SWOT Analysis of tourism in Tuscany (in the EU programming literature)

MED PROGRAMME 2007-2013

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INDEX

Intro ......................................................................................................................................................................... 5
1. Mitomed Swot Tuscany ....................................................................................................................................... 7
  1.1 Protection of environment ............................................................................................................................... 7
  1.2 Low carbon economy and energy sector........................................................................................................ 10
  1.3 Conservation of cultural heritage.................................................................................................................... 12
  1.4 Conservation of identity ................................................................................................................................. 13
  1.5 Transport ....................................................................................................................................................... 14
  1.6 Employment and labour mobility .................................................................................................................. 16
  1.7 Quality of life of citizens and tourists ............................................................................................................ 19
  1.8 Research, technological development and innovation .................................................................................. 20
  1.9 Information and communication technologies ........................................................................................... 22
2. References ........................................................................................................................................................ 24
Tuscany is located in central Italy and it is known for its beautiful landscapes, traditions, history, cultural heritage, wide maritime coastline and for its vineyard and olive growing.

Tuscany is surrounded in north and east area by the Apennines, but the territory is mainly hilly.

The region is characterized by a continental coastline very diversified and it is on the Ligurian Sea in the north-central part and Tyrrhenian Sea in the South.

Its landscape, artistic heritage and standout cities make Tuscany an unquestioned protagonist of international tourism. In this region, nature has many different facets, starting from the coast that alternates long and sandy beaches, with rocky cliffs and steep headlands.

Tuscany has a western coastline on the Thyrrenian Sea, containing the Tuscan Archipelago and it consists of seven main islands and several smaller islands. The largest island of the Tuscan Archipelago is Elba. The islands of the Tuscan Archipelago are surrounded by Mediterranean vegetation. The coastline of the Tuscany Region is the most popular landscape of the territory, widely known brand at international level.

This work consisted in a desk research on background documents concerning the related European programmes such as the program Italy- France 'Maritime' 2014-2020. We also consider the Blue Growth Strategy and EU communications concerning sustainable tourism, tourism indicators and integrated maritime policy.

Blue Growth is the long term strategy to support sustainable growth in the marine and maritime sectors as a whole. Seas and oceans are drivers for the European economy and have great potential for innovation and growth. Blue growth concerns all the activities having strong links with the Mediterranean Sea, including maritime, coastal and cruise tourism, creative industries, coastal and marine resources, protection of biodiversity, blue energy (algae, thermic energy, waves), blue biotechnology (food, health, cosmetics), sustainable management of ports, marine and environmental industries, etc.

Especially, in this paper we use as background documents the following materials:

The program Italy / France 'Maritime' 2014-2020 is a territorial cooperation program aiming to improve cooperation between border areas - including Tyrrhenian coast- high in terms of accessibility, innovation, enhancement of natural and cultural resources in order to ensure territorial cohesion and promoting employment and sustainable development over time. We are also developing a regional base SWOT analysis based on the above quoted documents and the POR FESR 2014-2020 to be concluded in collaboration with the Tuscany Region.

“POR FESR” 2014-20 of Tuscany Region contributes the implementation of the European strategy to a smart, sustainable and inclusive growth and the achievement of economic, social and territorial cohesion. “POR” is based on an analysis of the relevant needs and on a diagnosis of the problems and opportunities that characterize the regional context.

“Smart Specialization” is one of the pillars of European Commission of Europe Strategy 2020. Its includes the Community policies of the next decade in view of smart, green and inclusive growth. Its goal is to boost regional innovation in order to achieve economic growth and prosperity, by enabling regions to focus on their strengths.

Data are the result of careful analysis referring to the NECSTouR thematic and “Blue Growth” in the Tuscan Region. NECSTouR represents 30 regional authorities (NUTS 2) and 35 associated members (tourism enterprises/associations representatives, research centres and universities), aims at helping the implementation of

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1 Blue Growth opportunities for marine and maritime sustainable growth, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COM (2012) 494 final.
the “European Agenda for a sustainable and competitive tourism”, promoted by the European Commission in its Communication. The network objectives are to develop a strong framework for regional cooperation at European level, to conduct research and the tourism policy.

Following the COM (2010) 352 “Europe, the world’s No 1 tourist destination - a new political framework for tourism in Europe”, NECSTouR includes in its long term work programme mobilizing instruments for better integration of ETIS in our Regions. The European Indicator System aims to contribute to improving the sustainable management of destinations by providing tourism stakeholders with an easy and useful toolkit. It will help decision makers to measure and monitor their sustainability management processes, and enable them to share and benchmark their progress and performance in the future.

This paper should be useful to represents the starting point of the Mitomed SWOT Analysis.

