PROCEEDINGS

Proceedings of International Forum

Increasing the competitiveness of industrial areas New tools and challenges: perspectives and incentives of the European policies

Bruxelles
7 June 2012

Edited by Arianna Dominici Loprieno, Mario Tarantini, Rovena Preka, Maria Litido

Projet cofinancé par le Fonds Européen de Développement Régional (FEDER)
Project cofinanced by the European Regional Development Fund (ERDF)

MEDITERRANEAN ECO INDUSTRIAL DEVELOPMENT

Italian National Agency for New Technologies, Energy and Sustainable Economic Develpment

Proceedings of International Forum

Increasing the competitiveness of industrial areas
New tools and challenges: perspectives and incentives of the European policies

Bruxelles, 7 June 2012

Edited by Arianna Dominici Loprieno, Mario Tarantini, Rovena Preka, Maria Litido

2012 ENEA
Italian National Agency for New Technologies, Energy and Sustainable Economic Development

Lungotevere Thaon di Revel, 76
00196 Rome

ISBN 978-88-8286-275-6

Italian National Agency for New Technologies,
Energy and Sustainable Economic Development

Proceedings of International Forum

Increasing the competitiveness of industrial areas

New tools and challenges: perspectives and incentives of the European policies

Bruxelles
7 June 2012

Edited by
Arianna Dominici Loprieno, Mario Tarantini, Rovena Preka, Maria Litido

MEDITERRANEAN ECO INDUSTRIAL DEVELOPMENT

Project Part-Financed by the European Union

European Regional Development Fund

Index

Introduction

Industrial areas located in Mediterranean countries with a strong manufacturing base, have a strategic interest for the territory development. They are often located close to the cities for historical reasons, generally host from a few dozen to several hundred Small and Medium-Sized Enterprises (SMEs), and are rarely managed at area level. They often cause friction with the neighbouring population and the Local Authorities, owing to their emissions, the noise and traffic congestion they cause.

On the other hand the unsustainable trend in soil use in several European Regions has increased the political awareness of the problems caused by small and diffused industrial areas. It is now crucial to define a sustainable policy based on a cooperative climate among enterprises, citizen, Local Authorities.

MEID project (Mediterranean Eco-Industrial Development), funded by the program MED, aims to define a joint Mediterranean model to plan, built and manage Industrial Areas, improving sustainable development and SMEs competitiveness. The model intends to enhance capacities and develop decision tools for Competent Authorities and Industrial Area Managers to integrate environmental friendly solutions into Regional and Interregional Industrial Development Strategies. An incremental approach has been adopted to ensure the model applicability to new industrial areas, as well as already operating non structured and structured areas. Fundamental parts of the management model are high level infrastructures and innovative services to support SMEs to create networks, exploit the of eco-innovation opportunities and face the challenges of the Green Economy.

In this framework, an International Forum has been held in Bruxelles on June 7th 2012, hosted at the European Parliament. It is part of the dissemination activities planned in the MEID project: it has the aim to present the viewpoints of different stakeholders and discuss which future is envisaged by European and National Institutions for the Mediterranean industrial areas taking into account the recommendations of COM(2011) 642 “Industrial Policy: Reinforcing competitiveness” and COM(2011) 571 “Roadmap to a Resource Efficient Europe”.

After a foreword to the event of the members of Industry, Research and Energy Committee (ITRE) of the European Parliament, ENEA presented its activities in supporting a greener and more competitive industry and the proposed management model developed in the MEID project. Afterwards, the Unit Policy Development for Industrial Innovation of the DG Enterprise and Industry of the European Commission has highlighted the role of co-operation between sustainable industrial areas for the Euro-Mediterranean growth. Besides, some success cases of the partner

countries were shown, with the aim to share the best experiences and the possible solutions of common problems.

This volume contains all the oral presentations of the International Forum.

Foreword to the event

Today a transition towards a sustainable, resource efficient and low carbon economy – a Green Economy – isn't more a preferable approach to economic development. On the contrary, it's the only way to sustain economic growth maintaining a long-term competitiveness of the European industries.

During the last decade the economies of many Member States have grown without an increase in energy consumption, while in others this increase has been less pronounced than expected; anyway, member States have made significant progress in defining and implementing consistent national legislative frameworks for stimulating energy efficiency. But, in spite of the progress made, rising world market prices for energy and national distortions have been reflected in higher prices for enterprises, in particular for SMEs.

Sustainable Industrial Areas (SIAs, also called, Eco-Parks or, in Italy, APEAs) are relevant eco-systems for the competitiveness of European enterprises as they offer a favorable business environment that stimulates innovation and growth. Sustainable Industrial Areas emerged as the most efficient model in which to experiment a number of possible and practicable synergies aimed to improve environmental, economic and social aspects and are now recognized as effective drivers of economic and territorial (regional) development. SIAs are designed to allow enterprises to share infrastructures as a strategy for enhancing production and minimizing costs. They are organized to encourage initiatives to cut down waste, pollution and traffic congestion and to foster a sustainable use of natural resources, an efficient use of energy and water, a better waste management achieving an environmental improvement and boosting the competitiveness of the settled SMEs. In SIAs it is possible create a favorable environment to develop network of enterprises which can overcome the limit of the small dimensions of Mediterranean SMEs cooperating on specific themes as Eco-Innovation.

European Commission is working to reinforce a political framework which will foster the green industries competitiveness, launching policies and initiatives to support existing SIAs or the development of new ones. In order to facilitate the transformation towards more sustainable ways of production, a coherent and effective mix of policies could include measures to support research, innovation, resource efficiency and deployment of cleaner technologies, especially in process industries. In fact, it has been stressed that "competitiveness would be strengthened by supporting energy and raw material efficiency and promoting innovation and deployment of cleaner technologies along value chains with the use of long-term incentives that encourage market creation

and facilitate the participation of SMEs in these processes." European Commission is convinced that research is a key pillar to foster the competitiveness of SIAs in terms of diffusion and promotion of Eco-innovation and of a new management style. The cooperation among different actors with different roles such as Local Authorities, enterprises, service providers research bodies and Universities is the only way to make Industrial Areas competitive and innovative places for the next century.

These Acts of the Mediterranean Eco-Industrial Development (MEID) meeting are a way of pointing the attention of all the stakeholders on the main themes presented previously.

Vittorio Prodi
Member of the European Parliament
Industry, Research and Energy Committee

Green Industry and competitiveness[1]. ENEA's contribution

Maria Litido - ENEA
maria.litido@enea.it

1. Introduction

Nowadays industrial growth and production are, in general, synonymous of resource use, pollution and degradation of the environment, that have increased in absolute terms and it is also clear that our current systems of production and consumption are escalating the risks connected to rapid resource depletion, degradation of ecosystems, and the threat of climate change with potentially irreversible consequences. The world economy is trying to come out of the worst crisis most of us have ever known. While dealing with immediate problems such as high unemployment, inflationary pressures or fiscal deficits, we have to look to the future and devise new ways of ensuring that the growth and progress are assured in the years to come. A return to "business as usual" would indeed be unwise and ultimately unsustainable, involving risks that could impose human costs and constraints on economic growth and development.

There is increasing consensus that the only way to ensure sustainable growth is to decouple economic growth from resource use and pollution. Decoupling typically refers to the ability of an economy to grow without corresponding increases pressures on the environment, stopping to erode our natural capital. However, despite some progress made in this area, so far no country in the world achieved a sustainable situation where high resource productivity and high levels of social and human development are combined with low per capita resource consumption. Perhaps the explanation for this failure is that sufficient attention has not been placed on the role of industry, particularly on manufacturing.

What is a **Green Economy**? Although it is still debated, many organizations now have a shared understanding of the concept. The most accepted definition is that Green Economy is a new model for economic development aimed at achieving improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities. Historically, the trend has not been towards green growth. On the contrary, economic expansion has imposed ever greater demands on natural systems, in terms of the amount of resources that we extract or harvest and the volume of emissions and waste that we expect the environment to absorb and neutralise. When we reflect on the demands that we are already imposing on our ecosystems, it's clear that green growth

[1] The contents of this note are extracted from recent public documents listed among other in the final references.

isn't just a preferable approach to economic development. On the contrary, in the long term it's the only way to sustain economic growth. Designing a Green Economy in the context of Sustainable Development and poverty eradication is one of the central themes of the UN Conference on Sustainable Development "Rio+20" that will be held in June 2012.

Rio+20 will try to accelerate and broaden the world-wide transition towards a Green Economy that promotes Sustainable Development and contributes to poverty eradication around the world. EU member States and States all over the world consider that a Green Economy has the potential to lead us to a new development paradigm and a new business model where growth, development and environment are seen as mutually reinforcing each other. Increasing resource efficiency, promoting sustainable consumption and production patterns, tackling climate change, protecting biodiversity, combating desertification, reducing pollution as well as using and managing natural resources and ecosystems in a sustainable and socially responsible manner are both requirements and key vehicles in ensuring a just transition to a green economy. Effecting changes of this sort requires the engagement of all sectors, including policymakers, businesses and individual citizens. And that in turn implies the need for a mass of information to guide and inform decision-making.

Green Industry, in both the meanings of ***Greening of industries*** (ensuring that all industries, regardless of sector, size or location, continuously improve their environmental performance) and ***Creating green industries*** is now recognised as a key pillar of a Green Economy. The benefits of the Green industry approach include:

a) a decoupling of growth from resource use and pollution;

b) the creation of new jobs and business ventures, and the promotion of technology transfer and innovation;

c) enabling industry to improve the efficiency of resource use (including energy, materials and water);

d) a reduction of the environmental impacts of industrial production, coupled with a reduction of production costs and an enhanced competitive advantage;

e) improved protection of human health and the environment;

f) promotion of sound management of chemicals, and;

g) support for the development of safer chemical substitutes and innovative and inherently safe products and technologies.

A lot of economic analyses have demonstrated that there is a relationship between green production and competitiveness.

Traditionally, nations were competitive if their companies had access to the lowest cost inputs - capital, labour, energy, and raw materials. In industries relying on natural resources, for example, the competitive companies and countries were those with abundant local supplies. Because technology changed slowly, a comparative advantage in inputs was enough for success.

Today globalization has made the notion of comparative advantage obsolete. For example, companies can source low-cost inputs anywhere, and new, rapidly emerging technologies can offset disadvantages in the cost of inputs. Consequently, using resources productively is what needs for competitiveness today. Companies can improve resource productivity by producing existing products more efficiently or by making products that are more valuable to customers. Increasingly, the nations and companies that are most competitive are not those with access to the lowest-cost inputs but those that employ the most advanced technology and methods in using their inputs. Because technology is constantly changing, the new paradigm of global competitiveness requires the ability to innovate rapidly.

This new paradigm has profound implications for the debate about environmental policy – about how to approach it, how to regulate, and how strict regulation should be. It has brought environmental improvement and competitiveness together. It is important to use resources productively, whether those resources are natural and physical or human and capital. Environmental progress demands that companies innovate to raise resource productivity – and that is precisely what the new challenges of global competition demand. Only those companies that innovate successfully will win. International competition has changed dramatically over the last few decades. Senior managers who grew up at a time when environmental regulation was synonymous with litigation will see increasing evidence that environmental improvements good business. Successful environmentalists, regulatory agencies, and companies will reject old trade-offs and build on the underlying economic logic that links the environment, resource productivity, innovation, and competitiveness.

ENEA's activities

ENEA is the name for the Italian National Agency for New Technologies, Energy and Sustainable Economic Development. In the environmental field, ENEA carries out researches finalized to the

implementation of methodological and technological innovation by following a multidisciplinary approach. UTVALAMB is the environmental Technical Unit in Bologna, which has three sections:

1. AIR with the following activities:

    a. Research on atmospheric processes, applied meteorology, numerical modelling on atmospheric pollution for current and future scenario analysis.

    b. Experimental activities for chemical and physical characterization of aerosols, analysis of environmental risks due to air pollution for mitigation strategies and specific policies for long-term environmental sustainability.

    c. Evaluation of air quality effects on human health, vegetation, and cultural heritage. Geo-databases analysis and management using GIS.

    d. Development of innovative sampling and analysis methods for atmospheric pollutants regulated by national legislation and EU Air Quality Directives.

    e. National Integrated Modelling system for International Negotiation on atmospheric pollution (MINNI www.minni.org): on behalf of the Italian Ministry of the Environment, development, application and validation of the modelling system. MINNI provides an integrated and multi-pollutant approach with several outcomes: to deliver hourly concentration fields of most important air pollutants on national scale (20Km and 4 Km resolutions), to forecast both the effectiveness and the costs of the measures, to provide local scale studies (Environmental Impact Assessment) with a coherent frame of boundary and background conditions, to assess both technical and non technical measures.

2. IDR with the following activities:

    a. Research studies of new methodologies and technologies development for the treatment and management of waters and wastewaters in urban areas, buildings and industry.

    b. Studies for the removal, from the treated wastewaters, of macro, micro and emerging pollutants using biological or chemical physical technologies for the reduction of the environmental impact.

    c. Development and studies for the application of new technologies for the reduction of the fresh water use and for the evaluation of the possible reuse of reclaimed waters for non-drinking uses in buildings or in industrial processes.

    d. Recovery of bio-energy, as biogas hydrogen or bioelectricity, from wastes and wastewaters.

e. Studies for the reduction of the impacts from agricultural wastes and wastewaters with particular attention at the removal of nitrogen with lower cost processes.

f. Studies for the biological population dynamics in wastewater treatment plants and in natural waters.

g. Studies for the evaluation of the pollution origin using isotopic techniques.

h. Development of new ICT technologies for the management and automatic control of wastewater treatment plants using artificial intelligence approaches.

i. Assistance to public authorities in the development of legislation and action plans for the protection of the natural waters.

3. LCA with the following activities:

a. Research on methods and tools for integrated sustainability analysis (energy-environment, economic and social aspects) with related certification methods applied to products and services, innovative technologies, industries, economic sectors and economy-wide scenarios.

b. Development of systems and tools of the environmental analysis and certification for Small- and Medium-sized Enterprises: simplified LCA software and databases, basic software for product eco-innovation, web portal for eco-innovation in SMEs www.ecosmes.net.

c. The Laboratory has conducted a large number of applications, with enterprises and technical service centres in the industrial field and with National government.

d. International and national projects on:

- methodologies for sustainability assessment based on a life cycle approach;
- simplified tools of LCA and Eco-design for SMEs;
- eco-innovation and labelling systems for SMEs;
- tools for sustainable management of industrial areas;
- support for Green Public Procurement.

The Section is the co-ordinator of the Italian LCA Network.

References

United Nations, The future we want, zero draft for Rio+20, 2012.

UNIDO, Green Industry: a key pillar for a Green economy, 2011.

OECD, Toward Green Growth, may 2011.

http://ec.europa.eu/environment/international_issues/rio20_en.htm

M. E. Porter and C. Van der Linde, Green and competitive: ending the stalemate, Harvard Business Review, 1995.

YU Ping, GU Qingliang, Industrial Ecology: A New Perspective on Industrial Competitiveness, Glorious Sun School of Business and Management, Dong Hua University, Shanghai, P.R. China, 200051, Eric@ribo.com.cn.

