

TERRITORIAL INTELLIGENCE AND PARTICIPATION

Adel Adjoudj

Doctorand in Economic scenes, Master II economic and territorial intelligence.

adeladjoudj@etud.univ-tln.fr , + 33 6 65446895

Business Address

University of the South Toulon VAr B.P. 20132 - 83957 cedex la grade

Summary: In the current world, which changes unceasingly and more and more quickly, technology plays a growing part. The competitiveness of the companies and the wellbeing of the individuals became dependent on technology and the innovation. In this context, the study aims at the realization of an action entitled "KEY TECHNOLOGIES 2010 - Analysis of regional opportunities"

Key words: key technologies, economic intelligence, competitiveness, attractively, sustainable development.

Introduction

In the current world, which changes unceasingly and more and more quickly, technology plays a growing part. The competitiveness of the companies and the wellbeing of the individuals became dependent on technology and the innovation. Area PACA lays out d' a great richness. Quit' it s' acts of l' natural environment, of the built inheritance, the diversity of the landscapes or the components of its climate and its resources (water, ground,), it represents the first factor d' attractively of the households and the companies, l' element first of economic development and in particular tourism. First tourist area in France after the island of France. It is rich by the diversity of its dies. It is essential to redefine overall the strategy and the modes of coordination of the economic interventions in the area. The creation of the development strategy will pass by a better anticipation of the economic transfers and the capacity to appreciate the potential of the area in order to mobilize the regional actors. The Secretariat of State to Industry launched a study entitled "Key Technologies 2010" appeared in November 2006. Like the two preceding volumes published in 1995 and 2000, this study aims at drawing up a prospective vision of technologies in order to contribute to improve competitiveness of the French economy at the horizon of the five or ten next years. This new edition constitutes a useful reference document for the managers of undertakings but also for all the interested structures of accompaniment, of the administrations of the State, the territorial collectivises, the consular rooms until the organizations of assistance to the creation of company. In this context, the study aims at the realization of an action entitled «KEY TECHNOLOGIES 2010 - Analysis of opportunities regionals», this study was supported by laboratory I3M of the Ingémédia Institute of the University of Toulon and the var. It is a question of declining on a regional level key technology 2010 of the French economy

1.3. Presentation of the study "key Technologies 2010":

The Directorate General for Enterprise - Ministry of Economy, Finance and Industry has just published the report on Key Technologies in 2010. This study is conducted every 5 years since 1995 (key technologies in 2000, 2005, 2010).

The study sought to answer two key questions:

- ❖ What are the technologies that provide a competitive advantage and attractiveness to France in the world by 2010-2015?
- ❖ What technology policy must take the public to meet these requirements?

Of a total of about 250, are finally 83 distinct technologies (Annex 1) which have been accepted. They were then grouped into eight main areas of applications covering all areas of economic activity. The sector of information technology and communication is at the top with 17 technologies listed just ahead of the transport sector with 16 technologies. There are then tied in third place energy-environment and technology 12 living with technology. In the spirit of regional variation, we discuss key technologies in nomenclature of the national study of the Ministry of Industry which include key technologies around 8 topics:

- Information Technology and Communication
- Materials – Chemistry
- Building
- Energy – Environment

- Technologies of living - health – food
- Transportation
- Distribution – consumption
- Technologies and Production Methods

1.3.1. Issues of the Key Technologies in 2010 - Analysis of regional opportunities ":

The aim of this action is to specify the areas to be covered in priority actions for innovation and enhancement of research and possible synergies with neighboring regions. The formulation of this issue more generally refers to the problem of resource management in the technology centers of excellence and competitiveness of the region PACA.

This study should:

- Businesses: Defining the sources of productivity and employment that can generate growth, but also identify the competitors and potential partnerships.
- Laboratories and actors of technology transfer: Provide visibility to business needs in terms of R & D and potential areas of technological cooperation.
- Institutions and regional policies: Maximizing public investment (international innovation, training, etc..) By the choice of technology providing a competitive advantage and attractiveness.

1.4.2. The approach:

1.4.2.1. Methodology of the positioning of CT 2010:

The analysis methodology used ensured the collection of information from partners, companies and research laboratories, but also to deal with a grid of precise criteria.

This methodology is to:

1. Make a first selection of potentially interesting technologies built around 83 key technologies. This selection is based on a quantitative approach (databases) and a qualitative approach (surveys)
2. Note the 83 key technologies, each technology was rated according to key criteria of internal and external, to refine the first sample solution.

