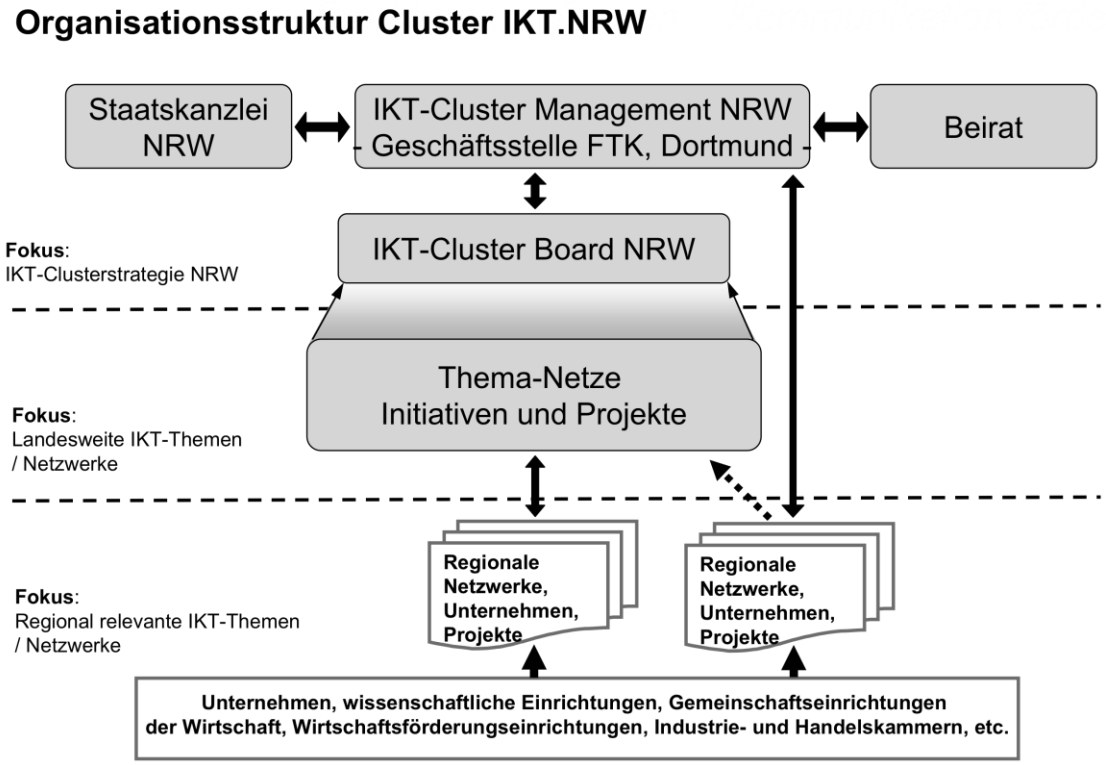
In the context of Plan4all and the field of Spatial Data Information, European Clusters can crucial in terms of knowledge resources, dissemination and implementation. The aim of Plan4all is therefore to identify the relevant clusters and to link the results of Plan4all projects to the activities of the clusters.

The European Cluster Observatory (www.clusterobservatory.eu) identified more then 2000 clusters in Europe. It provides, for the first time, a quantitative analysis of European clusters based on a fully comparable and consistent methodology across all EU countries. It identifies clusters based on regional employment data that are collected mainly from EUROSTAT and national or regional statistical sources. The approach to cluster mapping used is deliberately based on the measurement of the revealed effects that linkages and spillovers have on the location decisions of companies, not on a direct measurement of such dynamic interactions between the driving forces of a cluster. This has raised some misunderstandings as the statistical results are not always easy to interpret, in particular as they do not necessarily correspond with cluster initiatives aiming at creating or further developing clusters.
The amount and quality of knowledge circulating and spilling over between firms located in a cluster is dependent upon the cluster's size, the degree to which it is specialised and the extent to which the locality (the region) is geared towards and focused upon production in the relevant industries comprising the cluster. These three factors, size, specialisation and focus, can be chosen to analyse whether the cluster has reached "specialised critical mass" to develop positive spill-overs and linkages. The European Cluster Observatory defines the extent to which clusters have achieved this specialised critical mass, by employing measures of these three factors as described below, and assigning each cluster 0, 1, 2 or 3 "stars" depending on how many of the below criteria are met.

Following clusters e.g. selected in the field of IT in Europe (Europe Cluster Observatory).

Cluster	Employees	Size	Spec.	Focus	Stars	Innovation	Exports	Notes
Berks, Bucks and Oxon (Oxford), UK	45 071	2.19%	3.68	4.10%	***	High	Weak	
Oberbayern (München), DE	45 026	2.19%	2.56	2.85%	***	High	Weak	
Karlsruhe, DE	36 164	1.76%	3.41	3.81%	***	High	Weak	
Stockholm, SE	34 633	1.69%	3.21	3.59%	***	High	Weak	
Zürich, CH	23 685	1.15%	2.80	3.12%	***	N/A	Weak	
Stuttgart, DE	36 592	1.78%	2.25	2.51%	**	High	Weak	
Kozep-Magyarorszag (Budapest), HU	30 735	1.50%	2.27	2.53%	**	High	Strong	
Surrey, E and W Sussex (Brighton), UK	25 743	1.25%	2.04	2.28%	**	High	Weak	
Hants and Isle of Wight (Southampton), UK	20 428	0.99%	2.20	2.46%	**	High	Weak	
Oslo og Akershus, NO	16 256	0.79%	2.42	2.70%	**	N/A	Weak	
Dresden, DE	16 185	0.79%	2.81	3.14%	**	High	Weak	
Oberpfalz (Regensburg), DE	15 081	0.73%	3.83	4.28%	**	High	Weak	
Kozep-Dunantul (Székesfehérvár), HU	12 535	0.61%	2.65	2.96%	**	Low	Strong	
Nyugat-Dunantul (Györ), HU	10 995	0.54%	2.48	2.77%	**	Low	Strong	
Malta, MT	4 858	0.24%	3.02	3.37%	**	Low	Very strong	
Île de France (Paris), FR	81 204	3.95%	1.55	1.73%	*	High	Weak	
Lombardia (Milan), IT	66 582	3.24%	1.46	1.63%	*	Medium	Weak	
West-Nederland (Amsterdam), NL	49 253	2.40%	1.37	1.53%	*	N/A	Strong	
Madrid, ES	46 013	2.24%	1.46	1.63%	*	High	Weak	
Inner London, UK	44 950	2.19%	1.69	1.89%	*	High	Weak	
Lazio (Rome), IT	40 054	1.95%	1.75	1.96%	*	High	Weak	
Cataluña (Barcelona), ES	38 050	1.85%	1.06	1.19%	*	Medium	Weak	
Danmark, DK	34 465	1.68%	1.18	1.31%	*	High	Weak	
Ireland, IE	30 353	1.48%	1.71	1.91%	*	N/A	Very strong	a
Darmstadt (Frankfurt am Main), DE	29 884	1.45%	1.91	2.14%	*	High	Weak	
Rhône-Alpes (Lyon), FR	28 066	1.37%	1.30	1.46%	*	High	Weak	
Outer London, UK	26 020	1.27%	1.39	1.56%	*	High	Weak	
Piemonte (Turin), IT	25 419	1.24%	1.30	1.46%	*	Medium	Weak	
Düsseldorf, DE	20 929	1.02%	1.13	1.26%	*	Medium	Weak	
Etelä-Suomi (Helsinki), FI	19 819	0.96%	1.50	1.67%	*	High	Weak	
Emilia-Romagna (Bologna), IT	19 577	0.95%	0.98	1.10%	*	Medium	Weak	
Köln, DE	19 559	0.95%	1.31	1.47%	*	High	Weak	
Kärnten (Klagenfurt), AT	4 635	0.23%	2.13	2.38%	*	Medium	Weak	

In the case of Plan4all, SDI Clusters are the most interesting: as an example, the SDI Cluster of Nord Rhine Westphalia, Germany, is a significant one. The aim of the cluster management is the identification of existing strengths in the field of Information Technology, of chances and of actual IKT trends, which can be developed and enhanced. The objective of this cluster is to take a leading role in the future leading roles and technologies, taking also into account the regional market situation and the core competences of the region.
In this cluster, such fields like SOA/SaaS, Mobile Communications, Geo Information, Broadband, Smart Cities and IT-Security are the main fields of activity.



Schema of the IKT Cluster Nord Rhine Westphalia.

Another example is the GIS Cluster Salzburg in Austria. Salzburg with the University of Natural Science, Department for Geography, is well known all over Austria and in Europe and has a leading role in educating GIS /SDI technologies. One major event in the field of SDI is the AGIT, a symposium and trade fair, which takes place every year (compare 7.3). Out of this centralisation of know how in SDI several more or less small companies developed, the connecting element is SDI, the core businesses differ from planning to biology, geography, surveying and so on. With the federation of 15 more or less small companies and institutes of research in the SDI cluster the importance is growing, representing about 150 employers in the field of SDI development and providers.
Aim of the Cluster is the linking of competences in the GIS/ SDI field and the positioning of Salzburg as a clear partner in the geoinformatical competence centre in

Europe. The responsibilities of the cluster are the networking of enterprises and scientific infrastructures, connected with the University of Salzburg and SMEs (www.giscluster.at).

7.2 Regional and cross-regional cooperation

Cluster policies are rightly seen as an instrument to improve national and regional competitiveness, which explains why only few of the cluster programmes have an international dimension. This perception of national and regional-centric approaches has recently started to change. Taking into account the effects of globalisation, which strengthens the competition between different locations but offers also new scope for business cooperation along the different value chains, trans-national cluster cooperation appears in a different light.

In the field of planning cross-regional cooperations are strengthened by several fundings of the European Union. Several programmes like INTERREG try to improve the cooperations between different countries. The regions defined by one particular Interreg project can vary and doesn´t have to overlap administrative borders. They can be transnational or within one country.

To name all cross-border regions or even the projects related to planning and SDI in the countries of the consortium would be to much, so we decides to do it just for one country as example. In Workpackage 8 Validation and especially in WP 9 Dissemination the project partners will have to develop this point further. Compare also the table of the important SDI projects in the Annex 10.3.

Austrian cross-border project of the EU, Programme under the European Territorial Cooperation Objective, co-funded by the European Regional Development Fund (ERDF) (http://ec.europa.eu/regional_policy/country):

- Operational Programme 'Alpine Space'
- Operational Programme 'Germany (Bavaria) - Austria'
- Operational Programme 'Alpenrhein - Bodensee - Hochrhein'
- Operational Programme 'Italy - Austria'
- Operational Programme 'Austria - Czech Republic'
- Operational Programme 'Central Europe'
- Operational Programme 'Austria - Slovakia'
- Operational Programme 'Austria - Hungary'
- Operational Programme 'Slovenia - Austria'
- Operational Programme 'South East Europe (SEE)'

Within this Operational Programmes of all European Countries of the consortium there are many project related to SDI and planning. So it is up to WP 9 to find further partners beside the partners already mentioned in the projects Annex 10.3.

8 Authors

UWB - University of West Bohemia (CZ)

ISOCARP – International Society of City and Regional Planners (NL)

Olomouc - Statutarni mesto Olomouc (CZ)

TDF - Technology Development Forum (LV)

HSRS - Help service remote sensing, s. r. o. (CZ)

LGV Hamburg - Landesbetrieb Geoinformation und Vermessung (DE)

EUROGI - Stichting EUROGI (PT, NL)

ZPR - Zemgale Planning Region (LV)

PROVROMA - Provincia di Roma (IT)

FTZ - Fondazzjoni Temi Zammit (MT)

GEORAMA - GEORAMA (GR)

NASURSA - Navarra de Suelo Residencial S.A. (ES)

Hyper - Hyperborea S.r.l. (IT)

GIJON - Ayuntamiento de Gijón (ES)

MAC - The National Microelectronics Applications Centre Ltd. (IE)

CEIT ALANOVA - CEIT ALANOVA gemeinnützige GmbH (AT)

DIPSU - Dipartimento di Studi Urbani – Università degli Studi di Roma Tre (IT)

EPF - Euro Perspectives Foundation (BG)

ADR Nord Vest - Agentia de Dezvoltare Regionala Nord-Vest (RO)

Lazio - Regione Lazio – Direzione Regionale Territorio e Urbanistica (IT)

HF - Help forest, s. r. o. (CZ)

AMFM - AMFM GIS Italia (IT)

MEEDDAT - Ministry of Ecology, Energy, Sustainable Development and Town and Country Planning (FR)

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10 Annex

10.1 Annex I: Planning Systems Description of theSstates of the Consortium Members

In Annex I there is a description of all countries of the consortium:
Austria, Bulgaria, Czech Republic, France, Germany, Greece, Ireland, Italy, Latvia, Malta, Netherlands, Portugal, Romania and Spain.

AUSTRIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Austria is a federal republic consisting of nine autonomous states and more than 2.200 communities.

Administrative competence for planning

The role of the federal state in the planning system is limited as there is no competence of spatial planning and development on the national level but especially for the growing importance of EU policies the ÖROK, the Austrian conference on Spatial Planning, a federation of the federal state and all nine states, is coordinating spatial planning on the national level. Sectoral plans and concepts are made by individual federal authorities (ministries) e.g. flood protection, transport infrastructure or energy. Nevertheless there is no national legally binding plan but the Austrian Spatial Development Concept, which describes the planning situation on all levels and in all relevant sectors. Every ten years it will be updated, next in 2011.
The nine states (provinces) have the major responsibility of development and planning in Austria and are responsible for state and regional planning legislation and operational planning, as well as for verifying the local plans (spatial development plan and land use plan) prepared by cities and municipalities. As the federation of municipalities in regions is voluntary but supported and mainly financed by the states most communities belong to a region. During the last years due to the EU regions got more importance.

Main planning legislation

Each state has its own planning legislation and administrative procedures. However, in all states municipalities are empowered to prepare their local/spatial development plans (1:10.000) and land use plans (1:5.000) for the whole municipality, which are verified by the states. For the built up and being developed land zoning plans are made (1.1.000, 1:500).

Planning and implementation instruments

The most important planning instruments are the land use plan and the zoning plan made by the municipalities. They are based on the development plans and concepts of

the state and include sectoral inputs on the national level (e.g. infrastructure axis). Local development plans are the fundament for these plans.

Development control

On the national level each ministry is responsible of its own sectoral development e.g. flood protection, transport infrastructure, energy.
The concepts and programs of the nine states have to take over the content of the sectoral plans of the federal state but over all they are responsible for its own concepts and plans making and approval.
As already mentioned the municipalities make their own plans but the local development plans and the land use plan are approved by the state. The zoning plan is made and approved by the municipality.
The provision of the land use and zoning plans has to be observed by land owners. They have to apply for a building permit for any development (expect there are very small constructions or reconstructions) at the municipality.

Planning system in practise

A hierarchical approach to planning ensures that the plans prepared at the local level have regard to the provisions of the plans drawn up by the states and at regional levels which, in turn, do have regard to national policies and standards.
With the enlargement of the EU, especially Lower Austria has acquired new development potential. Setting up Centrope, an institution with formal political commitments by its regional members from four adjoining countries (Austria, Czech Republic, Hungary, Slovakia), including the two capitals of Austria and Slovakia, provides supra-national, strategic planning opportunities for large scale cross border projects.

Fast Facts: (2008)

Total Area:	83.870 km²
Total Population:	8,032.900
Population Grows:	0,44%
Unemployment Rate:	3,8%
GDP:	281. billion €
GDP per capita:	33.800 €
GDP growth rate:	4,1%

Settlement Structure:

Capital City:	Vienna: 1.69.000 population, 2.041300 metropolitan area
Second City:	Graz : 255.370 population
Density:	99 pop/km²
Density settlement area:	257 pop/km²
Urban Population:	67%

Sources:

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BULGARIAN SPATIAL PLANNING SYSTEM

Political and administrative organization

According to the constitution, Republic of Bulgaria is a unitary state with parliamentary system of government and local selfgovernment. The National parliament is one-chamber (National Assembly), consisting of 240 national representatives, elected for a four-year term of service. The head of state of the republic is the President, elected for a five-year term of service. The Council of Ministers is the main body of executive power.

The Administrative Territorial Organization Act of the Republic of Bulgaria, adopted in 1995, defines the procedures and criteria for creating administrative territorial units and making changes in them. According to this Act the territory of Bulgaria has two administrative-territorial levels- districts (called "oblasti") and municipalities (called "obshtini"). Currently the country is divided into **28 districts** and **264 municipalities** including the municipality of Sofia-city which has the status of a district.

According to the Regional Development Act, for regional planning purposes the country is divided into **6 planning regions**. They do not have administration and are directly governed by the Ministry of regional Development and Public Works.