GREEN INDUSTRY AND COMPETITIVENESS

ENEA'S CONTRIBUTION

Bruxelles, June, 7th 2012

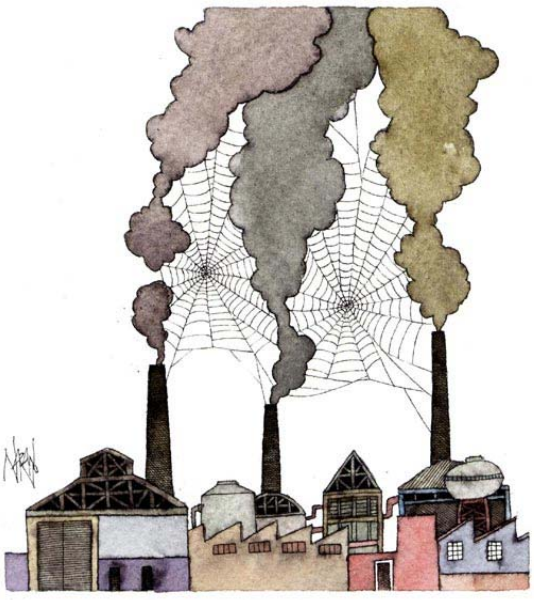
European Parliament, ASP Building, Room ASP 3G2
Place Luxembourg, Brussels

Maria I. Litido
ENEA - Italian National agency for new technologies, Energy and sustainable economic development

Project Part-Financed by the European Union
European Regional Development Fund

1

TODAY'S CONTEXT



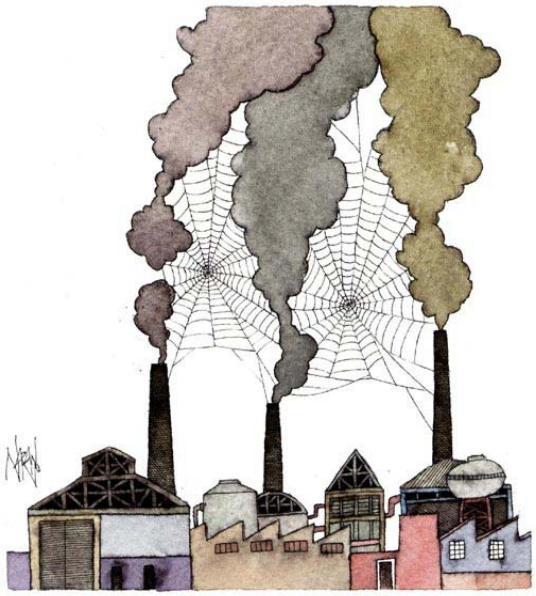
Our current systems of production and consumption are escalating the risks connected to rapid resource depletion, degradation of ecosystems, and the threat of climate change with potentially irreversible consequences

With problems such as high unemployment, inflationary pressures or fiscal deficits, we have to look to the future and devise new ways of ensuring that the growth and progress we have come to take for granted are assured in the years to come

A return to "business as usual" would indeed be unwise and ultimately unsustainable

2

TODAY'S CONTEXT



The only way to ensure sustained growth is to decouple economic growth from resource use and pollution: the ability of an economy to grow without corresponding increased pressures on the environment

So far no country in the world achieved a sustainable situation where high resource productivity and high levels of social and human development are combined with low per capita resource consumption

Sufficient attention has not been placed on the role of industry, particularly on manufacturing

3

WHAT IS A GREEN ECONOMY?

Green Economy is *a new model for economic development aimed at achieving improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities* (UNEP, 2011)

Economic expansion has imposed *ever greater demands on natural systems* — both in terms of the ***amount of resources*** that we extract or harvest, and the ***volume of emissions and waste*** that we expect the environment to absorb and neutralise

Green Growth *isn't just a preferable approach to economic development. On the contrary, in the long term it's* ***the only way to sustain economic growth***

4

RIO+20
United Nations Conference on Sustainable Development

Designing a Green Economy in the context of Sustainable Development and poverty eradication is one of the central themes of the ***UN Conference on Sustainable Development (Rio+20) in June 2012***.

Green economy is more than the sum of existing commitments: it has the potential to *lead us to a new development paradigm and a new business model where growth, development and environment are seen as mutually reinforcing each other. Increasing resource efficiency, promoting sustainable consumption and production patterns, tackling climate change, protecting biodiversity, combating desertification, reducing pollution as well as using and managing natural resources and ecosystems in a sustainable and socially responsible manner are both requirements and key vehicles in ensuring a fast transition to a green economy*

5

GREEN INDUSTRY

The benefits of the *Green industry approach include*:
a) A decoupling of growth from resource use and pollution;
b) The creation of new jobs and business ventures, and the promotion of technology transfer and innovation;
c) Enabling industry to improve the efficiency of resource use (including energy, materials and water);
d) A reduction of the environmental impacts of industrial production, coupled with a reduction of production costs and an enhanced competitive advantage;
e) Improved protection of human health and the environment;
f) Promotion of sound management of chemicals, and
g) Support for the development of safer chemical substitutes and innovative and inherently safe products and technologies

6

GREEN & COMPETITIVENESS

Traditionally, *nations were competitive if their companies had access to the lowest cost inputs* – capital, labour, energy, and raw materials. In industries relying on natural resources, for example, the competitive companies and countries were those with abundant local supplies

Using resources productively is what makes for competitiveness today. Companies can improve resource productivity by creating existing products more efficiently or by making products that are more valuable to customers – products customers are willing to pay more for. Increasingly, *the nations and companies that are most competitive are not those with access to the lowest-cost inputs but those that employ the most advanced technology and methods in using their inputs.*

7

GREEN & COMPETITIVENESS

This new paradigm has profound implications for the debate about environmental policy – about how to approach it, how to regulate, and how strict regulation should be. *The new paradigm has brought environmental improvement and competitiveness together. It is important to use resources productively, whether those resources are natural and physical or human and capital. Environmental progress demands that companies innovate to raise* ***resource productivity*** *– and that is precisely what the new challenges of global competition demand.*

GREEN NEW DEAL

International competition has changed dramatically over the last few decades. Senior managers who grew up at a time when environmental regulation was synonymous with litigation will see increasing evidence that environmental improvements good business. Successful environmentalists, regulatory agencies, and companies will reject old trade-offs and build on the underlying economic logic that links the environment, resource productivity, innovation, and competitiveness.

8

ENEA' s CONTRIBUTE

In 2009, ENEA becomes an Agency of the Ministry of Economic Development, with the aim of pursuing, according to Law 99 (art. 37):

- Research
- Technology Transfer
- Sustainable Economic Development

Human Resources:
2640 permanent staff
Master and PhD students
International Fellows

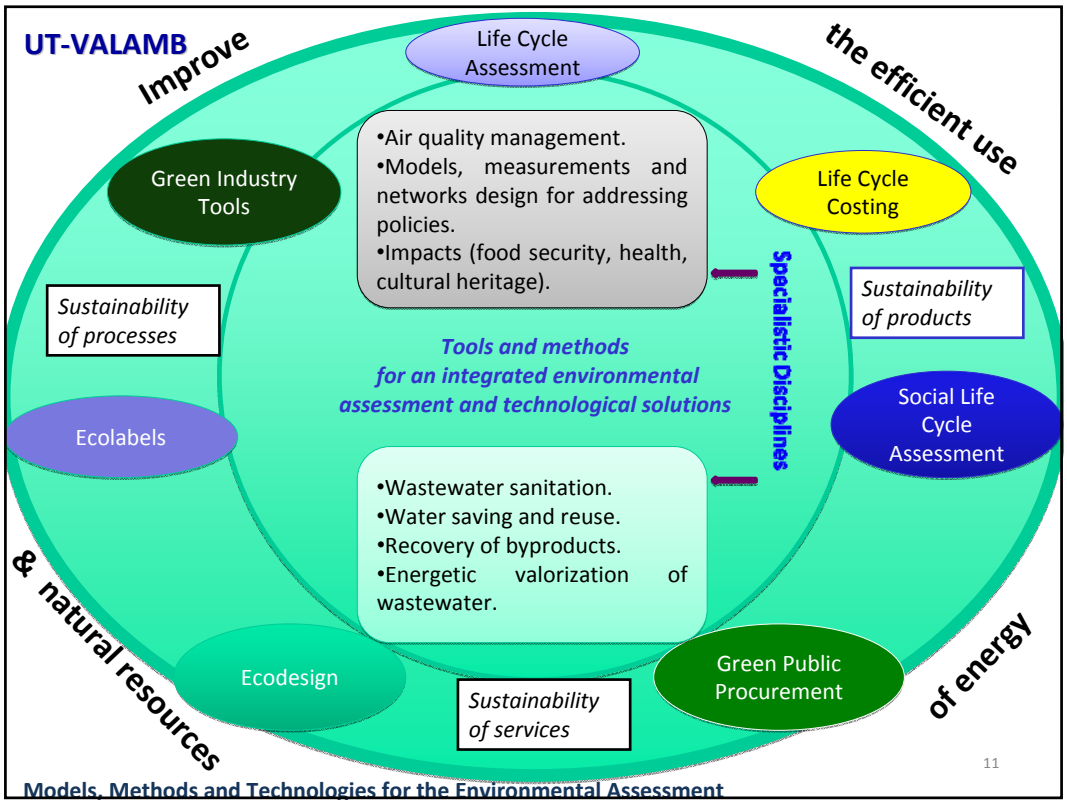
Infrastructures:
Headquarters located in Rome
9 Research Centres
5 Research Laboratories
43 pilot plants and research facilities
11 Local Offices
Brussels Liaison Office

9

ENEA's R&D activities

- Energy Efficiency
- Renewable Energy Sources:
  - Concentrated Solar Power, Biomass and Biofuels, Solar Thermal, Hydrogen and Fuel Cells, Energy Storage Systems
- Nuclear Energy
  - Fission and Fusion
- **Environment and Climate Change:**
  - environmental technologies, modelling, prevention, conservation and reclamation activities
- Health and Safety:
  - Seismic protection, biological effects of ionising radiations, radioprotection, metrology of ionising radiations
- New Technologies:
  - material sciences, applications of ionising radiations, Agro-industrial innovation & technologies, ICT
- Power System Research

10



UTVALAMB - AIR

Research on atmospheric processes, applied meteorology, numerical modelling of atmospheric pollution for current and future scenario analysis.

Experimental activities for chemical and physical characterization of aerosols, analysis of environmental risks due to air pollution for mitigation strategies and specific policies for long-term environmental sustainability.

Evaluation of air quality effects on human health, vegetation, and cultural heritage. Geo-databases analysis and management using GIS.

Development of innovative sampling and analysis methods for atmospheric pollutants regulated by national legislation and EU Air Quality Directives.

12

UTVALAMB - IDR

- ***Studies of new methodologies and technologies for the waters and wastewaters treatment in urban areas, buildings, industry, with particular focus on the possibility to reduce the fresh water use and reuse the treated water.***
- Energy recovery from wastewaters and wastes with biogas and hydrogen production and with direct harvest of bioelectricity from bacteria for disposal costs reduction.
- Main advantages obtained concerning efficiency and stability of processes, smaller plants footprints, cost reductions, reduction of fresh water use.
- Technological transfer to developing countries (JEIERA Project).
- Assistance to EU accession countries in WFD application and Plans development.
- Water ecology and EIA studies.

13

UTVALAMB - LCA

- ***Methods and tools for integrated sustainability analysis (energy-environment, economic and social aspects) with related certification methods applied to products and services, innovative technologies, industries, economic sectors and economy-wide scenarios***

- Development of systems and tools of environmental analysis and certification for Small and Medium-sized Enterprises: simplified LCA software and databases, basic software for product eco-innovation, web portal for eco-innovation in SMEs (www.ecosmes.net)

- International and national projects on:
  - methodologies for sustainability assessment based on Life Cycle Approach
  - simplified tools of LCA and Ecodesign for SMEs
  - eco-innovation and labelling systems for SMEs
  - tools for sustainable management of industrial areas
  - support for Green Public Procurement
  - training and education.

14

UTVALAMB - LECOP

Research Laboratory for Environmental Assessment and Ecodesign

ENEA LECOP Laboratory for the environment is located at the ENEA Bologna Research Centre.

It embraces different approaches in environmental assessment, management and researches:

- **Integrated technologies for water resources management**
- **Air quality**
- **Life Cycle Assessment (LCA) and Eco-design**

Main research topics are the development of methods, models, tools and applications for the environmental assessment of systems, products and services.

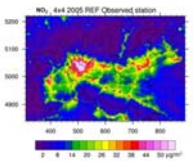
15

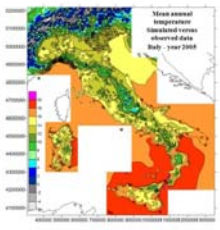
LECOP

Research Laboratory for Environmental Assessment and Ecodesign

Air quality

Research on atmospheric processes, applied meteorology, numerical modelling on atmospheric pollution for current and future scenario analysis. Experimental activities for chemical and physical characterization of aerosols, analysis of environmental risks due to air pollution for mitigation strategies and specific policies for long-term environmental sustainability. Evaluation of air quality effects on human health, vegetation, and cultural heritage. Geo-databases analysis and management using GIS. Development of innovative sampling and analysis methods for atmospheric pollutants regulated by national legislation and EU Air Quality Directives. National Integrated Modelling system for International Negotiation on atmospheric pollution (MINNI www.minni.org): on behalf of the Italian Ministry of the Environment, development, application and validation of the modelling system. MINNI provides an integrated and multi-pollutant approach with several outcomes: to deliver hourly concentration fields of most important air pollutants on national scale (20Km and 4 Km resolutions), to forecast both the effectiveness and the costs of the measures, to provide local scale studies (Environmental Impact Assessment) with a coherent frame of boundary and background conditions, to assess both technical and non technical measures.





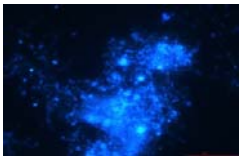
16

LECOP *Research Laboratory for Environmental Assessment and Ecodesign*

Waste Water treatment

Research studies of new methodologies and technologies development for the treatment and management of waters and wastewaters in urban areas, buildings and industry.

Studies for the removal, from the treated wastewaters, of macro, micro and emerging pollutants using biological or chemical physical technologies for the reduction of the environmental impact. Development and studies for the application of new technologies for the reduction of the fresh water use and for the evaluation of the possible reuse of reclaimed waters for non-drinking uses in buildings or in industrial processes. Recovery of bioenergy, as biogas hydrogen or bioelectricity, from wastes and wastewaters. Studies for the reduction of the impacts from agricultural wastes and wastewaters with particular attention at the removal of nitrogen with lower cost processes. Studies for the biological population dynamics in wastewater treatment plants and in natural waters. Studies for the evaluation of the pollution origin using isotopic techniques. Development of new ICT technologies for the management and automatic control of wastewater treatment plants using artificial intelligence approaches. Training courses in the field of wastewater treatment. Assistance to public authorities in the development of legislation and action plans for the protection of the natural waters.