- **Internal Criteria:**

- ❖ Consistency of the key technology in relation to industrial and economic development.
- ❖ Consistency of the key technology in relation to regional scientific potential.
- ❖ Consistency of the key technology in relation to potential regional training.
- ❖ Consistency of the key technology in relation to the particularities of the region.

- **External Criteria:**

- ❖ positioning of the key technology on the market and competitive analysis
- ❖ Transversally of the key technology (cooperation - granularity of technologies)
- ❖ societal and environmental implications of key technology
- ❖ Ease of implementation of key technology (complexity of technology, investment, brakes, accelerator)

Each of these criteria can be weighted depending on whether you want focus on potential or specific positioning.

2. Enlargement of the reference key technologies:

Regardless of the key technologies used by the national study, we selected new technologies deemed strategic by the respondents.

2.2. Summary of the approach:

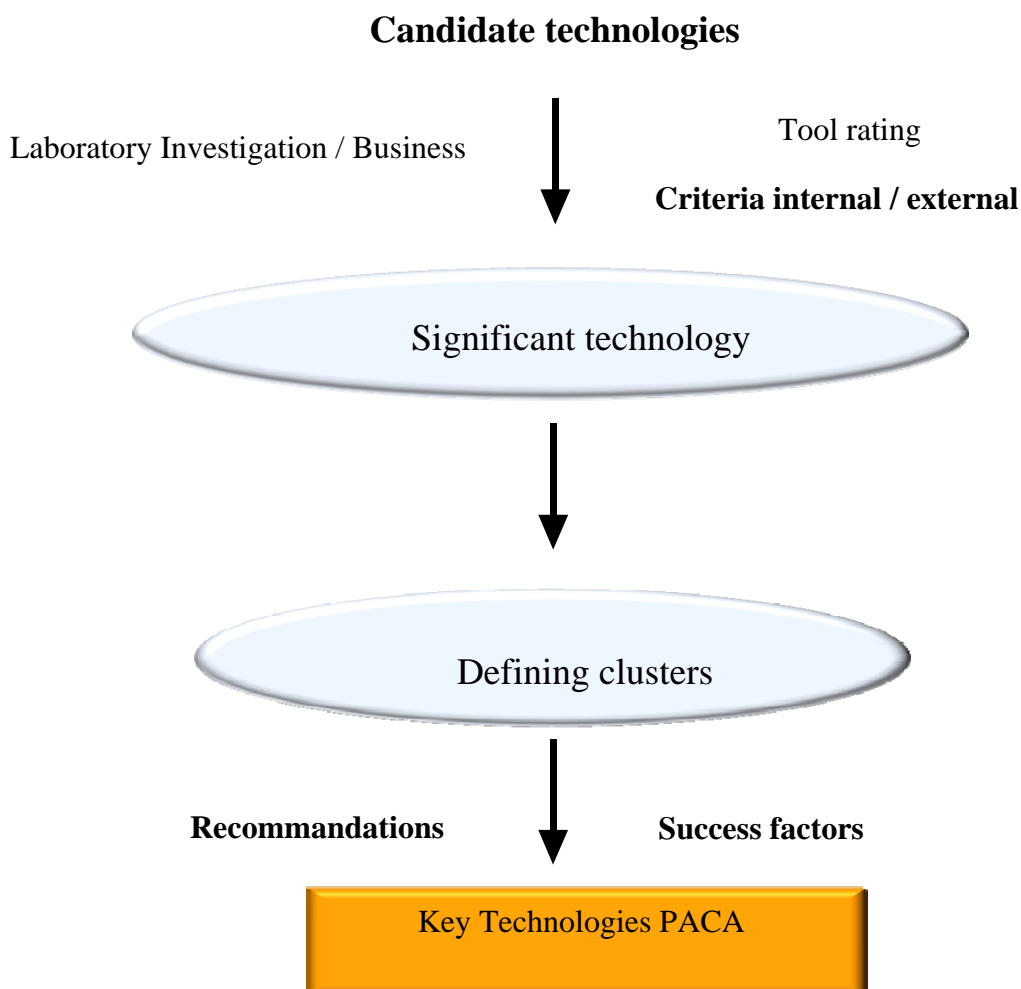


Figure 1: Schematic summary of the general approach

3. Regional positioning of key technology 2010:

4. 3.1. The process of identification by keyword:

Each technology has been broken key in keywords that have served significant support for querying the database and facilitate the identification of technology.

The query is made from three fields:

- ❖ The business
- ❖ The work reported during the visit to the companies.
- ❖ Information relating to the company (newspapers, publications ...).

Example:

Technology Keywords: nanostructured materials and nanocomposites (18).

