Setting up the innovation support mechanisms and increasing awareness on the potential of Food Innovation and RTD in the South-East Europe area

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WORK PACKAGE 3: ANALYSIS OF POLICIES AND STRATEGIES FOR FOOD INNOVATION

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D3.3- SWOT analysis for Food innovation

Partner	Official name (in English)	Abbreviation	Country
LP	Centre for Research and Technology Hellas- Institute of Agrobiotechnology	EKETA- INA	Greece
ERDF PP1	Federation of Industries of Northern Greece	SVVE	Greece
ERDF PP2	National Research Council- Institute of Sciences of Food Production	CNR/ISPA	Italy
ERDF PP3	Agricultural University of Plovdiv	AUP	Bulgaria
ERDF PP4	Pazardzhik Regional Administration	OAP	Bulgaria
ERDF PP5	National Institute of Research & Development for Food Bioresources	IBA	Romania
ERDF PP6	Constanta Chamber of Commerce, Industry, Shipping And Agriculture	CCINA	Romania
ERDF PP7	Development Agency of Idrija and Cerkno	ICRA	Slovenia
ERDF PP8	European Food Chain Parliament-Foodlawment	EEPF	Hungary
10% PP1	Odessa National Academy of Food Technologies	ONAFT	Ukraine
10% PP2	Chamber of Commerce and Industry of the Republic of Moldova	CCIRM	Republic of Moldova
10% PP3	Institute for Food Technology	FINS	Serbia

Contents:
D3.3- SWOT analysis for Food innovation

Abstract: A SWOT analysis of food innovation in the participating SEE regions was performed covering the industry side, the research entities and governance framework. The results of the SWOT analysis will be used for the formulation of policy recommendations and the drafting of the operational plan with measures that would boost food innovation in the regions.

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List of Acronyms and Abbreviations

Acronym/abbreviation	Resolution

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EXECUTIVE SUMMARY

The current report presents the SWOT analysis of food innovation in the participating SEE regions. It covers the industry side, the research entities and governance framework.

The participating regions followed a typical methodology for the SWOT analysis which included a series of steps and was characterised a) by the participation of selected representatives from the food industry, research community, regional government, innovation consultancies, etc. and b) the utilisation of information, conclusions and data from various previous project deliverables and other sources of information of a regional and national scope.

The results of the SWOT analysis will be used for the formulation of policy recommendations and the drafting of the operational plan with measures that would boost food innovation in the regions.

1. INTRODUCTION AND METHODOLOGY

1.1 INTRODUCTION- GENERAL DESCRIPTION OF THE ACTIVITY

Under activity 3.3 of WP3- "Analysis of policies and strategies for food innovation" the partners will perform a **SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis** in each region to identify and evaluate the Strengths, Weaknesses, Opportunities and Threats that concern the development, transfer and adoption of knowledge and research results from the Food Industry and the possible obstacles and impediments for this process. This will be followed by a **SOR (Strategic Orientation Rounds) methodology** in order to arrive to valid strategies for strengthening Food RTD and Innovation in the Region.

The results along with an analysis of the economic development needs of the Regions and the complementarities of the partners involved in the consortium will be presented in relevant reports for the involved regions and they will be used for further project activities.

1.2 DEFINITIONS OF SWOT AND SOR STRATEGIC TOOLS

A **SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis** is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project, an entity or in another context. In our case the focus is dual: a) the capacity of the regional food industry to innovate and/ or to absorb research results and b) the capacity of the regional food- related RTD entities to develop and adapt relevant and added- value research results for commercial use.

SWOT analysis Matrix		External Environment	
		Opportunities	***Threats***
Internal Environment	***Strengths***	How do you leverage your strengths to the benefit of your opportunities?	How do you use your strengths to minimize the impact of threats?
	Weaknesses	How do you ensure your weaknesses will not stop you from opportunities?	How will you fix weaknesses that can make threats have a real impact?

The **SOR (Strategic Orientation Rounds) methodology** is a multi-tiered, collaborative strategic planning process that involves a comprehensive analysis of the internal and external environment of a project, an organisation or in another context. It is used in order to elicit the views of stakeholders and experts and to prioritize the Strengths, Weaknesses, Opportunities and Threats already identified in the previous stage of SWOT analysis and to formulate viable strategic options for strengthening regional food innovation.

1.3 ROLES AND RESPONSIBILITIES

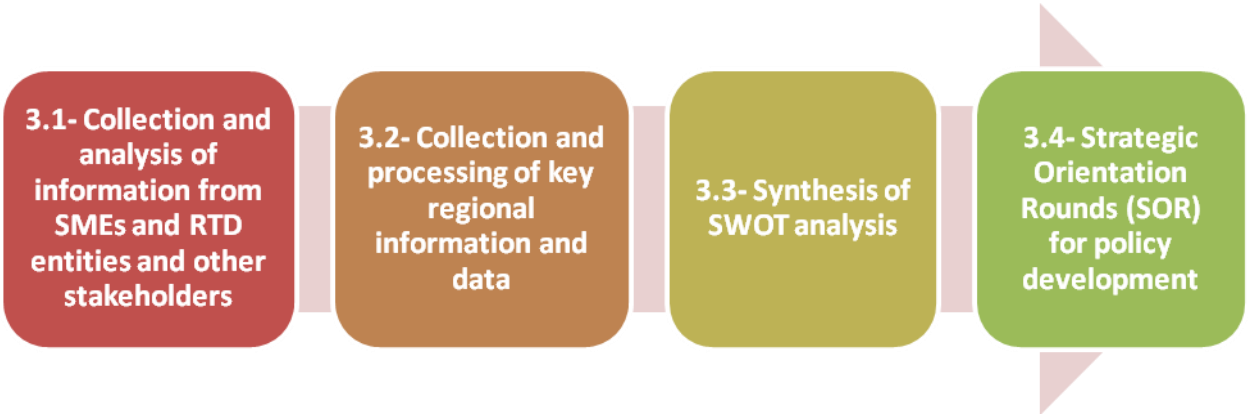
The Federation of Industries of Northern Greece (FING) is leading the activity and is responsible for setting up the appropriate methodology and tools for monitoring, integrating and homogenizing the deliverables. Each partner contributes to the development of the deliverables- outputs that refer to its region/ country. In countries which are represented by 2 partners (e.g. a University plus an SME association) the roles are distributed according on the institutional role and the connection/ relation of each partner.

Each region will apply the SWOT and SOR methodologies in their geographical context and prepare a regional report that would be synthesized by FING in the final deliverable D3.3- SWOT analysis for Food innovation.

1.4 BASIC STEPS IN THE METHODOLOGY

It is suggested that the partners become familiar with the SWOT and the SOR methodologies by reading this text. The methodology and tools will be presented to the Inno- Food SEE partners in detail during the next project meeting in Slovenia as a special course aimed to explain the various steps, provide examples and familiarize the partners.

The SWOT analysis methodology comprises the following basic steps which are detailed in the sections below:



1.4.1 COLLECTION AND ANALYSIS OF INFORMATION FROM SMES AND RTD ENTITIES AND OTHER STAKEHOLDERS

The partners will use the SWOT data that will be derived from the profiling of the food SMEs and RTD entities (act. 3.2a and 3.2b). More specifically the 2 questionnaires used for the profiling contains sections for SWOT analysis (*Section F - Strategic Positioning of the SMEs questionnaire and Section H - Strategic Positioning of the RTD entities questionnaire).*

The opinions of 10-15 selected experts from each region will complement the opinions of the representatives of SMEs and RTD entities. The experts may come from a) the project partners, b) regional authorities, c) business support entities, d) innovation support entities, e) consultancies, f) incubators, etc. The experts will be asked to fill in the SWOT table for the SMEs. The five most selected S, W, O and Ts for each target group (SMEs and RTD entities) will be aggregated in 2 separate tables as follows:

Strengths	***Weaknesses***
S1-	W1-
S2-	W2-
S3-	W3-
S4-	W4-
S5-	W5-
Opportunities	***Threats***
O1-	T1-
O2-	T2-
O3-	T3-
O4-	T4-
O5-	T5-

1.4.2 COLLECTION AND PROCESSING OF KEY REGIONAL INFORMATION AND DATA

The partners in each region will utilise information and data already collected and processed in the framework of the previous WP3 activities, namely:

- act. 3.1- Map, analysis and benchmarking of policies, plans and initiatives relevant to Food innovation and
- act. 3.2- Identification of key R&D players and technology needs assessment for Food SMEs.

This information will be complemented by key statistical information drawn from the **Eurostat Regional statistics database**[1] in order to *provide a standard basis of comparison and assessment of the regional Strengths, Weaknesses, Opportunities and Threats*. These statistics concern the following areas relevant to the Inno- Food SEE scope:

- Regional agriculture statistics (reg_agr)
- Regional economic accounts - ESA95 (reg_eco)
- Regional science and technology statistics (reg_sct)
- Regional structural business statistics (reg_sbs)

[1] Eurostat, Regional statistics, http://epp.eurostat.ec.europa.eu/portal/page/portal/region_cities/regional_statistics/data/database

Other sources that will be utilized are:

- The **Regional Innovation Monitor** country studies, http://www.rim-europa.eu/index.cfm?q=p.regionSelect and the respective **benchmarking tool** http://www.rim-europa.eu/index.cfm?q=p.login&destination=p.soBenchmarking
- The **EU Regional Competitiveness Index 2010,** http://composite-indicators.jrc.ec.europa.eu/Document/RCI_EUR_Report_updated.pdf

1.4.5 SYNTHESIS OF SWOT ANALYSIS

Based on the information selected in 3.1 and 3.2, the partners in each region/ country will synthesise the results to finalise the SWOT analysis. More specifically the task is to ***"normalise"*** the opinions selected in 3.1 (S, W, O, T points) with the statistical data collected in 3.2. The idea is that *the opinions selected from 3.1 should be able to be justified and documented by the data* in 3.2.
The result will be a final set of SWOTs, one for each of SMEs and RTD entities. These sets will be used for the next steps of Strategic Orientation Rounds (SOR) for policy development.

1.4.6 STRATEGIC ORIENTATION ROUNDS (SOR) FOR POLICY DEVELOPMENT[2]

In this final methodological step the partners in each region/ country will apply the **Strategic Orientation Rounds** (SOR) methodology. This methodology is a strategic planning tools used in order to ***prioritize*** the Strengths, Weaknesses, Opportunities and Threats already identified in the previous stage of SWOT analysis and to arrive to valid strategies for strengthening Food RTD and Innovation in the Region.

The scoring/ voting exercise determined by the SOR will involve 10-15 individuals from each region/ country which should be relevant to the scope of the project. An equal representation of a) the food research community of the region, b) the food industry and c) other types of entities (business and innovation support entities, regional authority representatives, technology consultants, etc.) should be ensured. The participants from the latter category (c) should be asked to provide their scoring for both the SME as well as the RTD SWOT

[2] This step is adapted from the SOR methodology provided by the University of Ghent, Department of Agricultural Economics, Division Agro-food marketing in April 2008 in the framework of the Food Cluster Initiative.

analyses, whereas the representatives of the RTD entities and the SMEs were focused on their respective part.

Methodology:

- Ideally the partners in each region will organise a common meeting with all the above experts. At the start of the meeting the Inno- Food SEE project partners shall describe the scope of the SOR to the selected experts from all 3 categories. The main idea is that the participants will support with their voting the development of strategies for Food RTD and Innovation in the Region.

- Then the Inno- Food SEE project partners present the experts with the final synthesis SWOTs as produced in step 3.3 (one for RTD and a second for SMEs) and explain the meaning. It is important to distinguish between the SWOTs for SMEs and RTD entities. It is also important to distinguish between the *Internal Environment* (Strengths and Weaknesses, i.e. things that one CAN directly influence positively or negatively) and the *External Environment* (Opportunities and Threats, i.e. things that , i.e. things that one CANNOT directly influence positively or negatively)

- Then the partners present the SOR matrix with the preselected 5 S, W, O and Ts and they ask the participating experts to vote: a score is attributed to the O's and T's, to the extent that they deem that this relates to the maximisation of S's and the confrontment of W's. The voting system is as follows:

    - 3: very important
    - 2 important
    - 1: somehow important
    - 0: Not important/ not relevant

    A **maximum of 12 votes per O & T** can be allocated. This is a maximum; if the O or Ts are less important then less than 12 votes should be distributed. This means that some combinations can be left blank is they are not important.

- The participants are then asked to make a first distribution of their votes.

- They then present their scoring in teams and an open discussion is initiated in order to talk about the combinations and the rationale behind them.
- The participants are asked to make a final distribution of their votes.
- The individual SOR matrixes are aggregated by the partners and the votes are counted (see the example below).

		Opportunities					Threats					
		O1	O2	O3	O4	O5	T1	T2	T3	T4	T5	
Strenghts	S1	**16**	15	15	14	5	10	12	12	2	1	**102**
	S2	**16**	9	12	9	7	3	7	11	7	13	94
	S3	**19**	11	8	13	9	5	4	**17**	10	6	**102**
	S4	**19**	15	8	12	4	12	**16**	10	7	8	**111**
	S5	10	10	6	9	4	3	5	8	8	**19**	82
Weaknesses	W1	9	14	14	4	9	7	14	4	**17**	5	**97**
	W2	8	12	14	3	**15**	6	14	5	10	2	89
	W3	4	12	14	7	10	13	12	4	**16**	10	**102**
	W4	10	6	7	4	4	11	8	8	3	6	67
	W5	7	6	11	6	8	5	8	3	14	12	80
		118	**110**	**109**	81	75	75	**100**	82	**94**	82	

- The results and their interpretation are presented to the participants. The matrix below provides some hints for the interpretation:

Score	**What does it tell us?**	**What to do with it?**
Total scores per S, W, O, T	How important the different S's, W's, O's and T's are	Strategy is aimed towards taking maximum benefit of external factors: therefore build strategy around the 2 or 3 most important O's and T's.
Score per combination	How important the O or T is to deal with S or W	Develop strategic objectives which deal with the combinations with the highest scores

This interpretation provides useful information for building the strategic objectives that will be the final output of the SWOT and SOR analysis. An example of how these strategic objectives are derived is:

"Exploiting the leading role of the Food industry of C. Macedonia in the Greek and Balkan market and the improved physical infrastructure and EU integration procedures and investing more in innovative food products and processes to retain and expand this competitive advantage".

2. REGION OF CENTRAL MACEDONIA

2.1 INTRODUCTION

2.1.1 GENERAL PROFILE OF THE REGION

The Region of Central Macedonia is a traditional gateway for trade between Greece, the Balkans and south-eastern Europe. Between mid-90s and 2008, the time of onset of the current economic crisis, the region experienced high economic growth rates. Despite this fact, unemployment rates remained relatively high compared to the EU and the national average.