17

LECOP *Research Laboratory for Environmental Assessment and Ecodesign*

LCA and Eco-design

Research on methods and tools for integrated sustainability analysis (energy-environment, economic and social aspects) with related certification methods applied to products and services, innovative technologies, industries, economic sectors and economy-wide scenarios. Development of systems and tools of the environmental analysis and certification for Small- and Medium-sized Enterprises: simplified LCA software and databases, basic software for product eco-innovation, web portal for eco-innovation in SMEs www.ecosmes.net.

The Laboratory has conducted a large number of applications, with enterprises and technical service centres in the industrial field and with National government. Training and education: on-line training courses, stages, PhD and master thesis and laboratories with schools and universities.

International and national projects on:

- methodologies for sustainability assessment based on a life cycle approach
- simplified tools of LCA and Eco-design for SMEs
- eco-innovation and labelling systems for SMEs
- tools for sustainable management of industrial areas
- support for Green Public Procurement
- training and education.

The Laboratory is the co-ordinator of the Italian LCA Network.

ecosmes services for green products

tespi

everdee

18

Thank You for your attention

www.medmeid.eu

d.ssa Maria I. Litido
ENEA Technical Unit UTVALAMB (Models, Methods and Technologies for the Environmental Assessment)
Coordinator of activities for promotion and diffusion of Environmental Certifications schemes
Tel: +39-051-6098390
e-mail: maria.litido@enea.it

The management model of the MEID project: tools for Sustainable Industrial Areas and opportunities for SMEs

Mario Tarantini, Arianna Dominici Loprieno, Rovena Preka, Maria-Anna Segreto, Maria Litido, ENEA

mario.tarantini@enea.it

1. Introduction

Among the new industrial development approaches developed over the last decades to face the continuous increase of environment pollution and the unsustainable use of natural resources, one of the most promising concepts is Industrial Ecology (IE) which is based on the metaphorical relationship between natural ecological and industrial systems. To play a significant role in the path towards sustainable development, Eco-Industrial Areas should go beyond waste and by-products exchange, acting as true industrial communities, characterized by highly cooperative and symbiotic relationships between firms which share all available opportunities to minimise the use of resources and create better products. In this framework, new concepts on the management of industrial areas have been developed, involving non only material/energy flow aspects, but also human dimension, strategic management and policy perspective ones.

The introduction of new concepts on the management of industrial areas has its origin in the need to replace the so called “end of pipe” approach, meant as treatment of pollution at the end of productive cycle – typical to the traditional productive systems, with that of more pro-active approaches while maintaining a positive outcome on the whole local economy. Sustainable Industrial Areas (SIAs), equipped and settled with technical and organizational requirements in order to decrease the pollution as well as manage its pressure on environment, can increase their potential economic value and achieve the local communities acceptance.

The MEID (Mediterranean Eco-Industrial Development) project intends to follow this approach and tents the road to a complete sustainability, considering economic, environmental and social aspects, developing a support tool for IA managers and reference model for Local Authorities to plan, built and manage SIAs.

2. MEID project

MEID project, funded by the European Regional Development Fund in the framework of the MED program, has the main aim to reduce environmental impact, harmonize regulations across similar territories, optimize social – welfare gains and sustain SMEs competitiveness. Output of the project is a methodological model to plan, build and manage in a competitive way SIA in Mediterranean Regions, improving sustainable development and SMEs competitiveness. In particular, relaunching Industrial Areas, which are key drivers of local and regional economic and job growth, can bring to improve the competitiveness of our territories and overcome the risk of de-industrialization, as well as better control environmental impacts (emissions, traffic congestion) and particularly the unreasonable use of soil due to scattered industrial areas. Moreover, promoting networking and collaboration among co-located firms, can foster SMEs participation to Green Economy (as suggested, among others, by COM(2012) 173 Towards a job-rich recovery) and long term Eco-Industrial Development according to the principles of Industrial Ecology.

The project associates ten partners of five Mediterranean countries (Italy, France, Spain, Greece, Malta) and Bosnia-Herzegovina under the leadership of ENEA, the Italian National Agency for New Technologies, Energy and Sustainable Economic Development.

The model intends to enhance capacities and to develop decision tools for Competent Authorities and Industrial Area Managers to integrate environmental friendly solutions into the Regional and Interregional Industrial Development Strategies, defining a correct equilibrium among public and private interests.

3. MEID model

To identify the key elements of the management model, a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis has been conducted in the partner countries, aimed at identifying the best practices and the critical elements of IAs management in Mediterranean countries. The SWOT analysis has been useful to detect risks and difficulties in the implementation of a SIA model; pinpoint the "state-of-the-art" of the SIA concept and identify the best experiences or Best Practices for SIAs; define the necessary steps to move towards a sustainable management of Mediterranean

IAs. The elements which emerged as valuable requirements of a successful Sustainable Industrial Area have been therefore kept, systematized and reinforced, where necessary. Fig. 2 represents the key elements of the MEID management model.

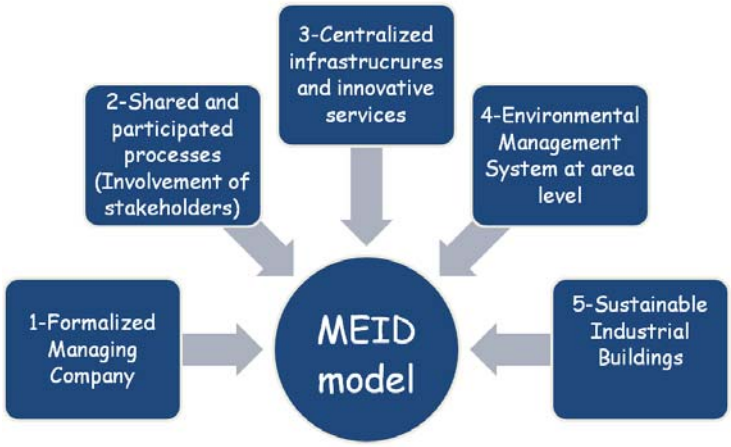


Figure 1 – The MEID model

An incremental approach has been adopted to ensure the model applicability to new industrial areas, as well as already operating non structured and structured areas.

Essential element of the MEID model is the presence of a **Managing Company** (MC), whose functions are decisive for the area development. The process of conversion to SIAs, in fact, can just be started by adopting a common area management system leaded by the Managing Company, which can support the settled companies to act as a community, using the opportunities offered by the shared area services and infrastructures and collaborating with Local Authorities to define voluntary agreements and action plans aiming at the improvement of the economic, environmental and social performances of the area. Besides, the **involvement of stakeholders** in the management decisions of the IA is a fundamental step of the model. If the MC is a private organization, the connections with the Local Authorities and local reference system should be particularly improved. The joint actions and the objectives of improvement of SIA could be ensured by the establishment of a public-private organism composed by the resident companies, the Local Authorities, category and industrial associations, energy, water and waste management companies, trade unions and coordinated by the MC. The committee allows to share with the stakeholders the most critical aspects of the management of the industrial area, such as the identification of the weak points and

the improvement actions. Moreover, fundamental parts of the management model are high level **infrastructures and innovative services** to support SMEs to create networks, exploit the eco-innovation opportunities and face the challenges of the Green Economy. The common infrastructures and innovative centralized services could be managed directly, or through third parts, by the MC which, in any case, will have to guarantee the quality of the delivered services. Among the infrastructure a specific attention should be given to **industrial buildings**, which can be a source of energy saving and innovation. Finally, an **Environmental Management System** of the area should be implemented through the following steps:

- definition of the area policy and the macro objectives of sustainability;
- analysis of the environmental aspects and detect the significant ones;
- definition of a shared improvement plan;
- implementation of a system to monitor the environmental performance of the area;
- definition of the procedures for the internal/external communication.

4. The database of best practices of the MEID project

A detailed database on Best Available Practices has been developed in the MEID project as support tool for Industrial Area managers. The database refers to industrial areas of the Mediterranean Region, in particular in the MEID partner's countries. The selected good practices include both infrastructures and innovative services of the industrial area. The database is available on the MEID project website, at the following address: http://www.medmeid.eu/the-project/results-and-deliverables/bat-database/. It is organized in folders, one for each industrial area, which contain area information such as territorial scenario, type of managing body, number of involved municipalities, IA surface, number of established companies and employees, EMAS or ISO14001 certification as well as the contacts information (web site, email and postal address). Besides, for every folder, the used best practices are identified divided in economic, social (e.g., nursery, sport facilities, banks, post office, hotels, food facilities, …) and environmental aspects (e.g., waste, water, mobility, monitoring of the AI, buildings, …). Moreover, where available, the description of the best practices, in pdf format, can be downloaded from the relative folder. In Table 1 the most diffused good practices are listed. Centralized waste water treatment plants, which can treat the discharged water till

it can be recycled are the most diffused good practice in the assessed areas. It can be easily explained considering the general water scarcity in the Mediterranean context. To date (October 2012), the database contains 46 folders, one for each Industrial Area, related to the MEID partner countries (Table 2).

Environmental Best Practices		No. of areas
Waste	Door-to-door waste collection	4
	Material recovery plant	3
Mobility	Car pooling or car sharing	4
	Bikeway	3
Energy	Energy recovery plant using biomass	5
	Photocell panels (for illumination plant or production of electricity)	4
Water	Wastewater treatment plant or Recycling of discharged water	19
	Rainwater collection	4
Monitoring	Environmental monitoring of the area	5
Social Best Practices		**No. of areas**
Inter-company nursery		5
Fibre optics and/or Wi-Fi telematic network		5
Services centre (post offices, banks, hotel, restaurants, superettes, …)		4
Roads (motorway, railway)		4
Food services (restaurant, cafeteria, area canteen, …)		10
Hotels and accommodations		3

Table 1 – Diffusion of good practices in Mediterranean countries

Country	No. of IAs
Bosnia and Herzegovina	2
France	7
Greece	11
Malta	2
Spain	11
Italy	13
TOTAL	**46**

Best Practices	No.
Environmental	87
Social	45
Economic	13
TOTAL	**145**

Table 2 - Distribution of the assessed industrial areas (divided by country) and good practices

Conclusions

The MEID project is still in progress. It includes a testing phase which is very relevant for the validation of the concepts described above. The management model will be implemented in three selected pilot areas located in the Mediterranean regions, partners

of the project: Ragusa (Italy), Padova (Italy) and Valencia (Spain). According to their stage of development and depending on whether they are new or already existing ones, the MEID managing model will be differently experienced.

Bruxelles, June 7th, 2012

MEID Project: Transnational Forum

European Parliament, ASP Building, Room ASP 3G2

Place Luxembourg, Brussels

The management model of the MEID project: tools for Sustainable Industrial Areas and opportunities for SMEs

Mario Tarantini

ENEA, Italian National Agency for New Technologies, Energy, and Sustainable Economic Development

Aims of Sustainable Industrial Areas (SIAs)

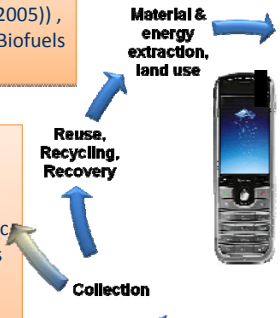
- **Relaunching** Industrial areas, which are a **key driver** of local and regional economic and job growth, can bring to:
  - Improve the **competitiveness** of our territories and overcome the risk of **de-industralization**;
  - Better control **environmental impacts** (emissions, traffic congestion) and particularly the unreasonable **use of soil** due to scattered industrial areas.
  - Promote the **Green Economy** (as suggested, among others, by COM(2012) 173 Towards a job-rich recovery) and long term Eco-Industrial Development according to the principles of **Industrial ecology**, trough **networking** and collaboration among co-located firms

Life Cycle and EU Policies From the need to manage the entire life cycle of products, to new opportunities for SMEs

Natural Resources Policies

→Thematic Strategy on the Sustainable Use of Natural Resources (COM 670 (2005)) , Critical raw materials, Biofuels Directive, …

Sustainable Consumption and Production (SCP): Better Products, Eco-design of Energy Using Products Directive (EuP, 2005/32/EC), Lead Markets, …



Sustainable Industrial Policy (SIP): Leaner Production

→Environmental Management and Audit Scheme (EMAS), …

→Environmental Technologies Action Plan (ETAP)

Waste & Recycling Legislation

→ Waste Framework Directive, Waste Electric and Electronic Products (WEEE) Directive, Thematic Strategy on Waste Prevention and Recycling (COM 666 (2005))

SCP/SIP: Smarter Consumption → EU Ecolabel, Energy label, Green Public Procurement (GPP), …

Project Part-Financed by the European Union
European Regional Development Fund

The basis of the MEID management model: a correct equilibrium among public and private interests

Project Part-Financed by the European Union
European Regional Development Fund

Key concepts and elements of a SIA

Concepts	ELEMENTS
A proper management of the area	• **Unitary Management**: Managing Company/Consortium • Elements of **Environmental Management Systems**
A shared "Vision" of the area development (Sustainable Industrial Development Policy of the Area)	• **Shared industrial development policy of the area:** Close cooperation among enterprises, Local Authorities, a local Committee for gaining consensus over the policy • **Involvement of stakeholders:** professional organizations, citizen associations, NGO, etc
Use of best available techniques, infrastructures and innovative services	• **Centralized infrastructures and innovative services:** shared plants, IT services, environmental management services • **High Quality Industrial Buildings**

Project Part-Financed by the European Union
European Regional Development Fund

5

Planning and design of a new Industrial Area

1° path- Planning and design of a new Industrial area

Step 1
Planning
***Strategic Environmental Assessment**

Step 2
Design
- Basque guidelines;
- Bologna province guidelines.

Step 3
Infrastructures
Sustainable Industrial Buildings

Step 4
Identify and select the promoting/ Managing company

3rd path
Structured Industrial Area

***Strategic environmental assessment** (SEA) is a system of incorporating environmental considerations into plans, programmes and strategies (*European SEA Directive 2001/42/EC)*

Project Part-Financed by the European Union
European Regional Development Fund

Step 2 Design

Bologna province guidelines

Basque guidelines;

Bologna Province guidelines: design of a more sustainable industrial area (APEA)

- Urban planning
- Transports and mobility
- Water
- Habitat and landscape
- Energy
- Raw materials and waste
- Noise

9 themes which include 19 objectives

Step 3 Infrastructures: MEID Database of good practices for IAs

Industrial areas information: territorial scenario, managing body, number of involved municipalities, IA surface, number of established companies and employees, EMAS or ISO14001 certification, typology of good practices, ...