This analysis is developed on same topics, linked to NECSTouR thematics and Blue Growth principles, that are:

1. Research, technological development and innovation
2. Information and communication technologies
3. Competitiveness of SMEs
4. Climate change and risks
5. Low carbon economy and energy sector
6. Protection of the environment
7. Transports
8. Employment and labour mobility
9. Quality of life of citizens and tourists
10. De-seasonalisation
11. Conservation of cultural heritage
12. Conservation of identity
13. Optimization of water management
14. Optimization of waste management
15. Aquaculture and Fisheries
16. Shipbuilding
17. Cruise sector

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3 NECSTouR Presentation Draft, 2014.
1. SWOT Analysis Tuscany

1.1 Protection of the environment

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
</table>
| - Extremely rich and important environmental heritage (sea, mountains, rivers...)  
- Support private investment to improve in terms of CO\(_2\) emission  
- Presence of monitor systems (RE.NA.TO) | - The population is exposed to air pollution  
- The presence of chemical plants (Massa Carrara, Pisa and Leghorn)  
- Degradation of fragile areas, notably coastal areas and pollution of maritime areas |

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
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</table>
| - Development environmental protection measure  
- Action to reduce the emission of CO\(_2\) | - Risk of increasing environmental pollution due to tourism (seasonability)  
- Increasing coastal erosion (Viareggio, Forte dei Marmi, Marina di Massa)  
- Increasing hydrogeological risks  
- Chemical industry |

Problems relating to pollution

Air quality is one of the main factors affecting the quality of life and state of health. In addition, air pollution has an impact on the quality of residential tourist destinations. Pollution could extremely danger the reputation of the tourist destinations. In the hot summer months when there are many tourists, air pollution can be a big problem if not dealt with in a correct way.

Environmental protection of good management resources is vital for the long term area development. About 50% of the population in the Tuscan Region is potentially exposed to air pollution levels superior to the limit values for most pollutants\(^5\). Environmental and territorial analysis highlights further environmental risks related to climate change and to the presence of chemical plants in the provinces of Massa Carrara, Pisa and Leghorn. In reference to coastal tourism an adequate monitoring of sea water quality represents a form of protection for the health of residents and tourists. It is necessary to protect the main tourist attractions in the Mediterranean areas.

The management and monitoring of environmental impact

The Region aims to enhance the regional settlement pattern by promoting a balanced urban polycentric development by combining regeneration interventions and control of land construction.

The Region also promotes actions to revitalise the economy to increase the competitiveness of urban systems, the redevelopment of peripheral areas, the recovery of public assets available through interventions in that unit, point to

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\(^5\)Programma di cooperazione transfrontaliera Italia- Francia Marittimo 2007-2013, p.34.
the re-composition of the functional aspects and landscape at the urban scale\textsuperscript{6}.

Related to the support of sustainable urban mobility, this action is aimed reducing the emission of CO\textsubscript{2}, through a review of the plans of urban transport and the introduction of new logistical and organisational solutions. Primarily the renewal of urban transport.

The urban innovation projects are aimed to solve economic, social, demographic, environmental and climatic problems. There are interventions to value the cultural heritage, through the promotion and enhancement of the great cultural attractions museums and their networking.

The analysis revealed activities to support the regeneration and conversion of the steel pole of Piombino. In particular, we are referring to support private investment to improve the environment in terms of CO\textsubscript{2} emissions in the production cycle as part of the conversion plan and industrial upgrading of the steel plant in Piombino\textsuperscript{7}.

\textit{The chemical sector in Tuscany.}

There is an articulated industrial sector in Tuscany: from petrochemicals in Leghorn, medium and small companies related to local manufacturers. Overall, the region has more than 1,150 active companies, employing about 15 thousand employees.

There are two main chemical “coastal” sectors Tuscany: the nautical sector, situated in Lucca and the stone sector in Carrara\textsuperscript{8}.

\textit{The challenge for the protection and conservation of coastal areas}

The Tuscan coast is an important natural environment. It is also a fundamental resource of coastal tourism and bathing. Coastal areas represent a major resource with a high level of attractiveness, a very important concentration of human activities and fragility of natural and cultural resources.

In the interests of conservation and sustainable use of this natural heritage, its protection is of particular importance.

To meet the need for protection of this extraordinary variety and environmental nature, Tuscany has a georeferenced database, the "Repertoire Naturalistic Toscano" (RE.NA.TO). It showes the situation of all plant and animal species of interest conservation within region with their presence in different geographical areas and related critical levels.

During 2005 an agreement was launched, between the Tuscany Region, the Natural History Museum "The Observatory", the University of Florence and ARPAT (sea area) to implement a project to study and monitor marine species in order to achieve a repertoire Tuscan element of conservation interest (Project BioMart).