With regards to the economic activity, the **primary sector**, despite its decline, remains quite significant for the local economy, with high productivity above the national average. It is important to note the high proportion of arable and irrigated areas, the above national average production of cereals, industrial and aromatic plants, the improved structure of agricultural holdings compared to the national average and the relatively high degree of mechanisation and organisation of animal farming. Nevertheless the primary sector remains vulnerable because of its dependence on agricultural subsidies and the replacement of products by imports.

The **secondary (manufacturing) sector** remains highly specialized in certain medium to low technology and labour intensive sectors. It accounts for a significant part of regional employment and thus is a factor of social cohesion and a key component of economic activity due to the intense and interactive relationship with other productive activities in all three sectors of the economy. However recent negative trends in investment have been noted, accompanied by relatively lower labour productivity and growth. The rates of setting up new and modern manufacturing enterprises remain low and far from internationally competitive manufacturing standards. The difficulties in attracting Foreign Direct Investments are indicative of the fact.

2.1.2 SNAPSHOT OF THE REGIONAL FOOD-SECTOR

AGRICULTURE

The region accounts to approximately 21% if the national output of agriculture. Cereals, industrial crops, fruits and animal products are of particular importance for the regional economy and compared to the national averages. Without doubt, the favourable geographical position of the Region of Central Macedonia is a strong advantage along with the significant Greek investing activity in the Balkan area. Nevertheless the Region has not yet developed a clear productive identity at an international level nor has it secured an immediate access to the big Central European markets for it products and services. Despite the fact that the Region features a large variety of agricultural products of critical mass and strong local agricultural specialisation, the primary agricultural sector is falling behind when it comes to its linkages and relationships with technology and innovation, food manufacturing, certification, standardisation, trade and commerce.

Table 2- Agricultural sector key statistics in the Region of Central Macedonia, (Source, Eurostat, http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

Agricultural product/ Item	Average annual production value 2006-2009, (in millions of €)	Percentage of national output (average 2006-2009)
Fruits	659,56	39%
Animal Products	312,43	24%
Cereals (Including Seeds)	299,24	31%
Vegetables and Horticultural Products	255,76	14%
Animals	252,53	18%
Industrial Crops	169,79	28%
Agricultural Services Output	79,80	21%
Total Output of the Agricultural 'Industry'	2.252,34	21%

FOOD INDUSTRY

The food and beverages manufacturing industry in the region of Central Macedonia accounts for a significant part of the economy. A significant number of companies with intense exporting character are active in the region. The food companies of the region constitute around 14% of the total number of food industries in Greece; they provide 26% of the

employment in the region's industry. Similarly the beverage companies of the region constitute around 14% of the total number of beverage industries in Greece and provide 2.8% of the employment in the region's industry.

Table 3- Food and beverage industry key statistics in the Region of Central Macedonia, (Source, Eurostat, http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database, Year 2009)

Parameter		Unit	Percentage of national total	Share of employment in manufacturing total
Food manufacture	Number of companies	2,265	23%	26%
	Number of persons employed	18,453	23%	
Beverage manufacture	Number of companies	136	14%	2.8%
	Number of persons employed	1,993	19%	

Food manufacturing has until recently accounted for a significant portion of the economy. Nowadays it follows a declining course which is intensified by the global financial and economic crisis. The competitiveness deficit of the secondary sector is among others the result of delays in the implementation of basic infrastructure for the traffic of goods, the unfavourable administrative and investing environment.

The food and drink sector in the Region of Central Macedonia is a traditional economic sector. The majority of the companies are small and medium- sized; many are family owned. Most of the companies lack the strategic vision and the resources to invest in Research and Development. R&D investment of food and drink manufacture has traditionally been relatively low in comparison to other industries.

Agricultural and food products of the Region of Central Macedonia accounted for 1.2 billion worth of exports in 2010, approximately 35% of the total national exports and well above the second (Region of Attica, approximately 20% of national total). Data concerning the main export destinations of the agricultural products of the Region of Central Macedonia were not made available. At a national level the main export destinations for agricultural products

(year 2007) are Germany (16.7% of national total), Italy (13.8%), Great Britain (7.5%), USA (6.3%), Cyprus (4.9%), Bulgaria (4.6%), Netherlands (3.2%), Russia (3%), etc.

2.2 SWOT ANALYSIS

2.2.1 SWOT METHODOLOGY ADOPTED

In order to arrive to the anticipated results the partners in the Region of Central Macedonia followed the methodology with some modifications which were deemed necessary in order to take into account the local specificities, namely the need to collect the views of the food industry using a less structured and more open and constructive approach.

More specifically,

a) The SWOT analysis results derived from the questionnaires used for the RTD entities and SMEs were aggregated;

b) The results were then complemented by key regional information and data as per point 3.2 of the methodology;

c) The refined SWOT analysis results were synthesized in a basis report which was presented to selected stakeholders for discussion and debate (see below);

d) Representatives of the food industry, the food research community, regional government officials and innovation policy consultants were invited to a workshop which took place on the 25th of September 2013. A vibrant and fruitful discussion was initiated which led to the formulation of policy recommendations for food innovation in the region of Central Macedonia.

2.2.2 RESULTS OF THE SWOT ANALYSIS FOCUSING ON RTD ENTITIES

The preliminary results of SWOT analysis are presented in the table below, listing the first 5 factors per each area indicated by research entities and the number of answers received:

Strengths	***Weaknesses***
1. Highly skilled personnel (15)	1. Low size of budget for R&D (15)
2. Strong research base (15)	2. Not enough startups (5)
3.Public-private cooperation (10)	3. Poor linkage between firms and research entities (4)
4. Open exchange of experience in research and technology development (7)	4. Weak understanding between researchers and industry complicates joint projects (2)
5. Increasing number of collaboration with firms (7)	5. Other (2)
Opportunities	***Threats***
1. New R&D European and regional programmes (16)	1. Bureaucracy barriers (11)
2. Networking (11)	2. Failure to attract international researchers (9)
3. Availability of EU R&D funds for research (10)	3. Brain drain (7)
4. Surplus of well-educated researchers (6)	4. Few incentives for university researchers to engage in collaboration with the industry (7)
5. Other (2)	5. Funding programmes to support research with content far from current research interests (6)

2.2.3 RESULTS OF THE SWOT ANALYSIS FOCUSING ON THE NEEDS OF THE SMES

The preliminary results of SWOT analysis are presented in the table below, listing the first 5 factors per each area indicated by companies and the number of answers received:

Strengths	***Weaknesses***
1. Strong networking with private actors (SMEs, large companies) (17)	1. Poor networking with private actors (SMEs, large) (21)
2. Strong networking with public actors (univ., research centres) (17)	2. No dedicated R&D Unit (19)
3. Financial capacity (17)	3. Low technology level companies (17)
4. Highly skilled personnel (16)	4. Lack of time ((17)
5. Others (18)	5. Poor networking with public actors (universities, research centres) (16)
Opportunities	***Threats***
1. Availability of R&D funds for research and innovation (18)	1. Lack of market information (19)
2. Research technology offer (17)	2. Bureaucracy / Regulation barriers (18)
3. Networking possibilities (associations, technology platforms, fora, etc (15)	3. Need of adaptation to new regulations, normatives and priorities (18)
4. High quality infrastructures (14)	4. Scarce funding resources for R&D available (18)
5. Others (14)	5. Expensive IPR (16)

2.3 ROUND- TABLE SYNTHESIS MEETING

As described above a basis report (see Annex I) based on the findings of the SWOT results derived from the questionnaires and other significant sources- in particular the 2012 Competitiveness Report of the Confederation of Food and Drink Industries- CIAA and the 2012-2020 Operational Programme for the Region of Central Macedonia- was prepared and presented to selected representatives the participants of the food industry, the food research community, regional government officials and innovation policy consultants.

A **round- table Synthesis Meeting** was organised at the premises of the Federation of Industries of Northern Greece (FING) on the 25th of September 2013 to discuss and debate on the abovementioned basis report (see Annex II for the list of participants and further information).

The meeting started with a short introduction to the Inno- Food SEE project objectives and a review of the main issues included in the basis report. Then the stakeholders were invited to present their views and to answer to four key questions.

The **key comments- findings** of the round- table synthesis meeting are presented below, in an effort to categorize them by each of the four key questions:

Question 1: What are major challenges for the competitiveness of the food industry of Central Macedonia and Northern Greece in general? Which challenges could be dealt with by utilizing technological solutions, introducing innovation, technology transfer by cooperating with research entities and institutes?

- The majority of the food industries in the Region of Central Macedonia are focusing on innovation techniques and results related to **New Product Development**;
- New Product Development and **"marketing" innovation** is considered to provide more immediate results than "technological" innovation;
- Every food industry has **different innovation needs**; it is necessary to approach each one with these specificities in mind in order to reach to sustainable innovation cooperation and results;
- The researchers highlighted the significance of the food companies acquiring access to the **analytical methods and tools** that they provide; INEB- CERTH has actually started with the **accreditation of their entire set of services provided to**

companies (e.g. DNA labeling); access to such services can thus provide a true competitive advantage to companies;

- The implementation of **pilot units and infrastructure for the testing** and development of new food products was also highlighted;

- The definition of innovation for the majority of the companies is synonym for the **fulfillment of consumer needs**; a number of examples from the dairy industry were presented;

- Food companies are in particular interested in **"synergistic" innovation**, i.e. one that serves different purposes at the same time, e.g. packaging of products that a) serves the practicalities of food preservation, transport, hygiene, etc., b) acts as a marketing and promotional tool to the consumer and c) has a minimal environmental and energy footprint;

- Food companies are in particular interested in **food innovation that combines and exploits various productions streams and lines**, e.g. the utilization of the dairy industry by- products for the production of useful and added- value products such as refreshments with high protein content (Prof. Kouretas, University of Thessaly);

- In most cases the **key "source" of innovation for the food industry are the suppliers of equipment and particular food experts/ technicians** that support companies e.g. in the setting up of a new production line; cooperation with research entities is less frequent as in most cases they do not exhibit the level of flexibility and reactiveness requested by the industry;

Question 2: What in your opinion would trigger the decision of the regional food industry to invest money, time and human resources in the development of research and innovation projects?

- **Consumer trends drive innovation in the food industry**; the food industry will participate in RTD projects if they see the potential for the development of a market requested product;

- The food industry is a “traditional” industry with modest investments in RTD; it is **not considered a hi-tech industry**, most solutions are at the level of implementing best practices and techniques;
- The current **economic environment** makes companies even more selective about RTD investments;
- Incentives for the implementation of RTD and innovation projects, e.g. **tax deductions and exemptions** are significant; however this regime should be clarified so that more companies take advantage;
- Schemes for the **mobility of researchers towards the industry** should be a key instrument in linking the academic community with the industry;
- The research community should focus more to the development of **services** specially designed for the needs of the national food industry;
- Research and academia should focus on the **accreditation** of their innovation and analytical **services**, the delivery of services for the **training of personnel** to new innovative techniques, etc.

Question 3: Which in your opinion are the major obstacles for the food industry in the implementation of research and innovation projects?

- **Market conditions** should improve, e.g. **state regulations** about different industry sectors create problems in the implementation of various project ideas;
- **Public administration** bureaucratic procedures and constant changes often hinder the positive forward- looking initiatives of the private sector;
- Food companies are of the opinion that it is not necessary to develop a standard-typical research project in order to reach to the objective, i.e. tangible new products, improvements, etc. **Smaller in focus and targeted initiatives** are perhaps more suitable for the needs of the particular companies;
- The majority of companies produces **low or middle technology products** and thus rarely relate with the hi- end innovation propositions of the research community; there

is a need for valid assessment and definition of their innovation needs and a more **realistic approach** by the researchers;

- A **systematic and professional approach** is necessary on order to reach to tangible results as it is quite usual that similar cooperation efforts between research and industry are not being systematically followed up;

- **Researchers should become more extrovert and open** to look into the actual needs of the companies; they should focus more to the development and implementation of services for the companies;

- The identification, analysis and promotion of **food innovation success stories** are important as it can help boost cooperation.

Question 4: How in your opinion should the food industry promote its positions and interests with regards to the promotion of research and innovation?

- **Connecting the academic community and the industry** should be the major focus of all initiatives related to innovation; in this sense, it is important to create common interests among the two parts and bring them together in order to discuss the problems and the perspectives of the industry;

- It was suggested that **a forum of regional stakeholders from industry, research-academia, agencies and authorities, consumers and special groups, consultants, etc. focused to food innovation is created**; this should convene regularly and systematically push the agenda for cooperation; it should act as a platform for the exchange of information and opinions and as an opportunity for technology transfer based on request and offer;

- The idea of reviving the **BioAgroFood- BAF Cluster** was discussed; it was suggested that a more modest and less expansive and ambitious approach (i.e. the aforementioned food innovation forum) can be quite effective as a start and act as a catalyst for the development of the BioAgroFood Cluster;

- The participants noted that they see benefit in this type of cooperation and they would **proceed in similar networking activities regardless of the availability of funding**

as a means of the facilitation of clustering; nevertheless they see funding as necessary for the development of actual research projects;

- In order for various forums, associations, etc. to operate successfully it is necessary for all to **share a common vision and interest** and that none is trying to force its interests and agenda over the others;

- **Educating the customer** is very important; it should start from the very early ages; it is important because it highlights the importance of **quality of local foods, their originality and traditional character** and promotes quality- traditional- local food to a growing clientele;

- The food industry is very much interested in the development of **food products specially designed for specific target groups** (diabetics, celiacs, athletes, pregnant women, etc.); personalized nutrition is considered the future of the food industry and they need the support of the research community for new product development;

- It was suggested that food SMEs and research units are combined in various **"thematic" and "technological" groups** in order to set the basis of a systematic and regular cooperation among them;

- Food companies consider **in- depth food market surveys** as very valuable and significant for their needs;

- It is suggested that national research funding is based on ***results***, e.g. creation of new companies, creation of new job positions, added- value for companies, etc.

- Entrepreneurial risk- taking related to investment in innovation should be rewarded; an **Innovation Fund** with a strong regional character should be established;

- **Technology brokerage** should be reinforced; it is important to **systematically map** the **innovation capacities** of the regional research institutes and **innovation needs** of the industry;

- Regional and national **infrastructure** is of paramount importance (roads, ports, airports, telecommunications, etc.) for the implementation of innovative solutions and the better and quicker transfer of goods;

- It is important that the “food innovation forum” that emerges from this initiative pushes forward particular measures to be included in the forthcoming programming period 2014- 2020; the process of developing the new **regional Operational Programmes** and the related **smart specialization strategy** is underway; primary agricultural production and food processing are traditionally among the key regional priorities;

- It was suggested that the regional Operational Programmes are more **focused and pragmatic** (in comparison to the national- wide ones); the priorities should be relevant to the regional needs and capacities (smart specialization strategy);

- A new paradigm to the organization and operation of **agricultural cooperatives** is needed in order to ensure the maximization of the benefits for both producers and the food industry.