Country	N of IAs
Bosnia and Herzegovina	2
France	7
Greece	11
Malta	2
Spain	11
Italy	13
TOTAL	46

Typology of good practice

BAT	No. of BAT
Environmental	87
Social	45
Economical	13
TOTAL	145

http://www.medmeid.eu/the-project/results-and-deliverables/bat-database/

Project Part-Financed by the European Union
European Regional Development Fund

9

Step 3 Infrastructures: MEID Database of good practices for industrial areas

Environmental BAT		No. of areas
Waste	Door-to-door waste collection	4
	Material recovery plant	3
Mobility	Car pooling or car sharing	4
	Bikeway	3
Energy	Energy recovery plant using biomass	5
	Photocell panels (for illumination plant or production of electricity)	4
Water	Wastewater treatment plant or Recycling of discharged water	19
	Rainwater collection	4
Environmental monitoring	Environmental monitoring of the area	5
Social BAT		No. of areas
Inter-company nursery		5
Fibre optics and/or Wi-Fi telematic network		5
Services centre (post offices, banks, hotel, restaurants, superettes, ...)		4
Roads (motorway, railway)		4
Food services (restaurant, cafeteria, area canteen, ...)		10
Hotels and accommodations		3

Project Part-Financed by the European Union
European Regional Development Fund

10

A database of best environmental practices for SMEs

The Act Clean Database documents existing technological and managerial solutions for Cleaner Production throughout Central Europe. It describes:
• good practice solutions for SMEs;
•contact persons

Country	N of Environmental Best practices
AT	52
CZ	39
DE	99
HU	12
IT	49
PL	43
SK	26
SL	68
Not specified	45
TOTAL	**433**

http://www.act-clean.eu/index.php5?node_id=Act+Clean+Database;43&lang_id=1

Project Part-Financed by the European Union
European Regional Development Fund

11

Sustainable industrial buildings

Reference document: "Guias de edification ambientalmente sostenibile Edificios industriales" carried out by Ihobe and Sprilur

MEID activities:
•Use of Life Cycle Assessment (LCA) to identify the critical problems;
•adapt the content of the guide to the Mediterranean context

Aim: Raising awareness on environmental issues and standards;
Encourage best practices and stimulate the market.

Project Part-Financed by the European Union
European Regional Development Fund

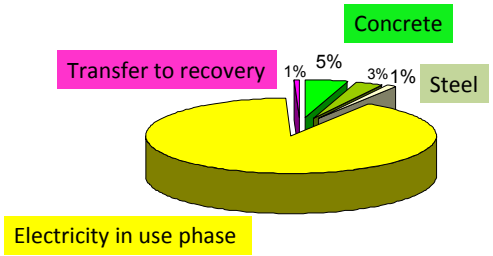
LCA case studies on industrial buildings

Project Part-Financed by the European Union
European Regional Development Fund

13

Main LCA results

Greenhouse Effects



Project Part-Financed by the European Union
European Regional Development Fund

14

Evaluation categories of Ihobe/Sprilur guidelines

Materials Weight 0.23
Reduced consumption of non-ren. raw materials
1 2 3 4 5

Energy 0.31
Reduced use of non renw. energy
1 2 3 4 5

Indoor environment 0.01
Improved quality of interior air, comfort and health
1 2 3 4 5

Air 0.03
Reduced emission of gases, dust, heat and luminous energy
1 2 3 4 5

Waste 0.08
Reduced generation of solid waste
1 2 3 4 5

Contents
•88 good practices divided in 10 evaluation categories;
•A weighting system which allows to get a unique score for the whole building

Drinking water 0.03
Reduced consumption of drinking water
1 2 3 4 5

Grey water 0.05
Reduced generation of greywater
1 2 3 4 5

Land use 0.02
Reduced land occupation
1 2 3 4 5

Mobility and Transport 0.13
Reduced transport processes and improved personal mobility
1 2 3 4 5

Ecosystems 0.11
Improved operation of natural areas and increased biodiversity
1 2 3 4 5

Project Part-Financed by the European Union
European Regional Development Fund

Non structured industrial areas:

2° path Non structured Industrial Areas

From RCP21 toolkit first- the Wakefield District Development Agency

Step 1
Know your area

Step 2
Know your buisinesses

Step3
Identify common issues

Step 4
Engage businesses
Business collaboration networks

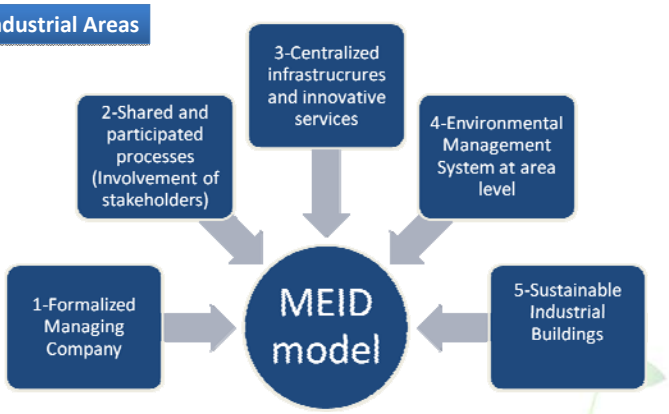
Step 5
Identify and select the promoting/ Managing company

3° path Structured Industrial Area

Project Part-Financed by the European Union
European Regional Development Fund

Structured industrial areas: a systemic approach

3° path: Structured Industrial Areas



Project Part-Financed by the European Union
European Regional Development Fund

17

Step 4 Environmental Management system of the area

1. Sustainability Policy
2. Initial Sustainability Analysis
3. Infrastructures evaluation
4. Improvement Plan
5. Monitoring and evaluation
6. Communication to the public

Continuous improvement

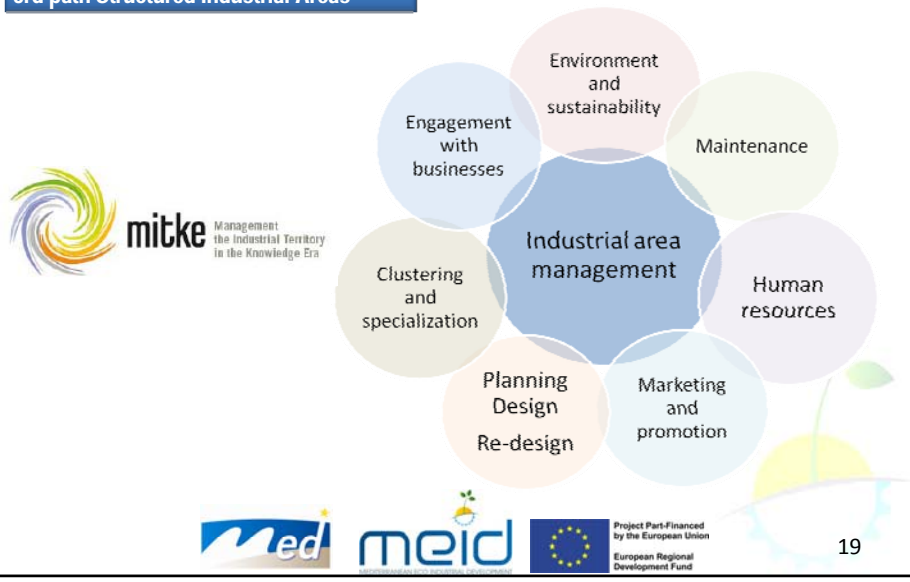
Preventive and corrective actions

Project Part-Financed by the European Union
European Regional Development Fund

18

Step 4 Env. Management system of the area:
New tasks for Area Managers?

3rd path Structured Industrial Areas



mitke Management the Industrial Territory in the Knowledge Era

Project Part-Financed by the European Union
European Regional Development Fund

19

MEID pilot areas

Project Part-Financed by the European Union
European Regional Development Fund

Thank You for your attention

www.medmeid.eu

mario.tarantini@enea.it

Co-operation between sustainable industrial areas for Euro-Mediterranean growth

Thomas Heinemeier – European Commission, DG Enterprise and Industry, Unit Policy Development for Industrial Innovation
thomas.heinemeier@ec.europa.eu

In my contribution I present some elements to clarify what we consider important for co-operation between sustainable clusters.

Recent studies on the relationship of eco-innovation and clusters have found that member states of the European Union and their regions follow diverse policies. In the core eco-industries such as recycling, waste water treatment or renewable energies, a cluster approach is followed, that is also applied to other industrial sectors.

Eco-innovation in clusters of other sectors is supported by specific advisory and support services, if it either makes business sense for the sector or there is regulatory pressure. Co-operation with other sectors is fostered, be it inside the region or outside. The services are tailored to the specificities of the clustered sector.

In a third group of member states, eco-innovation is seen as a response to environmental policy goals or to attain compliance with environmental law.

Considering the importance given to services in sectors other than the core eco-industries, say textiles, what are the expectations businesses have on services available to the companies in the clusters?

A common thread is that any initiative, policy or approach that has a weak strategic focus is considered a clear barrier to eco-innovation. The principle aims of the services should be to close the knowledge gap, to accelerate the adoption of solutions and to measure the environmental performance along the supply chain. The co-operation partners are drawn from independent experts, research organisations, clusters from other sectors and investors in eco-innovative solutions.

The elements mentioned so far are drawn from regions of which some lie in the Mediterranean area and others that don't. As concerns the Mediterranean Neighbourhood countries, the Sustainable Enterprise Development Report 2012 contributes a specific view.

Also here, a long-term strategic approach is considered critical. The priority services for SMEs are considered also in the Mediterranean Neighbourhood to develop skills to close the knowledge gap, while access to finance ranks next. As concerns the actors, trade associations are considered as suitable multipliers for the services.

Sustainable clusters from an enterprise perspective are agglomerations of small and medium-sized enterprises (SMEs). Some organisation, which we call a cluster organisation, represents the cluster. Co-operation between clusters pre-supposes the existence of a co-operative culture inside the cluster. Its fostering is the prime task of the cluster organisation. Advisory and support services are offered that mediate innovation collaboration among SMEs and of SMEs with others. Services for the internationalisation of SMEs are offered through collaboration between cluster organisations. What is the defining characteristic of a cluster is the provision of services to SMEs.

What about infrastructure? Infrastructure made available in a sustainable cluster must be of exemplary environmental performance. Cluster services can exploit symbioses, notably across clusters of different sectors in the same territorial area. Training facilities are state-of-the-art and deliver content in a business-oriented way. Technical services to the companies are offered, research infrastructures open for use by companies. The performance of infrastructure should be measured by the quality of their services to SMEs.

The cross-sector collaboration has been mentioned several times so far. A project that has received a grant under the Union's Programme for Entrepreneurship and Innovation of the Framework Programme for Innovation and Competitiveness (CIP-EIP) can illustrate what this may mean. The project is known by its short name of "Glass Plus". It illustrates how an eco-industrial service sector, in this case waste recycling, can co-operate with a manufacturing sector, ceramics, for the benefit of both sectors. The glass recycler has gained a new customer segment. The ceramic tile producer, an SME located in a cluster, could meet the requirement of overseas customers for environmental certification.

Other projects illustrate specific examples of services:

– The project Innovations for a "Made green in Europe" (IMAGINE) shows how a cluster approach can make it easier for SMEs to get certified to the European Eco-management and Audit Scheme (EMAS). Of particular interest for the aims of MEID

is the shared use by SMEs of environmental services that are based on a common infrastructure, e.g., for waste water management. The certification of clusters to EMAS and EMAS advice services given by the cluster organisation collectively to SMEs lowered the cost of certification to the SMEs in the certified clusters. Environmental benefits were obtained and the SMEs can exploit the certification with their customers. Examples of advisory services not tied to a physical infrastructure in the location of a cluster, yet profitably offered to clustered companies.

– A perennial obstacle for innovators is to convince early adopters of their innovations. The project INNOWATER fills a gap in the existing advisory toolkit by developing a tool for the development of a user proposition by SMEs. As its acronym suggests, the tool is designed specifically to advise SMEs in the water sector. The conditions of usage of a water management solution may be quite distinct in various countries.

– The eco-industry cluster co-operation project EcoCluP offers an advisory tool to assess the potential an SME has for internationalisation.

Organisations that are interested in these – and other – tools used in those projects should contact one of the project participants. All three mentioned projects received grants from the Union under the CIP-EIP.

The elements presented so far apply beyond the European part of the Mediterranean. Earlier, some elements of strategy have been pointed out that are common to the entire Mediterranean. The approach of offering services to companies in a sustainable cluster applies in the Commission's view also to co-operation with the other rims of the Mediterranean.

In the same vein, the European Parliament has proposed a preparatory action for the Euromed, whose implementation is centred around services with an emphasis on the cluster approach. The action seeks to raise the quality of three activities:

– the innovation management of SMEs by way of the IMP^{3}rove® Academy;

– the development and management of cluster services through the European Cluster Excellence Initiative;

– the internationalisation of start ups in clusters.

The EC may implement the action under the CIP-EIP in Egypt, Lebanon, Morocco and Tunisia starting later in 2012.

The European Union assists member states and their regions in their measures in favour of sustainable clusters following two approaches, whose fundamental difference is relevant in the light of what has been said before.

Grants to projects on a competitive basis offer an opportunity to experience new, better or one-off interventions. These are essentially one-off subsidies. Typical programmes in this sense are currently the CIP-EIP or the FP7 and Horizon 2020 after 2013.

They complement structural measures such as those managed in member states according to operational programmes of the European Regional Development Fund (ERDF), the Instrument for Pre-accession Assistance (IPA) and the European Neighbourhood Instrument (ENI). It is in them that one should seek to inscribe cluster services. Services sustainability for SMEs in clusters could find their place in these funding instruments also after 2013. Services to foster the co-oeration between clusters could be considered in the territorial branch of the ERDF, in the IPA and the Cross-border Co-operation of the ENI.

In operational terms, the European Cluster Collaboration Platform exists to make the partnering between cluster organisations easier, independent of whether they receive funding from the Union or not.

I've tried to illustrate that the European Union has put in place a frame suitable for sustainable clusters in the Mediterranean to enhance their co-operation in the spirit of the Europe 2020 strategy for growth. It is for the cluster members to fill this frame with practical activities. They find a point to start in the Web resources listed at the end of the presentation.

Conference of the project *Mediterranean eco-industrial development*. Brussels, 7 June 2012.

Co-operation between sustainable industrial areas for Euro-Mediterranean growth

Thomas Heinemeier
Unit *Policy Development for Industrial Innovation*
Directorate *Industrial Innovation and Mobility Industries*
Directorate-General for *Enterprise and Industry*

Clusters and eco-innovation

Member States and regions follow diverse policies

- *Core eco-sectors*
  - **typical cluster approach**
  - **demand pull**
- *Eco-innovation advisory and support services*
  - ⇔ **business sense, regulation**
  - **co-operation across sectors in/outside region**
  - **sector specificities**
- *Response to environment policy goals, regulatory compliance*

Expectations on cluster service

Eco-innovation in non-core sectors, e.g., textile

Weak strategic focus = eco-innovation barrier

Aims of services

- Close knowledge gap
- Accelerate uptake of solutions
- Measure performance along supply chain

Co-operation partners

- external experts
- research organisations
- clusters from other sectors
- investors in eco-innovative solutions

Mediterranean partner countries

Sustainable enterprise development report 2012

Long-term, strategic approach

Priority services for sustainable SMEs

- Skills development
- Access to finance

Trade associations as multipliers for services

Source: http://ec.europa.eu/enterprise/policies/international/files/2012_survey_on_sustainable_enterprise_final_19_04_2012_en.pdf

Sustainable cluster

SMEs

Cluster organisation

Fostering co-operative culture

Advisory and support services

Mediating innovation collaboration for, with, among SMEs

Internationalisation through co-operation with clusters

Infrastructure?