The district is an administrative-territorial unit for implementing regional policy, conducting state governance at lower levels and ensuring correspondence between national and local interests. Each district has its territory, boundaries, population, name and administrative centre. **The district** is headed Governor of the Region appointed by the Central Government. The district governor, supported by the district administration is delegated some legislatively defined functions in spatial planning within the district.

The Districts are subdivided into **264 Municipalities**, which are Self-governmental Local Administrations. The head of the municipality is the Mayor, who is directly elected and is responsible for the government of the municipality together with the local parliament (Municipality council). The general policy of the municipality is the major role of the Municipality council, which is also responsible approving the annual budget, the regional and spatial plans as well as all major normative acts, suggested by the Mayor and the administration. The Mayor and his administration are having the functions of the local body of executive power. They are responsible for the development and implementation of the regional, spatial plans, including all regulations and building permits.

Administrative competence for spatial planning

Naturally, the Parliament has legislative role in spatial planning, delivering the primary legislation in the field.

The Ministry of Regional development and Public Works is the responsible Ministry formulating the government's policy on regional and spatial planning. Its main responsibilities are stated in the adopted in 2001 Spatial Planning Act. The Minister of Regional development and Public Works appoints a National Expert Board on Spatial planning and Regional Policy which approves planning documents of national importance.
More specifically the main Directorate of the Ministry dealing with spatial and city planning policies and legislation is the Directorate on Spatial planning, responsible for the general framework and related normative orders and recommendations for spatial planning.
At the District level, in each district administrations are structured Directorates of Regional Development, which are responsible for the regional policy within the district. Depending on the actual situation and the spatial planning objectives and tasks of regional and inter-municipality importance, the District Governor has the right to appoint a regional expert council on spatial planning.

Major responsibilities and activities in the field of spatial planning belong to the Municipal administrations, Mayor and the local parliaments. They are developing the Municipal master plans and the detailed master plans, which are the basic planning documents in the Bulgarian Spatial planning system.

Main spatial planning legislation

The general legal framework for spatial planning in Bulgaria by the following laws:
1) The Spatial Planning Act (2001)
2) The Black Sea shore spatial planning Act- in force from 2008
3) Regional Development Act (2008)

The Spatial Planning Act is the major legal instrument, which basic principles are:
· Equality of all kinds of property rights;
· Balance between private and public interests (related to land-use and development);
· Supremacy of public interests in respect to strategic aspects of the territory (like ecology, technical infrastructure, cultural heritage)
· Integral link between spatial planning and regional development.

The last principle is the most problematic, because such links between the Spatial planning Act and Regional Development Act are very weak and unclear.

The Black Sea Spatial Planning Act is in force from 1January 2008, and its major objective is to create the necessary legal and normative framework for spatial planning and development for the sensitive area of the Bulgarian Black Sea cost. Basically the acts are defining two zones- A and B. The first is 200 m wide, including the contact zone between the sea and shore, first 100 m of the territory (the beaches) and 200 m of the Black Sea Aquatory.

Spatial Planning and implementation instruments- Development control

The legal framework defines two basic types of Spatial planning instruments:

A) **Spatial** Development schemes at national and regional level- these can be defined as **strategic spatial planning documents**, giving the general spatial planning

framework. According to the Spatial Planning Act (2001) there two types of schemes: General and Specialized.
The general Schemas are divided on National and Regional. The National General Spatial Development Scheme shall specify the necessary means for attaining the objectives and tasks of spatial planning on national level, contingent on the overall sustainable social-economic development. The Scheme is elaborated according to a specific methodology, developed by the Ministry of Regional Development and Public Works.
The Regional General Spatial Development Schemes are **taking into consideration the national spatial framework, developed by the** he National General Spatial Development Scheme, transferring it on the lower territorial levels. These schemes could be developed on regional (planning regions, defined by Regional Development Act (2008)), district and inter-municipality level.
Specialized (Thematic) Schemas for Spatial Planning, according to the Spatial Planning Act, are developed when there is a need to be solved some specific spatial problems, related to some major projects, infrastructures or other objects with national, regional or inter-municipality importance.

B) Spatial planning on local level is including two types of instruments: Master Plans and Detailed (regulatory) plans.
Master plans are providing the basis for the overall spatial planning of the areas of municipalities, of parts thereof or of individual towns with the land-use areas thereof. The projections of the master plans, determining the general structure and prevailing purpose of the parts of the area, the type and purpose of the physical infrastructure and the protection of the environment and the cultural and historical heritage sites, shall be mandatory in preparation of the detailed plans.
The Detailed plans shall particularize the spatial planning and building development of settlement territory and plots. The planning forecasts of detailed plans shall be mandatory in investment project designing. A detailed plan shall enclose grading plans, plans for water supply, sewerage, electrification and, where necessary, for green systems, subsurface investigation, central heating and hot-water supply, for gas supply, telecommunications, etc.

Planning system in practise

A hierarchical approach to planning ensures that the Spatial plans (Master and detailed) prepared at the local level are taking into account the spatial development frameworks, developed by the General and Specialized Schemas at National and regional level.
The state has obligations to set up comprehensive planning schemes for the national territory (National General Spatial Development Scheme) and for the regions (Regional General Spatial Development Schemes). Local authorities (municipal councils and mayors) are obliged to set up master plans and detailed development plans.

Fast facts*:

Total area:	111001,9 km^2
Total population (2008):	7 640 238
Population Grows (1990-2007):	-1,4 %
Unemployment rate (first quarter 2009):	6,5%
GDP (2007)	28.9 billion €
GDP per capita (April 2009):	3753 €
GDP growth rate (2003-2007):	6%

Settlement structure*:

Capital city:	Sofia
Second city:	Plovdiv
Density (2008):	68,9 pop/km^2
Urban population (2007):	70,7 %

*Source:
1) National Statistical Institute

HIERARCHICAL SPATIAL PLANNING SYSTEM

Strategic spatial planning

- The National General Spatial Development Scheme (national level)
- Regional General Spatial Development Scheme (regional level)
- Specialized Schemas for Spatial Planning (national and regional level)

Local spatial planning

- Master Plans (municipal, city level)
- Detailed (Regulatory) Plans

Approval authority **Geographical Extent**	**Europe**	**National**	**Planning Region (6) and Districts (28)**	**Municipality (264)**
Europe	Plan for the Development of the Community Space			
National		General and Special (Thematic) Spatial Development Scheme (1:1.000.000 / 1: 500.000)		
Planning Region (6) and Districts (28)			Regional General and Specialized (Thematic) Spatial l Development Scheme (1:500000 / 1: 100000) (1:250.000)	
Municipality (264)				Master Plans (1:10000-1:25.000) Detailed (Regulatory) Plans (1:10000 - 1:1.000, 500)

CZECH REPUBLIC SPATIAL PLANNING SYSTEM

Political and administrative organisation

The Czech Republic consisting of historic parts of Bohemia, Moravia and southern part of historic Silesia with more than 6 200 communities.
The country is divided in 14 regions ("kraj"), one of them being the Capital City of Prague.

Administrative competence for planning

The powers in town and country planning activities are by the Building Act (New Building Act from year 2007) entrusted to following authorities:

- Municipalities
- Regions
- The Ministry for Regional Development

Ministry for Regional Development is the central administrative authority in the sphere of town and country planning and Building Regulations. It executes the state supervision as far as town and country planning is concerned. Ministry for Regional Development procures the spatial development policy and planning materials necessary for the policy.

Regional office procures the spatial development principles – a new type (from 2007) of regional planning documentation, they serve as a strategic document. Furthermore Regional office procures planning materials necessary for the spatial development principles.

Municipal authorities in delegated competence procures and approves local plan, regulatory plan and planning materials.

Main planning legislation

The new building Act with 4 implementing decrees to Building Act, related to town and country planning, set out the legal framework for land planning in Czech Republic - regulate the position and competences of planning authorities and other special authorities at the level of ministry, municipalities, municipalities with extended authority and regions.
General principles of the new act:

- Enable public access to territorial information, guarantee public participation
- Planning analytical material provides constantly and systematically and updates evaluation of the area situation, its limits and its possible use. These data are essential for planning documentation
- Spatial development policy as a planning tool for whole area of the republic that determines strategy and conditions for fulfilling planning objectives and tasks in state and international context
- Spatial development principles as a new regional planning tool that should coordinate regional development, organisation of their territory and municipal planning activities in hyper-local importance
- Local plan determines areas for further development and basic requirements for area and spatial arrangement
- Regulatory plan is a centralised planning permission

Planning and implementation instruments

Planning tools are instruments to enforce planning objectives and tasks in the territory at the international, regional and local level. The main planning tools are

- **planning materials** (consist of planning analytical materials and planning study)
- **spatial development policy**
- **planning documentation** (Spatial development principles, Local plan, Regulatory plan)
- **planning permission**

- planning analytical materials are a new planning tool procured by law for the whole area of the Czech Republic and are continuously updated. They serve especially as data for procuring spatial development policy (national level), planning documentation (regional, local level), their changes and for territorial decisions.
- the spatial development policy is a binding document with state-wide authority for spatial development principles, local plans and regulatory plans procurement and issuing and for territorial decisions.
- spatial development principles are binding for local and regulatory plan provision and issuing and for decisions in the territory. The principles specify and develop planning objectives and tasks in hyper-local context according to spatial development policy, determinate the strategy for their fulfilling and coordinate the municipality planning activities.
- local plan is procured and issued for whole area of a municipality and is binding for territorial decisions and for planning permission issuing
- regulatory plan is procured for identified plots

Development control

The Ministry is obliged by the law to elaborate a spatial development policy draft, which is then submitted to the Czech government for approval. Every four years the Ministry works up a report on spatial development policy application. On its bases the Czech government decides on the policy actualization or on a new draft elaboration.

Regional office procures a spatial development principles draft and submit it for assessment to the Ministry and then for approval to regional assembly. The principles are issued by regional assembly as a provision of general character. Two years after, at the latest, regional office is obliged to propose a report on spatial development principles application in the past period to the regional assembly. Based on the report either the principles are updated or a new draft is to be worked out then.

The municipal assembly takes the decision on local plan provision. The regional office assesses the local plan draft regarding general territorial relations, spatial development policy and regional planning documentation before local plan issue proceedings. There is held a public hearing on modified and assessed draft then. Afterwards the local plan is issued by the municipal assembly as a provision of general character. Every four years the procurer submits a report on local plan application in the past period to the municipality.

Planning system in practice

According to the New Building Act, the position of planning documentation is more clear in legal system in the Czech Republic. Relations and binding forces among plans and materials in different levels are strictly defined. New requirements for planning documentation forced process of adaptation or making new plans in local and regional level.

Fast Facts: (2008)

Total Area:	78 867 km²
Total Population:	10 467 542
Population Grows:	0,82%
Unemployment Rate:	4,4%
GDP:	142. billion € (milliard)
GDP per capita:	13 631 €
GDP growth rate:	3,1%

Settlement Structure:

Capital City:	Praque: 1 237 893 population
Second City:	Brno: 370 592 population
Density:	133 pop/km²

Sources:

- Czech Statistical Office, http://www.czso.cz/
- Town and country planning in the Czech Republic 2007, Ministry for regional development, Institute of spatial development
- Act on Town & Country Planning and Building Regulations (Building Act) No. 183/2006

FRENCH SPATIAL PLANNING SYSTEM

Political and administrative organisation

France is a republic consisting of 26 Régions (including overseas), 101 Départements (including overseas) and more than 36000 Communes (municipalities). France started some 30 years ago to get decentralised. Thus two line of government exists with clear separation of duties (see table 1).
On the one hand the national government has de-concentrated offices at Région (NUTS 2) and Département (NUTS 3) levels. The government representative is the prefect (Préfet). The “Préfet de Région” has hierarchical precedence over the "Préfet de Département". The later have hierarchical precedence on several “sous-Préfets”. Each ministry has its own de-concentrated offices that report both to the ministry and to the appropriate Préfet.
On the other hand local governments exist at the Région, Département, commune levels. The population elects them and they all are freely administrated and managed. No precedence exists between levels except if the law decides otherwise. Communes can assemble themselves into intercommunalités for specific duties (Communautés urbaines, communautés d'agglomération, Communautés de communes, Pays).

Figure 2: French administrative organisation

France	Administrative units	National government	Local government
NUTS 0	Métropole + DOM Main land + overseas	Ministries Ministerial departments	
NUTS 2	22+4 Régions	Préfecture de Régions Directions (directorate) régionales	Conseil régional
NUTS 3	96+4 départements	Préfectures de départrement Directions départementales	Conseil général
		Sous-préfecture	
			Intercommunalité
NUTS 6	36000 communes		Conseil municipal

Administrative competence for planning

Several ministerial departments have competence in the spatial planning system. They mainly define the applicable laws and define the roles of the respective bodies in charge of implementing the law:

- The ministry in charge of town and country planning, responsible for the "code de l'urbanisme"
- The ministry in charge of the environment, responsible for the "code de l'environnement"
- The ministry in charge of agriculture, responsible for the "code rural"

The "délégation interministérielle à l'aménagement et la compétitivité des territoires (DIACT)" prepares, impulses and coordinates the development policies undertaken by the government and accompanies the economic mutations having an offensive approach to competitively.
France has a long tradition for spatial planning, either development planning and town and country planning. Planning is undertaken either by the state or the local

governments. It can relates to a specific sector (e.g. transport) or to several sectors over a given territory (e.g. a region)

Main planning legislation

New planning tools have been devised over the last ten years through the major laws of 1995 and 1999 (loi d'orientation pour l'aménagement et le développement du territoire – LOADT – de 1995 et loi d'orientation pour l'aménagement et le développement durable du territoire – LOADDT – de 1999).

Planning and implementation instruments

Specific planning schemas (schémas de services collectifs – SSC) define the orientations as of 2020 regarding structuring policies such as postgraduate education, research, culture, health, information and communication technologies, energy, natural and rural areas, sport and transport.
Regional planning schemas (schémas régionaux d'aménagement et de développement du territoire – SRADT) objectives include medium term fundamental orientations for the sustainable development of French regions and feed the contractual arrangements between the State and the Regional authorities. Each document shall include a prospective analysis, a charter for the planning and the sustainable development of the region and cartographic documents. Each SRADT contains the location of the major facilities, infrastructures and general interest services, the economic projects and their development, projects for appropriate development of urban, peri-urban and rural areas, protection and enhancement plans for the environment, protected sites, landscapes, and natural patrimony, and rehabilitation of deteriorated areas. It contains also a specific section on transport including railway transport.
Since 2004 and for an experimental 5 years period, region can elaborate strategic orientations for promoting a balanced development of the regional territory (Schéma régional de développement économique - SDRE) allowing the regional authority to distribute financial contributions to enterprises.
As far as town and country planning is concerned (often referred to the world "urbanisme" in French), three planning tools are defined by the French law:

- Directives territoriales d'aménagement (DTA)
- Schémas de cohérence territoriale (SCOT)
- Plans locaux d'urbanisme (PLU) and cartes communales

DTA are local spatial planning documents drawn up by the State over strategic areas where there are problems of coherence between major facilities (such as transport, general interest facilities) and huge pressure affects them (e.g. demography, land property, ecology). DTA have to balance development and protection.
SCOT is a strategic spatial planning document that brings coherence at an agglomeration level between policies regarding town planning, housing, commuting and commercial facilities. It balances the areas that can be built up, those to be preserved, those that have to remain agricultural or forestry. It provides orientation for balancing housing, social mix, public transport. It can also provide decision on major infrastructure projects (e.g. roads, wastewater treatment). SCOT includes a sustainable development plan. SCOT are drawn up by "intercommunalités", i.e. communes that are grouped themselves for the purpose of sharing the planning document
PLU and cartes communales must be compatible with the SCOT. It defines at the commune level the building regulations: zones that will be built-up for housing or

activities, zones that must remain natural or for agricultural use. These zones are defined down to the cadastral parcel level. As a operational document, PLU and cartes communales are composed of two main parts: the regulation itself and the zoning map. Communes or some time intercommunalités draw them up. It is up to the municipal council to decide to develop a PLU. In case no such document exists, the general planning regulation applies.

Development control

On the national level each ministry is responsible for defining the planning development procedure. In general procedures contain five main phases

- Diagnostic (investigation and assessment of past and present land status)
- Development (discussion of possible future and strategic orientation, discussion on selected scenarios)
- Democratic debate – enquête d'utilité publique (presentation to the citizens and comments gathering)
- Adoption (verification that the legal process undergone correctly)
- Third parties opposability (every further projects must conform the planning documents)

DTA supersedes lower spatial planning documents (SCOT and PLU). SCOT and PLU have to be approved by the "préfet de département" before being applicable.
Every landowner must conform to the city and country planning provisions once adopted. These provisions apply to any building permit and any development.