General comments and suggestions

- The food industry considers it as very important valuable to cooperate with research entities in order to better understand and highlight the **positive health effects** of their products;

- It was recognized by both the food industry and the research community representatives that they urgently **need to discuss and cooperate** so that a) SMEs clearly express and validate their exact needs and b) research entities clearly present their results and the areas where they can become useful for SMEs;

- It was suggested by food industry representatives that significant problems exist with regards to the **non- availability of raw materials for food production on a national level**, e.g. approximately 60% of milk and more than 80% processed and consumed in Greece of meat is imported; this practically means that a lot of potential added-value in the entire food production chain is lost for the country; therefore it is of outmost importance to strengthen the national primary production capacity so that it better serves the national food industry needs and to reinforce the cooperation of primary and secondary food production by means e.g. of the development of **contract farming agreements**, etc.

- It is important that **each region specializes in the food production** in which it has a competitive advantage, e.g. regions of Central Greece are more suitable to the

production of goat and sheep milk products; the region of Central Macedonia is more suitable for cow milk products;

- Regions of Greece cannot compete with the bigger and more productive regions of Central and Western Europe in terms of volume of production; thus it is necessary to **specialize in food product varieties and quality**;

- Food production for export should focus to areas where the country and the region exhibit **competitive advantages** and to differentiate with high quality, specialty foods, e.g. **Protected designation of origin** (PDO) products; it is impossible to compete with products from other countries with bigger agricultural areas, bigger markets and large “economies of scale”;

- It is important that more food companies’ staff is **actively involved** in the **entrepreneurial innovation discovery process**; this cannot only be a task of executives or engineers; many different disciplines should be combined to reach to the expected results.

2.4 ANNEX I- BASIS REPORT FOR DISCUSSION WITH STAKEHOLDERS

«Η καινοτομία ως μοχλός προώθησης της ανταγωνιστικότητας της βιομηχανίας τροφίμων και ποτών»

Η ευρωπαϊκή βιομηχανία τροφίμων και ο παγκόσμιος ανταγωνισμός

Η βιομηχανία τροφίμων και ποτών είναι ο μεγαλύτερος βιομηχανικός κλάδος στην Ευρώπη με συνολικό κύκλο εργασιών που **φτάνει το 1 τρις ευρώ. Απασχολεί 4 εκατομμύρια εργαζομένους** και τα προϊόντα της **αφορούν στις ανάγκες 500 εκατομμυρίων καταναλωτών. Κατάφερε δε**, σε αντίθεση με άλλους βιομηχανικούς κλάδους, να διατηρήσει- έστω και μειωμένους- **θετικούς ρυθμούς ανάπτυξης** εν μέσω του δυσχερούς παγκόσμιου κλίματος των τελευταίων τεσσάρων ετών της οικονομικής κρίσης.

Σύμφωνα ωστόσο με την Μελέτη Ανταγωνιστικότητας του έτους 2012 που έχει εκπονήσει η Ευρωπαϊκή Συνομοσπονδία Βιομηχανιών Τροφίμων και Ποτών (CIAA- Confederation of Food and Drink Industries)[1], διαπιστώνεται **τάση υστέρησης του κλάδου σε σχέση με τους κύριους ανταγωνιστές της τόσο στις ώριμες όσο και στις αναδυόμενες αγορές**. Οι κύριοι λόγοι της υστέρησης αφορούν:

α) στην **έλλειψη σαφούς Ευρωπαϊκής Βιομηχανικής Πολιτικής** για τον κλάδο των τροφίμων,

β) στις **ατέλειες που εντοπίζονται στη γενικότερη λειτουργία της Ενιαίας Αγοράς** για τα τρόφιμα και συγκεκριμένα στην έλλειψη των κατάλληλων συνθηκών που αφορούν στην καλύτερη λειτουργία της εφοδιαστικής αλυσίδας των τροφίμων, την υιοθέτηση πρακτικών υγιούς ανταγωνισμού, την πρόσβαση σε χρηματοδότηση ειδικά για τις ΜΜΕ, τη ρύθμιση θεμάτων που αφορούν στις καθυστερήσεις στις πληρωμές, καθώς και στην επαρκή και άμεση αξιοποίηση των αποτελεσμάτων της έρευνας για την ανάπτυξη νέων – υψηλής προστιθέμενης αξίας προϊόντων, και,

γ) στη μειωμένης έντασης **εξαγωγική δραστηριότητα** στις αναδυόμενες αγορές, ειδικά των ΜΜΕ της βιομηχανίας τροφίμων.

Η μελέτη της CIAA καταλήγει στις παρακάτω συστάσεις για την αύξηση της ανταγωνιστικότητας του ευρωπαϊκού κλάδου των τροφίμων:

1. Την **υιοθέτηση από την Ε.Ε. πολιτικών** που λαμβάνουν υπ' όψιν τις ιδιαιτερότητες του κλάδου και οι οποίες θα βελτιώνουν τις συνθήκες λειτουργίας της αγοράς,
2. Τη **βελτίωση των προσόντων και των δεξιοτήτων, και γενικά των επαγγελματικών χαρακτηριστικών των εργαζομένων** του κλάδου των τροφίμων και την προσέλκυση νέων στελεχών και ειδικά ερευνητών που θα εισφέρουν θετικά στην ενίσχυση της ανταγωνιστικότητας των επιχειρήσεων,
3. Την ολοκλήρωση των **εμπορικών διαπραγματεύσεων** με τρίτες χώρες για το **άνοιγμα των αγορών** τους στις ευρωπαϊκές μικρομεσαίες επιχειρήσεις του κλάδου των τροφίμων, και,
4. Την αύξηση των δημοσίων και ιδιωτικών **επενδύσεων για την έρευνα και καινοτομία** στο κλάδο των τροφίμων, τη **βελτίωση της πρόσβασης των ΜΜΕ σε δημόσιους πόρους έρευνας** και την απλοποίηση των διαδικασιών συμμετοχής τους στα σχετικά προγράμματα.

[1] http://fooddrinkeurope.com/?S=0/publication/ciaa-competitiveness-report-2010/

Προκλήσεις για την βιομηχανία τροφίμων της Βόρειας Ελλάδας

Σύμφωνα με το Επιχειρησιακό Πρόγραμμα για την Περιφέρεια Κεντρικής Μακεδονίας για την περίοδο 2014-2020[3] οι κυριότερες προκλήσεις που αφορούν τη βιομηχανία τροφίμων, είναι:

- ✓ Η ανάπτυξη αμοιβαία επωφελών και βιώσιμων συνεργιών μεταξύ του πρωτογενούς αγροτικού τομέα και του δευτερογενούς της μεταποίησης τροφίμων,
- ✓ Η αναδιάρθρωση, η αναδιοργάνωση και ο εξορθολογισμός των παραγωγικών διαδικασιών,
- ✓ Η μείωση του κόστους παραγωγής τόσο του πρωτογενούς όσο και του δευτερογενούς τομέα,
- ✓ Η τυποποίηση των προϊόντων και η βελτίωση της ποιότητας τους,
- ✓ Η διαφοροποίηση των προϊόντων και η ευθεία σχέση τους με τις ανάγκες του καταναλωτή και της αγοράς,
- ✓ Η διεύρυνση της συνεργασίας της βιομηχανίας τροφίμων με τους ερευνητικούς φορείς, και,
- ✓ Η αύξηση της χρηματοδότησης για έργα έρευνας, τεχνολογικής ανάπτυξης και καινοτομίας.

Ερωτήματα για τους συμμετέχοντες στη συζήτηση

Ως εκ των παραπάνω τα θέματα που προτείνεται να συζητηθούν κατά τη διάρκεια της συνάντησης εργασίας της Τετάρτης 25 Σεπτεμβρίου 2013, είναι:

- Ποιες είναι οι **σημαντικότερες προκλήσεις** για την ανταγωνιστικότητα της βιομηχανίας τροφίμων της Βόρειας Ελλάδας; Ποιες από αυτές θα μπορούσαν **να αντιμετωπιστούν** με την αξιοποίηση τεχνολογικών λύσεων, εισαγωγής καινοτομιών, μεταφοράς τεχνολογίας, με τη συνεργασία με ερευνητικά κέντρα και ινστιτούτα, κ.λπ.;
- Τι θεωρείτε ότι θα έπειθε και θα κινητοποιούσε γενικότερα την τοπική, και κατ' επέκταση την υπερ- τοπική, βιομηχανία τροφίμων **να επενδύσει χρηματικούς, ανθρώπινους και υλικούς πόρους** για την υλοποίηση έργων τεχνολογικής ανάπτυξης και καινοτομίας;
- Ποια θεωρείτε πως είναι τα **σημαντικότερα εμπόδια** στην υλοποίηση έργων τεχνολογικής ανάπτυξης και καινοτομίας για μια επιχείρηση του κλάδου τροφίμων και ποτών;
- Πως θεωρείτε ότι πρέπει να κινηθεί η βιομηχανία τροφίμων **ώστε να προωθήσει τις θέσεις της και τα συμφέροντα της** αναφορικά στην προώθηση της τεχνολογικής ανάπτυξης και καινοτομίας;

[3] http://goo.gl/NZgNUs

ΠΑΡΑΡΤΗΜΑ- Προτεραιότητες της Ευρωπαϊκής Βιομηχανικής Πολιτικής για τον κλάδο των Τροφίμων- Παραδείγματα πρωτοβουλιών και ενεργειών (Μελέτη Ανταγωνιστικότητας 2012, CIAA)

Στο παρακάτω παράρτημα παρατίθενται οι κύριες προτεραιότητες ανάληψης δράσεων σύμφωνα με την Ευρωπαϊκή Συνομοσπονδία Βιομηχανιών Τροφίμων και Ποτών καθώς και σχετικά παραδείγματα πρωτοβουλιών και ενεργειών. Η παράθεση του παραρτήματος αποσκοπεί στην ευρύτερη πληροφόρηση σχετικά με το πλαίσιο των ζητημάτων που απασχολούν την Ευρωπαϊκή Βιομηχανία Τροφίμων και Ποτών καθώς και των σχετικών δράσεων αντιμετώπισής τους.

Προτεραιότητες της Ευρωπαϊκής Βιομηχανικής Πολιτικής για τον κλάδο των Τροφίμων		Παραδείγματα πρωτοβουλιών και ενεργειών
Ανταγωνιστικότητα στο εσωτερικό περιβάλλον της Ε.Ε.	Πρόσβαση σε πρώτες ύλες και αντιμετώπιση της διακύμανσης των τιμών	• Κοινή Αγροτική Πολιτική για το 2020 και εξασφάλιση της διαθεσιμότητας πρώτων υλών στην Ε.Ε. • Χρήση Γενετικά Τροποποιημένων Οργανισμών (GMOs) • Χρήση χρηματιστηριακών εργαλείων (παράγωγα) για τον καλύτερο έλεγχο της διακύμανσης των τιμών των πρώτων υλών
	Καλύτερη λειτουργία της εφοδιαστικής αλυσίδας των τροφίμων	• Αντιμετώπιση πρακτικών αθέμιτου ανταγωνισμού στην Ε.Ε. • Πρόσβαση σε χρηματοδότηση • Αντιμετώπιση του θέματος των καθυστερήσεων σε πληρωμές • Αγορά εργασίας: βελτίωση του προφίλ του κλάδου και προσέλκυση ταλαντούχων στελεχών
	Αντιμετώπιση των δυσχερειών στην αξιοποίηση της έρευνας και καινοτομίας	• Διευκόλυνση της συμμετοχής των ΜΜΕ στα ευρωπαϊκά και εθνικά έργα έρευνας, τεχνολογικής ανάπτυξης και καινοτομίας
	Ολοκλήρωση και εναρμόνιση της Ενιαίας Αγοράς τροφίμων	• Η απλοποίηση του ρυθμιστικού πλαισίου λειτουργίας των επιχειρήσεων • RASSF (Rapid Alert System for Food and Feed): Σύστημα έγκαιρης προειδοποίησης για τα τρόφιμα και τις ζωοτροφές • Health claims • Πληροφόρηση των καταναλωτών • Εμπλουτισμός τροφίμων με ιχνοστοιχεία και βιταμίνες (food fortification)
	Πολιτικές για το περιβάλλον και τη βιωσιμότητα	• Υιοθέτηση μιας ολιστικής προσέγγισης αναφορικά στην περιβαλλοντική πολιτική και τη βιωσιμότητα της λειτουργίας της εφοδιαστικής αλυσίδας του κλάδου των τροφίμων
Ανταγωνιστικότητα στο παγκόσμιο οικονομικό περιβάλλον	Πολιτικές εμπορίου	• Εμπορικές διαπραγματεύσεις με τρίτες χώρες • Βελτίωση της πρόσβασης στις αγορές τρίτων χωρών και καθιέρωση των διεθνών προτύπων και κανόνων που αφορούν στα τρόφιμα σε αυτές τις χώρες • Προώθηση των ευρωπαϊκών αγροδιατροφικών προϊόντων • Εμπορικές συμφωνίες για καλύτερη πρόσβαση σε πρώτες ύλες για την παραγωγή τροφίμων • Διεθνοποίηση των δραστηριοτήτων των ΜΜΕ

2.5 ANNEX II- LIST OF PARTICIPANTS IN THE SYNTHESIS MEETING

Name	Organisation
Konstantinos Konstantinidis	PELOPAC
Panagiotis Koukakis	Farma Koukakis
Alexandros Thanos	Region of Central Macedonia
Christos Georgiou	FING
Konstantinos Syliaras	FING
Epaminondas Christofilopoulos	PRAXI FORWARD
Notis Argiriou	CERTH- INAB
Giorgos Papapostolou	CERTH- INAB
Panagiotis Madesis	CERTH- INAB
Nikos Giannoulidis	Euroconsultants S.A.
Konstantinos Tziantopoulos	Euroconsultants S.A.