Model environmental performance

(Cross-)Cluster service: exploitation of symbioses

Training facilities state-of-the-art, content business-oriented

Technical service, research infrastructure measured by the quality of their services to SMEs

Glass Plus: Cross-sector collaboration

Collecting and treating of TVs

Recycling the tubes

Markets

Collecting and treating of TVs

Recycling the tubes

Preparing ceramic paste

Producing ceramic tiles

Preparing ceramic paste

Producing ceramic tiles

Selected service examples

IMAGINE

Cluster approach facilitates SME EMAS certification

EcoCluP

Assessment tool for SME internationalisation potential

INNOWATER

Tool for innovator's user proposition development

Euromed preparatory action

Innovation management

IMP³rove® Academy

Cluster excellence

European Cluster Excellence Initiative

http://www.cluster-excellence.eu/

Cluster collaboration

Internationalisation of start ups

Egypt, Lebanon, Morocco, Tunisia

European Union assistance

Preparatory, experimental, exploratory

- *Competitive projects*
  - **H2020**
    - E.g., Industrial leadership: theme *Innovation in SMEs*
  - **Successor to LIFE+**

Structural, rather than one-off subsidies

- *Inscribe cluster services in countries' operational programmes*
  - **Services for SMEs in clusters**
    - ERDF, IPA, ENI
  - **Co-operation services between clusters**
    - ERDF territorial cooperation, IPA, ENPI CBC

Link to operational co-operation facilitator

Resources

European Cluster Collaboration Platform

- http://www.clustercollaboration.eu/

European Cluster Observatory – Library

http://www.clusterobservatory.eu/

Industrial Area Managers: viewpoints and perspectives

Paolo Gentili - President of Management Consortium of Terni, Narni, Spoleto, Italy
presidente@tnsconsorzio.it

TNS consortium: the past and the present role and activities

TNS is a public joint venture established in 1997 by 3 Municipalities (Terni, Narni, Spoleto), the Province of Terni and the Regional Agency for the Economic Development (Sviluppumbria).

TNS has been established as a common supplier of industrial areas in the administrative context of the associated Municipalities providing construction phase management; sale or rent of industrial areas or premises; assistance to enterprises settlement.

TNS is currently managing seven industrial areas, built from green-fields (four areas) or and refurbished from brown-fields (three areas).

TNS has been established as an operational and financial vehicle with the objectives of equipping new areas for establishing SMEs active in traditional and innovative fields and refurbishing abandoned sites, also through reclamation works to host new strategic (and larger) initiatives.

Through a single vehicle, at once, local authorities decided to pursue urban policy objectives, optimizing land use; environmental policy objectives, hosting SME with lighter impacts; social policy objectives, thanks to additional employment impacts and, besides, saving industrial assets.

The activities of TNS were particularly significant in the Bosco mechanical industries area.

TNS consortium: current challenges

From the second half of 2008, the economic slump dramatically slowed down industrial areas demand and, most of all, it has increased “empty spaces”.

TNS-like entities, which have helped local authorities transforming old industrial areas in new production spaces with quality and environmental improvements are blocked by public funds scarcity and credit crunch. Existing industrial premises are passing from hand to hand with good bargains but limited renovation works, as private operators cannot bear reclamations burden.

The available stock of green-field areas would need services updates to create economies of scale for SMEs (advanced utilities, common services) and enhance their competitiveness but, again, scarce resources are hampering such interventions and additional investments would not be paid by sales, due to low demand and falling prices.

Interventions aimed at either improving existing industrial areas sustainability or building new areas compliant with the sustainable model can help coming back to a virtuous path. We are fully aware that implementing such a model can, among the others:

- in the construction phase, mobilize new investments and stimulate advanced competences (e.g. intelligent industrial buildings, electricity /heat&cool generation, ICT technologies, freight mobility design, etc.)
- in the operational phase, activate new business (e.g. industrial waste and water management, wi-fi services, energy management, etc) and provide savings to hosted enterprises.

Additionally, the sustainable industrial areas model can act as a quality brand for a territory and for the entrepreneurial activities which choose to live in such places.

- We can achieve the objective if we apply an "integrated way of thinking" to the industrial areas issue, namely:
- fostering sustainability-oriented interventions through specific policies to be formulated at regional and local level under a EU framework providing dedicated resources;
- improving industrial areas design and construction, ensuring logistics and advanced ICT connections;
- working together with utilities, to build district smart grids enabling efficient energy uses and contribution of new energies;
- stimulating sustainable behaviours, through incentives (e.g. grants or funding facilitation under a quality certification scheme).
- Integration processes needs stakeholders involvement activities to be implemented, thus enhanced capabilities by industrial areas managers are necessary.

Conclusions

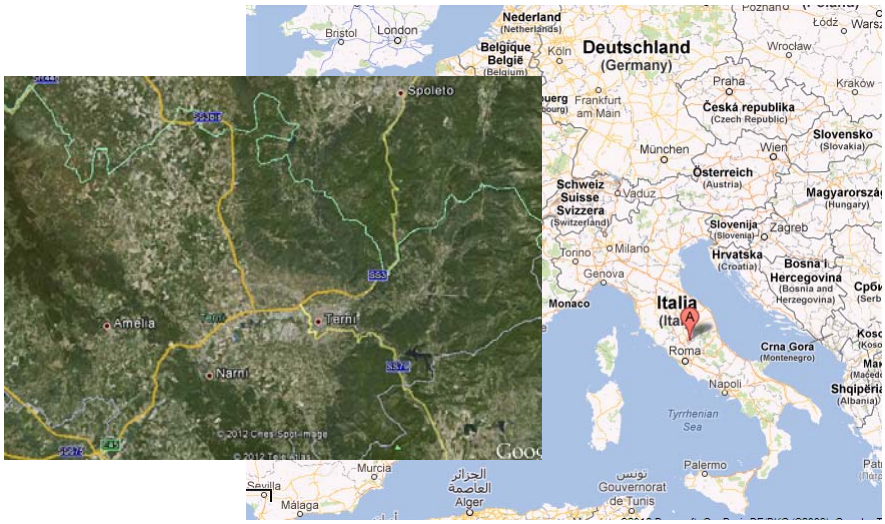
In our territory, implementing the model can provide economic development and employment opportunities, stimulating University and Research centres and firms. Dedicated resources should be made available to prepare and implement pilot projects, acquiring the knowledge base developed in other EU experiences and activating specific capacity building processes. Existing capabilities and knowledge of industrial processes, energy management, environmental consciousness can help facilitating this process.

Applying the "sustainable industrial areas model" in Terni, Narni and Spoleto would mean coming back to the approach which made our economic system successful (activities fed by green energy, railway connections for freight transport), updated to a full 20-20-20 philosophy.

TNS: who we are

- **TNS** is a public joint venture established in **1997** by 3 Municipalities (**T**erni, **N**arni, **S**poleto), the Province of Terni and the Regional Agency for the Economic Development (Sviluppumbria).
- **TNS** has been established as a common supplier of industrial areas in the administrative context of the associated Municipalities providing:
  - construction phase management;
  - sale or rent of industrial areas or premises;
  - assistance to enterprises settlement.
- **TNS** is currently managing 7 industrial areas
  - 4 areas, built from greenfields (452.373 m^2 total, 295.299 m^2 assigned)
  - 3 areas, refurbished from brownfields (all active with new initiatives)

TNS: where we are (in the geography)



TNS: where we are (in the economy)

- **Terni, Narni and Spoleto** are lands of long industrial tradition **since the end of the 19th century**.
- A **"smart"** industrial model was based on the **alliance between heavy manufacturing processes and cheap and abundant energy production,** thanks to the large availability of **hydroelectric plants**, under a single ownership **(TERNI – Company for industry and electricity)**.
- **Steel, mechanical** and **chemical industries** have provided economic development and employment opportunities for decades as a **backbone** of the whole system.
- In the **last two decades of the 20th century**, major factories have been acquired by **large multinationals** from **State-owned national companies** with significant **restructuring processes**.
- In the **last ten years**, chemical industries have "disappeared" while steeleries have changed shape due to globalization forces.

TNS: our mission

- **TNS** has been established as an **operational and financial vehicle** with the following objectives:
  - **Equipping new areas for establishing SMEs** active in traditional and innovative fields, preferrably independent from the major industries value chain **(quick green field interventions)**
  - **Refurbishing abandoned sites**, also through **reclamation works** to host new strategic (and larger) initiatives**.**
- Through a single vehicle, at once, local authorities decided to pursue:
  - **Urban policy objectives**,optimizing land use;
  - **Environmental policy objectives**, hosting SME with lighter impacts;
  - **Social policy objectives**, thanks to additional employment impacts and, besides, saving industrial assets.

TNS: what we actually did

BOSCO Mechanical Industries

- The **BOSCO Mechanical Industries plant** was built in 1975/76 and hosted heavy boilers constructions linked to the energy industry demand, including nuclear, to be marketed on national and international markets.
- In **2001**, TNS acquired the whole site after a bankruptcy procedure investing around **5 Meuros**.
- In **2002** full refurbishment works have been started with an additional **4.5 Meuros** investment.
- In **2005**, all works have been completed.
- **Now**, it hosts enterprises working in the field of **Tunnel Boring Machine** production, with a significant market at international level.

TNS: what we actually did

BOSCO Mechanical Industries: some figures

- Industrial plant surface: around 210.000 sqm
- Total roofed area: around 33.000 sqm
  - Main industrial building: 30.000 sqm
  - Offices: 1.800 sqm
  - Other services: 1.200 sqm

TNS: what we actually did

Before TNS intervention

TNS: what we actually did

After TNS intervention

TNS: what we actually did

Before TNS intervention

TNS: what we actually did

After TNS intervention

TNS: what we actually did

Before TNS intervention

TNS: what we actually did

After TNS intervention

TNS: what we actually did

Ex Polymer industries (partial recovery)

- **Polymer industries** have been active for decades producing **polymeric plastics** within an **integrated process going from chemical synthesis to final products (film, thread, flake)**.
- After a period under Montedison and Enimont, the industrial premises property has been divided among three main actors.
- **In 2004, TNS acquired one old plant** within the industrial zone with an overall investment of **5.6 Meuros**, providing reclamation works and site refurbishment.

- **Now**, the plant hosts a leading company focussed on **bioplastics**.
- Thus, **TNS accompanied a transition from old to new chemical products, environmentally friendly**.

TNS: what we actually did

Before TNS intervention

TNS: what we actually did

After TNS intervention

TNS: what we actually did

Before TNS intervention

TNS: what we actually did

After TNS intervention

Current challenges: vicious circles

- **From the second half of 2008,** the **economic slump dramatically slowed down industrial areas demand** and, most of all, it has increased **"empty spaces".**
- **TNS-like entities**, which have helped local authorities **transforming old industrial areas in new production spaces** with **quality and environmental improvements are blocked by public funds scarcity** and **credit crunch**.
- **Existing industrial premises are passing from hand to hand with good bargains but limited renovation works**, as private operators can not bear reclamations burden.
- **The available stock of greenfield areas would need services updates** to create economies of scale for SMEs (advanced utilities, common services) and enhance their competitiveness but, again, **scarce resources are hampering such interventions** and **additional investments would not be paid by sales, due to low demand and falling prices**.

A possible breakthrough: investing in sustainability

- Interventions aimed at either **improving existing industrial areas sustainability** or **building new areas compliant with the sustainable model** can help coming back to a **virtuous path**.
- We are fully aware that implementing such a model can, among the others:
  - in the **construction phase**, mobilize new investments and stimulate advanced competences (e.g. intelligent industrial buildings, electricity /heat&cool generation, ICT technologies, freight mobility design, etc.)
  - in the **operational phase**, activate new business (e.g. industrial waste and water management, wi-fi services, energy management, etc) and provide savings to hosted enterprises.
- Additionally, the sustainable industrial areas model can act as a **quality brand** for a territory and for the entrepreneurial activities which choose to live in such places.
- For this purpose, **we need a breakthrough**.

How to get there: integration

- We can achieve the objective if we apply an **"integrated way of thinking" to the industrial areas issue**, namely:
  - **fostering sustainability-oriented interventions** through **specific policies** to be formulated **at regional and local level under a EU framework providing dedicated resources**;
  - **improving industrial areas design and construction,** ensuring logistics and advanced ICT connections;
  - **working together with utilities**, to build district smart grids enabling efficient energy uses and contribution of new energies;
  - **stimulating sustainable behaviours**, through incentives (e.g. grants or funding facilitation under a quality certification scheme).
- **Integration processes needs stakeholders involvement activities** to be implemented, thus enhanced capabilities by industrial areas managers are necessary.

Conclusions

- In our territory, where the crisis is hitting hard, **implementing the model can provide economic development and employment opportunities,** stimulating University and Research centres and firms.
- **Dedicated resources should be made available** to prepare and implement pilot projects, acquiring the knowledge base developed in other EU experiences and activating specific capacity building processes.
- **Existing capabilities and knowledge of industrial processes, energy management, environmental consciousness can help facilitating this process.**
- Applying the "sustainable industrial areas model" in Terni, Narni and Spoleto would mean **coming back to the approach which made our economic system successful** (activities fed by green energy, railway conections for freight transport), **updated to a full 20-20-20 philosophy**.

Thanks for your attention!

Paolo Gentili
TNS Chairman
E-mail: presidente@tnsconsorzio.it
Mobile: +39 335 7379706

.TNS
CONSORZIO
SVILUPPO AREE
ED INIZIATIVE INDUSTRIALI

Elaboration of the MEID protocol and pilot action in the Industrial Area of Vilamarxant (Valencia Region, Spain)

Vicente Betoret, Mayor of the Vilamarxant Municipality
Carlos Riaño, Project Manager of the INTRAECO Foundation
project@intraeco.org

The following document aims to summarize the contents of the INTRAECO Foundation and the Vilamarxant representative speeches during the MEID conference held in Brussels on 7th June.

On first place, Mr. Carlos Riaño exposed the elaboration of the MEID protocol and future pilot action to be developed in the industrial area of Vilamarxant. The main exposed points were the following:

1. - Municipality of Vilamarxant

Vilamarxant is a municipality situated in the Valencia region with approximately 9.500 inhabitants. The municipality is located in a privileged geographical environment, not only for its connections to Valencia's main communication routes, but for its unique natural location backed up by a rich environment that the Turia Natural Park grants. A great 80 (eighty) million square meters green lung 50% of which is protected land belonging to the municipality.

2. - Enchilagar del Rullo IA.

The industrial area has the following characteristics:

- Total surface: 459.000 m^2
- Equipped total surface: 171.000 m^2
- Industrial land: 288.000 m^2
- Total of companies: 85
- Industrial land per company: between 1.000 and 5.000 m^2
- Main industrial sectors: small materials manufacturing, plastics, recycling, furniture, telecommunications.

3. - Elaboration of the MEID protocol

The main objective is the elaboration of a protocol for the implementation of an environmental sustainable planning for a future pilot action the Industrial Area of Vilamarxant, as base for the future MEID model. This protocol will be elaborated through the organization of five technical committees during the months of June and July 2012 together within the involvement of the main industrial actors: public authorities (policy makers), companies, industrial stakeholders and technical experts. All meetings will be coordinated by the INTRAECO Foundation.