Planning system in practice

As far as building permits is concerned, not all of the 36.000 municipalities have the human capacities to check the conformance of building permits to the spatial planning provisions. Only the 10.000 communes that contain more than 10.000 inhabitants must have such capabilities. It is up to the Commune to decide to perform the checking, alone or within intercommunalités. Otherwise the state administration (in its offices de-concentrated at the level of département) is responsible for undertaking it. In any case the Lord mayor is responsible for the legality of any approved building permits.
Nowadays the spatial planning documents exist in a digital form but few of their cartographic annexes are usable in a GIS and even less are accessible on the Internet via a web service. Nonetheless good practices are available such as the cities of Nice, Nantes, Lyon, Poitiers, Rouen, Nantes, Lyon or at a departemental level such as CG54. Specification for digitising PLU has been created by CNIG (national, council for geographic information). The Pays de la Loire Region or several départements such as 65 have developed good-practices for turning PLU digital.

Fast Facts (2008[10])

Total Area:	550 000km² (excluding overseas land)
Total Population:	64 303 482 (including overseas people as of 1-1-2009)
[11]	
Population grow:	0.57%[12]
GDP:	1955 billion€
GDP per capita:	107.3 Purchasing Power Standards[13], 30 413€[14]
GDP growth rate:	2.9% [15]

Settlement Structure (legal population as of 2006[16])

Capital city:	Paris: 2.203.817 inhabitants, 11.769.424 urban metropolitan area[17]	
Millionaire urban areas:	Lyon	1.748.274
	Marseille-Aix-en-Provence	1.601.095
	Lille	1.164.717
	Toulouse	1.102.882
	Bordeaux	999.152
	Nice	991.899
Major urban areas:	29 urban areas have more than 250 000 inhabitants	
Density:	111 inhabitants/km² (excluding overseas)	
Urban population:	81% (inhabitants leaving in urban areas)	

Sources:

http://www.diact.gouv.fr/fr_1/contenus_secondaires_714/est_amenagement_du_territoire_30/politique_amenagement_34/communs_tout_35/planification_spatiale_34.html

http://www.diact.gouv.fr/fr_1/diact_partenaires_49/diact_241/missions_458.html

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[10] http://www.insee.fr/fr/themes/detail.asp?reg_id=99&ref_id=bilan-demo&page=donnees-detaillees/bilan-demo/pop_age2b.htm

[11] http://europa.eu/abc/european_countries/eu_members/france/index_en.htm

[12] http://www.insee.fr/fr/themes/tableau.asp?reg_id=98&ref_id=CMPFPS02136

[13] http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsieb010

[14] http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATTEF08105

[15] http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATTEF08112

[16] http://www.statistiques-locales.insee.fr/esl/baseTelechProduit.asp?strProd=1637&IdSousTheme=2&IdSource=&NomThemeOuSource=R%C3%A9gions%2C+d%C3%A9partements+et+villes+de+France

[17] Une aire urbaine est un ensemble de communes, d'un seul tenant et sans enclave, constitué par un pôle urbain, et par des communes rurales ou unités urbaines (couronne périurbaine) dont au moins 40 % de la population résidente ayant un emploi travaille dans le pôle ou dans des communes attirées par celui-ci.

GERMAN SPATIAL PLANNING SYSTEM

Germany is a federal republic consisting of 16 federal states and more than 12.200 communities. The federal structure of Germany with the three levels of federal, federal state, and local government is decisive for the system of spatial planning in Germany. In Germany Spatial planning is accordingly decentralised. The distribution of competence and functions between the three levels of government produces a system with legally, organisationally, and substantively differentiated planning levels. In 2006, the legislative competencies of the Federation and the states were reorganised under the so-called "federalism reform". The main changes include:

- the abolition of framework legislation (Article 75 of the unamended Basic Law),
- reorganisation of the catalogue of the Federation's exclusive legislative powers,
- reorganisation of the catalogue of concurrent legislation

Article 73 (1) nos. 1 to 14 of the Basic Law lists the areas in which the Federation has exclusive legislative powers to regulate matters uniformly for all states. Basis of the "federalism reform" (2006) comprehensive regional planning at federal, federal state or county level was transferred from framework legislation into concurrent legislation (Article 74 (1) nos. 1 to 33). Because urban planning law establish legal restrictions concerning land utilization it belongs to the legislative competence of Basic Law Article 74 (1) "land law" (no.18). Article 72 (1) of the Basic Law gives the states the right to pass laws in matters of concurrent legislation as long as and to the extent that the Federation does not exercise its legislative powers. If the Federation exercises its right of concurrent legislation, the states may legislate for deviating arrangements in the areas listed in Article 72 (3) points 1 to 6. They include spatial planning (comprehensive regional planning at federal, federal state or county level), land distribution, as well as nature conservation and landscape management (except for the general principles of nature conservation, the law relating to species conservation or marine nature conservation).

Regarding spatial planning legalisation the Federation the Federal Spatial Planning Act was adopted on 8th April 1965. Because of federalism reform an extensively amended version of the act came into force on 30th June 2009.

In Germany the essential purposes of spatial planning are elaborated and implemented by a range of tools on three levels:

- Federal spatial planning,
- State spatial planning
- Regional planning.

State spatial planning addresses spatial development in the state as a whole, while regional planning is concerned with subdivisions of a state. State spatial planning authorities have to ensure that the goals and principles of national spatial planning and state spatial planning are respected and taken into account in local government planning. In a system of mixed top-down/bottom-up planning (principle of countervailing influence), they accept suggestions from local authorities and are required to coordinate local development goals with superordinate planning goals. The aim is to ensure that urban land-use planning does not cross the development aims of state spatial planning but supports them, thus avoiding investment mistakes. The function of these plans (name differ from state to state like state development plan or. state development programme) is to coordinate the spatially relevant planning and projects of all competent organisational units and to tie them in with the conceptual aims of state spatial planning itself. Regional planning is organised differently from state to state. In most states it is entrusted to special associations set up primarily by local authorities, differing in organisational detail (e.g., Bavaria, Brandenburg, Saxony-Anhalt). In the other states, regional planning is assigned to counties (Lower Saxony), middle-tier state bodies (Hessen, North Rhine-Westphalia), or the government level (Schleswig-Holstein). Regional planning has not been introduced in Saarland. Depending on the state, regional plans take the form of ordinances, local government statutes of bye-laws, or special types of government measure. In the city-states of Berlin, Bremen, and Hamburg a preparatory land-use plan pursuant to Section 5 of the Building Code can perform the same function.

Below the state level of spatial planning, regional planning is concerned with the detailed elaboration, sectoral integration, and implementation of the goals of state spatial planning. It accordingly mediates between state spatial planning and local urban land-use planning. Regional planning must conform with federal and state spatial planning.

Municipalities are autonomous and responsible for spatial planning in their territory according to the principles and guidelines defined by higher levels. This municipal autonomy is guaranteed by the federal constitution that emphasises the municipal self-government. Local urban land-use planning is a formal tool on the basis of the Federal Building Code. The Federal Building Code is supplemented by the Plan Notation Ordinance and the Land Utilisation Ordinance. The Plan Notation Ordinance lays down the details for graphic representation and designation for urban land-use planning. The Land Utilisation Ordinance, which came into force in 1962, and which has since been amended several times (last time: 1990) to take account of current developments, enumerates general and specific categories of land use and sets rules for determining the intensity of built use, building method and design, and permissible lot coverage. This has standardised the urban land-use plans prepared by local authorities.

The most important local planning instruments are the preparatory land-use plan and the binding land-use plan. The preparatory land-use plan is prepared for the entire municipal territory. It outlines the use to which land is to be put to meet the foreseeable needs of the community in keeping with the spatial planning and development goals of the municipality. This is the plan's particular role in urban development. Section 5 of the Federal Building Code regulates its content. The

binding land-use plan is drawn up for a section of the municipal territory. It must be developed on the basis of the preparatory land-use plan (Section 8 (2) of the Federal Building Code). The binding land-use plan sets out the legally binding stipulations for urban structure (Section 8 (2) sentence 1 of the Federal Building Code). On the basis of the Building Code, local authorities can adopt binding land-use plans in the form of bye-laws. The content of preparatory and binding land-use plans is governed by Sections 5 and 9 of the Building Code. In accordance to Section 5 (2) of the Federal Building Code there are several possible representations within a preparatory land-use plan, e. g.

- areas designated for development in terms of general types of use (e.g. residential, mixed, industrial and commercial, special uses), specific types of use and the general density of built use,
- areas for transport,
- areas and facilities for public infrastructure,
- areas for utilities,
- areas for green spaces,
- agricultural land and woodland,
- waterbodies, ports and harbours, as well as areas for water management, flood control and drainage,
- areas for measures for the protection, preservation and development of the natural environment and the landscape.

The Federal Building Code provides with Section 9 (1) a catalogue of possible designations for a legally-binding land-use plan. The section refers in particular to

- specific category (e.g. small residential estate area, residential-only area, general residential areas, special residential areas, village areas, mixed areas, centre area, commercial areas, industrial areas, special areas) and intensity of built use (e.g. occupancy index, plot coverage rate, floor space index, floor area, cubing ration, building volume),
- type of development, lot coverage, and positioning of physical structures,
- the coverage type, plot areas which may or may not to be built on and the location of physical structures,
- traffic areas and special purpose traffic areas,
- designations relating to common facilities and public infrastructure,
- designations on green areas and open space areas and relating to conservation,
- waterbodies,
- agricultural and forest areas,
- planting and care of trees.

Only where the local authority fails to discharge its control functions through binding urban land-use planning does project authorisation fall under Section 34 of the Building Code (projects in built-up areas) or Section 35 (projects in outer zones).

Sources:

- International Manual of Planning Practise, International Society of City and Regional Planners, Berndt Scholl, Hany Elgendy, M. Nollert 2008
- The Planning System in the Federal Republic of Germany, BSR INTERREG III B project, "Promoting Spatial Development by Creating COMon MINdscapes", Elke Pahl-Weber, Dietrich Henckel, Werner Klinge, Petra Lau, Daniel Zwicker Schwarm, Benjamin Rütenik, Anja Besecke, 2007
- State-of-the-art of spatial planning, ARMONIA PROJECT, Applied multi Risk Mapping of Natural Hazards for Impact Assessment, 2005

GREEK SPATIAL PLANNING SYSTEM

Political and administrative organisation

The form of government of Greece is that of a Parliamentary Republic. The Constitution defines the relationships between the different powers at national level. The legislative power is exercised by the Parliament while the executive power is exercised by the President of the Republic and the Central Government.

The country is divided into **13 administrative Regions** established by Law 2503/1997. Each Region is headed by the General Secretary of the Region appointed by the Central Government. The General Secretary of the Region chairs the Regional Council, a collective advisory board, composed of representatives of local authorities and regional socio-economic stakeholders. The Regional Council is responsible for planning and coordinating the development of the Region by particularizing the objectives of the National Development Strategy at the Region level. The General Secretary of the Region has substantial powers of technical assistance as well as surveillance and control over both 1st and 2nd tier local authorities, whose decisions he has the right to overrule.

The Regions are subdivided into **54 Prefectures**, the 2nd tier elected authorities established by Law 2218/1994. The elected Prefect is the head of the administrative structure of its prefecture but he has no control over the 1st tier local authorities. The Prefect chairs, the prefectural council and a prefectural fund, a legal person of public law managing government funding to the prefecture. The Prefect's role is limited to implementation of spatial and town plans, including building permits and control of unauthorized construction.

The first tier local authorities consists of 900 Municipalities and 133 Communes (a total of **1033 local authorities**), according to Law No 2539/1997. The Mayor's role is limited to implementation of spatial and town plans, including building permits and control of unauthorized construction.

Administrative competence for spatial planning

According to paragraph 2 of article 24 of the Constitution of 1975 "Spatial planning and reorganization of the country, the formation, development, planning and expansion of cities and of residential areas, in general, come under the legislative responsibility and control of the State in order to serve the functionality and development of the settlements and to ensure the best possible standards of living".

The role of the Parliament in spatial planning is very important since it enacts primary legislation which establishes the structure and the procedures of spatial and town planning and of related activities. Parliament Acts in the field of spatial planning usually take the form of frameworks (laws). Most important for the spatial planning process are the administrative courts and especially the Council of State, which follows the model of the French "*Conseil d' Etat"*. It safeguards the introduction of judicial standards in the interpretation of the European Union (EU) or national legislation and international treaties, especially on sustainable development. In this sense, the administrative judge is not merely the guardian of legality but furthermore a quasi producer of new norms and principles in the field of spatial planning.

The above article of the Constitution, as interpreted by the Council of the State, in its Decisions 3661-3663/2005, defines the spatial and city planning as a State responsibility at the highest level of administration that is a power of the President of the Republic and considers the devolution of spatial and city planning powers as unconstitutional.

According to this case law developed by the Council of the State, both 1st and 2nd tier elected authorities are not part of the State and hence the latter's spatial and city planning powers cannot be transferred to these elected authorities.
Therefore, the role of both 1st and 2nd tier elected authorities, in spatial and city planning can only be advisory. As a result, the traditional centralization of the State responsibilities is perpetuated cancelling the last 15 years attempts to decentralize city planning responsibilities.

The Ministry of Environment, Physical (Spatial) Planning and Public Works is the main Ministry formulating the government's policy on spatial planning and the environment. Its main responsibilities are stated in Law1032/1980 (Government Gazette, Bulletin No 57A/1980).

More specifically the main Directorates of the Ministry dealing, respectively, with spatial and city planning policies and legislation are:

1. The Directorate of Spatial Planning, responsible for promoting the procedures for the compilation of the general and special frameworks for spatial planning and sustainable development, land use classification, and land use mapping, participation in European projects etc.
2. The Directorate of Urban Planning, responsible for coordination, supervision and guidance of public authorities with respect to urban planning as well as urban and technical infrastructure in big cities, smaller settlements, holiday residence areas and traditional settlements.

At the national level, the responsibilities for the compilation of the "General Framework of Spatial Planning and Sustainable Development" lie both to the Ministry of Economy and to the Ministry of Environment, Physical (Spatial) Planning and Public Works. For the compilation of the "Special Frameworks of Spatial Planning and Sustainable Development" other Ministries are also involved, according to the thematic content of these frameworks e.g.: tourism, industry, agriculture, transport, energy etc.

At the Region level, the Directorate of Spatial Planning and Environment is responsible for:

- Refining national spatial planning guidelines on spatial structure, land use, infrastructure and settlement networks, town plans, housing and building regulations.
- Production of special studies to assist the regional spatial planning work of the Ministry.

At the Prefecture level, the powers with respect to the initial approval or amendment and revision of town plans, delegated to the Prefects in the past, since disputed by the

Council of State, have now been withdrawn. The Prefects have competences related to spatial planning that were delegated to them from Ministries other than the Ministry of Environment, Physical (Spatial) Planning and Public Work e.g. land expropriation for reclamation projects , licensing for industrial development and for specific activities in forested land as well as the designation of land in seaport zones to be used for public purposes.

The role of 1st tier local authorities (municipalities) in urban and regional planning, environmental protection or land expropriation remains mostly advisory, with the exception of certain competences delegated to some municipalities adequately staffed with technical personnel for granting building permits and controlling unauthorized construction.

Main spatial planning legislation

The current legal framework for spatial planning was introduced in Greece by the following laws:

4) Law 2508/1997 "Sustainable residential development of cities and settlements"
5) Law 2742/1999 "Spatial Planning and sustainable development"
6) Common Ministerial Decision 107017/28-8-2006 (Bulletin of the Government Gazette No 1225B/5-9-2006) by which European Directive 2001/42/EC for the Strategic Environmental Evaluation of Plans and Programs was transposed into Greek Law.

These legal instruments constitute the basic legislation that satisfies the modern needs for spatial and urban planning taking into account European policies and today's' requirements for sustainable development.

The compilation and approval of spatial planning frameworks and regulatory plans became a fundamental rule of the legal system of the country and these documents constitute the reference documents for any policy and activity related to space.

Spatial Planning and implementation instruments- Development control

The legal framework introduces a hierarchical planning system of **three discrete levels**:

C) **the strategic spatial planning**, including the compilation of the spatial planning frameworks, namely the "General Framework for Spatial Planning and Sustainable Development" and the "Special (Thematic) Frameworks for Spatial Planning and Sustainable Development", at the national level, as well as the "Regional Frameworks for Spatial Planning and Sustainable Development", at the Region level.

D) **the local spatial and development planning** including Regulatory (Master) Plans (for the greater area of the major cities of the country), General City Plans and "Spatial Plans of Residential Organization of Open Cities" covering the administrative boundaries of the municipality area (1st degree of local authority) for the remaining cities and towns of the country

E) **the city and town planning**, geographically covering the main urban fabric of parts cities and towns, at district level. This level of planning includes the city or town plans, the acts of implementation of city and town plans and special city planning project, namely: a) Organized Development Areas of Productive Activities b) Areas of Special Spatial Interventions c) Plans for Integrated Intervention in Urban Areas d) Managing Authorities of Protected sites

Spatial Planning system in practice

The "General Framework of Spatial Planning and Sustainable Development" took into account the basic European directions as stated in the following documents: the "Plan for the Development of the Community Space", the "Directional Principles for Sustainable Spatial Development of the European Continent", the "Integrated Management of Coastal Zones", the "Cooperation for the economic expansion and employment – A new start for the Lisbon Strategy", the "Thematic Strategy for the Urban Environment", the "Revised Strategy of the European Union for Sustainable Development", the "Strategic Directions of the Community for Coherence", Conclusions of the studies of ESPON, "Territorial Agenda of European Union towards a more competitive and sustainable Europe with its regional diversities".