Tags technology	Nanostructured, oxide mésoporeu, particle, powder, anisotropic, aggregate, composite, carbon nanotubes, fillers, ceramic coating.
Tags market	Rubber, nano-porous, polymer, conductor, optical fiber, glass self, electrolyte battery, battery, antimicrobial agent, biological marker.

3.2. The notation of key technologies in 2010:

3.2.1. Interviews conducted:

The purpose of these interviews is to identify existing technologies and developed in the PACA region. Data were collected mainly in face-to-face with managers, executives and professors or with the representatives of the sectors.

Experts (Table 1) questioned:

- The level of expertise or certainty of the key technology
- The market outlook for the key technology.
- The transversally of the key technology.
- The existing technological cooperation with other regions (laboratories or companies)
- The existing technological competition in other areas (laboratories or enterprises).
- The obstacles to the development of key technology in this region.
- The development of accelerator key technology in this region.
- The main needs for development of the industry in connection with this key technology

The different interviews were used to gather information on internal and external criteria of each of the key technologies, but some have not been cited

3.2.2. Laboratory investigation:

In laboratory interviews, people were asked about:

- Key technologies 2010 "controlled by the laboratory.
- The weight of importance of the "key technology" in the laboratory.

- The level of expertise in relation to the "key technology" of the laboratory (regional, national, international).
- Scientific information (Know-how / research projects, industrial sectors ...).
- The other partners in the industrial field.

3.2.3. Grid notation:

The proposed rating scale was completed according to internal and external criteria from the information collected on the basis of surveys of laboratories.

3.2.3.1. Weight of criteria:

The rating assigned to each internal or external criterion reflects the importance given to it in the rating process:

Weight test	Significance of the note value
1	Criterion very important or irrelevant
2	Criterion unimportant or irrelevant
3	Fairly important
4	Important
5	Very important criterion

3.2.3.1. Weight of criteria:

A weighted score is assigned to each criterion:

Internal and external criteria	The note weighting
Potential relevance to industrial and regional economic	4
Potential relevance to regional science	2
Potential relevance to regional training	2
Suited to the specific characteristics of the region	2
Market positioning and competitive analysis	3
Transversally of technology	3
Environmental and societal impacts	2
Ease of implementation	2

Example of a grid filled:

Among all respondents, 3 (Laboratory of Physico-chemistry of materials and environment, Laboratory of Applied Chemistry, special-purpose materials, Laboratory IM2NP) cited key technology « nanostructures materials and nano composites »:

Respondents	Key technology	Your level of expertise or certainty	Suitability Economic Potential	Suitability Potential Scientific and technical	Suitability Training potential
Pierre satre	18	4	Important GEM plus (micro electronics) DCN (direction of shipbuilding)	Laboratory IM2NP	Master: chemistry, materials
E. Aragon	18	5	Important Total, EDF	University of Nice (Sophia Antipolis) Marseilles Toulouse University of La Rochelle	unimportant
MUSSU jean	18	5	S.O Confidential	Different laboratories in Marseille and Nice	Master: chemistry and materials

Respondents	Key technology	Market Prospects	Transversally of technology	Cooperation	Competition	Brakes	Accelerators	Needs
Pierre Satre	18	Enorme Improve the sensitivities Technical performance Nephews products	Electronics (development nephew sensors Exp: pressure sensors Gas Sensors	University DANANG (Vietnam) Rhone alpes Nord pas de calais	Rhone alpes Nord pas de calais	Financial Resources	Performance materials Experienced Research Team	SMEs in the microelectronics
E. Aragon	18	World	Aeronautics and Aerospace	DGA (Directorate General of Armament DCN CNIM IPSA (break stone crazy) European project on anti-fouling paints		Financial management technology to develop complex	Scientific and academic major	Awareness
MUSSU jean	18	Very buoyant market: the problem of sensors and cata readers in the market	Chau really essential to the micro electronics and signal processing	University of Natal (Brazil) Regional Cooperation (Nice and Marseille	Competitive advantage for the region (Raman)	Financial Resources	Teams coherent Rehabilitation Hardware	Engineers

The information gathered from these interviews were used to complete the checklist, we took into account the level of expertise of the respondents, the results of the laboratory investigation and Assessment Company:

Internal criteria:

Critères internes						
Champ	Pondération du champ	18	18	18	18	
origine de la technologie nommée		IM2NP	TVT	POL MER PACA	ISEN	IM2NP POL MER PACA TVT ISEN
		Matériaux nanostructurés et nanocomposites (1)	Matériaux nanostructurés et nanocomposites	Matériaux nanostructurés et nanocomposites	Matériaux nanostructurés et nanocomposites	Matériaux nanostructurés et nanocomposites (2)
Adéquation au potentiel industriel et économique régional	4	4	4	3	4	3,75
Adéquation au potentiel scientifique régional	2	3	4	4	3	3,50
Adéquation au potentiel régional en formation	2	3	5	3	2	3,25
Adéquation aux spécificités de la région	2	3	3	3	3	3,00
Total	10	3,4	4	3,2	3,2	3,45