3. REGION OF APULIA, ITALY

3.1 INTRODUCTION

3.1.1 GENERAL PROFILE OF THE REGION

The region of Apulia is the Italian south-eastern most region, with a territorial extension of 19.366 km^2, bordered by both the Adriatic and Ionian Seas, giving it one of the longest coastlines of any region in Italy, extending for about 800 km. The region is widely accessible by the sea and it seems a natural equipped wharf of the European community stretching over the Mediterranean that from centuries is in fruitful geographical economic cultural and religious relations with the Balkan area, the Middle-East, Northern Africa and East Europe.
The Apulia is a **Region of Convergence** with a population of **4,076,546** inhabitants, generating a **GDP** of about 68.9 million (in 2009).
The per capita GDP is about the 66% of the national average and represents about 72% of the EU27 average. Apulia manages for the period 2007-2013 about 2,7 M€ of the FESR programme and 640 K€ of the FSE programme plus other funds coming from interregional and national programmes.
In the recent period, while the **GDP** in the South over the previous year grew by 0.2% (in north-central than 1.7%), in Apulia it decreased in 2010 of 0,2% to **16,932** euros per capita. The situation is not good even if one looks at annual average 2000-2010: Apulia, which was to be the motor production of southern mainland, has recorded a minus 0.3%. For the second consecutive year, although, the Apulian economy has performed the best performance in the South. In 2009 the GDP of Apulia fell by 2.3% compared to 4.6% of South Italy (SVnIMEZ Annual report 2010).

Agriculture in Apulia is largely modern and intensive, allowing the region to be at the first places in Italy for the production of many products, like “hard” grain and tomatoes in the Foggia province, besides table grapes and oil, with around 50 millions olive trees. Also important is the production of salad, artichokes, fennel, cabbage, celery and oats. In specific areas fruit cultivation is also relevant. The primary sector, equal to 5%, produces considerable quantities of valuable produce as wheat, olives, fruit and vegetable, beets, milk, flowers, tobacco and, in some areas of the Salento, medicinal herbs that give rise to an intense activity of food processing and agroindustry one. These industries are distributed in

various territorial points and often represent local branches of large industries from the North of Italy.

3.1.2 SNAPSHOT OF THE REGIONAL FOOD-SECTOR

The **food industry** represents one of the key economic sector of the region, the value added at Basic prices (VA) produced by Regional Food was 1.1 billion euros equal to about 5% of the total national and 21% of the South one (Istat 2007). The trade and industrial processing of agricultural products, in the period 2003-2007 increased by more than 5%. In the same period the income from employment and gross wages, in the field of agri-food processing are both increased (23%) more than in the rest of Italy.
The main agro-food chains present in Apulia are:

- Dairy products;
- wheat and bakery;
- olive oil;
- grapes and wine;
- vegetable and fruits (olive, almonds, figs), and livestock (sheep, pigs, cattle and goats);
- meat products.

In addition to the traditional sectors of wine and oil, also the mill industry and pasta production have a big role in the sector, also being Italian leader in the heavy wheat production (21 % of national total, Istat 2011), while the Apulia is the third Italian region for the pasta production. Significant roles are covered also in the diary industry, coffee and meat transformation (Bank of Italy 2011).

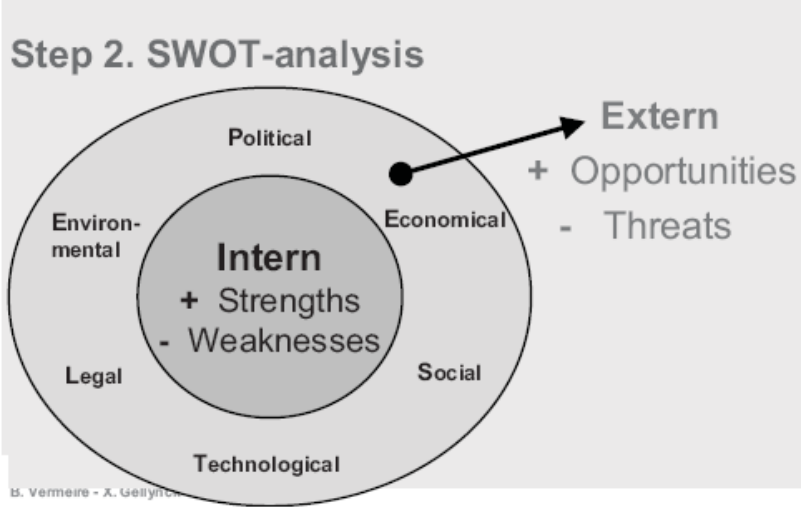
3.2 SWOT ANALYSIS

3.2.1 SWOT METHODOLOGY ADOPTED

A SWOT analysis has been performed to identify the strengths, weaknesses, opportunities and threats that concern the development, transfer and adoption of knowledge and research results from the Food Industry and the possible obstacles and impediments for this process.

The SWOT methodology has been applied by different target groups: the Apulian SMEs involved in the profiling survey and the RTD bodies participating at the regional profiling.

The SWOT analysis, as known, is a strategic planning method used to evaluate the strengths, weaknesses, opportunities and threats of a project, entity or other context.



Picture by 1st meeting of the Waste Cluster, 13-15 January 2010, Marrakech, Strategic Orientation training session , Bert Vermeire- Xavier Gellynck, University of Ghent

We applied this methodology to achieve specific goals related to food innovation, and specifically to understand, to identify, to address:

a) the ability of the Apulian food industry to innovate and/or absorb the results of the research;
b) the capacity of local regional research (addressing food industry) to develop and adapt the relevant search results to industry itself and to add value for commercial use.

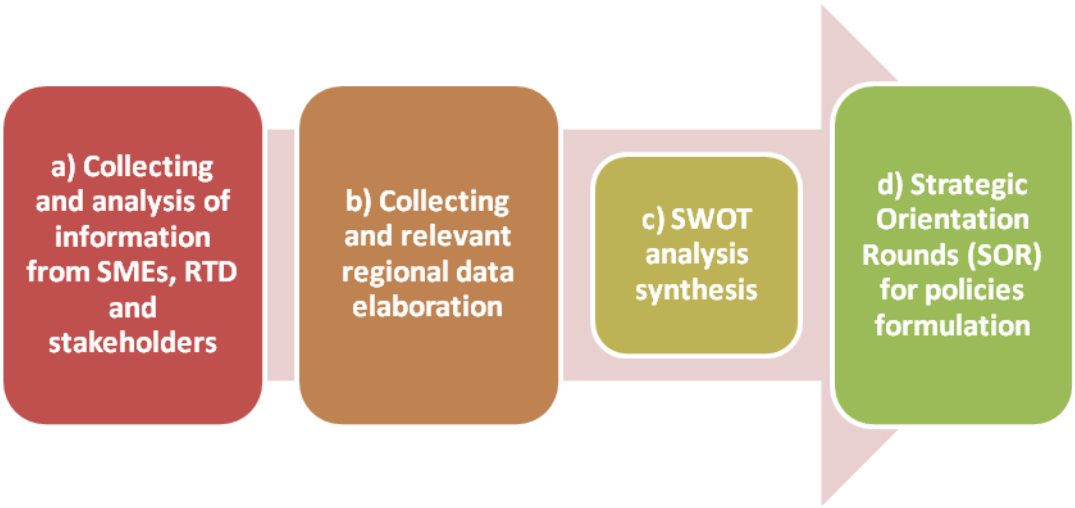
The data used to apply a consolidated SWOT analysis to regional food scenario derived from different SWOT exercises, and are the following:

- from SWOT tables filled by SMEs in the questionnaires for SMEs profiling;
- from SWOT tables filled by RTD institutions in the questionnaires for RTD institutions profiling
- from SWOT exercise carried out by a group of 10 Apulian experts selected (participating at

Apulian network of stakeholders for food innovation).

The SWOT matrix was included in the questionnaire, that was distributed and filled by interested bodies and companies, sometimes supported by interviewer introducing and explaining the finality of this study, giving additional information in case of necessity.
The SWOT methodology was explained to participants, allowing the focus on real factors (internal and external) able to have a relevant effect on innovation and competitiveness of Agrifood sector in Apulia.
Once collected all the questionnaires, the CNR ISPA team resumed the results consolidating the outputs. The five most common points of S, W, O and T (those with major frequency), arising by SMEs and RTD entities SWOT analysis exercises have been aggregated into two separate tables, obtaining two matrices, one SWOT matrix consolidated for APULIAN SMEs and one SWOT matrix for Apulian RTD entities.

An independent group belonging to the network of stakeholders of INNOFOOD project in Apulia met in June 2012 and then in January 2013 to jointly realize the SWOT analysis applied to the Agrifood Sector in Apulia, in order to share opinions from different points of view.
Therefore, the internal team focused on relevant regional data to match results coming from surveys on field and information and data from reports and official documents, in order to “normalize” any critical point arising from the SWOT empirical exercises by SMEs and RTD entities. Really, all the emerging points appeared in line with the actual reports and data, thus confirming also the effectiveness of interviews carried on in the previous stage.
Some points appeared a little bit in comparison, highlighting in some way different aspects of a same problem (item indicated as a strength and also as a weakness, ie. availability of funds).
This confrontation exercise produced a third SWOT matrix, in which some points highlighted by SMEs and/or by RTD entities were stressed and observed too, as filtered by a third point of view.



The results of all this analysis represented the basis to apply the SOR analysis to the Apulian context.

We prepared an information sheet about the methodology to be applied, in order to let experts introduced and prepared to do the exercise. For this reasons, examples of SOR exercise explaining point by point the method and indicating also how to match different items for a correct application were sent and explained before the SOR meeting. This approach has been successful, allowing experts to be able and committed during the meeting.

RESULTS OF THE SWOT ANALYSIS BY APULIAN STAKEHOLDERS

The Apulian network of stakeholders and decision makers formed by experts was invited to express opinions about the Apulian agrifood innovation status and perspective, by applying the SWOT matrix and fixing the main points.

After collecting results, the group discussed with CNR ISPA team about topics considered as critical for the development and support of innovation process.

The result of this exercise are indicated in the following SWOT matrix:

Strengths	Weaknesses
• **R&D system with high potential (10),** made by important research center	• **Small size of SMEs** (3), with low inclination towards technology/innovation

internationally recognized, project planning capability and know how, institutional capacity to involve SMEs into innovation processes, funding availability, high skills and specialized personnel

- **Networking ability** (9), at local level among RTD entities (labs networks) and at international level by significant experience, projects, student exchanges
- **Significance and distinctiveness of food production**, for quality (2), diversification and territorial vocation (4), high biodiversity (1)
- **Priority of the Agribusiness sector** (2) expressed in Regional Strategy for Research and Innovation and by consumer / media (1)
- **Strategic role of districts** (3) in the innovation process

(4) and low ability to apply research results (2), diversification/fragmentation of production (2)

- **High level of bureaucracy** (6)
- **Human capital weakness** due to lack of high skilled youngs, ready to invest in research (1), with managerial skills/TT (2), also due to job insecurity (temporary work) with low permanent employment perspective(1)
- **Networking** not completely developed between SMEs and RTD entities(3)
- **Insufficient collaboration** among research players, in relation to an optimal use of available resources for innovation (2), with some difficulty in supporting research by own finance (1) and communication complications between different project groups
- **Low lifelong learning opportunities** for companies human resources
- **Low ICT application** (2)
- **Infrastructural aspects**
- **Insufficient ability to guess agrifood sector** potentiality at over -regional level (national and international)
- Limited ability **to take advantage** of the positive trends in exports

Opportunities	Threats
• **Regional and cross-regional policies** promoting synergies among research institutions, between research institutions and SMEs (7) • **Funding opportunities** (EU convergence Area - Mediterranean - ENPI) (3) • **Increased sensitivity to environmental sustainability** issues, also linked to crops, development of health properties, quality and tipicity, diet (5) • **Request for innovation** in the agrifood, particularly expressed at international level (especially with regard to safety) and emerging foodstuffs questions (3) • **Opportunities to create infrastructures** supporting the system (3), also by networks of laboratories, common and relevant **graduate courses** • **Possibility to direct the Apulian agrifood sector versus strategic models**, enhancing competitive levers - internationalization (2) • **Usability of research results** by industry	• **International Crisis** (3) **and public finance** (1) • **Low interest SMEs** for research (4) • Markets turned to cheaper food products coming from other countries (3), **international competition by** emerging countries • **Low use of research results / economic impact** (3) • **Cuts in funding** for research in all sectors, especially those considered with low technological content • **EU policies** far away from territorial specificities (2) – quality • **Bureaucratic barriers** -long time (3) • **Smart specialization** • Lack of **aggregation/cooperation culture** • Increased **insecurity** and lack of positive perspective for young people • **Brain drain** (2) • Lack of **turnover** • **Strict dependence of the research**

(2)

- **Ability to deal with different production processes** from the Apulian ones , and interdisciplinary interactions (2)
- Large opportunities to raise **professional profiles** in the field
- **Horizon 2020** and rationalization of measures
- General appreciation of the brand "**Made in Puglia**"
- Availability of **skilled young researchers / graduates**
- **Enhancing excellence** within institutions
- **Economic Crisis**

system from funding, finalization often to the achievement of grants

- **Training System and University**
- **Lack of holistic view** from research side (care to specific/private problems)
- **Lack of a monitoring system** for research activities and **risk of overlapping** of financing instruments (2)
- **Lack of institutional actors** (according to EU models) interfacing between EPR and SMEs
- **Political and economic support** favoring public research, with low orientation for public and private research integration

Additional interesting considerations expressed by stakeholders focused on external factors, highly influencing the agrifood sector, namely financial crisis, market globalization, political strategies impacting on structural conditions. These kind of information didn't arise from SWOT exercises realized by RTD and SMEs, and have been taken into consideration for the regional strategy formulation.

3.2.2 RESULTS OF THE SWOT ANALYSIS FOCUSING ON RTD ENTITIES

The profiling analysis showed that Apulian Agro-food RTDs found strengths and opportunities primarily on networking and exchange of experience in research, then on the presence of highly skilled personnel and availability of Regional and EU R&D funds.

The low number of start up companies is seen by the Apulian RTDs as symptom of weakness together with low size of budget for R&D, weak understanding between researchers and industry. Bureaucracy barriers, research funding programmes with content far from current research interests and failure to attract international researchers are considered obstacles to carrying on properly activities and threats for the future.

The results of the SWOT analysis arising from the collection of questionnaires are indicated in the following consolidated matrix.

Strengths	***Weaknesses***
1. Open exchange of experience in research and technology development (16 responses)	1. Not enough start ups (10 responses)
2. Highly skilled personnel (12 responses)	2. Low size of budget for R&D (9 responses)
3. Public-private cooperation (10 responses)	3. Poor linkage between firms and research entities (7 responses)
4. Strong research base (9 responses)	4. Weak understanding between researchers and industry complicates joint projects (6 responses)
5. Increasing number of collaboration with firms (8 responses)	5. Lack of formal collaboration between actors (5 responses)
Opportunities	**Threats**
1. New R&D European and regional programmes (15 responses)	1. Bureaucracy barriers (16 responses)
2. Networking (14 responses)	2. Funding programmes to support research with content far from current research interests (9 responses)
3. Availability of EU R&D funds for	3. Failure to attract international

research (12 responses) 4. Surplus of well educated researchers (6 responses) 5. Increasing demand for more/better varieties (4 responses)	researchers (9 responses) 4. Brain drain (8 responses) 5. Few incentives for university researchers to engage in collaboration with the industry (6 responses)

The data expressed in the SWOT analysis put into relevance some aspects also highlighted in the profiling analysis and in reports illustrating the sector in Apulia.