The horizontal co-ordination of sectoral policies is the stated objective of spatial planning legislation. According to the Law, the General Spatial Framework for Spatial Planning and Sustainable Development, has to take into account the directions of the National Development Plan, produced by the Ministry of Economy and forms the basis for the Community Support Frameworks (CSFs). In this way, the policy coordination and the linkage between spatial and development planning is addressed.

The General and Special, (Thematic) Frameworks for Spatial Planning and Sustainable Development as well as the Regional Spatial Plans are harmonized together strategic plans with a perspective of the next 15-20 years from the date of their approval. Their provisions and guidelines are not meant to be directly implemented on the ground. They are rather conceptual frameworks to steer the elaboration of more detailed, specified and feasible spatial plans and projects. Hence, "implementation" of Regional Frameworks for Spatial Planning and Sustainable Development can be envisaged mostly via lower level plans, putting into practice directions of the Regional Plan with specific packages and measures. This form of compliance and subordination of lower level plans to upper level ones is guaranteed by the law. Besides, and according to legal provisions, investment priorities of the Regional Development Plan should fall in the line with the respective Regional Framework for Spatial Planning and Sustainable Development.

Fast facts*:

Total area:	132.000 km^2
Total population (2009, estimated):	11.192.849
Population Grows (2005-2009):	1,1 %
Unemployment rate (first quarter 2009):	9,3%
GDP (2009)	275 billion €
GDP per capita (April 2009):	20.598 €
GDP growth rate (2008-2009):	3,5%

Settlement structure*:

Capital city:	Athens
Second city:	Thessaloniki
Density (1999):	80,1 pop/km^2
Population density in Attica Region:	987 pop/km^2
Urban population (2005):	61,4 %

*Sources:
1)National Statistical Service of Greece, http://www.statistics.gr
2) International Monetary Fund

HIERARCHICAL SPATIAL PLANNING SYSTEM

Strategic spatial planning

- General Framework for Spatial Planning and Sustainable Development (national level)
- Special (Thematic) Frameworks for Spatial Planning and Sustainable Development (national level)
- Regional Frameworks or Spatial Planning and Sustainable Development (Region level)

Local spatial and development planning

- Regulatory (Master) Plans (sub-regional level)
- General City Plans (municipality level, more than 2000 inhabitants)
- Spatial Plans of Residential Organization of Open Cities (municipality level, less than 2.000 inhabitants)

City and town planning (district or suburb level)

- City (more than 2.000 inhabitants) or town (less than 2.000 inhabitants) plans
- Acts of implementation of city and town plans
- Special city planning projects: a) Organized Development Areas of Productive Activities b) Areas of Special Spatial Interventions c) Plans for Integrated Intervention in Urban Areas d) Managing Authorities of Protected sites

Approval authority **Geographical Extent**	**Europe**	**National**	**Region (13)**	**Prefecture (54)**	**Municipality (1033)**
Europe	Plan for the Development of the Community Space				
National		General Framework and Special (Thematic) Frameworks for Spatial Planning and Sustainable Development (1:5.000.000 / 1:4.500.000)			
Region (13)		Regional Frameworks for Spatial Planning and Sustainable Development (1:250.000)			
Sub-regional level		Regulatory (Master) Plans (1:25.000)			
Municipality (1033)			General City Plans Spatial Plans of Residential Organization of Open Cities (1:5.000 - 1:25.000)		
District/Suburb		City plans (more than 2.000 inhabitants) Plans of important or traditional towns less than 2.000 inhabitants (1:500-1:1.000) Special city planning projects (1:500-1:1.000)	Town plans less than 2.000 inhabitants (1:500-1:1.000)	Acts of implementation of city and town plans (1:500-1:1.000)	

IRELAND SPATIAL PLANNING SYSTEM

Ireland has a population of 4.3M[18] people and a land area of 70,280 km^2. In relation to regional planning activities, Ireland is divided into 2 NUTS II level regions:

1. Border, Midlands and West Region
2. Southern and East Region

At the NUTS III level Ireland is divided into 7 regions: Border Region, Dublin and Mid East Region, Midlands Region, Mid West Region, South East Region, South West Region and West Region. The Regional Authorities for each of these regions have functions that mirror somewhat those of the Regional Assemblies. In addition, the NUTS III Regional Authorities coodinate the development of economic, social and cultural strategies for their regions, and also have functions relating to physical planning.

Implementation of the physical planning system in Ireland is the responsibility of the 88 local planning authorities: this can be broken down into 29 County Councils, 5 City Councils and 49 Town Councils. At this level, the planning system primarily consists of the preparation of a Development Plan, Development Control (i.e. the planning application process) and Enforcement.

The planning system as applied in Ireland has three main functions:

1. Making development plans and local plans
2. The need to implement the plan through planning permission (unless exempted)
3. Planning enforcement.

Ireland's spatial planning system

Ireland's spatial planning system was first introduced on the 1st October 1964, when the *Local Government (Planning and Development) Act, 1963* came into effect. This Act provided for the orderly planning and development of the country on a local government basis with Local Authorities also designated as *planning authorities*. It was a system heavily based on the English planning system of that time and with an onus on 'trend' planning.[19]

The large body of Irish planning legislation and regulations in the years since then, consolidated and updated in the *Planning and Development Act of 2000*, reflects the expansion of the statutory development control system to meet the demands arising from economic growth, rising public concern in the area of environmental control, and a desire, on the part of the public, for a statutory and independent planning appeals system. The Act also reflects a growing European dimension arising from Ireland's membership of the European Union. The core principles of the new legislation are to ensure the planning system would:

(a) be strategic in approach,
(b) have an ethos of sustainable development, and
(c) deliver a performance of the highest quality.

[18] See http://www44.wolframalpha.com/input/?i=ireland

[19] Adapted from "The Irish Planning System: an overview", Brendan Bartley at http://www.iclrd.org/documents/The%20Irish%20Planning%20System%20(with%20tables).doc

As part of the new legislation, a clear hierarchical planning system was introduced within the context of an Irish National Spatial Strategy (NSS), with regional planning and its associated guidelines being put on a statutory footing for the first time.

Following on from the publication of the *European Strategic Development Perspective* (ESDP) in 1999, the Department of Environment, Heritage and Local Government (DoEHLG) published the Irish *National Spatial Strategy* (NSS) in November 2002. The NSS provides an overall framework for planning in Ireland. Plans at regional and local level (i.e. Development Plans, see below) must have regard to the NSS. The hierarchy of plans for Ireland is summarised in the Figure.

Irish Spatial Data Infrastructure (ISDI)

The Irish Spatial Data Infrastructure project officially started in March 2002, when the Department of the Taoiseach, in association with the Information Society Commission, published the "New Connections" Action Plan on e-government[20]. In addition to acknowledging the importance of the Information Society generally, the document prioritises the establishment of a National Spatial Data Infrastructure (NSDI) within the context of Irish e-government initiatives. It also states that spatial data are to be incorporated into other information management activities as to secure the targeted and integrated delivery of government services.

In November 2002 the Department of Environment, Heritage and Local Government was appointed by the government to take the lead role in developing an Irish Spatial Data Infrastructure (ISDI). Since this time the Department has undertaken a number of initiatives,

[20] Department of the Taoiseach (2002): *New Connections: A strategy to realise the potential of the Information Society*, Government Action Plan, March 2002, Department of the Taoiseach, Dublin (viewed: 15/10/2004; http://www.taoiseach.gov.ie/attached_files/upload/publications/1153.pdf)

including establishing an ISDI Work Group which provides specialist advice and comment, holding seminars on ISDI for all government departments and selected government agencies, establishing reporting procedures from the ISDI Work Group through the National Spatial Strategy (NSS) Inter-departmental Implementation Committee to the Cabinet Sub-committee on Infrastructure and PPPs. The Group comprises representatives from Ordnance Survey Ireland (OSi), Land Registry, Local Government Computer Services Board (LGCSB), Central Statistics Office (CSO), the Department of the Taoiseach and academics with knowledge in the field. Since then, a consultation paper has been sent out to various stakeholders[21] to acquire input to the process of ISDI development. Several pilot projects (e.g. Mobhaile[22] by the LGCSB) have been launched and work is ongoing to create a formal policy framework to achieve recognition as an example of best practice[23].

In the March 2002 New Connections Action Plan issued by the Irish Government it was stated that a National Spatial Data Infrastructure should be established for Ireland. As a result, the DoEHLG produced a draft ISDI Policy Framework consultation document[24] which covers issues such as vision, basic principles, the spatial area to be covered by the ISDI (land and sea areas), standards, legal, organisational, financial, consultation, research and development, education and training, and other issues. The international context for development of NSDI's (GSDA, ISO, INSPIRE, …) is fully recognized.

Simultaneously, Ireland has committed itself to comply with the INSPIRE principles[25] which give perspective to the establishment of an Infrastructure for Spatial Information in Europe. Briefly, these principles state that[26]:

- Data should be collected once and maintained at the level where this can be done most effectively;
- It should be possible to combine seamless spatial information from different sources across Europe and to share it between many users and applications;
- It should be easy to discover which geographic information is available, fits the needs for a particular use and under which conditions it can be acquired and used;
- Geographic data should become easy to understand and interpret because it can be visualised within the appropriate context in a user-friendly way.

These principles have also been adopted and subsumed within the overall objective of Irish SDI activities.

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[21] Department of the Environment, Heritage and Local Government (2004): *Irish Spatial Data Infrastructure Consultation Document*, DoEHLG, Dublin; http://www.irlogi.ie/docs/ISDI_Consultation_Document.doc)

[22] www.mobhaile.ie/html/look-1.htm

[23] McCormack, B. (2003): *Irish Spatial Data Infrastructure – Paper for Irish Organisation for Geographic Information (IRLOGI) 2003 Conference*, DoEHLG, Dublin; http://www.irlogi.ie/pdf/ISDI_IRLOGI_2003.pdf

[24] Available at www.irishspatialstrategy.ie/isdi/

[25] JRC (2003): *Consultation Paper on a Forthcoming EU Legal Initiative on Spatial Information for Community Policy-making and Implementation*, JRC, Ispra, http://inspire.jrc.it/reports/INSPIRE-InternetConsultationPhaseII.pdf

[26] http://inspire.jrc.it/principles_en.html

ITALIAN SPATIAL PLANNING SYSTEM

Italy has a population of 57,9M people and a land area of 301,336 Km2. Administrative levels organization includes 20 NUTS II level regions (5 of which have special statute), 108 NUTS III level provinces and 8,109 NUTS IV level municipalities (LAU II).
In Italy, basically, the so called "territorial and urban planning" refers to activities that the public administration undertakes to formulate rules which establish the procedures and forms of the physical transformation of cities and regions and ensure that transformations respect such rules. In order to control and formulate rules tools are used that operate on land use, urban forms and landscapes, organisation of building space, communication and service infrastructure, activities, environmental components, land stability, water management, vegetation and landscape.

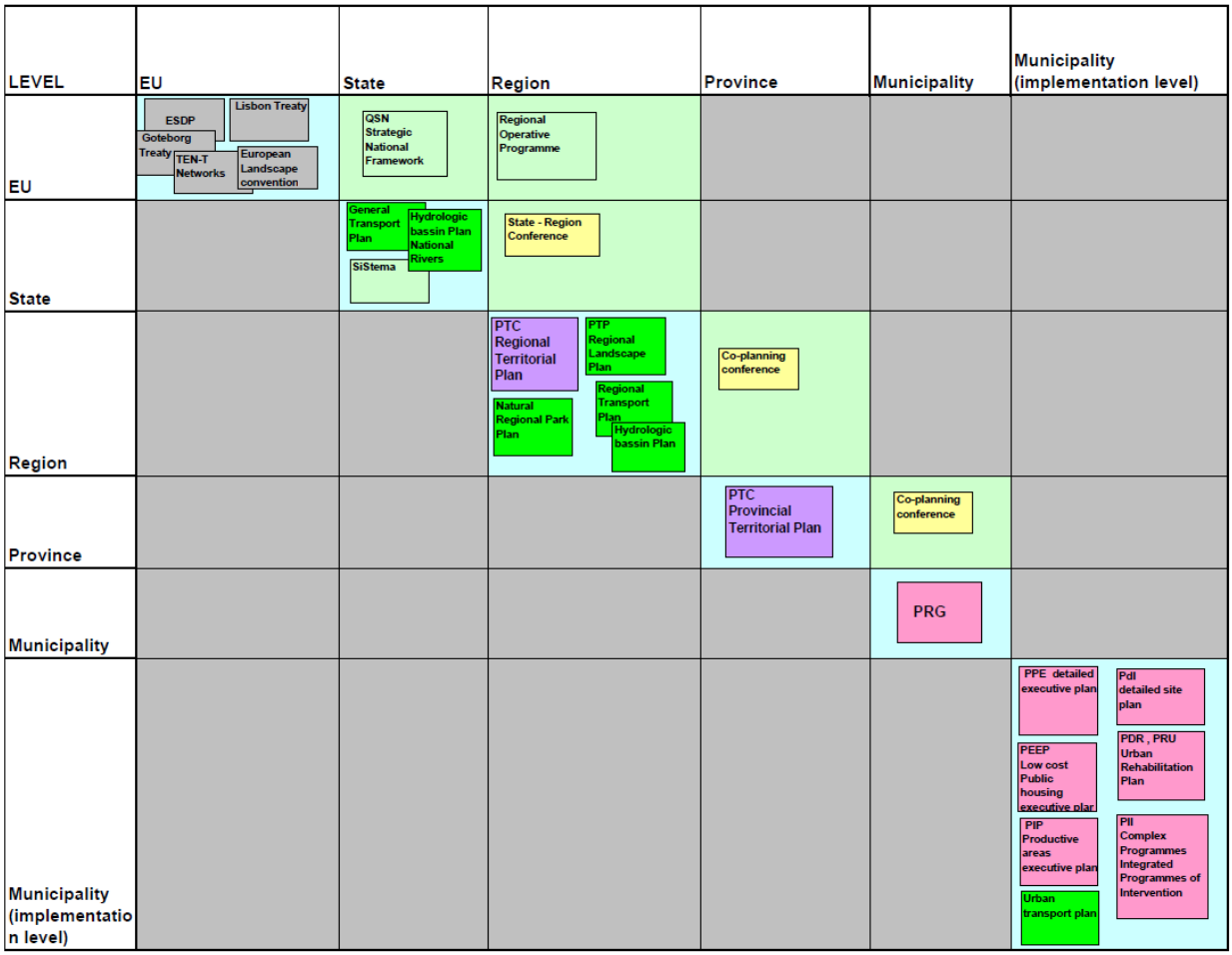
Italy's spatial planning system

Italy's spatial planning system is still based on the first national urban planning law of 1942 that defines three different planning levels. The higher level – called coordination planning – was a state competence. General urban level and local urban level were, and still are, a municipality competence.

In the 80s state competences on coordination planning where transferred to regions. Even though the state kept environment protection - and landscape planning – to be exercised by regions under national supervision. In the last 15 years several regions began to transfer coordination planning to provinces. The decentralisation process is going on – looking over to Metropolitan Cities start-up (LAU I level) - according to the 2000 legislative decree.

In a more comprehensive view – not only focused on landscape and cities management – many planning instruments do exist for specific development and/or protection purposes.

Actually instruments are superimposed on the same areas with specific designs and rules for land use that refer to different administrative procedures and institutional competencies. A relational and complex system that can be described by the table below.



Planning and Spatial Data Infrastructure in Italy

A national centralized spatial data infrastructure does not exist. Several experimentations in this direction have been done, even though, at state level. Every region has SDI projects - and a few have an operating one - like major provinces and municipalities. Vertical harmonization – that is required by law for plans at three above mentioned planning levels – is not yet established.

The Region of Lazio, for instance, does not currently use specific standard for the management of his own territorial information as Regional Law 38/1999 only establishes to use the regional cartography for plan production by administration sublevels (provinces and municipalities).

In a general sense administration competencies on spatial data are still to be cleared even if a good coherence with planning hierarchy is expected.

The CNIPA (Centro Nazionale per l'Informatizzazione della Pubblica Amministrazione - National Committee for the Technical Rules on Territorial Data) is working to draw up rules and guidelines to adopt at national level, according to INSPIRE principles. This set of recommendations – yet not legally binding – appears to be reliable enough to be used as a stable reference for current territorial data management.