The analysis highlights the main risks of conservation and coastal areas and we find problem related to coastal erosion. Its relevance to the beaches of Tuscany has grown, and with it the need to find material as compatible as

\textsuperscript{6}“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, versione approvata dalla Giunta Regionale della Toscana, p 67.
\textsuperscript{7} Ibidem, p. 54.
\textsuperscript{8} Ibidem, p. 39.
possible with the existing one on the coast. In the period, 1980-2000 coastal erosion amounted to 214 km and involved an extension of 125 kilometers.

The evolutionary trend of the Tuscan coast stresses the areas that are particularly at risk on the coast north and south of the mouth of the Arno, south of the river Cecina, the Ombrone estuary and some beaches on the island of Elba. The coast of Versilia is making clear progress, particularly the beaches of Viareggio, Forte dei Marmi, Marina di Massa. The sandy coastline ranging from Bocca di Magra and the mouth of the river Chiarore is 191 miles and about 70 have been spoilt. While the beaches in progress register variation rates of a few inches per year, those in erosion undergo erosion to the shore line that, in some cases, abundantly exceed 10 meters per year.

In the Europe the Tuscan coastline has lost about 199,675 square meters of beach, according to the latest data. To underscore stresses that the areas in progress are more extensive than those in erosion, 64,1% vs. 35,9%.

The PRAA 2007-2010 of Tuscan Region aims to ensure the equilibrium of coastal dynamics, recovery and protection of the coastal heritage, thanks to the knowledge framework prepared by the Geographical Service and the Regional Geological Survey, in cooperation with the LaMMA (Laboratory of Meteorology regional), with the identification of precise limits of sustainability, in terms of the use of areas for edification.

**Hydrogeological risks**

The environmental analysis showed that Tuscany’s locality is quite critical with a presence of hydrological risks above average national level.

The risk of landslides is particularly high: eight out of ten provinces (excluding Siena and Grosseto) are classified as high-risk areas. Following the earthquake risk, but in this case the position of Tuscany is less severe than that emerges in Central Italy. The flood risk appears to minor.

The development of activities respectful of natural and cultural resources should also take into account environmental changes like the reduction of water resources, the risks of droughts or floods, hydrological stress, soil and coastal erosion, extreme weather events that may have direct interconnections with economic development, urbanisation and have direct impact on natural and cultural heritage.

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12 Programma operativo Italia/Francia Marittimo 2007 - 2013, Valutazione ex-ante, p. 121.
1.2 Low carbon economy and energy sector

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Favourable conditions for the production of renewable energy (still strongly characterized by geothermal)</td>
<td>- Energy consumption is still closely to regional non-renewable sources</td>
</tr>
<tr>
<td>- Inventory of Sources Regional Issue</td>
<td>- Final energy consumption is attributable to the industrial sector</td>
</tr>
<tr>
<td></td>
<td>- Low energy self-sufficiency and efficiency compared to the national average</td>
</tr>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>- Development potential to reduce energy consumption in buildings</td>
<td>- Significant increase in the cost of low carbon energy</td>
</tr>
<tr>
<td>- Development potential for renewable energy not fully exploited</td>
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</tbody>
</table>

The impact of energy consumption on the environmental

The regional production system (together with mobility and domestic needs) establishes one of the main factors of energy demand. Whereas domestic electricity production satisfied only a part of the needs and despite the strong growth of the production of electricity from renewable sources (still strongly characterized by geothermal), energy demand is expected to continue growing, with repercussions also in economic terms (with ever increasing electricity bills kilometers).

Energy consumption is still closely tied to regional non-renewable sources, placing critical issues in terms of security supply, energy costs and impact and implications of a more strictly environmental nature (emissions of greenhouse gases in Tuscany in 2010 were to 36,289,080 tons of CO2 eq15, of which about 37% were attributable to the industrial sector).

The specific objective is to reduce energy consumption in buildings by raising capacities, promoting the use of innovative solutions, increasing public awareness and the involvement of public administrations and people towards energy efficiency solutions.

The analysis showed that: - 30% of final energy consumption is attributable to the industrial sector; - energy expenditure of companies is well above European average, a factor that reduces its international competitiveness; - the industrial sector is responsible for the emission into the atmosphere of 13 million tons. of emission into the atmosphere CO2; - about 50% of energy consumption data from heat consumption (heating / cooling) and about 21% of final energy consumption is attributable to the residential sector13.

Main principals in pollution monitoring

Tuscan Region in line with its strategic objectives, has adopted tools for the monitoring and mitigation of environmental risks.

The cognitive framework of emissions of carbon dioxide, methane and nitrous oxide is composed of an Inventory of Sources Regional Issue I.R.S.E. Emissions increased by 7.6% in the period '90 -'03. In compliance with Kyoto it involves 5 million and a half millions tons of greenhouse gases in less than 2003.