The contents of the technical committees are the following:

- **Legal committee:**

- New ordinances and legal changes. How to set up a new environmental policy.

- **Social and economical committee:**

- Managerial issues. Establishment of a managing company.

- Common infrastructures and services

- National and European funding opportunities, bank credit. Economical feasibility.

- Incentives and benefits for SME´s: reduction of local and property taxes for companies respecting the protocol.

- **Water management committee:**

- Analysis of Quantity and quality of industrial waste water. Parameters.

- Industrial water and wastewater treatment methods. Wastewater generation (where is produced).

- Optimization + green technologies. Establishment of a sewage water plant in the IA.

- **Waste management committee:**

- Best management methods. Creation of an industrial collection point for the small waste.

- Carbon footprint calculation: use of tools. Specific limitations.

- **Sustainable development committee:**

- Building Environmental and Sustainability Assessment Methods (LEED lighting) and energy saving systems

- Building monitoring and performance evaluation

- Specific auditing methods for companies. Eco-label and certification for environmentally friendly companies.

Afterwards, Mr. **Vicente Betoret** exposed the interest and efforts of the Vilamarxant municipality in the implementation of the MEID project. As explained by Mr. Betoret, the City Council planned an industrial estate which would meet the demand of land for large-area industries, providing the population with soil to contribute in ensuring the economic future and its territorial level projection. The condition for this framework had to be the sustainability, located in an area with good connections in a suitable terrain and environment which would allow further development.

With that premise, the City of Vilamarxant, is currently working in an entrepreneurial and innovative project such as the future implementation of a biomass plant in the municipality.

As expressed by the mayor, ecology is imposed gradually in Spanish society and promotes an alternative energy industry, which constantly grows opposing to traditional energy sources. In that sense, the new framework will frame the benefits and incentives for the pilot project that Vilamarxant wants to lead. It is a framework that includes good practice and good performance protocols which may arise to accommodate new businesses in the industrial areas.

In that sense, Mr. Betoret expressed that, for several months, Vilamarxant is working with the Valencia Government, specifically with the Department of Agriculture, in a

strategic territorial action: the implementation of Food and Agriculture Cluster in the town of Vilamarxant. This initiative would generate wealth and activity in a sustainable way.

Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

Elaboration of the MEID protocol and pilot action in the IA of Vilamarxant (Spain)

FUNDACIÓN INTRAECO (VALENCIA, SPAIN)

Brussels, 7th of June 2012

INDEX OF CONTENTS

MUNICIPALITY OF VILAMARXANT

Approximately 9.500 inhabitants

Situated 25 km from the metropolitan area of the Valencia city

Agricultural sector= main industrial activity

Fast growth of the industrial and services sector

Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

PROFILE OF THE INDUSTRIAL AREA

Enchilagar del rullo IA total surface: 459.000 m2

Equipped total surface: 171.000 m2

Industrial land: 288.000 m2

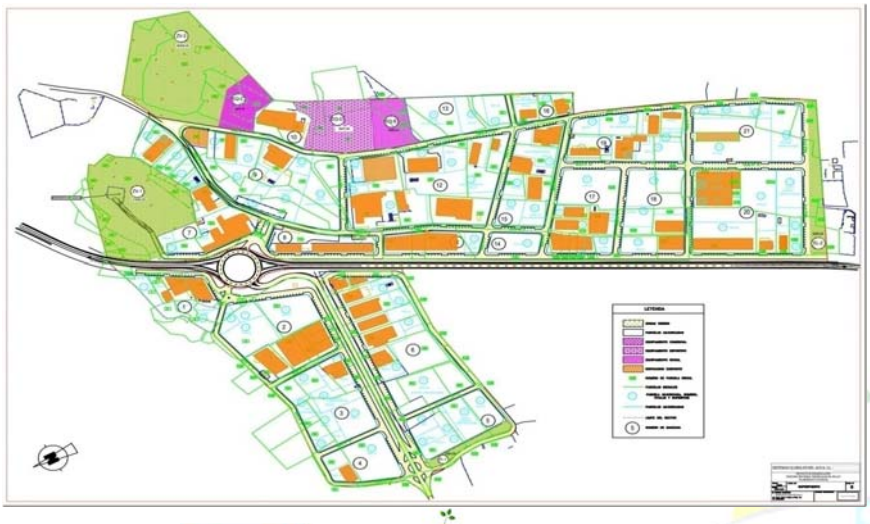
Total of companies: 85

Industrial land per company: between 1.000 and 5.000 m2.

Main industrial sectors: Small materials manufacturing, plastics, recycling, furnitures, telecommunications.

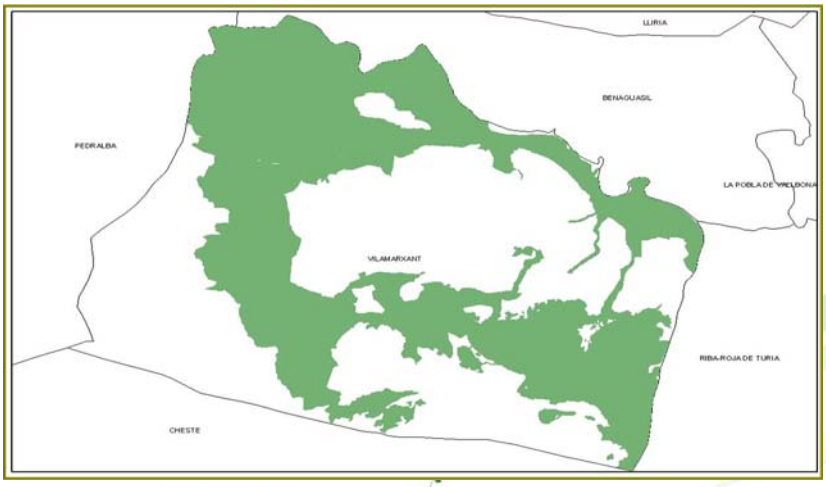
Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

PROFILE OF THE INDUSTRIAL AREA



Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

PROFILE OF THE INDUSTRIAL AREA: FORESTAL LAND



Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

ELABORATION OF THE MEID PROTOCOL

- Objective: Elaboration of a protocol for the implementation of an environmental sustainable planning as base for the future MEID model.
- Main actors: public authorities, companies, stakeholders and technical experts. Coordinated by the INTRAECO foundation.
- 5 technical committees. Celebrated in the Vilamarxant city council.
- Between June- July 2012

Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

TECHNICAL COMMITTEES

❑ **Legal committee**
• New ordinances and legal changes. How to set up a new environmental policy?

❑ **Social and economical committee**
• Managerial issues. Establishment of a managing company.
• Common infrastructures and services
• National and European funding opportunities. How to obtain founds?
• Incentives and benefits for SME´s: reduction of local and property taxes for companies **respecting the protocol**

❑**Water management committee**
• Analysis of Quantity and quality of industrial waste water. Parameters.
• Industrial water and wastewater treatment methods. Wastewater generation (where is produced).
•Optimization + green technologies. Sewage water plant.

❑**Waste management committee**
• Best management methods. Industrial collection point for the small waste**.**
•Carbon footprint calculation: use of tools. Specific limitations.

❑ **Sustainable development committee**
•Building Environmental and Sustainability Assessment Methods (LEED lighting) and energy saving systems
•Building monitoring and performance evaluation
• Specific auditing methods for companies. Eco-label for companies.

Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

INITIAL SITUATION

- **Interest of companies** in the municipality= economical benefits and incentives + eco-label

- **Interest of the municipality authorities**= green business, attraction of companies + environmental improvement

Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

FUTURE ACTIONS

1.- TECHNICAL COMMITTEES (JUNE-JULY)

2.- ELABORATION OF THE PROTOCOL (JULY)

3.- TRAINING SESSIONS FOR SME´S (SEPTEMBER)

4.- PRESENTATION OF RESULTS (MALTA MEETING.- SEPTEMBER)

Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

MEID PROJECT

THANKS FOR YOUR ATTENTION!!

Projet cofinancé par le Fonds Européen de Développement Régional
Project co-financed by the European Regional Development Fund

Increasing the Energy of a Basque SME through innovation

Aitor Urrutia García – Technology Transfer Manager TECNALIA
aitor.urrutia@tecnalia.com

The collaboration between industrial SMEs and Technological Centres is a key factor for the development of innovative and market-driven products. In the presentation held as a part of the MEID conference in Brussels on June 7th, we describe a real case study of collaboration between both types of organizations that has allowed the transformation of knowledge into a business opportunity and competitiveness, for the industrial partner in particular and the society in general.

In TECNALIA [1] we have decided to engage the industry from the very beginning of the research process, primarily to accelerate the time to market of our technology assets and to minimize the risks, by receiving feedback from the market through the industrial side of the team. For doing this, a high grade of implication is required, from people and organizations on both sides. Finally we support all this on a co-creation model, in which the industrial partner and Tecnalia share risks and the eventual success of the business.

In the Figure 1 - Tecnalia´s Business Model Tech Transfer, it can be seen the business model of the technology transfer activity in Tecnalia based on Alex Osterwalder Business Model Generation [2] methodology. What we offer, as a value proposition to the industry trying to diversify, are business opportunities usually supported by IP rights. We receive the return on investment for the development of the technology in which these business opportunities are based on, normally by means of royalties or equity in the company we are helping to diversify.

Figure 1 - Tecnalia´s Business Model Tech Transfer [3]

The final goal is to increase the employment and the GDP in the area by generating business opportunities for the SMEs.

The Energy Unit of the Research Centre TECNALIA, one of the largest in Europe aimed to improve the renewable energy sector, contacts the INGE-INNOVA Group, that includes several European engineers dedicated to leading sectors like automotion, aeronautics and renewable energies.

In this particular case, TECNALIA has got a technology that allows the easy connection and disconnection of Off-shore Energy Generation Devices to shore and, in relation to it, is the owner of a patent application PCT/ES2009/070612 and the know-how associated to it.

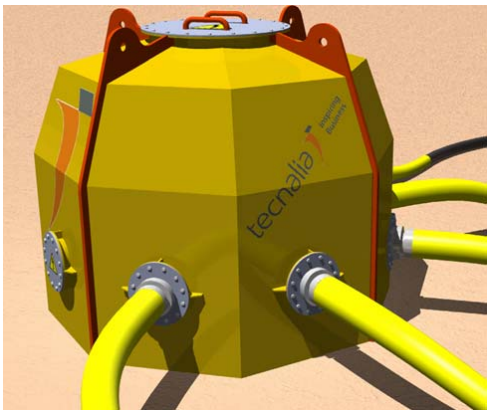


Figure 2 - Submarine Interconnection HUB

The aim of the negotiation was to regulate the participation and collaboration of the parties to the validation and development of the Technology in order to get a demonstrator to be validated in a marine environment, thus obtaining the information needed to analyze its technical and economical viability.

As a secondary object, the agreement covers the grant to Ingeinnova of a Worldwide license of the Technology allowing the use and the exclusive commercialization of the Product.

The forecasts [4] for the future are promising because, as it can be seen in Figure 3 - Offshore Wind Energy Installation Forecast, the expected growth is spectacular.

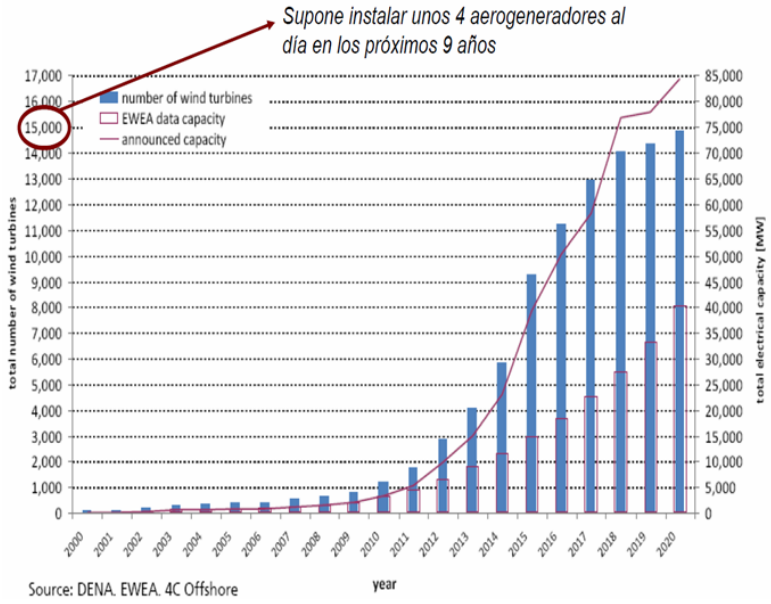


Figure 3 - Offshore Wind Energy Installation Forecast

The experience has been of relevance in order to identify the key factors, apart for the technical ones, that help to reach a successful negotiation. Some of the lessons learnt are:

- For the competitiveness of a SME is important to have intellectual property rights grants as a barrier for the entrance to the market of the big companies.

- A business opportunity should not be subjected to public funds, if it is business it is without public financing, waiting for funds could have be fatal for the time to market, which was very important in this case.

- Perseverance, as in many other kind of relationships there are highs and lows.

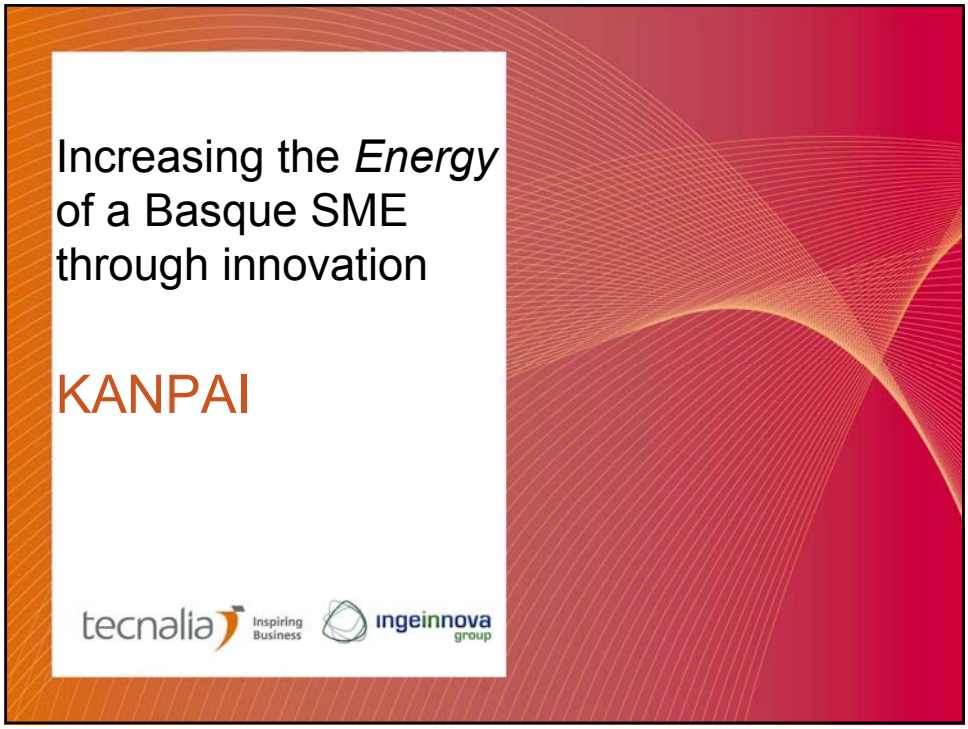
References

[1] http://www.tecnalia.com/en

[2] Business Model Generation: A Handbook for visionaries, game changers and challengers – A. Osterwalder and Y. Pigneur, 2011.