LATVIA SPATIAL PLANNING SYSTEM

Political and administrative situation

The Republic of Latvia consists of 5 Regions (districts), 109 Counties and 9 Republic Cities. *In its turn, Zemgale's planning region forms 22 local municipalities – 20 county municipalities and 2 cities of republic significance.*

Administration competence in planning

At the moment development planning documents in Latvia elaborates in national, regional and local level.
The Ministry of Regional Development and Local Government is the leading institution in the elaboration and realization of state regional policy, as well as in coordination of regional development state support measures realization Ministry of Regional Development and Local Government monitors the action of planning regions.
In its turn, *planning region's* competence is to ensure planning, coordination of regional development, collaboration of municipality and other state administration institutions, including:

1. To state long-term basic principles, aims and priorities of the region

2. To work out, manage and supervise elaboration and implementation of long-term and medium-term development planning documents (programs of territory planning and development) in collaboration with municipalities and state administration institutions

3. To prepare conclusions on national level development planning document's correspondence to interests of planning region

4. To evaluate and render conclusions of applications of local municipalities or private person's projects on reception of regional development state support.

Main planning legislation

In the entire state is applied single legislation and administrative procedure that determinates planning process in all levels.
Main scale for elaboration of graphical part in municipality territory planning is M 1:10000, M 1:25000. If the main scale does not ensure sufficient detailization, populated areas and other established parts of municipality territory are worked out in larger scale (M 1:2000, M 1:5000).

Planning and realization instruments

Working out development planning documents, are mutually harmonized and take into account long-term conceptual document "Development model of Latvia: individual in the first place".
Hierarchically highest long-term development planning document is long-term development strategy of Latvia. Hierarchically highest middle-term development planning document is National development plan.

Middle-term development planning documents are hierarchically subordinated to long-term development planning documents. Short-term development planning documents are hierarchically subordinated to long-term and middle-term development planning documents. Middle-term development planning documents are hierarchically subordinated to regional and national level development planning documents. Regional level development planning documents are hierarchically subordinated to national level development planning documents. The board (council) of local municipality affirms planning of local municipality's territory and issues its graphical part and provisions of territory usage and construction as binding provisions of municipality.
Exactly the territory planning of local municipality is the planning document on the basis of which to make decisions about usage of concrete land property.

Development control

Cabinet of Ministers ensures activity of development planning system and its supervision.
Prime Minister ensures elaboration, realization supervision and coordination of long-term development strategy of Latvia and National development plan.
Each ministry, Secretariat of Special Assignments Minister and State Chancellery ensures in their competence existent development planning document correspondence to hierarchically higher planning documents correspondence to hierarchically higher planning documents, as well as to normative acts regulating development planning system.
State Chancellery evaluates mutual coordination of national level development planning documents and their correspondence to requirements of normative acts.
Ministry of Regional Development and Local Government ensures mutual coherence of national and regional level development planning documents and their correspondence to long-term development strategy of Latvia and National development plan.
Planning regions ensures mutual coordination of local and regional level development planning documents and their correspondence to hierarchically higher development planning documents, as well as to normative acts regulating development planning documents.
Cabinet of Ministers states harmonization order of development planning documents, as far as it is not stated otherwise in *the law.*
Once in two years the Cabinet of Ministers organizes public discussion on state development directions and priorities, as well as their realization process.
Prime Minister includes this survey on state development planning system's activity in his annual report to Saeima about accomplished by Cabinet of Ministers and planned activity.

Practice of planning system

Normative acts foresees principle of interests harmonization, i.e. in the lower level territory planning's' observe guidelines of higher level planning, respectively, while working out the local level planning document has to be taken into account the higher level planning documents.

Basic facts (Latvia)

Total area:	64 589 km²
Population (on 01.01.2009)	2 261 294
Natural growth of population:	- 0,03%
Unemployment:	11,5%
GDP (I-st Quarter, 2009):	1548869 LVL
Legal prices	7168 LVL

Legal Prices (2006)		3660 LVL
GDP growth	-	-10,5%.

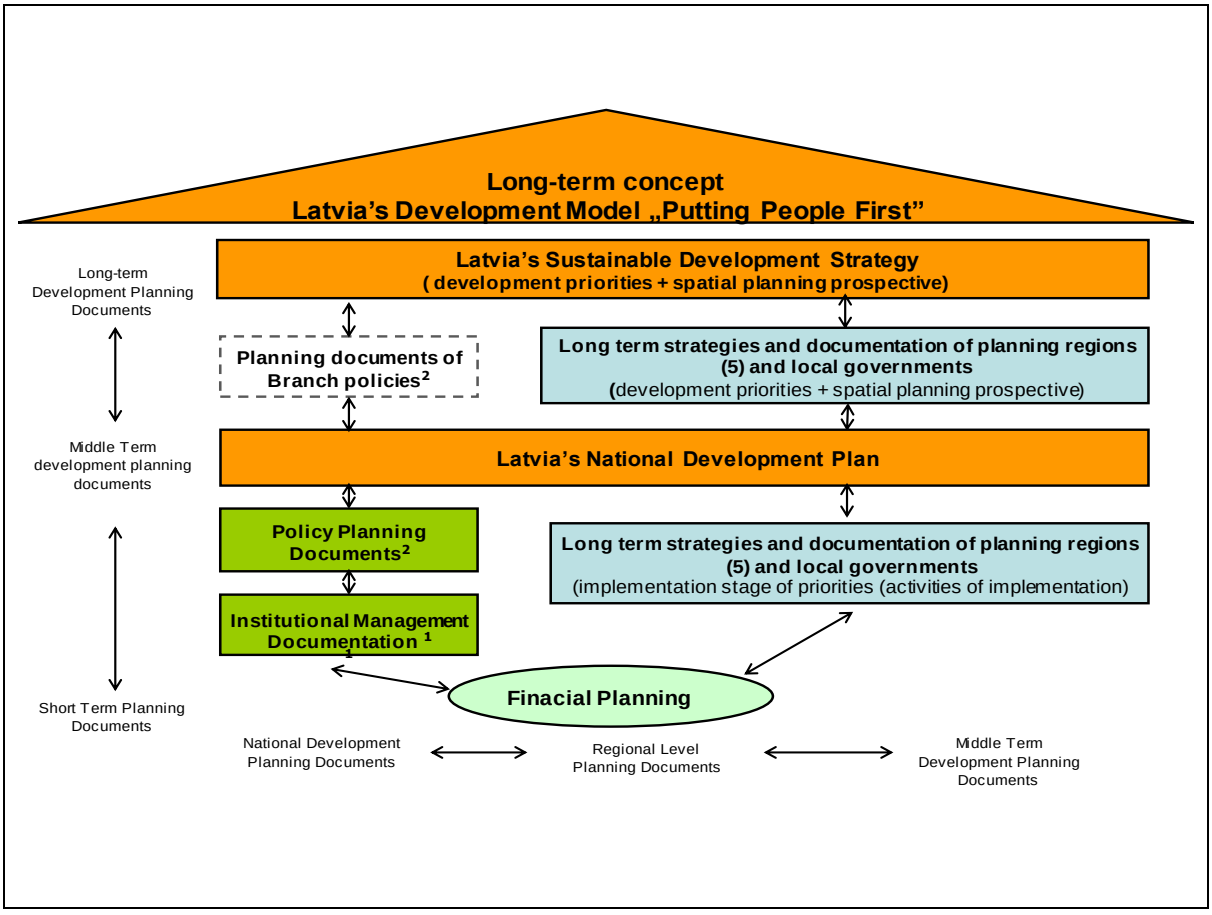
Settlement structure

Biggest towns:	Riga: 717 37inf. (on 01.01.2009)
Density (Latvia):	35,0 inh//km² (on 01.01.2009)
Zemgale's region:	26,3 inh./km² (on 01.01.2009)
Population proportion in towns*:*	67,8% (on 01.01.2009)

Literature

Law on Development Planning System
Territory Planning Law
Spatial Planning System Concept, Ministry of Regional Development and Local Governments, 2009
Methodological guidelines on development of Development Programs, draft, Ministry of Regional Development and Local Governments, 2009

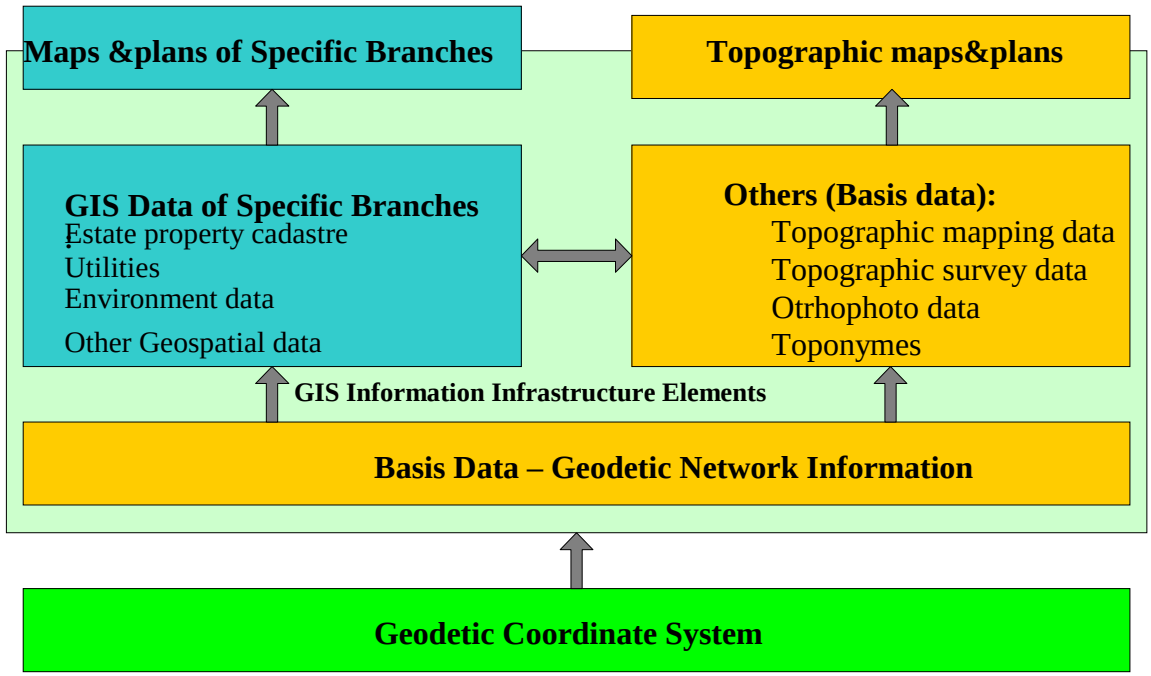
Development planning Documentation Subordination System, Latvia



At this moment in Latvia is worked out and attested "Geospatial information development concept of Latvia" (order No.718 on November 20, 2007 by Cabinet of Ministers). Which aim is to create theoretical and legal basis and state guidelines so that in further development

period could create potentialities to harmonize and ensure needs of various institutions for geospatial information, to economize state funds and resources by ensuring common usage of sphere products, wide accessibility to products and services and usage efficiency both in public, and private sector.

In the concept is described geodesy and cartography as essence and mutual connection of geospatial infrastructure element. (See image No.1)



Geospatial Information Elements *Image No 1*

In order to improve situation and to prevent unsatisfactory and inadequate state of modern technology provided opportunities in the sphere of geospatial information, it is necessary to work out the binding normative acts for all involved institutions, to standardize acquisition, treatment and exchange processes of geospatial data, as well as to ensure distribution of geospatial data and to improve management and coordination of the branch.

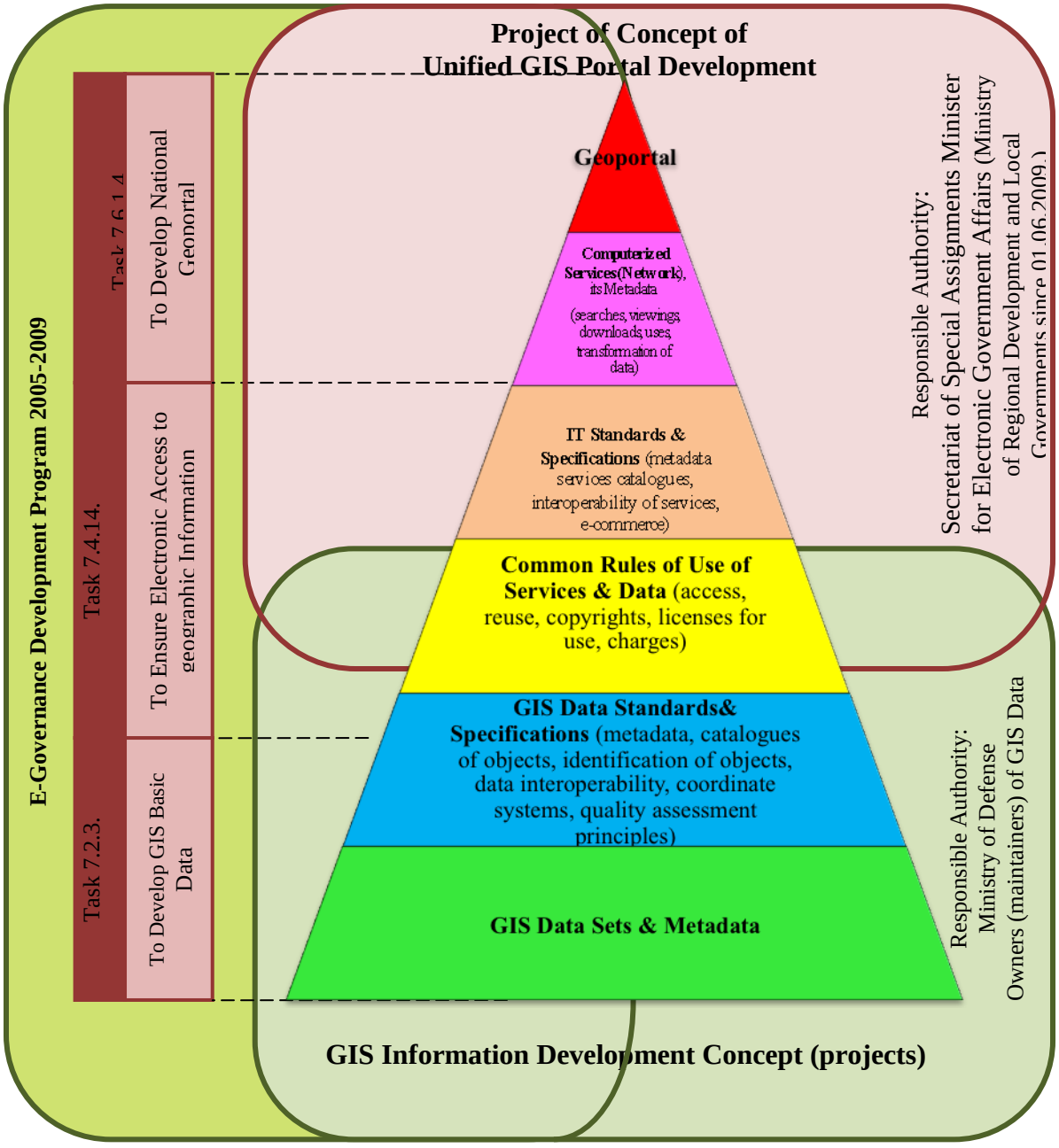
Taking into account that it is possible to **view infrastructure of geospatial data from two viewpoints – data and services**, then this approach should be used for partition of competence between responsible institutions mentioned in "Development program of electronic administration for year 2005 till 2009" – Ministry of Defence (AiM) and Secretariat of Special Assignments Minister for Electronic Government Affairs (ĪUMEPLS).

Ministry of Defense as the responsible for implementation of state policy in sphere of geodesy, cartography and geospatial information **together with holders of geospatial data will be responsible for all the questions in connection with formation and maintenance of geospatial data.**

Elements of GIS Infrastructure, It's Normative Document Framework, Responsible Authorities

Image No 2

Secretariat of Special Assignments Minister for Electronic Government



Secretariat of Special Assignments Minister for Electronic Government Affairs, as the liable for implementation of state policy in the sphere of electronic administration, **together with managers of state information system will be responsible for all questions in connection with formation of electronic services regarding to processing of geospatial data and accessibility of these services in geoportal.**

Infrastructure of geospatial information in the state is implemented step by step, stating for state administration the necessary geospatial data sets and assigning them to various levels

of priorities, assigning the responsible institutions (data holders) for formation and maintenance of these data sets, step by step improving quality of already existing data sets and their mutual interoperability, as well as step by step creating new geospatial data sets. Register of geospatial data themes with responsible and jointly responsible ministries in formation and maintenance of these data was already worked out in interinstitutional work group about working out of national position regarding to INSPIRE directive[27] and will report in senior officer meeting on March 13, 2006. **This data set register (See Table 1) serves as base for further competence distribution among ministries and for assigning the responsible institutions within the framework of corresponding department.**

Annex of INSPIRE directive	Themes Number in Annex	Name of GIS Data Theme *(in accordance of definition in INSPIRE[28])*	Responsible Ministry	Co-responsible Institution
I	1.	Coordinate System	Ministry of Defense	
I	2.	Geographic Coordinate Network System	Ministry of Defense	Ministry of Environment Protection
I	3.	Toponymes	Ministry of Defense	Ministry of Environment Protection; Ministry of Justice
I	4.	Administrative Units	Ministry of Justice	Ministry of Regional Development and Local Governments
I	5.	Addresses	Ministry of Justice	
I	6.	Cadastral Parcels	Ministry of Justice	
I	7.	Transportation Network	Ministry of Transportation	Ministry of Defense; Ministry of Regional Development and Local Governments
I	8.	Hydrographic:		
		- marine & port roads hydrograph	Ministry of Transportation	

[27] interinstitutional work group is created basing on decree No.275 by Ministry of Environment on September 21, 2004 on national position development and defence of Latvian interests and representation in EU institutions regarding to INSPIRE (*Infrastructure for SPatial InfoRmation in Europe*) matters

[28] Europena Parliament and Council Directive 2007/2/EK (14.03.2007) Annex I, II un III.