In Tuscany energy consumption increased by 14%, from 1995 to 2003. In 2004 it was 33% electricity from renewable sources, thanks to geothermal energy (28%), hydropower (4%), biomass and waste (1%). The renewable energy sources ensure 12% of the total and 33% of electricity production.

Tuscany shows a lower efficiency and an energy self-sufficiency below national level.

Analysis has highlighted actions aimed at improving energy efficiency and renewables, oriented to aimed at improving of production cycles. This action focusing in favor of business investment (GI and MSMEs), directed at production of energy through the use of renewable sources, as well as improving energy efficiency and thereby improving business performance going affecting not only levels of energy consumption, but also coast performance.

The promotion of renewable sources is direct to the private sector for self-consumption.

The analysis also showed that in 201, 16,140 new plants were born for the production of clean energy, highlighting that Tuscany is the only region in Italy to produce geothermal energy and the second for biomass.

Supporting the shift toward a low-carbon economy in all sectors supporting energy efficiency, smart energy management and renewable energy use in public infrastructures, including public buildings, and residential areas.

Tuscany has a significant natural heritage that is a fundamental resource for its economic and social development.

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15“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana, p.52.
1.3 Conservation of cultural Heritage

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Extremely rich historical and architectural heritage</td>
<td>- Scarcity of resources allocated to culture</td>
</tr>
<tr>
<td>- Notable Etruscan necropolis along the coast</td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>- The heritage has an exceptional consistency of quality,</td>
<td>- Poor protection and conservation of the rich</td>
</tr>
<tr>
<td>quantity and geographical diffusion</td>
<td>heritage</td>
</tr>
<tr>
<td>- Promote an integrated tourism services to a sustainable tourism</td>
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</table>

**Cultural heritage: the Etruscans along the coast**

The historical and architectural heritage of Tuscan Region is characterized by an exceptional consistency of quality, quantity and geographical diffusion: historical houses, palaces, churches, gardens, parks, archaeological sites, castles and fortresses. Tuscany is composed of more than 450 museums, 3,500 monumental churches, 300 archaeological sites. From an historical, artistic and cultural point of view, in Tuscan are great of interest in cities such as Pisa, Lucca, Livorno and Grosseto. Along the coast we can find many Etruscan necropolis most notable being, as Sovana, Vetulonia and Populonia and Roman remains, many of which arose from pre-existing Etruscan cities such as Volterra and Roselle16.

**Promoting and enhancing the tourism offer**

The culture having a significant economic and employment impact in the destination. In Tuscany there are 718 museums, exhibition centers and similar institutions, with an average of a museum every 5,143 inhabitants. The museums present in the region that currently appear open to the public are 666. There were more than 21 million visitors, in 2012, since a decrease of 2.6% compared to 2011 but certainly highly important for the region and for its economy (taking into account that visitors to these museums are mostly tourists).

Improving and enhancing the cultural offer is also an important factor to encouraging the process of social inclusion of the population. The promotion of tourism in international markets comes from the need to increase the capacity to attract foreign tourists. The international tourists represents a growing segment of demand (in 2013 the increase in arrivals "foreigners" was 1.29% compared to the decrease of Italian tourists, equal to 2.29% ) with a more spending power, in the recent years.

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New companies in the tourism, cultural and commerce sector are an important opportunity to innovate tourist products and to improve the capacity of the regional tourist attraction. The program intends to promote the integrated tourism services to a sustainable tourism (like diversification of the tourist destination and the acquisition of the brand of the tourist destinations of excellence).

The cultural heritage in Tuscany has a great historical and artistic importance and for this reason is important to promote the activities related to the culture\textsuperscript{17}.

### 1.4 Conservation of identity

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
</table>
| - Promotion of known and unknown destinations  
- Tourist cross-selling | |

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Development cultural identity and tradition to increase the economic, social and tourism</td>
<td>- A great tourists flow standardize the supply</td>
</tr>
</tbody>
</table>

**Territorial enhancement through identities**

The promotion of local products is an important element for the endogenous development of territorial systems, in regard to the economic impact, social and tourism.

The initiatives of tourist cross-selling are increasingly common, thanks to the typical and traditional products that the destinations can produce. They are important to discover and know destinations that aren't located in the traditional tourist routes.

Tuscany is one of most famous region in the world in the field of agribusiness and agro-forestry. Its fame is spreading to new markets such as Brazil, China and India.

Market dynamics favour products with a strong to link with the territory of origin and its history.

This report, in fact, gives the product a high symbolic value linked to a culture, to one lifestyle and to a specific tradition (Identity marketing to promote the image of local products through the evocative potential of the places in

\textsuperscript{17}Programma operativo regionale FESR 2014-2020, “Obiettivo Investimenti in favore della crescita e dell’occupazione”, 2014, p. 15.
which they are born and the places by virtue of their local products\textsuperscript{18}.