The Apulian agro-food research system is mainly formed by strong public entities, while private RTDs active are less relevant in the considered field.

Considering the **strengths**, in coherency with data obtained by profiling RTD, the SWOT analysis confirms that Apulian RTDs system presents a good **open exchange of research**, being linked at international level by academies and projects and territorially embedded with knowledge services offered to third parties at local level.

The **opportunities** are represented by the fact that Apulian Agro-food Research system seems to be well **integrated with territory,** also thanks to the Regional policies and **new programmes** that are enforcing the cooperation among players (Districts, SMEs, RTDs, Associations,..). In this wisdom the Region granted 26 networks of research labs to provide services to local companies by using advanced equipments, integrated methodologies and technologies and promoting joint projects, according to a massive approach.

The **availability of EU&RD funds** represents another opportunity for the system and this is confirmed practically by a significant number of projects proposed by Apulian RTD jointly with SMEs and recently awarded under the National Operating Program Research and Competitiveness 2007-2013 for more than 40M€.

The Apulia RTD system has chance to develop according to the EU policies (programmes) trying to create valorisation of local cooperation with private sector, trying to improve the link with enterprises, addressing research towards development programs, targeted innovation projects and human capital enforcement, also counting on a surplus of well educated and skilled researchers.

The regional policies, coherently with the national framework, are creating a precondition to facilitate innovation by sustaining the development of the Apulia agro-food sector based on a

cluster approach, gathering together all the actors involved (Districts, SMEs, RTDs, Universities, public and private research bodies, education and training centres, Associations, consultancy firms, etc..).

Some difficulties should be managed, anyway, as it emerged by SWOT analysis threats and weakness. **Bureaucracy barriers** and **difficulties** in finding and managing appropriate funding programs for research as well as in attracting international researchers and brain drain, represent serious obstacles to a rapid and structured development of the system towards innovation. Reinforcing the active and formal cooperation among several players (now perceived as weaknesses) could be a way to turn weaknesses into strengths, allowing also to improve the actual situation, also by combating other context conditions (low incentives for private-public collaboration or funding programmes not so coherent with research interests, or different languages among RTD entities and SMEs).

3.2.3 RESULTS OF THE SWOT ANALYSIS FOCUSING ON THE NEEDS OF THE SMES

As part 3.2 of WP3, "Analysis of policies and strategies for innovation food" CNR ISPA profiled a significant number (63) of small and medium-sized food businesses with the aim of identifying their needs for technology and research that could increase their competitiveness. The profiles and the technological needs of SMEs included also the SWOT analysis made by each company,

The preliminary results of SWOT analysis are presented in the table below, listing the first 5 factors per each area indicated by companies and No of answers received. It should be noted that for this section it was allowed to give more than answer.

Strengths	Weaknesses
1. Product & Process quality (51)	1. Low financial capacity (32)
2. Adoption of highly innovative technologies (26)	2. No dedicated R&D Unit (18)
3. Market position (23)	3. Poor networking with public actors (univ., research centres) (17)

4. Product diversification (23)	4. Lack of time (15)
5. Highly skilled personnel (23)	5. Poor networking with private actors (SMEs, large companies) (12)
Opportunities	**Threats**
1. Increasing export trends (40)	1. Bureaucracy / Regulation barriers (36)
2. Availability of R&D funds for research and innovation (33)	2. No political long-term commitment to the sector (33)
3. Strong regional/national product identity (31)	3. Scarce funding resources for R&D available (29)
4. Networking possibilities (associations, technologic platforms) (21)	4. Expensive IPR (28)
5. Existing RTD & innovation programmes tailored to the sector (18)	5. Insufficient incentives addressed to the sector (24)

The SWOT analysis results very interesting to have an idea about the approach led by companies towards the market and agrifood sector perspective. Considering the **strenghts**, interviewed companies indicated their product and process quality as the more important factor, followed by their capacity to adopt new technologies and realize innovation processes. Other relevant factors are their market position, evidently considered good and able to drive competition, their product diversification and the high skilled personnel, and internationalization, all factors relevant for the market. It seems that these companies are generally not very strong for their financial capacity and geographic position (Apulia is a southern region, far from national important nodes), neither for their partnerships with the local players (private and public ones); anyway these data are comfortable because indicating a beginning cooperation with territory useful for competitiveness.

Information collected about the **weaknesses** confirm some structural difficulties of these companies, indicating mainly their low financial capability as critical, and the absence of dedicated R&D unit in their organization. Others weak factors are the companies capacity of integration with territory, confirming that these aspects could be considered important and strategic for their competitiveness. The different answers obtained for strengths and weaknesses are clearly related to the different enterprises dimensions: the small and micro firms demonstrate difficulties to have internal R&D unit or international orientation or high technological level/innovation commitment, suffering often for financial capacity.

Listing their strengths and weaknesses points, the companies are more oriented to express their best characteristics than the weak ones (the total amount of answers for “strengths” have been 252, the total amount for “weaknesses” have been about the half, only 235!), thus probably indicating a positive self-consideration.

Finally, **opportunities and threats** focused companies attention on external aspects related to sector and environment. The increasing export trends are considered as the most important factor to enlarge market shares in a profitable way. This information confirm that small enterprises are mainly local market-oriented (only in some cases the national markets are served) and foreign markets represent really an opportunity. Recent data on Apulian agrofood exports indicate an encouraging growth ratio (+17% in June 2012).

Also the availability of R&D funds together with existing regional programmes addressed to agrifood chains are perceived as possibility to reinforce the competitiveness, accompanied by a strong regional/national product identity, that is very important in this field. Other opportunities by few companies are considered those factors regarding the potentiality of the territory to sustain the sector by offering innovation services as well as research and infrastructures.

On the other side, bureaucracy and regulation barriers together with no political long-term commitment to the sector are seen as strong threats for Apulian companies, confirming the previous opinions emerged during the survey. Again, low availability of funding resources for R&D, insufficient incentives addressed to the sector and expensive IPR costs are considered the main barriers.

3.2.4 STRATEGIC ORIENTATION OF THE FOOD SECTOR OF THE REGION

RTD entities SOR output

The following matrix is the result of experts participation at the SOR exercise for RTD entities:

	Final SOR Matrix	(O)					(T)				
	RTD entities	New R&D European and regional programmes	Networking creation	Availability of EU R&D funds for research	Surplus of well educated researchers	Increasing demand for more/better varieties	Bureaucracy barriers	Failure to attract international researchers	from current research interests	Brain drain	engage in collaboration with the industry	Total

(S)	Open exchange of experience in research and technology development	17	20	12	13	11	7	12	11	11	6	120
	Highly skilled personnel	16	11	19	13	12	8	12	5	12	8	116
	Public-private cooperation	19	15	11	4	10	14	2	8	5	12	100
	Strong base research	11	6	16	8	6	3	10	15	11	7	93
	Increasing number of collaboration with firms	15	12	10	9	18	9	4	7	6	22	112
(W)	Not enough start ups	5	3	10	9	11	13	5	3	17	5	81
	Low size of budget for R&D	16	6	11	8	7	7	17	9	16	9	106
	Poor linkage between firms and research entities	12	17	13	5	14	8	7	5	6	17	104
	Weak understanding between researchers and industry complicates joint projects	7	11	6	12	7	4	5	9	3	14	78
	5. Lack of formal	6	14	7	4	6	10	7	13	4	9	80

	collaboration between actors											
	Total	124	115	115	85	102	83	81	85	91	109	990

From the assessment of the amounts obtained by consolidated SOR sheets the result clearly predominant is Strengths/Opportunity with **314 points**.

Cross sum		
	O	T
S	314	227
W	227	222

This means that the strategy to be formulated should be: **ATTACK.**

The main output coming from crossings among the considered factors are the following:

- the exchange of RTD experiences could be used to create and strengthen networking capability (20), in line with the ongoing cooperation process between public and private sector;
- the public-private cooperation could be an helpful item to take the opportunity represented by new European and regional R & D programs (19)
- removing the weakness "little connection between companies and research institutes" can help to seize the opportunity "Networking creation"(17).

In the scheme below the matches have been reported, considering total amounts of scores per area, as well the incidence of maximum score per row and/or per column in correspondence of each factor.

Results of SOR Matrix for RTD		External environment	
		(O)	***(T)***
Internal environment	***(S)***	An open exchange of experiences in research and technological development may allow the region to take the opportunity of Networking creation (20). This matching could be supported by a positive trend resulting from existing public-private cooperation	The strong basic research, although considered a strength point, is not really able to counteract the threat shown by the financial support. This support seems to be more addressed to strong applicative research, with a specific content resulting far from current interests of researchers (also oriented to a basic-independent research). The lack of incentives for public researchers for cooperation with SMEs can be minimized by the existing growing number of collaborations with SMEs coming out by regional system efforts.
	(W)	The small budget allocation for R &D (generally by public funds) can be counteracted by participation at EU and regional programs. The lack of connection between companies and research institutions may limit the use	The weaknesses (lack of start-ups, small size of budget) does not allow to prevent the brain drain, nor to attract or let international researchers come back in their country, factor really representing threats towards the system. On this aspect public authorities invested in the past. In addition, the limited connection

		or/and the creation of networking.	between companies and research institutes can be compounded by the lack of incentives for public researchers to collaborate with SMEs.

Strategy arising from SOR

The main pillar to develop a **regional strategy for innovation** is represented by ***enhancing the existing path****, founded on a* ***strict cooperation*** *and collaboration between* ***public and private*** *sector.* This objective could be achieved also by improving an open exchange of experiences in R&D and by consolidating existing **networks**. All these factors are being also favoured by the opportunity of **new R&D EU and regional programmes** and availability of **high-skilled personnel**.

A key factor able to encourage this process is the need to modify the **co-financing mechanism** of projects in the next EU and regional programmes financial rules, in order to let research entities (with limited budget for R&D) be able to take the opportunity of participating to calls and tenders (generally the co-financing condition causes the reduction of available budget for new grants).

This strategy could be also supported by setting **new incentives** for those researchers committed into cooperation between SMEs and RTD entities on innovative and application themes, thus overcoming the strong gap with basic research. In fact, the basic research, even if considered a strength, really limits the possibility to participate at those funding programs considered attractive by industries and SMEs.

SMEs entities SOR output

The following matrix is the result of experts participation at the SOR exercise for RTD entities:

	Final SOR matrix	(O)							(T)			
	SMEs	Increasing export trends	Availability of R&D funds for research and innovation	Strong regional/national product identity	Networking possibilities	Existing RTD & Innovation programmes tailored to the sector	Bureaucracy / Regulation barriers	No political long-term commitment to the sector	Scarce funding resources for R&D available	Expensive IPR	Insufficient incentives addressed to the sector	**Total**
(S)	Product & Process quality	21	11	16	8	11	6	9	15	6	9	**112**
	Adoption of highly innovative technologies	4	18	9	13	19	5	4	16	18	9	**115**
	Market position	22	4	23	9	5	8	5	4	9	7	**96**
	Product diversification	12	16	12	5	12	6	4	14	14	11	**106**
	Highly skilled personnel	4	19	0	13	20	5	3	10	3	9	**86**
(W)	Low financial capacity	13	11	6	9	8	9	10	11	9	11	**97**
	No dedicated R&D Unit	3	17	4	15	20	5	5	17	4	9	**99**
	Poor networking with public actors (univ.,	2	9	3	20	11	12	4	12	6	10	**89**

	research centres)											
	Lack of time	3	5	0	8	6	16	2	4	1	9	**54**
	Poor networking with private actors(SMEs, large companies)	11	9	16	16	7	10	9	6	6	10	**100**
	Total	**95**	**119**	**89**	**116**	**119**	**82**	**55**	**109**	**76**	**94**	**954**

From the assessment of the amounts obtained by consolidated SOR sheets the result clearly predominant is Strengths/Opportunity with **306 points : ATTACK strategy.**

CROSS SUM		
	O	**T**
S	**306**	**209**
W	**232**	**207**

The good market position may allow SMEs to seize **opportunities** represented by a strong product identity, at regional and/or national level (23), and by a positive and increasing **exports** trend. These favorable elements are strengthen by the SMEs ability to produce high **quality products** by implementation of effective operational processes. Moreover, the adoption of innovative technologies by SMEs together with the presence of high experienced human resources, can help to seize another good opportunity represented by ongoing and future **RTD and innovation programs** addressing the sector.

On the other size, the **absence** of operating/organization **units dedicated to research** and development represents the main factor preventing SMEs to take the opportunity of participation at programs of RTD and innovation and to use the reduced funds.

These challenges are compounded also by :

- SMEs inability to create network with EPR and private individuals,
- High costs to manage a patent process or for patents acquisition,

- bureaucracy / regulatory barriers and lack of time on the part of firms.

In the following matrix matching and crosses among key factors are indicated.

SWOT analysis/ SOR Matrix SMEs		**External environment**	
		(O)	***(T)***
Internal environment	***(S)***	The strong identity of high quality regional and/or National product together with a good market position could seize the opportunity given by a growing trend of exports of products. The high skilled personnel and the adoption of innovation could be valorized in existing RTD and innovation programmes.	The funding shortage dedicated to R & D activities by system represents the major threat for the SMEs capacity to adopt new technologies and to pull innovation. The expensive costs to manage an entire patent process or only its acquisition represents a consistent threat for the innovation process.
	(W)	The lack of dedicated units to R&D in the SMEs could take the opportunity to mind the gap by the existing or potential networking possibilities. The actual weak link with RTD entities could be removed by enforcing the possibility to improve networking (possibilities).	A potential big threat represented by the limited availability of resources for R&D that aggravates the lack of dedicated units to R&D within companies. The relevance of bureaucratic barriers and the lack of time available to devote to R & D represent a problem to be solved or addressed, because the threat makes worst the weakeness.

Strategy arising from SOR

The pillar for a regional strategy for innovation addressing companies is the support for the *creation or strengthening of* ***skills*** *for human resources and units dedicated to R & D, in the framework of innovation programs in which* ***operational networks*** *between EPR and SMEs should represent and act as real and concrete* instrument of cooperation aimed at the development and competitiveness.