Annex of INSPIRE directive	Themes Number in Annex	Name of GIS Data Theme *(in accordance of definition in INSPIRE[28])*	Responsible Ministry	Co-responsible Institution
		- inland hydrographic	Ministry of Defense	Ministry of Environment Protection
I	9.	Territories of Protection	Ministry of Environment Protection	Ministry of Justice
II	1.	Altitude	Ministry of Defense	
II	2.	Land Cover[29]	Ministry of Defense	Ministry of Justice, Ministry of Environment Protection, Ministry of Agriculture
II	3.	Ortho-photography	Ministry of Defense	
II	4.	Geology	Ministry of Environment Protection	
III	1.	Statistic Units	Ministry of Economy	
III	2.	Buildings	Ministry of Justice	Ministry of Economy, Ministry of Defense
III	3.	Soil	Ministry of Environment Protection	Ministry of Agriculture; Ministry of Justice
III	4.	Land Use	Ministry of Regional Development and Local Governments	Ministry of Justice; Ministry of Agriculture
III	5.	Public Health and Security	Ministry of Public Health	Ministry of Environment Protection; Ministry of Agriculture
III	6.	Utilities and State Services	Ministry of Regional Development and Local	Ministry of Economy

[29] Do not mix with land use

Annex of INSPIRE directive	Themes Number in Annex	Name of GIS Data Theme *(in accordance of definition in INSPIRE[28])*	Responsible Ministry	Co-responsible Institution
			Governments	
III	7.	Environment Monitoring Equipment	Ministry of Environment Protection	Ministry of Regional Development and Local Governments; Ministry of Agriculture; Ministry of Public Health; Ministry of Economy
III	8.	Production and Industrial Equipment	Ministry of Environment Protection	Ministry of Economy
III	9.	Agriculture and Aquaculture Equipment	Ministry of Agriculture	
III	10.	Population Demography	Ministry of Economy	
III	11.	Regional Management/Restrictions/Restricted Zones and Reporting Units	Ministry of Environment Protection	Ministry of Agriculture; Ministry of Regional Development and Local Governments; Ministry of Transportation
III	12.	Nature Risk Zones	Ministry of Environment Protection	Ministry of Home Affairs; Ministry of Agriculture
III	13.	Atmosphere Condition	Ministry of Environment Protection	
III	14.	Metrological Geographical Characteristics	Ministry of Environment Protection	
III	15.	Oceanographically Geographical Characteristics	Ministry of Environment Protection	
III	16.	Marine Regions	Ministry of Environment Protection	
III	17.	Bio-Geographical Regions	Ministry of Environment	

Annex of INSPIRE directive	Themes Number in Annex	Name of GIS Data Theme *(in accordance of definition in INSPIRE[28])*	Responsible Ministry	Co-responsible Institution
			Protection	
III	18.	Biotopes	Ministry of Environment Protection	
III	19.	Species Prevalence	Ministry of Environment Protection	
III	20.	Energy Resources	Ministry of Economy	Ministry of Environment Protection
III	21.	Mineral Deposit Resources	Ministry of Environment Protection	

Draft law "Law on geospatial information" (01.04.2009) is elaborated

The aim of the law is to state institutional system in the sphere of geospatial information, including preparation, usage, exchange and maintenance conditions of geospatial information (including basic data of geodesy and cartography); property and possession rights of geospatial information, to ensure implementation and observance of international conventions, contracts and standards binding to Latvia, requirements of European Commission directives in the sphere of geospatial information, in order to create geospatial information infrastructure in the Republic of Latvia.

MALTA SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of 68 local councils.

Administrative competence for planning

The Malta Environment and Planning Board (MEPA) is the main government body responsible for land use planning and environmental protection. It is accountable to the Malta Environment and Planning Authority under the Ministry for Rural Affairs and Environment. The MEPA Board provides strategic guidance for the three Development Control Commissions responsible for planning, environment protection and corporate services respectively. The Planning Directorate seeks to promote sustainable development through the preparation and implementation of development plans.

Main planning legislation

The Development Act 1992 made provision for the preparation of a structure plan for the Maltese Islands. It also established the Planning Appeals Boards to determine all planning appeals made by aggrieved persons.

Planning and implementation instruments

The MEPA Board provides strategic guidance for the Planning and the Environment Protection Directorates and ensures the legality of carrying out their responsibilities. The structure plan, together with various local plans, action plans, subject plans and development briefs constitute the framework for decisions in respect of the planning of the Maltese islands. The MEPA is in charge of preparing most of these plans. It has also issued planning guidance in respect of retail planning, design and fish farming, Government bodies, local councils, and private investors can all submit request for the promotion of change.

Development control

A number of bodies within the MEPA are empowered to approve applications for the development and use of land. There are three development control commissions, each in charge of different functional areas, vacant land, villa development, major projects including unplanned areas, and conservation and rural areas.

Planning system in practice

There is still some scepticism about the need for, and role of planning. This, in part, reflects the lack of co-ordination between the various bodies involved in the determination of planning applications, and development control. The two appeals boards can overturn decisions and thereby compromise policies and plans and thus create inconsistencies, which undermine the planning system. The enormous amount and rapid development along the coasts is eroding the landscape and the ecological balance of sensitive natural environments. While some historic sites and cultural heritage is protected many archaeological sites of international importance are under threat. However, pressures groups can be effective as they tend to have access to the influencial planning consultative committee and they have managed to preserve the minor island from excessive development.

Fast Facts: (2008)

Total Area:	316 km²
Total Population:	413,609
Population Grows:	0,407%
Unemployment Rate:	6.3%
GDP:	6,719 billion €
GDP per capita:	16,282 €
GDP growth rate:	3.8 %

Settlement Structure:

Capital City:	Valletta: 6,900 population, 194,200 metropolitan area
Second City:	Birkirkara: 21,600 population
Density:	1,277 pop/km²
Density settlement area:	247,45 pop/km²
Urban Population:	92 %

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008
- Wikipedia Malta

DUTCH SPATIAL PLANNING SYSTEM

Political and administrative organisation

Constitutional monarchy composed of 12 provinces and 438 municipalities.

Administrative competence for planning

Each tier of government will be able to represent its own interests as optimally and effectively as possible. Municipalities are responsible for the municipal spatial policy. As soon as provincial or national interests are affected, the provinces and the national government have the instruments at their disposal to safeguard and protect these interests.

Municipalities, provinces and the national government are each assigned a number of responsibilities and assures a clear division of those powers. If the provinces or the national government want to limit the “playing field” of the lower tiers of government, they need to provide clarity on the matter in advance as much as possible. The instruments that the provinces and the national government have at their disposal are the general orders, the instruction and the integration plan. The provinces and the national government can use these instruments if there are provincial or national interests that dictate their deployment. With these three new instruments the provinces do not have to approve municipal zoning schemes

The provinces have a provincial order, while the national government has an Order in Council to set rules on the contents of zoning schemes. The municipalities must adapt zoning schemes in accordance with the rules set by the province or the national government. As long as this has not happened, permits will be tested directly against the general orders of the provinces or national government insofar these orders contain such testing provisions. The national government can also set rules for the contents of provincial regulations.

An instruction will ideally be used by the province or the national government if something needs to be arranged for one specific situation ("pro-active"). The municipality then has to adapt the zoning scheme with due consideration of the guidelines provided in the instruction. To the extent that the instruction is sufficiently concrete and deviation from the instruction is not possible, it is possible to appeal against the instruction. An instruction can also be given during the zoning scheme procedure, if a specific part of the scheme is in conflict with a provincial or national interest that has become explicit ("re-active"). In that case, the relevant part of the plan will not come into effect.

An integration plan will ideally be used in cases in which projects that involve provincial or national interests have to be realised. In instituting an integration plan, the provinces or the national government have control of the entire process from the beginning.

Main planning legislation

In 2008 the new Spatial Planning Act was coming into force and replaced the old one which was originally decided in 1965. Fewer rules, less central control where possible and an implementation-oriented approach are the guiding principles behind.

The new Spatial Planning Act is closely connected to the National Spatial Strategy and the land development policy instruments currently being developed. The National Spatial Strategy contains the most important principles of the spatial planning policy for the period up to 2020. The new Spatial Planning Act is an important instrument in order to arrive at an optimal implementation of the National Spatial Strategy. The proposed legislation for the new Spatial Planning Act was followed in 2005 by a bill regarding the Land Development Act. This introduces further improvements to the financial aspects of the zoning scheme (cost planning and equalisation within the scheme). The Land Development Act will ultimately become part of the new Spatial Planning Act.

Planning and implementation instruments

The National Spatial Strategy and the associated Implementation Agenda also follow the fundamental principles of decentralisation, deregulation and direct implementation.
On all there levels (national, province and local) government are required to set out their policy in a structural vision which replaces the former key planning decisions (national), regional plans (provincial) and structural plans (local level). The structural vision can be characterised as a strategic policy document including also a description how citizens and other social organizations have been involved in the preparation of that vision.

The zoning plans are compulsory for all municipal land. If no spatial developments are planned in an area, then municipalities can choose to institute a management regulation instead of a zoning scheme. The management regulation fixes the spatial situation in place at that time. The provinces and the national government will have the power to institute an

integration plan, which can be compared to the zoning scheme for municipalities. The primary authority of the zoning scheme lies at a municipal level. The provinces and the national government can only use their authority for an integration plan if provincial or national interests are at stake.
Zoning schemes have to be updated once every ten years and can be renewed for another ten years. If municipalities fail to update their zoning schemes, the municipality may not charge dues for services provided by the municipality in relation to the zoning scheme. Management regulations have similar regulations that they are kept up-to date. After enacting the new Spatial Planning Act (2008) all new spatial plans must be available in digital form.

Development control

The municipal authorities are responsible for development control and issue of building permits. Permission is required for proposed land use changes and for the erection of buildings. Development proposals are required to conform to the provisions of the relevant land use plans.

Planning system in practise

With the new Act more responsibility was given to the municipal level and only where national or provincial issues are concerned, they are responsible for that. Another point of the new Act was to simplify and shorten procedures to reduce administrative and governmental hassle.
On all there levels (national, province and local) government are required to set out their policy in a structural vision which replaces the former key planning decisions (national), regional plans (provincial) and structural plans (local level). The structural vision can be characterised as a strategic policy document including also a description how citizens and other social organizations have been involved in the preparation of that vision.

Fast Facts:

Total Area:	41.526 km²
Total Population:	16.645.313
Population Grows:	0,436%
Unemployment Rate:	4,1%
GDP:	638,9 billion $
GDP per capita:	38.600$
GDP growth rate:	3.5%

Settlement Structure:

Capital City:	Amsterdam 751.757 population
Second City:	Rotterdam 584046 population
Density:	401 pop/km²
Urban Population:	67%

Sources:

- The new Spatial Planning Act gives space, VROM, Environmental and Space Planning, Den Haag, 2007
- International Manual of Planning Practise, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

PORTUGAL SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of 5 regions, 2 autonomous regions, 18 districts, 278 municipalities and 4.051 parishes.

Administrative competence for planning

The government is responsible for the approval of municipal plans, a number of special categories of development, which are proposed within protected areas, and the sub-division of land, which lies outside lies outside of an approved plan. It is also responsible for the planning of major infrastructure projects and for the preparation of regional plans in collaboration with municipal authorities. The municipal authorities are largely responsible for physical planning, Development and Regional Coordination Commissions are responsible to oversee some 60 municipalities each.

Main planning legislation

The spatial planning system is set out in the Urban and Municipal Planning Law 1998; the Compulsory Acquisition Law 1999, and the private Subdivision Law 1999.

Planning and implementation instruments

There is a hierarchical system whereby the government issues statements of national policies for planning and economic development. It is also responsible for major infrastructure projects of national importance such as the national road network, hydraulic works and energy plants. The regional plans provide a framework for the preparation of the local plans, the master plans, and the district plans prepared by the municipal authorities for whole or partial areas. Once a municipal development plan has been approved by the government and the relevant municipal assembly, the authority can proceed to prepare a range of detailed local land use plans. The private sector is entitled to propose operative urban units in cooperation with municipalities in a joint venture to develop the necessary infrastructure. The same arrangement can be entered for urban regeneration.

Development control

The municipalities are responsible for development control. A building permit has to be obtained before development activity can take place legally. The detailed local land use plans set out the planning standards and requirements, which have to be observed by developers.

Planning system in practice

The present system is restrictive and has necessitated the introduction of new legal devices to facilitate public private partnerships. New legal devices were introduced such as the concept of "Strategic Plan". New systems were also put into place for planning implementation and new ways for municipalities to deal with inter-municipality issues by creating metropolitan areas and community areas. Despite intensive and restrictive planning legislation, illegalities such as information settlements and land divisions are tolerated for political reasons.

Fast Facts: (2009)

Total Area:	92,345 km²
Total Population:	10,707,924
Population Grows:	0,305%
Unemployment Rate:	8%
GDP:	157.59 billion €
GDP per capita:	14,807 €
GDP growth rate:	1.9 %

Settlement Structure:

Capital City:	Lisbon: 559,400 population, 2,618,100 metropolitan area
Second City:	Porto: 264,200 population
Density:	114 pop/km²
Density settlement area:	295 pop/km²
Urban Population:	56%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008
- www.min-plan.pt
- www.dgotdu.pt
- Wikipedia Portugal

SPANISH SPATIAL PLANNING SYSTEM

Political and administrative organisation

Spain forms part of the Iberian Peninsula along with Portugal. The country includes the continental territory; the archipelagos of Balears and Canarias on the Mediterranean Sea and the Atlantic Ocean respectively, and the two autonomous cities – Ceuta and Melilla – located in the North of Africa.

The administrative organisation is based on 17 regions, 50 provinces and 8,111 municipalities. The regions – named Autonomous Communities – can be composed by one or more provinces, so there are 7 one-provincial Autonomous Communities and 10 that encompass the remaining 43 provinces.

Administrative competences for planning

In Spain, the Sate has very few competences in planning because, according to the 1978 Constitution, the national Government has no competence in urban and regional planning matters. Ministries such as Public Work, Agriculture and Environment are in charge of sectoral plans for matters on national interest- roads, ports, airports, communication, agriculture, mining, water and costs- that affect the planning practice of the lower territorial levels.

The Autonomous Government has the competence of producing regional planning legislation as well as regional plans while the Municipal Government has full competence of urban planning. It is in charge of approving the most significant planning instruments.

The role of the Provincial Government varies depending on the Autonomous Communities it belongs to. In some cases this administration is responsible for provincial planning and approval of municipal plans while in others this responsibly is limited or it is shared with other provincial administrations.

The Municipal Government has full competence of planning. It has the responsibility of drawing up plans for, the municipal territory, incorporating supra administrative decisions, and the capacity to affect landowners' rights and duties.

Main planning legislation

The current planning legislation is the result of a process started in 1956 when the Land Use and Town Planning Law was enacted. It defined a set of principles which, to a certain extent, are still valid:

- planning is a public function
- there is a hierarchical system of a successive plans
- property land rights and duties are limited by the general public interest
- land classification is the main planning technique, dividing the territory into urban, to be urbanised and rural land
- land to be urbanised is the central planning interest
- the roles of the public and private agents for the planning development are regulated by different systems of actions.

Planning and implementation instruments

- National level: Sectoral Plans for roads, ports, airports, communication, agriculture, mining, water and costs, conservation of national heritage and the national system of protected spaces.
- Regional level: Technical Tools with different names (Regional Plan, Directives, Strategies) that can include sub-regional instruments to treat some aspects in depth (natural resources, infrastructures, equipments) as well as instruments for direct intervention for certain issues, such as regulations of economic activities or special activities or projects.
- Provincial level: Provincial Subsidiary Planning Normative as a reference for municipal actions in small settlements.
- Municipal level: the Master Plan is the main instrument for urban regulation; it is the only legal instrument with the capacity to affect land owners' rights and duties

through its determinations. For less dynamic municipalities there are simpler instruments, namely Planning Subsidiary Norms, Urban Land Delimitation and Direct Implementation Norms.