1.5 Transport

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>- The coastal provinces are well placed in the infrastructural network of Tuscan system (Massa, Pisa, Lucca and Leghorn)</td>
<td>- Modal imbalance in favour of road transport and the use of private vehicles</td>
</tr>
<tr>
<td>- Adequate and good port infrastructure</td>
<td>- Poor placed in the infrastructural network of Tuscany system for Grosseto</td>
</tr>
<tr>
<td>- Satisfactory level of railway infrastructure</td>
<td>- Geographical fragmentation and isolation of numerous territories (Islands, remote areas)</td>
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<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Development potential for public services</td>
<td>- The system of transport impacts the environmental and economic sustainability</td>
</tr>
</tbody>
</table>

The transport system and the environmental impact

The Tuscan transport system is characterized by a modal imbalance in favor of road transport, characterized by the preponderance of the use of private vehicles. In Tuscany over 88\% is made up on by private transportation, while less than 10\% with the public transportation. The system of transport impacts on the economic and environmental sustainability, have negative effects on the community, which results in significant environmental costs (increase climate-altering gases, air pollution and noise), as well as social (congestion and accidents).

Just under a third of the final energy consumption of Tuscany is attributable to the transport system: the mobility, and in particular road transport, contributing to the regional level significantly to air pollution, the issue of climate-altering gases and energy consumption. Transport has also a strong influence on living environment, on human health (pollution, noise) which should be taken into account in the development of innovative sustainable solutions. It is important to monitor the tourism activities because “tourism” contributes the production CO2 in a destination. It is important to develop the process of monitoring air pollution and supporting the shift toward a sustainable model to adopt relevant adaptation measures. Transport to and around a destination contribute to local pollution generated by tourism. Making tourism more sustainable means creating the right balance among environmental conservation, quality of life of host communities and the profitability of companies\textsuperscript{19}.

In 1990, the base year for the European targets, greenhouse gas emissions in Tuscany amounted to 32,899,962 tons., increased to 38,143,990 in 2000. In 2007 there were 35,314,632 tons., a significant decrease compared in

\textsuperscript{18}“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana, p. 64.

\textsuperscript{19}Ibidem, p.117.
previous years, although well below the EU target compared to 2020 emissions reduction. Despite an overall improvement in recent years, pollution continues to occur in urban areas exceeding emission limits for particulate matter (PM10) and nitrogen oxides (NOx) also originated from vehicular traffic.

Transport and accessibility

The efficiency and extension of the infrastructure networks represents a significant factor for residents, economic development, tourism and a greater economic and environmental sustainability.

The coastal provinces of Massa, Pisa, Lucca and Livorno are well placed in the infrastructural network of the Tuscan system, while being in a position more disadvantaged is the province of Grosseto.

The analysis highlights the good and adequate port infrastructure. Sea transport is an alternative and is important for the goods to and from Tuscany (It covers a significant portion of trade flows that affects the region, about 25% of the flows).

Leghorn is a Mediterranean city and it is a bridge and seaport for a large part of its urban and industrial hinterland. Leghorn is an average sized port with International characteristics, and has significant potential.

Leghorn is a Mediterranean city and it is a bridge and seaport for a large part of its urban and industrial hinterland. Leghorn is an average sized port with International characteristics, and has significant potential.

The analysis of the railway infrastructure highlights a good supply station for network extension and electrified double track, especially considering the large mountainous and hilly area. While airport infrastructure doesn't reward the region.

The analysis highlights the lack of the roads, mainly attributable to the sharp disparities between areas, so emerges a strong distance between central Tuscany and the rest of the region.

Insufficient monitoring systems and navigation control

In Tuscany the coverage of the monitoring systems and navigation control are insufficient.

The programme 2007-2013 has already started to grow (with projects PMIBB, Momar, Sicomar) and also the skills of seafarers for emergency management need to be improved, as clearly demonstrated by the story of the sinking of the Costa Concordia in 2012.

Disadvantaged areas

In the Mediterranean regions, many island areas, sometimes close to the coast, can be quite isolated and characterised by rural activities and low density of population (like Lunigiana, Garfagnana, mountains of Pistoia, Mugello, Casentino, Val di Cecina and the inside area of Grosseto). For these areas, tourism and agriculture represent essential economic activities that are sometimes threatened by demographic changes and climate.

Urban areas are characterized by a thickening of the issues of social and environmental deterioration, coinciding

with the municipalities with populations over 10,000 inhabitants, like Poggibonsi, Montecatini Terme, Santa Croce, Prato, Piombino, Massa, Cecina, Carrara, Pisa, Empoli, Pistoia, Leghorn, Lucca and Pontedera. In this list of municipality we can find some areas that are located along the coastal regions²⁴.