3.3 RECOMMENDATIONS AND REMARKS

The Apulian agrifood companies are potentially oriented to and attracted by innovation, indicating a sort of business dynamism and attention at integrating new technological knowledge into existing organization.

The cooperation between SMES and the research public or private system seems quite developed, even if efforts should be made to make this cooperation effective and valuable, and to enlarge it in the sector. It should be noted that usually, these collaborations have been asked or pushed by researchers, who need business partners to develop and complete their research projects. In this context many companies need to be guided to develop own knowledge of potential public financing measures. A big problem, in this framework, is represented by long bureaucratic processes, that could keep far companies from funding application or requests.

At the same way, it seems important push the food industry towards innovative -market driven technologies in order to respond to the real demand in the region, but also to facilitate contacts between industry and the research world.

The conclusion that can be drawn from the analysis is the presence of a strong set of research in Apulia on one side and emerging food companies oriented to markets abroad, with good market position and products with a strong quality brand identity.

Both SMEs and RTDs players are oriented towards innovation, key factor to be competitive. The **strategy** to support innovation in the region should be *to improve and strengthen the ongoing path of "**guided" networking and cooperation** in innovation projects pushed by Regional programs.*

This union could allow **RTD entities** to address research and strengthen their position, giving value to the high-potential human capital. In the same time this union could allow and guide **SMEs** to reinforce internal skills and competencies, supporting them in the accession to funding programs able to sustain innovation and enforce or improve the existing processes and products.

4. REGION OF PAZARDZHIK

4.1 INTRODUCTION

4.1.1 GENERAL PROFILE OF THE REGION

The District of Pazardzhik is situated in the central part of Southern Bulgaria and borders on Sofia, Blagoevgrad, Smolyan and Plovdiv district regions. It occupies an area of 4457.0 km^2, which is 4% of the country's total territory. More than half of this territory (57.1%) represents forest area, 35.6% is agricultural land, 3.3% are urban territories, 2.6% are rivers and water basins. The regional relief varies from low-lying (in the Pazardzhik-Plovdiv field, comprising the western part of the Upper Thracian Valley) to mountainous (parts of the Ihtiman and Sredna Gora, the Western Rodopi and the Rila mountains). The climate is trans-continental in the flat areas and mountainous in the eastern slopes of the Rila mountain and the high uplands of the Rodopi mountains.

Basic indicators for demographic, social and economic development of Pazardzhik region for the period 2003-2007

Indicators	2003	2004	2005	2006	2007
Population (as of 31 December) – no. of inhabitants.	**303246**	**300092**	**297781**	**296281**	**294086**
Born – no. of inhabitants	**2667**	**2881**	**2916**	**2937**	**2915**
Birth rate – per 1000 inhabitants	**8.8**	**9.6**	**9.8**	**9.9**	**9.9**
Deceased – no. of inhabitants	**4020**	**4019**	**4013**	**4055**	**4081**
Death rate - per 1000 inhabitants	**13.2**	**13.3**	**13.5**	**13.7**	**13.8**
Population natural growth rate - no. of inhabitants.	**-1353**	**-1138**	**-1097**	**-1118**	**-1116**
Employed under working or civil service contract – average annual number	**61880**	**68537**	**66532**	**66338**	**67693**
Unemployed registered in the Labour offices as of 31 December [1] - no. of people.	**26006**	**23968**	**22350**	**20261**	**14300**

Work force [2]					
Unemployment factors - %	15.3	18.3	17.7	11.1	5.4
Economic activity factor -%	44.1	49.2	53.5	51.5	54.5
Employment factor - %	37.4	40.2	44.0	45.7	51.6
Total income per person in a family – Leva	2129	2089	2453	2395	3099
Total expenditure per person in a family – Leva	1748	1667	1894	1969	2727
Average annual salary of people employed under working or civil service contract leva.	2786	2944	3307	4041	4352
GDP - mln. Leva.*	888	1001	1078	1524	1649
GDP per inhabitant - Leva*	2917	3319	3606	5131	5579
Expenditure for acquiring fixed long-term assets – thousands Leva	116638	141223	231423	240453	321017
Acquired fixed long-term assets – thousands Leva	104478	137884	185321	248455	282424

1 – Source: Employment agency of the Ministry of Labour and social policy

2 – From the last work force monitoring for the specific year

** - Estimations*

Economic indicators

In 2006 Pazardzhik region had a 2,9% share of the country's Gross Domestic Product. For 2007 the reduction compared to the previous year is almost 0,3%.

The income per person in a family in Pazardzhik region indicates a 30% growth in 2008 when compared to 2006. The average annual salary of people employed under labour or civil service contract indicates a 45% growth in 2008 when compared to 2006. The growth rate of employed work force in 2008 is 4,2% when compared to the previous year and the growth rate in the private sector is 8% while in the public sector there is a 6% reduction. Productivity in 2007 marks a 5,1 % growth when compared to the previous year.

Table: Basic indicators for the economic development of Pazardzhik region for the period 2006-2008

Indicators	**2006**	**2007**	**2008**	**2009**	**2010**
GDP – mln. Leva according to current prices	1524	1594	1638	1772	1571
GDP in Leva per capita according to current prices	5131	5400	5549	6042	5390

Source: National Statistics Institute – Territorial Statistics Bureau Pazardzhik

Table: Structure of Gross Added Value for different economic sectors

Economic sectors	**2007**	**2008**	**2009**
Gross Added Value in % according to current prices	**100.0**	**100.0**	**100.0**
Agriculture	10.53	14.69	9,04
Industry	48.22	41.84	41.85
Services	42.25	43.47	49,11

The share of the industrial sector in the structure of the Gross Added Value shows significant reduction in 2009 when compared to 2007. 48% in 2007 this share falls down to 42% in 2008 and remained stable in the following year. The share of agriculture also shows some reduction by 2% while the share of services marks a 7% growth for the same period. The trend observed in the first years of the transition period for services to take a major share of Gross Added Value now seems to be back in the recent years. Industrial companies in the region are now reviving their manufacturing processes and provide investment for new processes and products of higher added value.

Gross Added Value in various economic sectors in mln. Leva	**2007**	**2008**	**2009**
Total Gross Added Value in mln. Leva	**1377**	**1477**	**1350**
Agriculture	145	217	122
Industry	664	618	565
Services	568	642	663

Source: National Statistics Institute – Territorial Statistics Bureau Pazardzhik

* - estimations

In 2007 the Gross Added Value produced by economic operators in the region was 1377 mln. Leva according to current prices; in 2009 this showed some growth but in 2010 again dropped to the 2007 level and even lower. Different sectors feature different characteristics. The share of agriculture in the Gross Added Value follows the main trend while the industrial sector shows reduction throughout the period and the services sector shows considerable growth.

4.1.2 SNAPSHOT OF THE REGIONAL FOOD-SECTOR

(Contribution to regional GDP, main food products, RTD and innovation actors, no. of enterprises, employment)

Structure of the food sector

Pazardzhik region has a predominantly industrial-agrarian economy with a prevailing volume of industrial production. The number of enterprises registered in 2008 is 7353; among them 244 are agricultural companies, 13 are in the mining sector; 1141 are in the processing sector; 4 operate in the production and distribution of electrical and thermal energy and gas fuels; 28 in the water supply, sewerage, waste management and reclamation sector; 364 in the building and construction sector; 3359 in trade and repairs of cars and motorcycles; 308 in the sector of transport, storage and post; 663 in the hotels and restaurants services sectors; 86 in the sector of creating and promoting information and creative products and telecommunications; 155 in the real estate sector; 334 in the professional services and scientific research sectors; 94 in the administrative and servicing sector; 47 in the sector of education; 247 in the human health and social support sector; 52 in the culture, sports and entertainment sector; 214 in other activities.

In 2008 the largest share (25.97%) of the number of industrial companies is taken by wood producing and processing companies, paper and cardboard producing companies and companies producing various products from paper/cardboard and wood (except furniture producers); food and beverage, and tobacco products producers are 16.36% of all industrial companies; textiles, clothing, shoes and other leather products (except for fur) producers and leather processing companies have a 13.41% share; basic metal producers and metal products producers (except machines and equipment producers) have a 10.46% share; and

producers of rubber products, plastic products and other non-metal products have a 7.67 %. share.

Mining and extraction industry is a major sector in the region's economy in terms of income. Also, the abundance of natural forest areas is a condition that provides for the high income resulting from sales of timber and wood, paper and cardboard. One of the largest companies in this sector is Duropack Trakia Paper in Pazardzhik and the paper mill in the town of Belovo.

Food products, beverages and tobacco products[3]

The production of food products, beverages and tobacco products has a major contribution (16,5%) to income resulting from the overall activities of industrial companies.

Table: Basic indicators for the of food products, beverages and tobacco products sector for the period 2004-2008

Indicators	**2004**	**2005**	**2006**	**2007**	**2008**
Number of enterprises	216	185	182	173	194
Income resulting from operational activity (thousands Leva)	99 514	97 244	123 031	177890	288950
Number of persons employed	3 059	2 968	3 029	3 014	4 136
Average annual salary	2 270	2 494	2 589	3 210	4 113

Source: National Statistics Institute – Territorial Statistics Bureau Pazardzhik

In 2008 the number of companies registered in Pazardzhik region as producing food products and beverages (except alcohol and tobacco products) is 194. The largest number of companies (98) produce bread, pastry and other food stuff products; beverage producers are 27; and the number of fruit and vegetable processing and canning companies is18. In the period 2004–2008 income resulting from the overall activities of companies in the food and beverage sector has almost tripled and the number of persons employed in the sector increased by 1075 people while the average annual salary increased by 1843 Leva. Productivity in the sector increased by almost 63% which results from technological renovations undertaken by the companies in the sector.

[3] In 2008 there was a change in the classification of economic activities in Bulgaria whereby under Section 10 now is listed "Production of food products" and under Section 11 "Production of beverages"

Table Basic indicators for economic activities listed under Section 10 “Production of food products” for the period 2008-2012

Indicator	units	2008	2009	2010
Total enterprises	No.	164	193	177
Enterprises registering profits	No.	102	106	111
Enterprises registering losses	No.	53	63	54
Enterprises at breakeven	No.	9	24	12
Products produced *	Thousand Leva	158 713	137 649	150 598
Income resulting from operational activities	Thousand Leva	175 680	152 843	172 306
Net income from sales,	Thousand Leva	161 525	142 198	154 893
Expenditure resulting from operational activities	Thousand Leva	169 538	149 804	169 680
Profit	Thousand Leva	8 719	9 186	15 468
Loss	Thousand Leva	4 007	7 179	13 490
Fixed assets	Thousand Leva	71 014	85 036	82 222

* Estimations provided observing the methodology of Structural business statistics

Table Basic indicators for economic activities listed under Section 11 "Production of beverages" for the period 2008-2012

Indicator	units	2008	2009	2010
Total enterprises	No.	30	28	20
Enterprises registering profits	No.	17	11	…
Enterprises registering losses	No.	7	13	11
Enterprises at breakeven	No.	6	4	…..
Products produced *	Thousand Leva	159 945	54 809	…..
Income resulting from operational activities	Thousand Leva	106 356	80 864	89 639
Net income from sales,	Thousand Leva	67 785	54 941	73 649
Expenditure resulting from operational activities	Thousand Leva	105 842	82 883	91 962
Profit	Thousand Leva	1 437	…	…
Loss	Thousand Leva	1 037	2 850	3 497
Fixed assets	Thousand Leva	72 589	79 059	76 715

… confidential data

* Estimations provided observing the methodology of Structural business statistics

In general, during 2009 an overall increase in the number of companies operating in the food and beverage production sector was observed but in 2010 and as of the date when data is

available there is a tendency of returning to the numbers observed in 2008. In 2009 there was a trend of reduction in all economic indicators and again in 2010 numbers seem to go back to the levels observed in 2008. Undoubtedly this is due to a great extend to world-wide economic trends and mainly to the consequences of the economic crisis suffered by all sectors of the economy of the country.

Most regions express the opinion that the right quantities of resources for food science are available: there exist a large number of scientists operating in these fields and there are public initiatives aiming at fostering food research and innovation.
However, nearly all regions consider the interaction between industry-based research and public food research as insufficient or not effective. Furthermore, despite the efforts made by public initiatives to close this gap, they are rarely successful in this task.
Particular threats observed in new member states are the high bureaucracy and brain drain. The industry does not seem to grasp the potential that innovation offers as they are overburdened with everyday challenges and do not dedicate adequate resources to technology and innovation. Inadequate public and private funding for RTD are also negative factors for innovation. Most importantly the lack of strategic vision in national and regional RTD initiatives hinders their success.

4.2 SWOT ANALYSIS

4.2.1 SWOT METHODOLOGY ADOPTED

According to the methodology provided by the Work package leader the SWOT analysis comprises the following basic steps:

- Collection and analysis of information from SMEs and RTD entities and other stakeholders
- Collection and processing of key regional information and data
- Synthesis of SWOT analysis
- Strategic Orientation Rounds (SOR) for policy development.

The SWOT data derived from the profiling of the food SMEs and RTD entities (act. 3.2a and 3.2b) was used initially, and more specifically the 2 questionnaires used for the profiling (*Section F - Strategic Positioning of the SMEs questionnaire and Section H - Strategic*

Positioning of the RTD entities questionnaire). This information was complemented by key statistical information drawn from the Eurostat Regional statistics database and the National Statistics Institute database in order to provide a standard basis of comparison and assessment of the regional Strengths, Weaknesses, Opportunities and Threats. The results were synthesised in a SWOT table by normalising the opinions selected in the first step with the statistical data collected in the second step. Additionally, the opinion of 10-15 selected experts from the region complemented the opinions of the representatives of food SMEs and RTD entities and the regional statistics data. The experts represented the project partners, regional authorities dealing with food, regional food business, regional RTD entities. The experts were asked to fill in questionnaires and eventually the five most selected S, W, O and Ts for each target group (SMEs and RTD entities) were aggregated in 2 separate tables (one for SMEs and one for RTDs).

4.2.2 RESULTS OF THE SWOT ANALYSIS FOCUSING ON RTD ENTITIES

The methodology used for the development of the SWOT analysis for the AgroFood RTD sector in Bulgaria was based on collection of the opinions of the RTD entities and SMEs through the use of dedicated profiling questionnaires. Approximately 35 RTD responded.