Development control

The planning control is exerted by the Municipality through different means: permissions to allow or refuse new activities, inspections to confirm with the compliance of the planning legality and sanctions to restore the situation, including fines. Its infringement is punished applying different disciplinary measures, including the expropriation in the last resort.

For securing the quality of urban life in new developments, the standards defined by the legislation on gross density, green areas, basic facilities and parking places, are of compulsory implementation. Its application in new detailed development plans is checked at the moment of approval. This includes the transference to the Municipality of the plots corresponding to the 5-15% of the building capacity for social uses.

For the flexibility of the Plan, there is a possibility to introduce changes by means of specific modifications. In general, the General Plan Programme is reviewed every 4 years and, depending on the success of its application, the Council can decide to maintain it as it is, to include the required changes to update it or to start a new planning process if the changes to be included demand a new urban model.

Planning system in practice

After 25 years of effective planning practice, public administrations have fully assumed their competence of town and regional planning. All regional governments have formulated their territorial plans while most of the towns have their municipal plans, or similar regulatory instruments.

An issue that heavily affects planning practice is the complexity inherent in the implementation mechanisms and procedures. In the case that municipal plans are centred on urban expansion and that development is mainly in the hands of private agents, the city building processes are long and difficult. If the technical and financial capacity of the town is the prerequisite to cope with planning control, this is not always possible in medium or small municipalities. Another characteristic linked to the way of producing plans is poor public participation, reduced to compulsory acts during the formulation and approval processes. The lack of other channels of intervention has resulted in a lack of interest by citizens to intervene in urban affairs.

Another important problem related to planning practice is the limited capacity of the towns to carry out public projects, as they are dependent on the economic support provided by the regional administration.

The lack of the temporal correspondence between the delivery of municipal plans and the regional ones brought about important problems, especially for the metropolitan areas and urban regions which formed during those decades.

Fast Facts: (2009)

Total Area:	505.988 km^2
Total Population:	46.661.950
Population Grows:	1,09%
Unemployment Rate:	7,48%
GDP:	267 billion €
GDP per capita:	25.600 €
GDP growth rate:	-4,1%

Settlement Structure:

Capital City:	Madrid:3,273,006 population, 5,375,152 metropolitan area
Second City:	Barcelona: 1,615,908 population
Density:	99,22 pop/km^2
Urban Population:	77,6%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008.
- Instituto Nacional de Estadística www.ien.es
- Benabent, F. (2006): *"La ordenación del territorio en España"*. Universidad de Sevilla.

10.2 Annex II: Planning System of the States outside of the Consortium

Annex II describes the planning systems of the countries inside the European Union but outside of the Consortium of Plan4All. These states are: Belgium, Cyprus, Denmark, Estonia, Finland, Hungary, Lithuania, Luxembourg, Poland, Slovakia, Slovenia, Sweden, and United Kingdom.

BELGIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Constitutional Monarchy composed of three main independent regions: Wallonia, the Flemish region and Brussels.

Administrative competence for planning

The federal level has no competence of spatial planning, the regions, provinces, districts and municipalities have planning powers based on the subsidiary principle. They vary between the three regions, but there exists cross border cooperation at European level through the European Spatial Development Perspective (ESDP).

Main planning legislation

Since the reform of the 1980 constitution planning legislation is developed to the regions, thus there is no unified planning legislation in Belgium as a whole. In the Flemish region the administrative level and the communities were merged, thus planning is more comprehensive than in the other regions where socio-economic goals are separated from physical planning. Brussels has special planning issues as the seat of European organisations.

Planning and implementation instruments

All three regions are producing regional development perspectives and structure plans. In some regions there exist provincial plans, and in all regions municipalities draw up local development frameworks, land use plans and detail plans. The private sector has limited initiative powers. Environmental impacts from part of planning through the country.

Development control

Each planning level is responsible for its own plan making and approval, within the regional spatial development framework which includes socio-economic and environmental goals. Building permits are the responsibility of the municipalities.

Planning system in practice

Flanders decided to simplify its planning system to make it more flexible and less redundant as regards external changes, especially at the lowest tier, where partial revisions can be undertaken. However lack of vertical coordination for such changes may hamper their implementation. Moreover, continuous revision may jeopardise the stability of the planning system. The regional for the autonomous Brussels region is very general and leaves spatial specifications to the lower tier which may weaken the coherence of spatial planning in the

city. The new Walloon spatial framework prevents comprehensive reviews of lower tier plans and this may lead to incoherence of local spatial objectives although they have been simplified in the new planning procedures.

Fast Facts: (2008)

Total Area:	30.528 km²
Total Population:	10.403.951
Population Grows:	0,106 %
Unemployment Rate:	7,6 %
GDP:	272.333 billion €
GDP per capita:	24.403 €
GDP growth rate:	2,8 % (2008)

Settlement Structure:

Capital City:	Brussels: 981.200 population, 1.750.600 metropolitan area
Second City:	Antwerp: 450.000 population
Density:	341 pop/km²
Density settlement area:	4.000 pop/km²
Urban Population:	97%

Sources:

- International Manual of Planning Practise, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

CYPRIOT SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of 6 districts, two sovereign bases and the UN Green Line which separates the Greek and Turkish districts and some 42 municipalities.

Administrative competence for planning

The Planning Bureau, an independent body which operates under the aegis of the Ministry of Finance, is responsible for economic and regional development policies. Responsibility for spatial planning and urban policy rests with the Ministry of the Interior. The Department of Town Planning and Housing is the national directorate responsible for the implementation of planning legislation and aspects of urban policy and spatial planning. Two types of municipalities are planning for urban and rural areas respectively.

Main planning legislation

The 1972 Town and Country Planning Law set out the legal framework for the preparation of plans, the involvement of the public in planning, and the exercise of control over development proposals. Only the larger municipalities have competence over planning and development control.

Planning and implementation instruments

The main planning instruments consist of an island plan for the regional distribution of resources and development opportunities, local plans for major urban areas and other areas subject to intensive development pressures, and area schemes for the detailed planning and development of smaller areas. The aim of the Association of Cyprus Municipalities established in 1981 is to increase autonomy of local government including setting planning standards and development control conditions.

Development control

The Department of Town Planning and Housing has set up a directorate which is responsible for supervising the exercise of planning control over development. The district authorities are responsible for enforcing the detailed provisions of development plans, and for the enforcement of planning control.

Planning system in practice

The main spatial planning problem of Cyprus is its physical division into two territories and the lack of coordination between their respective development strategies. Although EU membership of Cyprus in 2004 covers the whole island, it was not able to change the status quo regarding integrated spatial planning. The physical division of the capital adds to these difficulties, as it is not possible to plan its overall spatial development and expansion, nor to contain its unregulated and uneven sprawl. Moreover, the effects of forced migration from the occupied territories are adding to unregulated suburban sprawl. The need exists for an island plan to provide a framework for regional plans which will have to address the problems posed by regional disparities in respect of employment, infrastructure and services.

Fast Facts:

Total Area:	9.250 km²
Total Population:	792.604
Population Grows:	0,522%
Unemployment Rate:	3,8%
GDP:	21,41 billion $
GDP per capita:	27.100 $
GDP growth rate:	4,4%

Settlement Structure:

Capital City:	Nicosia: 197.600 population
Second City:	Limassol: 180.100population
Density:	86 pop/km²
Urban Population:	70%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

DENISH SPATIAL PLANNING SYSTEM

Political and administrative organisation

Constitutional monarchy composed of five regions and 98 municipalities.

Administrative competence for planning

The subsidiary principle devolves planning and fiscal responsibilities to regional and local municipalities. The state remains responsible for the national planning framework and laying down the statutory content of plans. Planning competence of local authorities is to draw up vertically consistent frameworks for spatial development and management, comprehensive municipal plans, detailed local plans, control of development and land use.

Main planning legislation

The Planning Act of Denmark 2005 is ensuing local government reform and overhauling the 1970s legislation. It shifted form equal and balanced development to diverse and pluralistic spatial strategies, but providing equitable access to services for all citizens and more stringent environmental controls.

Planning and implementation instruments

The state issues national planning policies influenced by the European Spatial Development Perspective, directives, binding instructions and guidelines for regional and municipal planning and the environment. Regional development strategies and twelve year plans include business and environmental development objectives. Municipal plans and regulations include resources allocation, economic objectives, physical structure and land use and local plans for the whole area. All plans are revised after each election. Fully compensation expropriation is possible but not for land use allocation. Overall, planning was able to halt urban sprawl.

Development control

Development control is carried out by the authorities that devised the plans which are statutory.

Planning system in practice

Planning is equally concerned with spatial physical development and the preservation of natural environment. Planning still aims to balance private property and property rights which are protected in the constitution with the common good, including what is embedded in the national heritage of buildings and wildlife. One success of the planning system is to have been able to curb second home sprawl and protect natural sites, and in particular the coast. Planning has been less successful in fostering functional and liveable cities. These efforts were undertaken to curb traffic congestions and social spatial segregation. They were redressed by a new urban regeneration policy based on public participation. While successful in achieving compliance with plans the planning system cannot make developments happen. One of the finest aspects of Danish planning and regulations is that the system has been founded on dialogue and a “bottom up” perspective.

Fast Facts:

Total Area:	43.094 km²
Total Population:	5.484.723
Population Grows:	0,295%
Unemployment Rate:	2,8%
GDP:	203,7 billion $
GDP per capita:	37.400 $
GDP growth rate:	1,8%

Settlement Structure:

Capital City:	Copenhagen: 1.094.400 population
Second City:	Arhus: 220.700 population
Density:	127 pop/km²
Urban Population:	86%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008i

ESTONIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of 15 countries which are divided into 34 urban and 6193 rural districts.

Administrative competence for planning

The Ministry of Internal Affairs is responsible for planning. The Ministry of Economy and Communication is responsible for building control, and the Ministry of Culture is responsible for architectural and design advice. Although there is no formal second level of self-government, county government and municipalities are carrying out comprehensive and detail planning. They are expected to secure their implementation as well as public participation.

Main planning legislation

The Planning and Building Acts 2003 define the statutory planning system and make provision for the exercise of control over building activities, replacing the 1995 Act which was put into place after independence. Further supplements are being prepared.

Planning and implementation instruments

The National Planning Policy Statement formulates a strategy for the long-term sustainable development of the country. The Country plans develop this strategy with respect to the conservation of agricultural land and natural resources, landscape protection, transportation and public utilities. Every rural municipality has to prepare a Comprehensive Plan which defines urban and rural areas, established the general conditions for the use of land and water, and provides for the conservation of historic and natural heritage. Detailed plans deal with

plot-subdivision, buildings bulk, the space between buildings, easement and design requirements. The private sector can initiate development plans.

Development control

Permission is required for the construction of new buildings and the extension of existing buildings. The local council can grant permission for changes of use, but they are not involved in the ratification of and compliance with planning system.

Planning system in practice

The present division of responsibility for planning, building control and architectural design is presenting difficulties. Unfortunately, in the latest reform, the ministry of the environment was omitted form the planning process, despite other policies which subscribe to sustainable development elsewhere. While the new planning system is based on legislation of Finland and Sweden, Estonia has still to undertake property reform with the aim to reinstate property rights of previous owners before expropriation in 1940 with the goal to reach the pre-war situation. The liberal approach to property ownership tends to contradict the legislation based on the more communally based Scandinavian approach and presents difficulties in applying planning legislation in practice.

Fast Facts:

Total Area:	45.226 km²
Total Population:	1.307605
Population Grows:	- 0,632%
Unemployment Rate:	5,2%
GDP:	29,35 billion $
GDP per capita:	21.800 $
GDP growth rate:	7,3%

Settlement Structure:

Capital City:	Talin: 379.00 population,
Second City:	Tartu: 100.100 population
Density:	29 pop/km²
Urban Population:	70%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

FINNISH SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of six provinces, 19 regional councils and 432 municipalities. To facilitate co-operation and co-ordination the municipalities are grouped into 20 administrative regions and 74 sub-regions.

Administrative competence for planning

The land use department of the Ministry of Environment is responsible for planning legislation, national land use guidelines, environmental protection and land management. The state is also responsible for regional planning. Municipalities are in charge of local planning and development control. Te state has operative offices at the municipal level. Local self governing municipalities with a strong tradition of independence can form associations to tackle common planning issues.

Main planning legislation

The Land Use and Building Act 2000 defines the law in respect of land use planning and building operations. Its provisions are supplemented by Acts governing nature conservation, the protection of buildings, natural resources, the prevention of environmental deterioration and environmental impact assessment.

Planning and implementation instruments

Central government issues national land use policy guidelines which are then defines spatially in the plans prepared by the regional councils. These in turn are translated into site specific proposals in the local master plans and local detailed plans prepared by the municipalities.

Development control

The planning and building legislation includes certain general minimum requirements governing the granting of a building permit. In addition the local master plans set out specific criteria which have to be observed by prospective developers.

Planning system in practice

Because of the sparse population, land use has been based essentially on the principle that anybody can build anywhere for her/his own purpose. That spirit is still recognisable in the land use and planning legislation and in the building permits in rural areas. Late and rapid urbanisation has brought about dispersal and the most difficult planning problem today is urban sprawl and the spreading settlement structures. This also leads to unequal service and infrastructure provision which is not acceptable politically. The present planning system is deemed to be working quite well, despite the division of urban areas into independent and competing municipalities. Regional planning would need to be strengthened to improve coordination and generate more equitable spatial development. Public participation in planning is increasing due to the greater interest by the public. However the development industry is considering that it delays the planning process unduly. The same is considered of the complex appeal system in administrative courts and appeals to the supreme court are expected to be restricted in future.

Fast Facts:

Total Area:	338.1145 km²
Total Population:	5.244.749
Population Grows:	0,112%
Unemployment Rate:	6,9%
GDP:	185,9. billion $
GDP per capita:	35.500 $
GDP growth rate:	4,4%

Settlement Structure:

Capital City:	Helsinki: 582.600 population, 1.162.900 metropolitan area
Second City:	Espoo: 229.500population
Density:	16 pop/km²
Urban Population:	61%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

HUNGARIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of nineteen countries and 3.156 municipalities.

Administrative competence for planning

The government is responsible for the definition of the planning system and building code. These provisions have to be observed by the municipalities, property owners and developers. All municipalities have wide discretionary powers. Planning decisions can only be annulled when contravening the law. The County Administration Offices and Special Purpose Agencies exercise legal control over local plans. Hungary is deeply embedded in codified law and final court decisions. Building Authorities are enforcing planning decisions in cities and larger towns.

Main planning legislation

The New Planning Act 1997 on the Formation and Protection of the Built Environment was adopted after seven years of preparatory work. The Act modelled on German planning legislation – defines the statutory planning system, planning instruments and Building Codes. It also introduced four new planning tools: urban development concepts, structure plans, regulatory plans and local building codes. Very few planning standards are defined at the national level. Only the latter two are legally binding.

Planning and implementation instruments

The 1997 Act introduced the urban development concept, the structure plan, the regulatory plan and the local building code. The first two have to be observed by all local decision makers whereas the last two have to be strictly observed by property owners and developers. All agencies have to strictly observe the legal requirements set out in the statues. Zoning and planning permissions which are closely linked to building permits which are aimed at the private sector as private initiatives are needed to implement the various plans.

Development control

Building authorities can issue a range of building permissions, including permissions to demolish buildings, for land sub-division and changes of use. Conditions can and are attached to these permissions. Enforcement procedures also exist and are often used.

Planning system in practice

The new Hungarian planning system is a mixture of different planning approaches (American, British, French and German) but the implementation of the proposed planning instruments and development controls have several difficulties in practice. An attempt has been made to strengthen the legal position of urban planning to prevent unwanted development. Procedures have been introduces to regularise illegal developments. This includes the provision that those who infringe the planning regulations have to pay fines. As the Building Authorities have some discretion over such decisions and such an arbitrary situation may lead to further infringements.

Fast Facts:

Total Area:	93.030 km²
Total Population:	9,930.915
Population Grows:	-0,254%
Unemployment Rate:	7,1%
GDP:	194,2 Billion $
GDP per capita:	19.500 $
GDP growth rate:	2,1%

Settlement Structure:

Capital City:	Budapest: 1.769.500 population, 2.597.000 metropolitan area
Second City:	Debrecen: 210.500 population
Density:	107 pop/km²
Urban Population:	66%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

LITHUANIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of ten counties and sixty municipalities.

Administrative competence for planning

A hierarchical system has been adopted whereby the government determines the legal framework and general guidelines for territorial planning, policy formulation and plan implementation. The regional plans apply national planning guidelines and provide a context for the preparation of municipal, district and local detailed plans drawn up by the municipalities. The regions are also in charge for drawing up county plans.