[3] Tecnalia´s Business Models – Tecnalia Research & Innovation 2011.

[4] Wind in our sails: The coming of Europe´s offshore wind Energy Industry – European Wind Energy Association 2011.


Increasing the *Energy* of a Basque SME through innovation
KANPAI
tecnalia Inspiring Business
ingeinnova group


AGENDA
1. BACKGROUND: TECNALIA AND INGEINNOVA
2. NEGOTIATION AND COLLABORATION ANALYSIS
3. LESSONS LEARNT
4. THE FUTURE
tecnalia Inspiring Business

1. BACKGROUND: TECNALIA AND INGEINNOVA
2. NEGOTIATION AND COLLABORATION ANALYSIS
3. LESSONS LEARNT
4. FUTURE

tecnalia Inspiring Business

1. BACKGROUND: TECNALIA

Tecnalia Research & Innovation

TECNALIA is the first applied research centre in Spain and one of the most important in Europe with around **1.500 people** on staff, **122€ millions turnover** and more than **4.000 clients.**

R&D&I Budget	Return on investment
"We know about this"	"Let me to help you create business opportunities"
"Know how"	"Know who"
Made in TECNALIA	Made & Managed by TECNALIA
"We'll see if it can be sold later"	"It's an opportunity and we need it NOW!"

tecnalia

The **INGE-INNOVA** Group includes several European engineers dedicated to leading sectors like automotion, aeronautics and renewable energies. It is specialised in designing and developing production processes, lay-out, line stations and industrialized products.

- Engineering Company
- 38 People
- 2011 Turnover = 5M€

tecnalia Inspiring Business

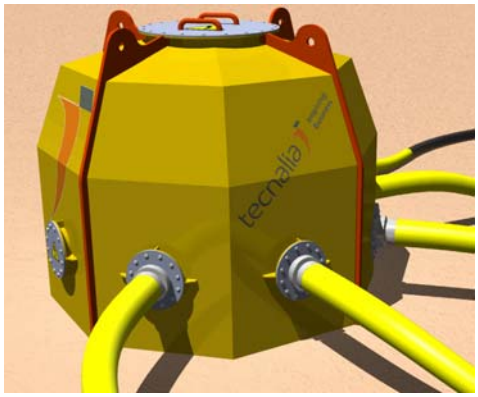
tecnalia Inspiring Business

2. HOW DO WE SEE THE COLLABORATION WITH A SME

tecnalia

2. NEGOTIATION AND COLLABORATION ANALYSIS

TECNALIA has a **technology that allows the easy connection and disconnection of Off-shore Energy Generation Devices to shore** and, in relation to it, Tecnalia is the owner of a pattent application **PCT/ES2009/070612** and **the know-how** associated to it.



tecnalia

We started the conversations with INGEINNOVA in the summer of 2011 with the aim of:

Regulating the **participation and collaboration** of the parties to the validation and development of the Technology in order **to get a demonstrator** to be validated in a marine environment, thus obtaining the information needed to analyze its **technical and economical viability**.

As a **secondary object**, the contract covers the grant to Ingeinnova of a **Worldwide license** of the Technology allowing the use and the exclusive commercialization of the Product

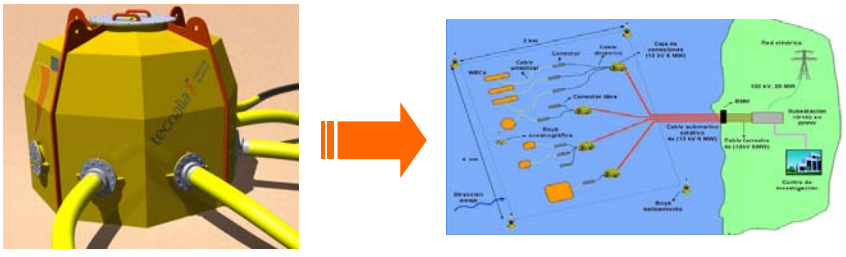
That is:

WE ARE PARTNERS

tecnalia

And we are partners with and immediate goal:

TO SATISFY THE DEMAND OF THE E.V.E. (ENTE VASCO DE LA ENERGÍA) IN TERMS OF ELECTRIC CONNECTIVITY IN THEIR OFF-SHORE TEST PLATFORM (*bimep*)



tecnalia

And a long term goal:

TO GENERATE BUSINESS AROUND THE MARINE ENERGY SECTOR WITH A COMPETITIVE PRODUCT IN TERMS OF FEATURES AND PRICE

tecnalia Inspiring Business

1. BACKGROUND: TECNALIA AND INGEINNOVA
2. NEGOTIATION AND COLLABORATION ANALYSIS
3. LESSONS LEARNT
4. FUTURE

tecnalia Inspiring Business

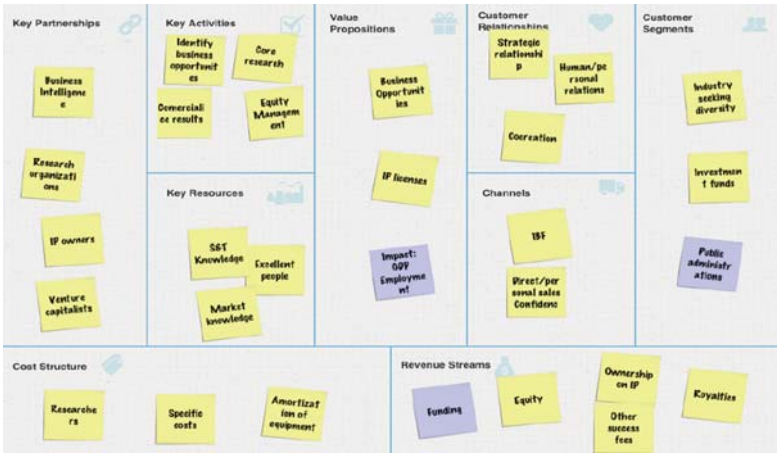
FOR THE COMPETITIVENESS OF A SME IS IMPORTANT TO HAVE **INTELLECTUAL PROPERTY RIGHTS** GRANTS AS A BARRIER FOR THE ENTRANCE TO THE MARKET OF THE BIG COMPANIES

NEVER SEND AN AGREEMENT **THROUGH EMAIL**, ALWAYS DISCUSS IT IN PERSON (Some of the legal aspects could be missunderstood)

A BUSINESS OPPORTUNITY SHOULD **NOT BE SUBJECTED TO PUBLIC FUNDS**, IF IT IS BUSINESS IT IS WITHOUT PUBLIC FINANCING (Waiting for funds could have be fatal for the Time to Market, which was very important in this case)

PERSEVERANCE, AS IN MANY OTHER KIND OF RELATIONSHIPS THERE ARE HIGHS AND LOWS

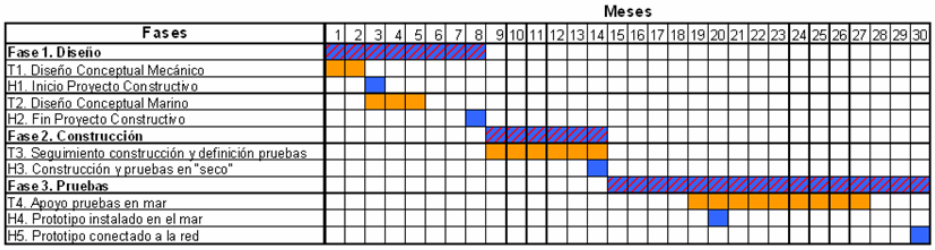
SMEs DON´T WANT TECHNOLOGY, THEY DO WANT **BUSINESS OPPORTUNITIES** BASED ON TECHNOLOGY.



1. BACKGROUND: TECNALIA AND INGEINNOVA
2. NEGOTIATION AND COLLABORATION ANALYSIS
3. LESSONS LEARNT
4. FUTURE

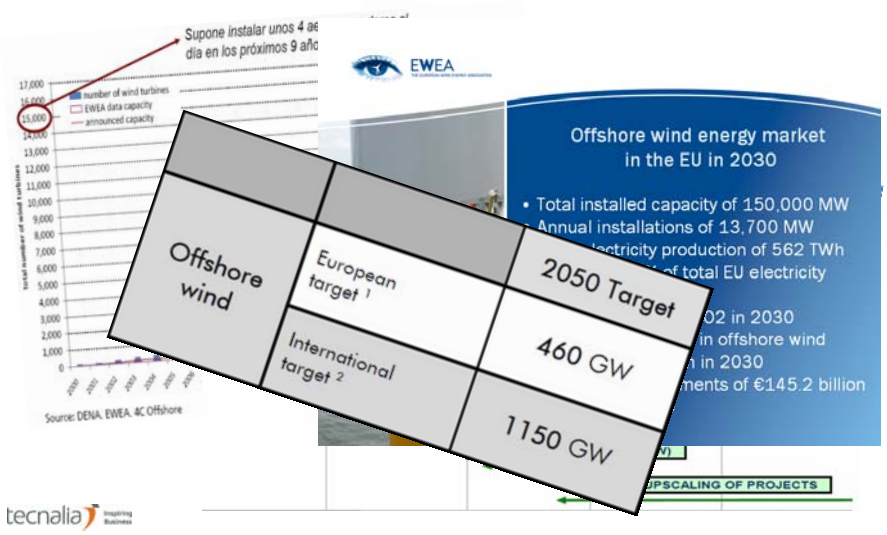
tecnalia Inspiring Business

There is a collaborative project between INGEINNOVA and TECNALIA with more than two years of duration and more than 1MM€ in shared investment



tecnalia

And very good Market prospects



tecnalia Inspiring Business

www.tecnalia.com

THANK YOU

tecnalia Inspiring Business

Sophia Antipolis Park and the Beneficial Effects on the Regional Development

Renata Kaminska - Skema
renata.kaminska@skema.edu

Sophia Antipolis is Europe's 1st and largest science and technology (S&T) park, and is located on the French Riviera close to the cities of Nice and Antibes. The park covers 2 400 hectares of land and is home to more than 1400 entities (enterprises, public/private research centres...). Ahead of its time and in constant evolution, Sophia Antipolis is regarded as one of the world's most prestigious references for voluntary integrated economic development. This multicultural, multidisciplinary community, focused on innovation, has served as the model for competitiveness clusters in France – and has frequently been consulted by clusters beyond the French borders. A major part of the "recipe" concerns establishing structures that eases the "cross fertilization" of different ideas, ways of thinking and acting, and cultures.

It is now more than 40 years since Sophia ('Wisdom') Antipolis ('Greek name of Antibes') was created by its Founder, Senator Pierre Laffitte, in 1969. Some years later, he set up the Sophia Antipolis Foundation – which has a role of reflection, coordination, impulse, anticipation, etc., to create the links and synergies necessary for supporting the innovation process.

One cornerstone in the concept of the park, i.e. creating "the Latin quarter in the countryside", is to always remain true to the "Golden Rules" of leaving 2/3 of the area as untouched nature or green spaces, dedicating only 1/3 of the area to business premises. Moreover, no building can exceed 3 floors. These conditions are thought to positively influence the well-being of the more than 30 000 Sophipolitans, and thereby their creativity and innovative abilities. Quality of life is seen to be a potential source of competitive advantage. In line with this, Sophia Antipolis also offers services such as sporting facilities, library, shops, cafés and restaurants, as well as primary and elementary schools.

The major sector in Sophia Antipolis is 'information technologies', representing 71% of the entities, followed by 'education and training' with 15% and 'life sciences and fine chemistry' with 10%; 'environment and energy saving' counts 4%. No high polluting industries are admitted; only non-polluting production is allowed (the park is mainly dedicated to R&D activities). Among the entities are high profile internationally recognized brands, such as

Hewlett Packard, Siemens, Toyota, Chanel, Orange, etc., small start-ups and institutions such as SKEMA Business School, Université Nice, Mines ParisTech in Sophia and CNRS; the proximity between business executives, entrepreneurs, researchers and students in the park is evidently mutually beneficial.

Sophia Antipolis S&T Park is furthermore a proactive partner in the development of the local economy, and has for instance launched a strategic plan with a strong focus on the knowledge economy, sustainable development and innovation – labelled Sophia Vision 2020. Among the objectives are fostering sustainable growth of SMEs, boosting the development of clean ICT, as well as enhancing multidisciplinary approaches. Last year, the turnover generated by the high-tech sector in Sophia Antipolis was 3.5 billion €; the tourism sector generated 5 billion € in the same period – numbers illustrating the importance of the park for the economy of the Alpes-Maritimes Department.

The park, sometimes even referred to as “Europe’s Silicon Valley”, is a “living” park, always in evolution, always in mutation, and always in development. Even if some companies have left, there are always new ones arriving. Sophia Antipolis remains an attractive place to be, not least because of the local political willingness to preserve activities and employees. In fact, at the origin, 5 cities were concerned by Sophia Antipolis; i.e. Antibes, Valbonne, Biot, Vallauris and Mougins. However, 4 other cities are now integrated in an extension project; i.e. Villeneuve-Loubet, La Colle-sur-Loup, Opio, Roquefort-les-Pins. The community of areas forming the territory of Sophia Antipolis (CASA) constitutes a management entity regrouping the cities around a development charter.

In addition, the association Team Côte d'Azur was created in 2005 by the Department, Local Authority, and the Chamber of Commerce and Industry as a tool to promote and facilitate the economic development and marketing of the local territory. Team Côte d'Azur is the starting point for investors and entrepreneurs who wish to have access to the economic, technological and institutional networks of the Department Alpes-Maritimes in general – and Sophia Antipolis in particular – in a confidential, personalized and free way. While Team Côte d'Azur handles marketing and promotional activities, the Mixed Institutional and Operational management body of Sophia Antipolis is under the control of SYMISA (mixed syndicate of Sophia Antipolis). SYMISA is in charge of the general development policy of the park, its administration and the financial management of the operation; this with objectives related to e.g. management of the territory, equipment, maintenance, animation, commercialisation and

international activities of Sophia Antipolis. Other important actors in the complex administration of the zone – apart from the aforementioned Sophia Antipolis Foundation – are the professional associations, such as the Club de Dirigeants where managers of companies of Sophia Antipolis are acting proactively with the aim of being real partners for sustainable economic, social and environmental development.

References:

SKEMA Business School: www.skema.edu

Préfecture des Alpes-Maritimes : www.alpes-maritimes.pref.gouv.fr

Sophia Antipolis Foundation: www.sophia-antipolis.org

CASA : www.agglo-sophia-antipolis.fr

Club de Dirigeants: www.cdsophia.fr

SYMISA : symisa@wanadoo.fr

Chambre de Commerce et d'Industrie de Nice : www.ccinice-cote-azur.com

Team Côte d'Azur: www.investincotedazur.com

CONSEIL GENERAL: www.cg06.fr

INCREASING THE COMPETITIVENESS OF INDUSTRIAL AREAS
New tools and challenges. Bruxelles, June 7th 2012

Sophia Antipolis Park and the beneficial effects on the regional development.