1.6 Employment and labour mobility

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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</thead>
<tbody>
<tr>
<td>- A traditional system of industrial, craft (Made in Italy) and technology districts</td>
<td>- Process of de-industrialization</td>
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<td>- Tourism sector</td>
<td>- Low labour productivity below the average of the Italian regions</td>
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<td>- Low employment level, especially for youth</td>
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<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
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<tr>
<td>- Sell goods and services in international markets</td>
<td>- Consequences of the financial crisis</td>
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<td>- Strong increase of the unemployment rate with the economic crisis</td>
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<td>- Drain of human resources, notably young people towards other EU countries</td>
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The consequences of the economic crisis

The regional economy is covered by a restructuring deep of the production structure.

After a decade of transformations, it is now mainly characterized by: - a "traditional" system of industrial and crafts (made in Italy) districts, along the Arno valley, the Province of Arezzo up to the inside part of the Province of Pisa; - an industrial high technology centred on a few, but significant presences of business and a complex of scientific and technological research of international standard.

The analysis stresses that for a recovery of the Tuscan economy is strongly linked to the ability to sell their goods and services to International markets. The ability to intercept the foreign demand is one of the main growth factors, and for this reason it is important to value the industrial organisation with a greater export orientation. We can find two different sectors: tradable (including goods and services that can be consumed in a different geographical area than the production) and non-tradable (the production of services and goods is related to the consumption in the same place).

The analysis showed a strong process of de-industrialization with a consequential loss of market share in terms of assets. At the same time there wasn't a significant recovery in terms of tourism.

The consequences of the crisis have been and continue to be particularly heavy. The crisis has led to a transformation of the production system, there has been a strengthening trend towards a de-industrialization that had occurred in previous years\textsuperscript{25}.

<table>
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<th>LE CONSEGUENZE DELLA CRISI SUI DIVERSI SETTORI</th>
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<td>Valore aggiuto tassi di variazione</td>
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<tr>
<td>Agricoltura, silvicoltura e pesca</td>
</tr>
<tr>
<td>5.4</td>
</tr>
<tr>
<td>Industria in senso stretto</td>
</tr>
<tr>
<td>-0.3</td>
</tr>
<tr>
<td>Costruzioni</td>
</tr>
<tr>
<td>0.3</td>
</tr>
<tr>
<td>Commercio, alberghi e ristoranti, trasporti e comunicazioni</td>
</tr>
<tr>
<td>-3.7</td>
</tr>
<tr>
<td>credito; attività immobiliari e imprenditoriali</td>
</tr>
<tr>
<td>-2.1</td>
</tr>
<tr>
<td>Altre attività di servizi</td>
</tr>
<tr>
<td>3.0</td>
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<tr>
<td><strong>TOTALE</strong></td>
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<tr>
<td>-1.1</td>
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</tbody>
</table>

Tab. 1. The consequences of the economic crisis

The importance of the tourism sector in Tuscany

The tourism is a sector very important for Tuscany, in economic, social and employment terms. The analysis shows a growth of tourism over the years, in particular annual arrivals were around 8 million and in 1993 were 800 thousand. The presence and arrivals were 12 million and 43 million, only in 2012.

We show that despite the occurring crisis arrivals increased by over a million, from 2008 to 2012, showing more resilience (also in terms of employment) than other sectors, thanks to strong foreign components which were less affected by the crisis.

Tuscany is one of the first regions in Italy that has established itself, even abroad, as a privileged tourist destination. Tourism is an important sector that characterizes the regional economy. The Tuscan Region in the recent years has adopted policies to encourage the process of adaptation to the international markets, it has promoted and encouraged growth, has set up a network of observers tourist destination to promote greater awareness on the part of local authorities in relation to issues of tourism and sustainability, also has promoting the European network Necstour to a sustainable and competitive tourism\textsuperscript{26}.

The economic and financial crisis in Tuscany

Tuscany has been damage by the financial and economic crisis, since 2008. It has affected all major sectors (in 2012: fall in GDP of 6% and unemployment 7.8%). The aggregate market services, however, has been able to limit losses due to international tourism.

\textsuperscript{25}“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana, p. 9-10.

\textsuperscript{26}“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana, p. 66.
Most affected by the crisis are the small and micro-enterprises, while medium-sized companies, proved better especially in the fashion and high technology\textsuperscript{27}.

**Competitiveness and job**

The Tuscan economy seems characterized by low labor productivity: the level per employer is well below the average of the Italian regions.

It can be said that in Tuscany work productivity is lower, compared with the national average. The main cause of the lowest GDP per capita in the region, is due to production specialization.