⁽¹⁾(4*4 + 3*2 + 3*2 + 3*2) / 10 = 3,4 ⁽²⁾(3,4 + 4 + 3,2 + 3,2) / 4 = 3,45

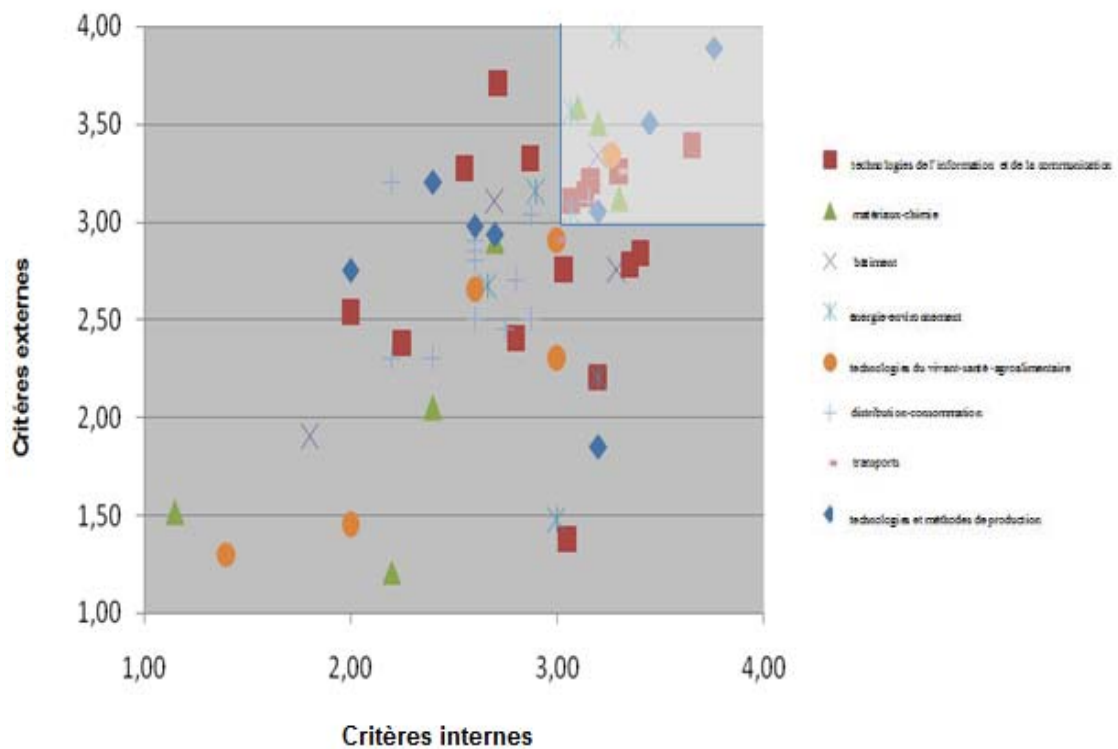
External criteria:

Critères externes						
Champ	Pondération du champ	18	18	18	18	
origine de la technologie nommée		IM2NP	TVT	POL MER PACA	ISEN	IM2NP POL MER PACA TVT ISEN
		Matériaux nanostructurés et nanocomposites	Matériaux nanostructurés et nanocomposites	Matériaux nanostructurés et nanocomposites	Matériaux nanostructurés et nanocomposites	Matériaux nanostructurés et nanocomposites
Marché (concurrence + perspectives)	3	3	3,5	3	4	3,38
Transversalité (cooperations - granularité des technos)	3	4	3	4	4	3,75
Incidences environnementales et sociétales	2	5	5	5	5	5,00
Facilité de mise en œuvre (Technologies / investissements / Freins / accélérateurs)	2	2	3	2	2	2,25
Total	10	3,5	3,55	3,5	3,8	3,59

Ratings have established a pre-positioning of key technologies. Different interviews have brought new comments, new ideas for consolidation, or new technological themes to explore.

3.3. Positioning obtained:

Work Positioning (interviews, meetings) allowed representing a first stage of key technologies in the PACA region. Some technologies represent a greater interest, because on large payer or broadly impacting the industrial fabric. These key technologies are either developed or integrated, or used by regional businesses. The graph below shows a scatter plot of global key technologies mentioned in the interviews conducted during this study.