Strengths	*Weaknesses*
1. Developed network of RTD units in the AgroFood sector as well as established system of research, training, teaching and advisory bodies;	1. Research infrastructure and equipment is not state-of-the-art and is not managed effectively for implementing of precise and profound scientific research;
2. Strong traditions in the agro-food science and education;	2. Extremely low size of the state budget earmarked for scientific development;
3. Availability of highly skilled personnel in some areas of the agro-food sector;	3. Inadequate absorption of funds under the national and European programmes, including the Research Framework Programmes and the EU Structural Funds;
4. A growing number of collaboration activities between R&D entities and companies in the sector;	4. Unfavorable labor conditions leading to weak involvement of young people in the research process /ageing personnel/;
5. Orientation towards internationalization and open exchange of experience in research and technology development;	5. Lack of private sector involvement in scientific activity and effective partnerships between scientific organisations, universities and business; lack of private investments in the sector.
Opportunities	*Threats*
1. Access to European and international organisations and research infrastructure and involvement in international research networks; availability of EU funds for research and exchange of knowledge;	1. Loss of intellectual potential; unattractiveness of the sector to the young people; negative public attitude to the image of the scientist;

2. Introduction of priorities in science / priority areas of the Science Development Strategy of Bulgaria until 2020 include: Health and quality of life, biotechnologies and organic food/;	2. Continuing inadequate attention on part of the Government for developing science, education and research (the lowest % of GDP earmarked for science in the EU); corruption and bureaucracy barriers;
3. Constantly growing demand for bioproducts and healthy food as well as for greater and of better quality diversity of sorts, brands, biofuels etc;	3. Weak correspondence between funding programs support and current research interests and innovation needs; slack market of scientific products and small absorption capacity;
4. Launch of new European and regional programs for scientific and technology development;	4. Inadequate response of the educational system in the country to the requirements and needs of the business in 21st century;
5. Establishment of partnerships, networks, clusters, technology transfer units and other forms of cooperation; concentration of resources.	5. Inadequate or insufficient regulatory basis for developing symbiosis between science and business.

4.2.3 RESULTS OF THE SWOT ANALYSIS FOCUSING ON THE NEEDS OF THE SMES

Small and medium enterprises in the food sector with specific RTD needs

Strengths	*Weaknesses*
1. Traditions in the production and processing of food stuffs and beverages; high interest in product diversification;	1. Lack of funds to invest in modern equipment, know-how and production diversification;
2. High quality of products and processes in the food sector comparable to world	2. Lack of in-house specialized RTD units and low level of RTD and innovation activities inside

standards in the sector;	the companies resulting in inefficient production processes and poor marketing;
3. Cooperation between enterprises in the food sector and good relations with other private sector operators;	3. Poor relations between food companies, RTD actors and organizations/institutions responsible for political decisions (insufficient business incubators and technology transfer centres);
4. Operators in the food industry recognize the fact that RTD and innovations are means to boost their competitiveness;	4 Poor innovation commitment and innovation mindset among entrepreneurs and managers in the food sector
5. Good economic relations established with EU and international companies providing for better opportunities for technology transfer;	5. Insufficient number of highly qualified staff specialized in food technologies and production;
Opportunities	*Threats*
1. Opportunities for EU funding for investment in production modernization and boosting competitiveness. Funding for investments for meeting EU market requirements and standards;	1. Insufficient incentives targeted specifically for the food sector possibly resulting in reduction of food production
2.Increasing demand for higher quality and more diversified products	2. Increased competition from third countries with regards to food products and raw materials;
3. Exports increase trends	3. Insufficient national and European funding for investments in RTD and introduction of quality standards
4. Available initiatives (ex. RAF regions project, InnoFOOD project) for establishment of clustering networks between business, research and policy makers	4. Threat of increasing the beurocratic burden and regulatory/legislation obstacles
5. New programming period for EU funding allowing for priority targeted support for food sector innovations both in regional and national policies and development strategies	5. Existing networks between businesses, RTD entities and policy makers are only formal, with no activity or joint management and with no effect on RTD in the food industry

4.2.4 STRATEGIC ORIENTATION OF THE FOOD SECTOR OF THE REGION

Strategic Orientation Round was carried out for f**ood-related RTD actors** and **for SMEs with specific RTD needs** as a method to prioritise strategies and to assist strategy formulation in achievement of our project's goal for strengthening food RTD in our region and providing political recommendations for decision-makers. The SOR was based on the SWOTs' internal and external audits in order to identify the strategic objectives for future strategy formulation. SOR was carried out as a participatory exercise and consensus was built in a consortium of a representative group of actors (stakeholders). Specific meetings dedicated to the SOR were arranged and hosted by the Agricultural University Plovdiv and Pazardzhik regional administration, respectively. All steps in the analysis were two-fold: two SWOTs were prepared, one for companies' own in-house RTD activities and potential, and one for research entities RTD activities; consequently two SOR meetings were carried out by Pazardzhik Regional administration and the Agricultural university Plovdiv, respectively and two sets of strategic objectives were identified. Presentation of and discussion about the SWOT tables and the SOR-matrix was undertaken. A voting system was adopted as suggested by the Work package leader and this was also communicated to the participants at the meeting. The exercise in Pazardzhik involved a total of 10 participants representing 1 SME, 3 research entities and 5 policy-makers (some entities had more than 1 representative). In Plovdiv a total of 19 participants were present – 17 RTD representatives and 2 public authority representatives. Following the voting counting a reflection on results was undertaken and these were subsequently interpreted in order to extract strategic objectives and policy recommendations. Based on the SWOTs and as a result of the SOR exercise we identified which strategic options best match our region's Ss and Ws – which of our region's Ss and Ws are important to face the Os and Ts. The recommended strategy was calculated by summing up all the scores per quadrant, as indicated in the tables further down.

Date of the SOR meeting in Pazardzhik: 15st January 2013
Participants:

Ivan Tilev – Pazardzhik Regional Administration
Lubov Trenkova - Pazardzhik Regional Administration
Albena Kuzeva – Regional Directorate for Agriculture
dr. Fani Petrova – Regional Health Inspectorate
dr. Lozana Vasileva – Payment Agency with the Ministry of Agriculture

dr. Stoil Besalev - Regional Food Agency Directorate
Yordanka Kartalska, Phd. – Agricultural University Plovdiv
Stoyka Masheva, Phd. - Institute for vegetable crops – Plovdiv
Liliya Krasteva, Phd. – Institute for vegetable genetic crops, Sadovo
Mladen Naydenov – Biodinamika Ltd.

4.2.4.1 PRESENTATION OF SOR ANALYSIS FOR SMES WITH SPECIFIC RTD NEEDS

		Opportunities					Threats					Tot.	SUM S/W
		O_1	O_2	O_3	O_4	O_5	T_1	T_2	T_3	T_4	T_5		
Strengths	S_1	18	17	15	3	11	9	17	11	7	5	113	
	S_2	**25**	20	**26**	7	20	16	**20**	**18**	10	6	**168**	
	S_3	6	7	9	22	11	7	11	6	7	15	101	
	S_4	10	7	7	17	14	8	5	14	6	16	104	
	S_5	13	12	14	19	11	8	4	8	12	12	113	599
Weaknesses	W_1	**18**	13	13	6	12	**25**	15	**21**	14	10	**147**	
	W_2	5	6	3	11	11	7	12	10	9	14	88	
	W_3	7	10	2	**14**	9	5	15	6	10	18	96	
	W_4	8	10	8	10	8	11	8	10	10	7	90	
	W_5	7	5	6	3	6	9	5	7	4	2	54	475
Tot.		**117**	107	103	112	113	105	**112**	111	89	105	1074	
SUM O/T						552					522		

The overall strategy for SMEs with specific RTD needs is calculated by summing up all the scores per quadrant, as indicated in the table underneath:

	Opportunities	Threats
Strengths	**Attack** **341**	**Defence** **258**
Weaknesses	**Reorientation** **211**	**Crisis** **264**

The highest score is in the upper right quadrant of the SOR matrix which implies that a Attack strategy should be pursued as most participants in the exercise consider that efforts should be concentrated on fighting threats and that the regional SMEs have the Strengths to deal with the external **Opportunities** and **Threats** identified.

4.2.4.2 PRESENTATION OF SOR ANALYSIS FOR RTD ENTITIES

Date of the SOR meeting in AUP: 26st February, 2013

Participants:

1. Mariana Andonova, PhD-AUP
2. Todor Radev-AUP
3. Manol Deshev-Institute of plant genetic resources Sadovo
4. Albena Pencheva--Institute of plant genetic resources Sadovo
5. Krasimira Avramova-AUP
6. Milena Nikolova--Institute of plant genetic resources Sadovo
7. Andon Vassilev, PhD-AUP
8. Dimka Hajtova, PhD-AUP
9. Ivelina Zaprjanova-AUP
10. Nikolaj Najkov--Institute of plant genetic resources Sadovo
11. Department of Botany and Meteriology-AUP
12. Mladen Najdenov, PhD-AUP
13. Antoniya Ovcharova, PhD-AUP
14. Steliana Kalonova, PhD-AUP
15. Evgenij Dimitrov-AUP
16. Lyubov Trenkova - OAP
17. Boryana Brashlyanova- Dept Biotechnology University of Food Technologies
18. Gergana Kaloyanova-OAP
19. Bogidar Kyosev--Institute of plant genetic resources Sadovo

		Opportunities					Threats					Tot.	SUM S/W
		O_1	O_2	O_3	O_4	O_5	T_1	T_2	T_3	T_4	T_5		
Strengths	S_1	31	19	18	**43**	32	15	20	20	14	17	229	
	S_2	26	34	21	23	18	16	20	11	18	14	201	
	S_3	29	30	30	26	28	21	18	14	**27**	19	**242**	
	S_4	18	23	30	24	**35**	20	17	**23**	20	**27**	237	
	S_5	16	13	17	25	24	16	10	16	13	15	165	1074
Weaknesses	W_1	30	20	22	**31**	22	33	30	31	23	23	258	
	W_2	23	**35**	22	17	20	**38**	**40**	26	25	25	**268**	
	W_3	21	17	17	15	16	13	24	29	13	13	183	
	W_4	16	12	8	10	9	33	26	12	14	14	150	
	W_5	12	17	20	22	13	8	15	21	24	24	180	1032
Tot.		**117**	107	103	112	113	105	**112**	111	89	105	2113	
SUM O/T						1100					1013		

The overall strategy for RTD entities is calculated by summing up all the scores per quadrant, as indicated in the table underneath:

	Opportunities	Threats
Strengths	**Attack** **633**	**Defence** **441**
Weaknesses	**Reorientation** **467**	**Crisis** **572**

The highest score is in the upper right quadrant of the SOR matrix which implies that a Attack strategy should be pursued as most participants in the exercise consider that efforts should be concentrated on fighting threats and that the regional food RTDs have the Strengths to deal with the external **Opportunities** and **Threats** identified.

4.3 RECOMMENDATIONS AND REMARKS

Based on the two analyses carried out as described above the following recommendations can be drawn up for regional food SMEs' innovation needs:

1. The high quality of products and processes in the food sector (S2) is the most important strength of the regional food business which should be exploited in order to take maximum benefit from the external factors which are expected to be present in the future. The second in importance strength in this respect are S1 – traditions in the production and processing of food products and S5 - Good economic relations established with EU and international companies.
2. In terms of weaknesses W1 - lack of funds to invest in modern equipment, know-how and production diversification is considered by voters of having the highest significance and therefore, it should be dealt with the highest priority when considering future possibilities. The second and third in significance are W3 - poor relations between food companies, RTD actors and organizations/institutions responsible for political decisions , and W4 - poor innovation commitment and innovation mindset among entrepreneurs and managers in the food sector. Therefore, these three weaknesses should be targeted when formulating future development strategies in order to provide opportunities for progress in the field of food innovation.
3. When considering future strategic policies the three most significant opportunities should be utilized to help boost the strengths and face the weaknesses of the regional food SMEs' innovation caoacity: O1: EU funding for investment in production modernization; O5: New programming period for EU funding allowing for priority targeted support for food sector innovations and O4: Available initiatives (ex. RAF regions project, InnoFOOD project) for establishment of clustering networks between business, research and policy makers.
4. Significant threats that should be taken into account in future strategic policy planning in order to reduce their influence are T2: Increased competition from third countries; T3: Insufficient national and European funding for investments in RTD; and T1: Insufficient incentives targeted specifically for the food sector.
5. In addition to individual significance of each S, W, O and T, future strategic policy planning should take into consideration the highest scores per combination between O/T and S/W. Voters attributed the highest significance to O1: EU funding for investment in production modernization and O3: Exports increase trends as having

the greatest chances of success for contributing to develop further S2: High quality of products and processes in the sector. On the other hand T2: Increased competition from third countries and T3: Insufficient national and European funding for RTD should be dealt with targeted priority in future strategic policy planning in order to avoid their negative influence on S2: High quality of products and processes in the sector.

6. Likewise, O1: EU funding for investment in production modernization and O4: Available initiatives (ex. RAF regions project, InnoFOOD project) for establishment of clustering networks are a good chance to consider for tackling W1: lack of funds to invest in modern equipment and know-how and W3: poor relations between food companies, RTD and political decision-makers, respectively. In terms of threats T1: Insufficient incentives targeted specifically for the food sector and T3: Insufficient national and European funding for RTD are considered to have crucial influence on W1: lack of funds to invest in modern equipment and should be dealt with the highest priority in future policy planning.
7. Finally, in terms of overall strategic orientation of future food RTD policy planning it is vital to undertake an offensive strategy of attacking current weaknesses and future threats utilizing to a maximum extend the most significant opportunities and strengths of the regional food SMEs identified above by SOR participants. Therefore, according to the team of voting experts policy recommendations for future strategic objectives should cover the most significant options of S, W, O and T described above.

The following recommendations can be drawn up for food RTD needs:

1. Most of the research institutes and universities in that scientific area (Agrofood) are specialized in agriculture and they are working on problems related to the technologies of growing perennial crops, fruits and vegetables and raising animals rather than the processing and food production.
2. The research institutes are distributed throughout Bulgaria – located both in big cities and in medium-size towns.
3. The scientific potential is varied in number and in profiles, age and scientific degrees of the research staff.
4. In the region of Pazardzhik there are neither universities, nor research institutes. The nearest scientific centre is the city of Plovdiv, in which the biggest number of universities and research institutes specialized both in the area of agriculture and strictly in the food sector are concentrated.