The analysis stresses the difference among local labour systems, particularly low along the coast and stronger in the district areas. There is diversity about the under use of the potential of the regional workforce, especially along the coast: more than 10 points of difference between the employment rate of Siena and Massa Carrara.

The analysis revealed an important aspect that represents an opportunity for the development of employment related to cultural heritage, as suggested by the data, relative to 2011, with about 40,000 employees in the field\textsuperscript{28}.

**Youth unemployment**

The analysis shows that the band of young people has suffered most from the effects of the crisis, in recent years. Young people are the demographic category most affected by the economic crisis and the generally most affected by structural changes in the labor market in recent decades.

This critical care, in particular, some coastal areas (like Massa-Carrara, Piombino) and also some traditional district areas (like Prato, S. Croce, Lucca).

The rate of youth unemployment in Tuscany is 2.8 times that of the Tuscan 30-49 years and 4.6 times that of 50-64 years. The analysis highlights that in Tuscany the concentration of long-term unemployment among young people aged between 15 and 24 years, while for adults and age classes mature data are stabilizing at lower levels compared to both the EU-27 to the EU-15\textsuperscript{29}.

**Immigration and work**

Tuscany has been undergoing a process of gradual increase in the foreign population that, in recent years, has led to one of the first Italian regions for the density of immigrant residents, while distinguishing for some peculiarities: the nature of migration to the territorial distribution, up to the strong entrepreneurial propensity developed mainly by the Chinese community.

As regards the sectors of insertion, the framework for the province is rather uneven, in accordance with the specific productive land: Prato is characterized by a high incidence in the manufacturing sector, 56.7%; Florence, Pisa and

\textsuperscript{27}Programma di Cooperazione Transfrontaliera Italia - Francia Marittimo 2014-2020, p. 5.

\textsuperscript{28}Programma operativo Italia/Francia Marittimo 2007 - 2013, Valutazione ex-ante, p. 114.

Livorno show a high incidence in the service sector; Grosseto and Siena in agriculture. The policies identified by the program of cooperation may be an opportunity to strengthen the dynamics of social inclusion, through the strengthening of the socio-economic fabric of the regions concerned\(^{30}\).

### 1.7 Quality of life of citizens and tourists

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Historical high quality of life</td>
<td>- The aging of the population</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>- Increasing demand for welfare policies</td>
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</table>

*Population*

From the demographic point of view in Tuscany in which is confirmed, the aging of the population, one of the historical characters of the Region. This is the result of a high quality of life, but that brings some consequences that aren't positive, for example the supply of labor, the demand for welfare and the risk related to innovation\(^{31}\).


\(^{31}\)“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana, p.8.
1.8 Research, technological development and innovation

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Favourable position in term of public spending in R&amp;D</td>
<td>- Low use of expenditure on R&amp;D, in particular for the production system</td>
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<td></td>
<td>- Low propensity for innovation in the Tuscan business area</td>
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<tr>
<td></td>
<td>- Low number of patent applications (below the levels recorded in the North)</td>
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</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Development potential for a more cooperation between research centres, universities and generally companies</td>
<td>- The difficult reconciliation between research centres, university and generally companies</td>
</tr>
<tr>
<td>- Develop efficiency in R&amp;D efficiency</td>
<td></td>
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<tr>
<td>- “Toscana Turistica sostenibile e competitiva”</td>
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</table>

The research and development

A first critical aspect related to the size of the loss of competitiveness in the intensity of research and development. Tuscany has always been characterized by a low use of expenditure on R&D in particular for the production system.

But at the same time Tuscany has a relatively favorable position in terms of public spending in R&D, unlike the expense of private companies, which is particularly low\textsuperscript{32}.

The research and the transfer knowledge to the productive

The most critical point of the Tuscan system is the difficult reconciliation between the locations of the theoretical development and the acquisition of technical and scientific knowledge encoded (usually research centers and universities) and the places of contextual knowledge (generally companies)\textsuperscript{33}.

Research and development criticality

The analysis revealed that less than a third of the Tuscan companies introduced innovations (29%, against a national average of 31.5%, according to data of 2010). Overall the investment spending in R&D, measured in terms of GDP, it ranks for Tuscany 1.2%, compared with 1.8% and 1.5% of Piedmont's Emilia Romagna. In this perspective it is important to restructure policies and innovate processes, to anticipate future skills needs and to adequately support the mobility and relocation of workers at risk of expulsion\textsuperscript{34}. The low propensity for innovation in

\textsuperscript{32}“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana, p. 19.
\textsuperscript{33}Programma operativo Italia/Francia Marittimo – Valutazione ex-ante, p. 116.
\textsuperscript{34}Programma operativo 2014-2020, “Investimenti a favore della crescita, dell’occupazione e del futuro dei giovani. Valutazione ex-ante”,
the Tuscan businesses is also confirmed by the low incidence of SMEs that adopt a model of collaborative innovation.