Pr Renata KAMINSKA
skema BUSINESS SCHOOL

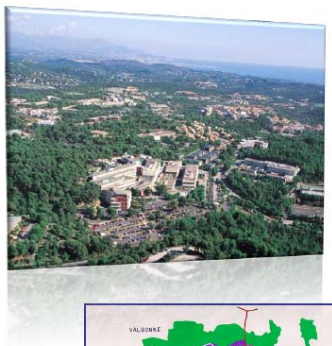
SKEMA Business School
Sophia Antipolis Campus

SOPHIA ANTIPOLIS: EUROPE'S LARGEST SCIENCE AND TECHNOLOGY (S&T) PARK

Sophia Antipolis is a multicultural, multidisciplinary community focused on innovation, which has served as the model for competitiveness clusters in France.

Ahead of its time and in constant evolution, Sophia Antipolis is regarded as one of the world's most prestigious references for voluntary integrated economic development.

Sophia Antipolis S&T Park



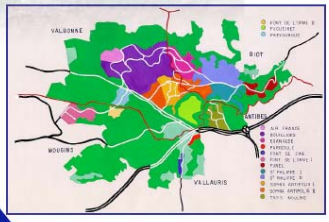
Since its creation in 1969

1st Science Park in Europe

2 400 hectares

More than 30 000 Sophipolitans

1400 entities: enterprises, public/private research centres ...



5.8 Billion € turnover generated by the High Tech sector in the "Alpes Maritimes" Department of which **3.5 Billion € for Sophia Antipolis**

Tourism sector: 5 billion €

The French Riviera: 4 major clusters presenting structural coherence

- The economic development of the French Riviera has been supported by strategic groups of firms and activities embedded in various determinants:

- historical factors (historical tendency towards intra development, “Nice County”)
- geographical factors (naturally gifted area, still isolated, with little “usable” land)
- cultural factors (an attractive area, with a service-oriented economy)
- socio-economic factors (quality of life as a competitive advantage)
- industrial factors (few industry-intensive roots based on specific know-how or natural resources)

- 4 major structurally coherent strategic clusters emerge:
  - **Perfumes, fine chemistry, life sciences**
  - **Micro-electronics and ICT**
  - **Tourism**
  - **Support services**

Key Steps

Pierre LAFFITTE
Founder

1960 The concept
« The latin quarter in the countryside »

1969
Sophia Antipolis creation

1974 First Company
(ARLAB FRANLAB)

1976 First Research Lab
(CNRS)

1976 First Higher Education
(Ecole des Mines de Paris)

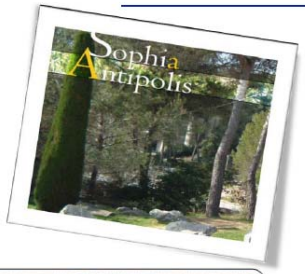
Rapid growth in the 80’s and 90’s

Sophia Antipolis nowadays

A brand which drives ambition

SOPHIA — From the word 'Sophia', Wisdom

ANTIPOLIS — Greek name of Antibes, a major trading post on the Mediterranean sea



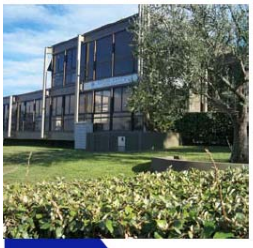
Sophia Antipolis Golden Rules

2/3 of nature and green spaces
1/3 of business premises
No building can exceed 3 floors

Project Part-Financed by the European Union
European Regional Development Fund

Some pictures



Project Part-Financed by the European Union
European Regional Development Fund

Sophia Antipolis Management

Institutional

STATE

SYMISA

C.A.S.A
MOUGINS city
Chamber of Commerce
REGIONAL Council

Operational

FONDATION SOPHIA ANTIPOLIS
Cultural, scientific & International activities

Team Côte d'Azur
MARKETING
PROMOTION

Professional Associations

SYMISA (mixed syndicate of Sophia Antipolis)

- SYMISA is in charge of the general development policy of the park, its administration and the financial management of the operation; this with objectives related to e.g. management of the territory, equipment, maintenance, animation, commercialisation and international activities of Sophia Antipolis.

- The status of SYMISA was modified on November 3rd 2006, giving the syndicate the mission of leading the creation and implementation of a new development policy of the territory of Sophia Antipolis.
  SYMISA is also participating in defining a new and ambitious development project with the purpose of allowing Sophia Antipolis to regain its earlier highly prominent international status.

CASA (community of areas of Sophia Antipolis)

- The community of areas forming the territory of Sophia Antipolis is a management entity regrouping several cities around a development charter.

- At the origin, 5 cities were concerned by Sophia Antipolis: Antibes, Valbonne, Biot, Vallauris, Mougins.

- However, 4 others cities are now integrated in the extension project : Villeneuve-Loubet, La Colle-sur-Loup, Opio, Roquefort-les-Pins.

TEAM COTE D'AZUR

- Team Côte d'Azur is an Association created in 2005 by the Department, Local Authority, and the Chamber of Commerce and Industry as a tool to promote and facilitate the economic development and marketing of the local territory.
- The Association is the starting point for investors and entrepreneurs who wish to have access to the economic, technological and institutional networks of the Department Alpes-Maritimes in general - and Sophia Antipolis in particular - in a confidential, personalized and free way. www.investincotedazur.com

SAEM (société anonyme d'économie mixte)

- SAEM SACA is a public limited company with vocations related to development, and in which 51 % of the capital is held by the Department. Its area of intervention has been extended to the international level.
- SAEM SACA is an operational tool at the service of the totality of communities; first and foremost in economical development projects.

Professional Associations

- Club des Dirigeants: Managers of companies of Sophia Antipolis are acting proactively with the aim of being real partners for sustainable economic, environmental, and social development.

Fondation Sophia Antipolis

Created and declared a **public utility in 1984**, chaired by **Senator Pierre Laffitte**

The Fondation Sophia Antipolis has a role of **reflection, coordination, impulse, anticipation** which is well beyond simply putting in touch the actors **to create the links and the synergy necessary for supporting the innovation process**

Since 2006, it became a **Sheltering Research Foundation:**

Mobilising capital deprived to finance of the R&D, mutual financial means and skills, to increase partnerships public and private, and to strengthen the reliable relation between Sciences and Societies.

- Since June 2008, the Foundation arbitrates the CIGREF Foundation

Its new statuses authorize it to benefit the French and foreign research teams for the sponsorship law **66 % of tax exemption for the donors**

Local support to innovative SME's

Sophia Café, a series of breakfast gathering the world of business and professionals shareholders around topical themes.

Some themes

- Finally, a Small Business Act for Europe!
- Japanese clusters and mechanisms of support to help SME´s with JETRO
- Presentation of PEGASE Cluster
- The Erasmus program for Young Entrepreneurs
- INPI policy and industrial property, the new reform of the DIF, ITER ...

Networking session: Researchers, entrepreneurs, students, project managers or simply people with ideas, private investors, potential investors, participate to this event to discuss, inform and create a network.

Training activities for employees, entrepreneurs, HR/ Marketing managers

Some themes

- WEB 2.0 for startups
- Communication
- Access to European funding, etc...

Partnerships with:

APEC FONGECIF Provence-Alpes-Côte d'Azur maison de l'emploi SOPHIA ANTIPOLIS

Events Organiser

Since 2005, organisation of **the International Competitiveness Cluster Forum**

Other events recently organised:

Key Figures and sectors

1 400 entities and more than 30 000 jobs

(On average, 900 jobs / year created during the last decade)

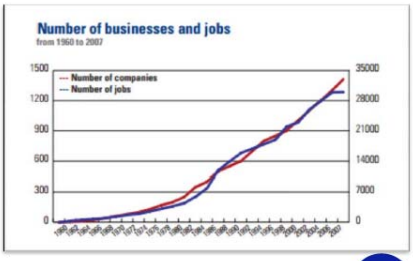
148 companies with foreign capital

(that represent 11% of businesses and 25% of jobs)

70 nationalities

4 000 researchers in the public sector

5 000 students



71% **Information technologies**

Electronics/ Software development/ Telecom / Networks / Multimedia/ E-commerce / Internet

10% **Life sciences and fine chemistry**

Pharmacy/ Dermatology/ Biotechnology/ Medical imaging

4% **Environment and energy saving**

From solar energy to new materials

15% **Education and training**

From elementary schools to engineering studies

Buildings & Amenities

- 1 900 000 m² built upon completion
- 180 000 m² housing programs
- 1 100 000 m² presently occupied by corporations
- 600 000 m²of which are rented in commercial real estate programs
- 15 000 projected m² of speculative office buildings
- 2 200 housing units to date
- 9 hotels
- 10 students' residences

- International secondary school (C.I.V.) 2 secondary education colleges
- 4 primary and elementary schools
- Golf courses : 3x18 h and 2x9 h courses
- 30 tennis courts / 2 gymnasiums / 1 stadium/ 1 swimming pool
- 1 fitness centre
- 1 new media library
- 8 700 m² of proximity shops

Sophia Antipolis S&T Park is a Proactive Partner in the Development of the Local Economy

Examples of Actions

Sophia Vision 2020 + Livre Blanc de SA

• A strategic plan with a strong focus on the knowledge economy, sustainable development and innovation.

• **Objectives / major challenges:**

Develop higher education and research;
Support clusters of activity such as biology, clean ICT, Earth Sciences and enhance multidisciplinary approaches;
Boost the development of technological innovations;
Increase local and regional innovation capacities and foster sustainable growth within SMEs.

• **The leitmotiv:** Sophia Antipolis S&T Park as a privileged place to *constantly experiment with innovation management approaches.*

The future of Sophia…..

- Sophia Antipolis is a «living» park…. Always in evolution…. Always in mutation…. Always in development…. Even if some companies have disappeared, there are always new ones arriving….
- Sophia Antipolis remains an attractive place to be, not least because of the local political willingness to preserve activities and employees.

meid
MEDITERRANEAN ECO INDUSTRIAL DEVELOPMENT

Projet cofinancé par le Fond Européen de Développement Régional

Project cofinanced by the European Regional Development Fund

INCREASING THE COMPETITIVENESS OF INDUSTRIAL AREAS

New tools and challenges: perspectives and incentives of the European policies

MEID PROJECT

Program:

9:20-9:45	Registration of participants
9:45-10:00	Opening of the meeting *Vittorio Prodi,* MEP, ITRE *Patrizia Toia*, MEP, Vice-Chair of ITRE
10:00-10:15	Green industry and competitiveness. ENEA's contribution *Maria Litido*, ENEA
10:15-10:30	The management model of the MEID project: tools for sustainable Industrial Areas and opportunities for SMEs *Mario Tarantini,* ENEA
10:30-10:50	Co-operation between sustainable industrial areas for Euro-Mediterranean growth *Thomas Heinemeier*, European Commission, DG Enterprise and Industry, Unit Policy Development for Industrial Innovation
10:50-11:10	Industrial Area Managers: viewpoints and perspectives *Paolo Gentili*, President of Management Consortium of Terni, Narni, Spoleto, Italy
11:10-11:25	Elaboration of the MEID protocol and pilot action in the Industrial Area of Vilamarxant (Valencia Region) *Vicente Betoret,* Vilamarxant Mayor
11:25-11:45	Increasing the Energy of a Basque SME through innovation *Aitor Urrutia García,* Technology Transfer Manager - Energy Unit (Tecnalia R&I)
11:45-12:00	Sophia Antipolis Park and the beneficial effects on the regional development *Renata Kaminska*, SKEMA Business School
12:00-12:30	Discussion and conclusions
12:30-14:00	Lunch

7th June 2012, 9:20 -12:30
European Parliament, ASP Building, Room ASP 3G2
Place Luxembourg, Brussels

www.medmeid.eu

ENEA
ITALIAN NATIONAL AGENCY FOR NEW TECHNOLOGIES, ENERGY AND SUSTAINABLE ECONOMIC DEVELOPMENT

EUROPEAN PARLIAMENT

ARISTOTLE UNIVERSITY OF THESSALONIKI

EPEXINI POLI

tecnalia Inspiring Business

FTZ

Consorzio Area Sviluppo Industriale Ragusa

FUNDACIÓN intraeco

Fondazione Fenice Onlus

skema BUSINESS SCHOOL

BIZNIS SERVIS CENTAR ZENIČKO-DOBOJSKI KANTON bsc

ITALIAN NATIONAL AGENCY FOR NEW TECHNOLOGIES, ENERGY AND SUSTAINABLE ECONOMIC DEVELOPMENT

MEDITERRANEAN ECO INDUSTRIAL DEVELOPMENT

EUROPEAN PARLIAMENT

INCREASING THE COMPETITIVENESS OF INDUSTRIAL AREAS

New tools and challenges: perspectives and incentives of the European policies

7th June 2012, 9:20 -12:30
European Parliament, ASP Building, Room ASP 3G2
Place Luxembourg, Brussels

Industrial areas located in Mediterranean countries with a strong manufacturing base, have a strategic interest for the territory development. They are often located close to the cities for historical reasons, generally host from a few dozen to several hundred Small and Medium-Sized Enterprises (SMEs), and are rarely managed at area level. They often cause friction with the neighbouring population and the Local Authorities, owing to their emissions, the noise and traffic congestion they cause.

On the other hand the unsustainable trend in soil use in several European Regions has increased the political awareness of the problems caused by small and diffused industrial areas. It is now crucial to define a sustainable policy based on a cooperative climate among enterprises, citizen, Local Authorities.

MEID project (Mediterranean Eco-Industrial Development)[1], funded by the program MED aims to define a joint Mediterranean model for planning, construction and management of Industrial Areas, improving sustainable development and SMEs competitiveness.

The model intends to enhance capacities and develop decision tools for Competent Authorities and Industrial Area Managers to integrate environmental friendly solutions into the Regional and Interregional Industrial Development Strategies. An incremental approach has been adopted to ensure the model applicability to new industrial areas, as well as already operating non structured and structured areas. Fundamental parts of the management model are high level infrastructures and innovative services to support SMEs to create networks, exploit the of eco-innovation opportunities and face the challenges of the Green economy.

This International Forum is part of the dissemination activities planned in the MEID project: it has the aim to present the viewpoints of the different stakeholders and discuss which future is envisaged by European and National Institutions for the Mediterranean industrial areas taking into account the recommendations of COM(2011) 642 “Industrial Policy: Reinforcing competitiveness” and COM(2011) 571 “Roadmap to a Resource Efficient Europe”.

Participation to the event is free of charge.
To participate, please fill in the registration form before 30 may 2012.

It is strongly recommended to respect the due time for the registration in order to be able to have the permission for the entrance at the European Parliament

The event is jointly organized by the partners of the MEID PROJECT

[1] [1] http://www.medMEID.eu/

Project Part-Financed by the European Union
European Regional Development Fund

Published by ENEA
Communication Service

Lungotevere Thaon di Revel, 76 – 00196 Rome
www.enea.it

Cover design: Cristina Lanari

November 2012

ISBN 978-88-8286-275-6