Main planning legislation

The Spatial Planning Law 1995 sets out the responsibilities and arrangements for planning in general and for land use control in particular, and sets out responsibility for controlling plan

compliance. Supplementary rules and regulations have since then been adopted by the government and the Ministry of Environment.

Planning and implementation instruments

The National plan adopted in 2002 defines the spatial strategy for the development and use of land. It also sets out the principles which must be observed to secure the preservation of the nation's cultural and environmental heritage. The regional plans identify current trends, development pressures and infrastructure needs. The district plans have to observe the provisions of the national plan and the relevant regional plan. They also regulate the location of the high rise buildings and infrastructure needs. The district plans have to observe the provisions of the national plan and the relevant regional plan. They also regulate the location of high rise buildings and infrastructure development in special plans in order to protect the local cultural and natural heritage. The detailed local plans identify individual building sites and plots. They have statutory status and control all local construction and infrastructure works.

Development control

All prospective developers must seek the approval of the appropriate authority. Development proposals must observe the provisions of the relevant spatial and detail plans and their enforcement in the responsibility of municipalities. The courts are the last resort of planning appeals.

Planning system in practice

A hierarchical approach to planning ensures consistency. The new planning system is still evolving and has to cope with the problems and outcomes of rapid economic and social change following independence and membership of the European Union. In the light of the lack of infrastructure and the physical adjustment required to accommodate the new national socio-economic objectives the planning legislation and the administrative competences are under continuous revision. The first master plans have not been able to co-ordinate either public or private investment decisions. As a consequence there have been spontaneous "waves" of regulated strategic planning initiatives. Although public participation in planning is very formal the role of the public is unclear and needs clarification. Increasing nimbyism is delaying the implementation of common interest and advice is sought for a more balanced participation system. However, there is a lack of professional planners and training provisions.

Fast Facts:

Total Area:	65.200 km²
Total Population:	3.565205
Population Grows:	- 0,284%
Unemployment Rate:	3,2%
GDP:	59,59 billion $
GDP per capita:	16.700 $
GDP growth rate:	8%

Settlement Structure:

Capital City:	Vilnius: 543.500 population
Second City:	Kaunas: 379.800 population
Density:	55 pop/km²
Urban Population:	66%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

LUXEMBOURGIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Constitutional monarchy composed of three regions, twelve cantons and 116 communes.

Administrative competence for planning

A two tier system is in operation whereby the government is responsible for national spatial planning and the municipalities for local planning. The Ministry of the Interior and Spatial Planning co-ordinates the relevant European, national and local planning policies. The municipal authorities are responsible for town planning, local development, urban regeneration and development control. Planning follows the subsidiary principle. Municipalities can cooperate and constitute regional syndicates for more efficient planning and implementation of infrastructure projects and urban service provision.

Main planning legislation

The planning system is defined n the 1999 Spatial Development Act. It has been supplemented in 2004 by legislation which deals with city development and with the protection of natural resources and the environment.

Planning and implementation instruments

The National Spatial Planning Programme, which was revised in 2003, sets out the government's spatial objectives for sustainable development in a non-binding document. Further guidance is provided in the Integrated Transport and Spatial Development Concept of 2004, and in the Guiding Sectoral Plans. Regional plans are not legally binding. The land use plans and the legally binding development plans prepared by the municipal authorities provide detailed policies for the development and the use of land. Luxembourg is participating in many cross-border spatial developments and EU spatial development programmes.

Development control

New instruments, such as the creation of a building obligation, the definition of development and the promotion of land mobilisation need to be introduced to facilitate development control.

Planning system in practice

Land use development and transportation planning is not integrated. The government departments engaged in spatial, transportation and landscape planning need to improve co-operation and consultation, despite their declared policies of concentrated deconcentration and environmental protection. International commuting is putting a great strain on the infrastructure and the transportation system with congested roads and related pollution. This has brought about ribbon developments which the planning system seemed to be unable to contain. “Rubanisation” continues to erode the countryside and puts increasing demand on the road networks which is being continuously enlarged to the detriment of public transport. The one advantage of this otherwise negative spiral is that rural communities are obtaining new life as the urban population tends to settle there rather than in the suburb leads to relentless reduction of rural land.

Fast Facts:

Total Area:	2.586km²
Total Population:	486.006
Population Grows:	1.188%
Unemployment Rate:	4,4%
GDP:	38.790 billion $
GDP per capita:	80.800 $
GDP growth rate:	5%

Settlement Structure:

Capital City:	Luxembourg: 78.800 population
Second City:	Esch-Alzette: 24.255 population
Density:	188 pop/km²
Urban Population:	92%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

POLISH SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of sixteen provinces, 373 counties and 2.384 municipalities.

Administrative competence for planning

The government is responsible for national policy pf physical development and for major planning decisions. The Department of Spatial Coordination is responsible for physical planning and land management. Other ministries are responsible for environment and ecological policy, and for building code legislation. Provinces formulate regional development policy and coordinate public projects. The countries issue building permits and monitor

building control. The municipalities prepare detailed local land use plans and are responsible for planning control.

Main planning legislation

The Spatial Planning and Spatial Development Act 2003 defines the basic goals and principles of spatial planning. Some planning standards and regulations are defined in the building code and Environmental Protection Act 2003. The Local Government Acts 1990 and 1998 lay down planning goals and procedures, together with the Public Administration Act 1998. The Real Estate Act 1997 lays down conditions and regulations for land division and expropriation.

Planning and implementation instruments

There exist four levels of planning. The government prepares statements of national development policy, goals, trends and the socio-economic assumptions which underpin policy. The provincial councils prepare regional physical development plans and coordinate public sector development programmes. The county councils prepare physical development studies and are responsible for the issue of building certificates. The municipalities prepare legally binding local physical development plans. At regional level, the representatives of the state and the head of the provincial government share different responsibilities.

Development control

The county levels are responsible for building control and the municipal councils are empowered to grant planning permission for development proposals within the provisions of the detailed local physical development plans.

Planning system in practice

The changes introduced in 2003 have not achieved expected results, in part, to the lack of a legal requirement to prepare local plans, thus impeding potential development and rehabilitation of areas. This constituted a serious barrier to new investments and the economic development of some regions. It has been also adverse to proper coordination of spatial development. A new planning bill intends to strengthen the planning and enforcement powers of the municipalities and to make the planning system sufficiently flexible to accommodate the current transformations of the economy and society spatial planning in the city. It also accommodates more equitable compensation for land and real estate owners affected by planning strategies.

Fast Facts:

Total Area:	312.685 km²
Total Population:	38.500.696
Population Grows:	-0,045%
Unemployment Rate:	12,8%
GDP:	624,6 billion $
GDP per capita:	16.200 $
GDP growth rate:	6,5%

Settlement Structure:

Capital City:	Warsaw: 1.607.600 population, 2.201.900 metropolitan area
Second City:	Lodz : 778.200 population
Density:	123 pop/km²
Urban Population:	62%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

SLOVAKIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Republic composed of eight regions, 79 administrative districts and 2.875 municipalities.

Administrative competence for planning

The Ministry of Construction and Regional Development is responsible for the preparation of the national spatial plan. The regional authorities prepare regional plans which have to be approved by the government. The municipal authorities are responsible for the preparation and approval of city master plans, which provide a general spatial framework for the regulation of land use, and detailed zoning plans.

Main planning legislation

The Spatial Planning and Building Act 1976, as amended regularly and most recently in 2003, defines the spatial planning system, the types of plans, and the procedures and regulations that have to be observed when preparing and approving plans. It has established a hierarchical spatial planning system. There is also a building code which establishes spatial planning as an open system easing the implementation of a long term spatial development vision.

Planning and implementation instruments

The National Spatial Development Plan outlines the Government's policies for settlements. It also defines the guidelines principles which have to underpin proposals for spatially specific development proposals. The regional plans identify development patterns, including the organisation of land use, and make provision for environmental and nature protection. The city plans set out a general spatial framework for the development and use of land. The zoning plans make provision for the regulation of building plots, building lines, and the height, massing and shape of buildings.

Development control

The municipal authorities are responsible for enforcing development control. The local development and zoning plans set out the planning standards and requirements which developers have to observe when seeking a building permit.

Planning system in practice

Until recently the provisions of national economic plans took precedence over the objectives of spatial planning. The change to a market economy introduced prevention of urban sprawl, the abolishment of prefabricated large scale housing, increasing infrastructure, town centre regeneration and improvement of transportation as a part of the 2001 national development perspective. A key goal of spatial planning remains an even territorial distribution of settlements through urban-rural partnerships. Sustainability principles were incorporated in planning to reduce the deterioration of the environment and to protect natural resources. The privatisation of utilities has also an effect on the planning system. The exercise of building control plays an important role in settlement planning and special efforts are made to mobilise the provisions for sustainable tourism, expected to enhance cultural heritage as a development factor.

Fast Facts:

Total Area:	48.845 km²
Total Population:	5.455.407
Population Grows:	0,143%
Unemployment Rate:	8,6%
GDP:	107,6 billion $
GDP per capita:	19.800$
GDP growth rate:	8,8%

Settlement Structure:

Capital City:	Bratislava: 428.800 population,
Second City:	Kosice: 233.600 population
Density:	112 pop/km²
Urban Population:	58%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

SLOVENIAN SPATIAL PLANNING SYSTEM

Political and administrative organisation

Democratic Parliamentary Republic consisting of 8 regions and 193 local municipalities.

Administrative competence for planning

The state is responsible for planning legislation, the definition of a spatial development strategy and issuing general guidelines. At present there are no formal regional administrative authorities but the state prepares regional concepts of spatial development with the respective municipalities. The municipal authorities are responsible for the spatial planning and management of their respective territories. They are required to undertake the planning duties set out in the legislation.

Main planning legislation

The Spatial Planning Act 2007 has established a hierarchic system of spatial planning. It also defines the requisite planning regulations and procedures, the types and contents of national and local plans. Provision is made for the joint preparation of regional plans by the government and the municipalities and for inter-municipal plans. The revised Construction Act 2003 redefined the procedures for obtaining building permits. The Spatial Management Policy of the Republic of Slovenia introduced a new legal system and a market economy.

Planning and implementation instruments

In 2004 the government adopted a spatial development strategy which presented the main planning guidelines, goals and priorities for spatial development, the growth of settlement, infrastructure and landscape. It also set out guidelines for regional and local development and recording of planning data. The regional concept of spatial development prepared jointly by government and interested municipalities seek to guide major development projects. The Spatial Order of Slovenia 2004 provides guidance on detailed planning matters. The amended planning act makes local planning compulsory. Local plans consists of general guidelines and the basis for more detailed planning.

Development control

The municipal authorities are responsible for development control, the granting of planning permits and the issue of building permits, which is both expensive and time-consuming.

Planning system in practice

The Assessment of Spatial Development in Slovenia of 2001 constituted the base of Slovenia´s new spatial planning system and was extended to encompass European spatial strategy and international recommendations. Recent changes in the spatial planning system have sought to promote greater flexibility, a speedier implementation process. This may contradict more effective public participation in the decision making process. The transition from integrated economic, social and spatial planning to a normative framework system is yet to prove its worth in practice.

Fast Facts:

Total Area:	20.273 km²
Total Population:	2.007.711
Population Grows:	-0,088%
Unemployment Rate:	4,6%
GDP:	54,79 billion $
GDP per capita:	27.300$
GDP growth rate:	5,8%

Settlement Structure:

Capital City:	Ljubljana: 258.000 population
Second City:	Maribor: 92.400 population
Density:	99 pop/km²
Urban Population:	59%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

SWEDISH SPATIAL PLANNING SYSTEM

Political and administrative organisation

Constitutional monarchy composed of 21 countries and 290 municipalities.

Administrative competence for planning

The government prepares policies for national physical planning and building matters and for the provision of housing. The National Board of Housing, Building and Planning monitors developments in respect of physical planning, building codes and permits and the provision of housing. The county council are responsible for regional planning and coordinating the activities of their constituent municipalities. The municipalities are responsible for certain planning matters and decisions on minor cases.

Main planning legislation

The National Resources Act, the Planning and Building Act 1987 and the Environment Code 1999 have replaced the old planning system, laying more emphasis on environmental matters which have equal status with spatial development. These laws encourage the long term management of land and water in ecological, social and economic terms by respecting the public interest as well as individual freedoms. They set out the objectives and procedures for spatial development planning. Legislation on heritage conservation and expropriation extends the role of planning.

Planning and implementation instruments

National planning guidance is set out in the sectoral plans prepared by government departments. In exceptional cases municipalities can collaborate to prepare regional plans. The country councils provide specialist inputs to the municipal plans. The structure plans, special area plans and detailed plans prepared by municipalities make provision for the development and use of land. Certain government development activities have deemed planning permission.

Development control

The municipalities are responsible for determining applications for changes of use, for the demolition of buildings and the development and use of land and buildings. Developers are expected to have regard to environmental, health and safety considerations and need to respect any precedents.

Planning system in practice

The existing planning system has been revised to meet the requirements of sustainable development and facilitate the achievement of national goals for the environment. A new regulatory framework for the technical performance of buildings and physical structure has been put into place. This includes renewable energy generation and other energy efficiency

measures for buildings. A number of other measures were proposed which reach beyond development control and deals with building and the public realm in use, including responsibilities for maintenance. More efficiency is expected from better coordination between sectors and over time during the planning process. Public participation is encouraged through greater transparency of the planning process.

Fast Facts:

Total Area:	449.964 km²
Total Population:	9.045389
Population Grows:	0,157%
Unemployment Rate:	4,5%
GDP:	333,1 billion $
GDP per capita:	36.900 $
GDP growth rate:	3,4%

Settlement Structure:

Capital City:	Stockholm: 1.251.900 population, 1.622.300 metropolitan area
Second City:	Göteborg: 506.600 population
Density:	20 pop/km²
Urban Population:	83%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

SPATIAL PLANNING SYSTEM OF UNITED KINGDOM

Political and administrative organisation

Constitutional monarchy composed of England, Northern Ireland, Scotland and Wales. In addition to the Scottish Parliament and Welsh Assembly there is a complex system of county, district and unitary authorities.

Administrative competence for planning

Government control over the planning system is exercised by the Department of Communities and Local Government in England, the Scottish Executive and the Northern Ireland and Welsh Assembly. In each case the respective local authorities are responsible for plan making and the exercise of planning powers. Planning is administered through a combination of central and local government. In England, the Greater London Authorities is the regional planning body for Greater London although not directly elected.

Main planning legislation

There is a separate planning legislation for England, Northern Ireland, Scotland and Wales. The Town and Country Planning Act 1990, as amended in 1991 and 2004, establishes the planning system for England and Wales. The main planning legislation in Scotland is the Town and Country Planning (Scotland) Act 1997. In Northern Ireland planning is ruled by the

Planning (Northern Ireland) Order 1972 and the Planning Reform (Northern Ireland) Order 2006.

Planning and implementation instruments

Statements of national and regional policy have been prepared for England, Northern Ireland, Scotland and Wales. National spatial exist in Northern Ireland, Scotland and Wales. The dual purpose of spatial planning is to regulate development and use of land in the public interest and to contribute to the achievement of sustainable development. The development plans prepared by local authorities set out their policies and proposals for meeting the economic, environmental and social aims for their areas. There are either two tier county and municipal plans or unitary development plans in single tier local authorities. Usually the plans contain a planning framework or a policy statement and a land use and implementation plan.

Development control

Planning legislation defines development requiring planning permission. Certain categories of development proposals are subject to environmental impact assessment. Local authorities are responsible for determining planning applications.

Planning system in practice

The UK planning system´s achievements have been considerable. The reform of the English planning system in 2004 has proved difficult to implement. Further reforms are currently set out in the Planning Bill introduced at the end of 2007. Meanwhile, the land use and settlement pattern remains highly car dependent, wit urban sprawl of housing and many other activities, such as regional shopping centres, logistics and business parks. A recent trend is to return the use of brownfield sites to encourage more compact cities and higher densities facilitating public transport use.

Fast Facts:

Total Area:	244.820 km²
Total Population:	60.943.912
Population Grows:	0,276%
Unemployment Rate:	5,4%
GDP:	2.147 billion $
GDP per capita:	35.300 $
GDP growth rate:	2,9%

Settlement Structure:

Capital City:	London: 7.429.200 population, 7.615.000 metropolitan area
Second City:	Glasgow: 1.099.400 population
Density:	249 pop/km²
Urban Population:	89%

Sources:

- International Manual of Planning Practice, International Society of City and Regional Planners, Judith Ryser, Theresa Franchini, Madrid, 2008

10.3 Annex III: SDI Structure and projects

Annex III shows in several tables the most important SDI projects in the following countries: Austria, Czech Republic, France, Germany, Greece, Ireland, Italy, Latvia, Malta and Spain.

(Always two pages form one line of a table.)