The reduction of credit favored the triggering mechanisms of adverse selection, as it has affected particularly certain types of companies, such as SMEs and start-ups, as well as business-oriented R & D activities for the greater uncertainty of results affected to a greater extent of the credit crunch. The region shows a lack of competitiveness also due to its low capacity to exploit productive outcomes of R & D. In fact, the number of patents at the EPO (per million population) between 2000-09 is below the levels recorded in the North (CN) Italy (2009: 80.9 CN102,8 Tuscany); trademarks for thousands of inhabitants highlight positions backward than CN (2012: 0.9 Tuscany; CN1,4); utility models registered in the total population and just under CN (0.04 Tuscany in 2012, CN 0.05). weight of persons engaged in R & D in Tuscany in the period 2000-11 always lower than the values of the North35.

**Tuscany: Web platform for data centralization and quality assurance**

The Regional Government has approved the Project Special of Regional Interest “Toscana Turistica Sostenibile e Competitiva”, this means the “experimentation”/perimentazione of the Tourism Observatory of Destinations following the model proposed by NECSTouR.

The Observatory is designed in a circular process, which integrates the components “swot analysis”, “social dialogue”, “destination profile”, “sustainability indicators” and “competitiveness indicators” to be monitored on a yearly basis.

The key element is that ETIS indicators are integrated in the phases “destination profile” sustainability indicators” and “competitiveness indicators” of the cycle and are complemented by other indicators already tested in Tuscany plus some additional ones proper from this particular destinations.

Furthermore, the ETIS toolkit steps are included in the Tuscany Observatories Model, mainly in the “social dialogue component” where by going through the 14 steps of this process we find the 7 steps of the ETIS toolkit.

Such a rigorous model required the design of specific software to guarantee the data collection ongoing process, its quality control and periodically review and update: the “Toscana Piattaforma Turismo” (platform).

This platform is designed in such a way as to collect and measure the data per each indicator at municipality level, enabling the users to benchmark each other at this level.

With regard to ETIS the Region is in the process of data collection and entering in the platform which is fully operational and the first results are expected by the end of the year. Following the Observatory cycle these will be analysed, benchmarked and used for tourism policy making decision36.
1.9 Information and communication technologies

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>- Tuscan companies connected to the Internet are 94.6%</td>
<td>- Low specialization in high-tech sectors</td>
</tr>
<tr>
<td></td>
<td>- Low connection speed and it limits the benefits and potential of the Net</td>
</tr>
<tr>
<td></td>
<td>- Delay of technologies penetration</td>
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<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Development of high-speed broadband</td>
<td>- Delay of new technologies penetration could affects competitiveness</td>
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<td></td>
<td>- Significant inequalities between areas and territories in term of ICT use</td>
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The index of regional competitiveness

The competitiveness of the territorial factors is an important element for the success of any development strategy: an economic and social system is competitive, if it can ensure over time the maintenance and development of individuals that composed it.

A smart specialization strategies points to a technological sustainable growth and also to a social and ambiental growth. We highlight the results of the analysis on the regional competitiveness index developed in 2013 by the European Commission, in 267 regions. Tuscany comes in 160th position and Tuscany is the 74th place in terms of GDP per capit. These are results below the potential of the region\(^{37}\).

Innovation in Tuscany

The region shows a high-tech employment share (in manufacturing and services sector) amounted to 2.6% in 2012, but his results is lower than the Italian average (3.3%) and Europe (3.8%). The low specialization in high-tech sectors is one of the factors that influence the potential for recovery of the regional system. Tuscan companies that are connected to the Internet are 94.6% (percentage in line with the national one), while businesses with websites, are 65.2% (given above the national average). These data show the desire of Tuscan companies to use the Internet as a tool to support innovation and competitiveness.

There is some problem about the current connection speed and it limits the benefits and potential of the Net\(^{38}\).

\(^{37}\)“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana, p. 17.

Delay of technologies penetration

The conditions of relative weakness in the allocation of resources in innovation is reflected in an equally weakness in the results, measurable through patent applications at the European Patent Office: Tuscany shows low values in levels, in dynamic performance, total patents and hi-tech patents Tuscany (but more generally Italy) has a delay in the penetration, in the diffusion of electronic infrastructures and in the utilization of new technologies.

89.4% of the population is covered by broadband fixed line ADSL technology and 5.5% covered by wireless connection, in 2013.

The remaining 5.1% is in the digital divide, with the availability of connection speed of less than 2Mbps39.

39“Strategia di ricerca e innovazione per la Smart Specialisation in Toscana”, Versione approvata dalla Giunta Regionale della Toscana p. 20.
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