Graph 1: Scatter Plots global key technologies

Of the 83 key technologies in 2010, 18 were identified as potential technologies for the region, we selected only those that have a value of internal and external criteria than 3. The graph shows the last stage of the 18 key technologies used:

During the study some experts spoke of technologies they see as key technologies and that they do not end up in the list of 83

Among these technologies are :

1. In the field liaison health - food is the key technology « **Validation in vivo and in vitro action of nutritional food products and pharmaceuticals** », which seems interesting because it allows to put the field of pharmacology. This new key technology illustrates fairly well the variation of the key technology (53) considered too imprecise during interviews
2. A second key technology enabling the binding domains of health and food is also to be developed in the PACA region. It is « **the extraction and purification of nutritional food products** ».
3. In the field of health, two key technologies with proven regional expertise could be developed: « **the drug design** » and « **glycobiology** ».

3.5. The technology must provide the key to sustainable development.

Technology and innovation are at the heart of sustainable economic development of industrialized countries. Technological progress is the key to economic competitiveness. By transforming the market conditions, technology presents constantly question the status quo, and allows those who are ahead to hold a competitive advantage. In this context it is necessary to anticipate these changes and upheavals that are bound to prepare and make opportunities, opportunities.

The very rapid development now in various sectors of activity has provoked a serious debate about technology and its economic consequences. Several studies have ambition to be an aid to reflection for those involved in innovation and catalyst for action, enabling them to develop winning strategies and to collaborate more effectively around the thematic technologies of synthetic future and the rules of sustainable development. In this new context, the study 'Key Technologies 2010 "provides more opportunities to the environment in the technological changes over the next ten years.

Within the National Strategy for Sustainable Development, PACA and its partners have conducted several operations in 2004 opening the business to another approach to competitiveness. Collective experiments have been launched to encourage the industrial sector to carry out such steps. Action on eco-design products, driving on the Pays d'Aix and testing of part of SD 21000 AFNOR.

Number of key technologies identified under this approach. The only technology skills base is no longer sufficient. The methods of design, organization, marketing, knowledge management ... are also crucial in the success of an innovation that the technology itself. These are approaches that we must promote.

The expectations of society towards science and technology are still strong. They are multiple and manifest today by the requirement for a more responsible development, allowing both to advance the welfare and protecting our environment. Our citizens expect the key technology for sustainable development.

4.Conclusion

The study « KEY TECHNOLOGIES 2010 - Analysis of regional opportunities » features for years of future to the region the technologies in terms of attractiveness and competitiveness. It may also be a public support to innovation by mentioning, for each technology used, its interaction with other sectors. The study identified 18 technologies that offer significant potential for development for the region.

This study is complemented by a weighting model which allows the switch to digital numbers and lists the main technologies with strong potential for development and contributes to the emergence of the region. It allows researchers and regional industries to find their complementary expertise to carry out their projects or technology transfer. This tool also provides additional information in relation to areas covered by the competitiveness clusters whose research topics do not cover all of the 83 key technologies.

Bibliography:

The study was made on the basis of face-to-face, mainly with officials, executives and teachers, or from representatives of sectors of activities. The table below shows the positions of the persons interviewed, and their responsibility.

ANTHONY Veluire Project Manager of SOLARIA systems

BRUNO Dussert vidalet Manager R et D Astron fiamm safety

CLAUDINE Durif Assistant Project Nursery, Business incubators projects assistant Toulon Var Technologies

CHARLOTTE Blottierre. Responsible for European projects and development consultant TVT (Toulon Var Technologies)

DAVID DE Drezigue Olivier Intern « océanographie physique côtière » ISITV

DOMINIQUE Lambert-Massie Responsible for research development University of Toulon

JEAN Mussu senior lecturer, HDR Université de Toulon Laboratoire IM2NP

JEAN Michel Rolland Head of Department ISEN (engineering school)

LAURENT Origne Engineering signal processing technology Chrisar Software

NICOLAS Basso Business man Metycea

P. ALBARRAZIN Administrative direction GLOB@L

PORTE Benjamin Marketing Manager MoBcom

RANDRIA Iadaloharioola Teacher researcher HANDIBIO Laboratory

ROBERT Alfonsi Vice-Chair Delegate to staff and the Regional Directors General

ROBERT Gandolfo Project Leader, Secretary General of Pole Pole Mer PACA PACA Wednesday

SYLVAIN Maître Teacher researcher ISITV

SAURA Arnaud Development Specialist program Black fin module on STEP

Valmalette J.ch Professor Team leader nano structuring Laboratory IM2NP

VARLET Marc Application Développement Engainer COEXEL