5. A specific feature of Bulgaria is the fact that the University of Food Technologies is a separate institution from the Agricultural University, as well as the research institutes most often are concentrated on studies related to agricultural technologies and not exactly food technologies, although in some of them new technologies of ready products obtained from processing of agricultural raw materials are being comprised in their research – such as the Agricultural University – Plovdiv, the Institute of Highland Agriculture and Animal Husbandry in Troyan, the Institute of Plant Genetic Resources, the Institute of Animal Science – Kostinbrod, the Agrobioinstitute, etc.
6. Participation in national projects prevails in the activities of all the institutions. International projects are quite unevenly distributed among the different research organizations.
7. A similar to the above-mentioned tendency is also reported for the publications – the bigger number is published in national journals.
8. Equipment in most of the universities and research institutes is out-of-date. Modern equipments like NMR, LC-MS, RT-PCR, DNA sequencer, etc. are rarely to be found with an exception of the Agricultural University, the University of Food Technologies, the Technical University and the Agrobioinstitute.
9. Spin-offs are not to be found anywhere.
10. The prevailing patents were acquired before 2000 and the reported later ones refer mainly to new plant cultivars and animal breeds.
11. It is not uncommon to find a large number of small projects in which Institutes and individual scientists participate. At the same time, perhaps too many Institutes seem to be making a conscious effort to let themselves be guided by the priorities of the European Commission's Framework Programmes.
12. A few Institutes, due to their remit, have little or no possibility of acquiring additional funding in national or international competitions. For others, there appears to be scope for the generation of additional income through commercializing products, providing services or expert advice that could be more fully exploited.
13. Overall, more should be done to support the Institutes in creating competitive consortia, both inside their organizational structure and with partners outside it.

5. ROMANIA (SOUTH-EAST DEVELOPMENT REGION AND BUCHAREST-ILFOV DEVELOPMENT REGION)

5.1 INTRODUCTION

5.1.1 GENERAL PROFILE OF THE REGION

ROMANIA - Country Profile

Romania has a surface of 237.500 km^2 and it is the second biggest East European country after Poland (312.685 km^2) having almost the same surface as the United Kingdom. Romania is splitted in several administrative units called *counties* (41). To apply the European regional development policy, on the Romanian teritory has been created 8 *development regions* as a free agreement between counties councils and local councils.

Main industries are: textile and leather industry; metallurgical industry; building machines industry; mining industry; wood processing industry; construction materials industry; chemical and petrochemical industry; food industry; IT industry

In 2010, the economy is based on services (55% of GDP), and industry and agriculture had a contribution of 35% and 10% respectively. In the same time, 32% of the working population is involved in agriculture and production, one of the higher rates in Europe.

SOUTH-EAST DEVELOPMENT REGION

Region's Profile

The South-East Development Region is neighbouring in the North with The North-East Development Region, in the West with Center Development Region in the South-West with South-Muntenia Development Region and Bucharest-Ilfov Region, in the South with Bulgaria and in the East with Republic of Moldova, Ukraine and the Black Sea.

The Region has a surface of 35,762 km^2, being the seconf largest development region of Romania (15% of the country's territorial area). The region is participating with 11.2% of the national GDP, the 6th place between the 8th Development Regions of Romania.

The Economic structure of the Region and their components contributions to the Regional GDP: agriculture and forestry with 22%; industry with 22%; constructions with 11%; trade with 9%; hotels and restaurants with 2%; transportation and communications with 10%

The industry in the South-East Development Region includes companies from: food sector; leather sector; mechanical and metallic products sector; petro-chemistry sector; ship construction sector; electrical equipments sector

The Region has three specific issues making a difference of the other Development regions:

1. The ship building industry (4 locations: Braila, Galati, Mangalia and Tulcea) and the water transportation sector, because of the Danube and the Black Sea, the largest harbour of Constanta at the Black Sea and Danube River's harbours like Galati, Braila and Tulcea.

2. The leisure and entertainment industry because of the touristic potential, due mainly the 70 km of the Black Sea coast with 13 vacation cities for the summer holliday.

3. The Danube Delta Reservation has a touristic and scientific potential in the same time and it is one of the main atraction of the region all over the year.

BUCHAREST-ILFOV DEVELOPMENT REGION

Region's Profile

The Bucharest Ilfov Development Region is located in the southern part of Romania, being surrounded by the South-Muntenia Development Region. It is constitued by the largest metropolitan area of Bucharest (the capital city of Romania) and the smallest county of Romania (Ilfov).

The Region has a surface of 1,821 km^2 (0.76% of the country's territorial area) being the smallest Development Region as area. 13.1% of the region's territory is the city of Bucharest and 86.9% is the area of Ilfov county. The region is participating with 26.1% of the national GDP, the 1^{th} place between the 8^{th} Development Regions of Romania. The GDP per capita in 2011 was 13.164 euro, due to the development status of Bucharest metropolitan area, which is 111% over the EU-27 average.

The Economic structure of the Region (2010) and their components contributions to the Regional GDP: agriculture and forestry with 0.3%; industry with 12.8%; constructions with 13.7%; services with 64.3%; others 9%

The Bucharest-Ilfov Development Region has a strong development of the services which include: financial and insurance; public administration; real estate; trade and retails; hotels and restaurants;

5.1.2 SNAPSHOT OF THE REGIONAL FOOD-SECTOR

(Contribution to regional GDP, main food products, RTD and innovation actors, no. of enterprises, employment)

ROMANIA - Food Industry

The food industry is Romania is having a turnover of about 10 billion euro annualy, meaning a contribution of 8% to the GDP and offers jobs for about 200,000 people. In 2010, the food industry has been the third industry of Romania based on turnover.

- food production in March 2012 increased with 107,8% against March 2011;
- food production in March 2012 increased with 118.2% against February 2012;
- food production in the first three months of 2012 increased with 103.3% against the similar period of 2011

The sub-sectors: *the meat processing* had a turnover of 1.3 billion euro, *bakery* had 1.1 billion euro and *non-alcoholic drinks* had 1 billion euro. Important contributions had *meat production* with 840 million euro and *diary* with 800 million euro.

The number of economic agents in food industry is slighty bigger then 10,000 units, a constant number between 2006 – 2010.

SOUTH-EAST DEV. REGION - Food Industry

In 2009, the region counted 1,699 licenced companies in the food industry:

- 163 in the milk and diary sector;
- 99 in the meat processing sector;
- 788 in the milling and baking sector;
- 14 in the can producing sector;
- 51 in oil processing sector;
- 2 in the sugar and sugar beat processing sector;
- 247 in the sugar products manufacturing sector;
- 335 in the beverages sector;

BUCHAREST-ILFOV DEV. REGION

Due to the capital city of Bucharest, the agriculture area is considered only for the Ilfov county and the figures for the agricultural area in 2009 were the followings:

- arable area 102,245 ha;

- pastures area 1973 ha;
- hay area: 58 ha;
- vineyards area: 1,412 ha;
- orchards area: 847 ha;

The volume of the agriculture production in 2009 was about 130 million euro, out of which:

- vegetal production - about 70 million euro;
- animal production – about 55 million euro;
- agricultural services – about 5 million euro

The vegetal production in the Ilfov county in 2009:

- Cereals for seeds: 96,790 tones;
- Wheat: 51,022 tones;
- Barley: 8,646 tones;
- Sunflower: 33,687 tones;
- Potato: 14,336 tones;
- Grapes: 5,300 tones;
- Fruts: 3,642 tones;

Animal production in the Ilfov county in 2009:

- cattle meat: 2,835 tones;
- swine meat: 24,258 tones;
- sheep and goats meat: 394 tones;
- chicken meat: 1,739 tones;
- milk: 453 hl;
- wool: 63 tones
- eggs: 102 millions;
- honey: 241 tones

5.2 SWOT ANALYSIS

5.2.1 SWOT METHODOLOGY ADOPTED

The SWOT analysis used as a strategic planning method evaluated the strengths, weaknesses, opportunities and threats related to food innovation.

As said in the methodology, the focus of this analysis is dual:

- the capacity of the food industry to innovate and/or to absorb research results
- the capacity of the regional food-related RTD entities to develop and adapt relevant and added value research results for commercial use.

Regarding the two Romanian partners involved in INNOFOOD project, the SWOT analysis was split in two, according to the activity profile of each one.

Nevertheless, the SWOT analysis was made following the methodology, as follows:

(i). The first step in elaborating the SWOT analysis was the collection and analysis of information from SMEs and RTD entities and other stakeholders.

For the first focus (the capacity of the food industry to innovate and/or to absorb research results). Over 35 questionnaires from RTD units and about 50 questionnaires from SMEs have been received with useful information for the SWPT analysis.

Each SME was asked to check between several Strengths, Weaknesses, Opportunities and Threats; therefore, the CCINA Constanta had had the possibility to reunite all their opinions in one singular table after gathering all the questionnaires.

Regarding the second focus (the capacity of the regional food related RTD entities to develop and adapt relevant and added value research results or commercial use), a number of 35 questionnaires were also spread in the entire country to a group of research entities, with a specific research activity:

- General research on agriculture production and technology,
- Other research on agricultural production and technology,
- Food technology ,
- General research on protection and improvement of human health,
- Nutrition and food hygiene
- Crops
- Animal products
- Protection of soil and groundwater

The dates from the research entities were collected by IBA.

After concluding to a particular SWOT table (one for the SMEs and one for the research entities), several experts from stakeholders were asked to bring their opinion about the preliminary results of the analysis.

The categories of strengths, weaknesses, opportunities and threats raised no many comments, just the standing of them, especially in the case of SME's SWOT results were "bureaucracy" and "scarce funding resources" have been considered the biggest threats. The same in the case of weaknesses where "low financial capacity" was considered by the stakeholders' representative as major weakness.

Considering that group of experts agreed with the categories, the five most selected S, W, O, T were aggregated into two separate tables (one for each focus).

(ii) The second step of the analysis **was the collection and the processing of key regional information and data**

Based on the information collected, both Romanian partners (CCINA Constanta and IBA Bucharest) made a review of the key statistical information provided by the Eurostat Regional statistic database. This step was made in order to collect all the statistical information necessary for the analysis.

(iii) The third step of the methodology was the synthesis of the SWOT analysis where each Romanian partner normalized the two situations reflected into the specific SWOT tables.

The process of normalization had the goal of clarify the situation of the Romanian food industry; comparing the dates obtained using the questionnaires and the statistical dates, taking into consideration the opinion of several experts.

The experts opinions matched the results for both tables, only differences went to the position in the standing to each of S, W, O, T category. Because it was just a matter of importance, not a matter of being on the table or not, we decided to keep the initial order as a feedback from SMEs and RTD units

After this step, the final two SWOT tables were drawn.

5.2.2 RESULTS OF THE SWOT ANALYSIS FOCUSING ON RTD ENTITIES

The SWOT analysis emerged from the three steps described in the methodology is:

Strengths

- Higly skilled personnel
- Open exchange of experience in research and technology development Public-private cooperation
- Strong research base
- Increasing number of collaboration with firms
- Public-private cooperation

Weaknesses

- Low size of budget for R&D
- Not enough start ups
- Weak understanding between researchers and industry complicates joint projects
- Poor linkage between firms and research entities
- Lack of formal collaboration between actors

Opportunities

- New R&D European and regional programmes
- Networking
- Availability of EU R&D funds for research
- Surplus of well educated researchers
- Increasing demand for more/better varieties

Threats

- Brain drain
- Few incentives for university researchers to engage in collaboration with the industry
- Bureaucracy barriers
- Funding programmes to support research with content far from current research interests
- Failure to attract international researchers

5.2.3 RESULTS OF THE SWOT ANALYSIS FOCUSING ON THE NEEDS OF THE SMES

The SWOT analysis emerged from the three steps described in the methodology is:

Strengths

- Product and Process Quality
- Product Diversification
- Highly skilled personnel
- Geographical position
- Management capacity

Weaknesses

- Poor networking with public actors
- No international orientation
- Low financial capacity
- No dedicated R&D unit
- Low technology level

Opportunities

- Strong regional/national product identity
- Availability of R&D funds for research and innovation
- Increasing export trends
- Networking possibilities (associations, technology platforms, fora, etc)
- Existing RTD & innovation programmes tailored to the sector

Threats

- Insufficient incentives addressed to the sector
- Bureaucracy / Regulation barriers
- Scarce funding resources for R&D available
- No political long-term commitment to the sector
- Need of adaptation to new regulations, normatives and priorities

5.2.4 STRATEGIC ORIENTATION OF THE FOOD SECTOR OF THE REGION

5.2.4.1 Focus on RTD unities

		Opportunities					Threats					
		O1	**O2**	**O3**	**O4**	**O5**	**T1**	**T2**	**T3**	**T4**	**T5**	**total**
Strengths	**S1**	8	**12**	4	2	6	5	**7**	5	4	6	**59**
	S2	9	4	7	5	6	7	4	7	**10**	3	**62**
	S3	7	5	**11**	3	7	1	4	6	3	5	52
	S4	**11**	3	6	8	9	3	5	4	4	5	58
	S5	7	6	5	8	1	2	1	0	2	6	38
Weaknesses	**W1**	6	1	6	3	5	7	2	2	1	7	40
	W2	4	7	4	7	4	4	7	1	2	6	46
	W3	6	8	**9**	0	5	5	3	2	1	**9**	**48**
	W4	4	**12**	3	5	6	2	**10**	3	6	7	**58**
	W5	5	6	6	4	3	4	5	4	0	4	41
	total	**67**	**64**	**61**	45	52	40	**48**	34	33	**58**	

	Opportunities	**Threats**
Strengths	**Attack** **160**	Defence 109
Weaknesses	Reorientation 129	Crisis 104

General prospect for the research units is to ATTACK. As the table shows, the highest score was obtained in the “attack” quadrant: 160.

This means that innovating system in the research area has good strengths to grasp some promising opportunities, that the chances for success are high.

The main opportunities are:

- New R&D European and regional programmes
- There is a strong networking between the actors of the research system
- Availability of EU R&D funds for research

The main threats:

- Brain drain
- Failure to attract international researchers

Main strengths that can help to grasp the main opportunities or limit the main threats:

- Open exchange of experience in research and technology development
- Highly skilled personnel

Main weaknesses that can prevent you from grasping the opportunities or make the threats more threatening:

- Poor linkage between forms and research entities
- Weak understanding between researchers and industry complicates joint projects

Based on the SOR matrix, the following observations can be made:

(i) The capacity to attract **new R&D European and regional programmes** (O=67) should be improved by using more efficiently the **strong research base** (S/O=11) and by maximizing the open exchange of experience in research and technology development. This will enable the food science community to face the **failure to attract international researchers** (T=58).

(ii) The food science community should exploit the opportunity of an intensive **networking** (O=64) by using **the highly skilled personnel** (S/O=12). In order to grasp this opportunity, the **poor linkage between firms and research entities** should be minimize (W/O=12).

(iii) The food science community should take benefit about the **availability of EU R&D funds for research** (O=61) in order to develop innovative, safety and secure food products. Currently, exists a **weak understanding between researchers and**

industry which complicates joint projects (W/O=9), however, **public - private cooperation** can help in attracting European funds for research (S/O=11).

5.2.4.2 FOCUS ON FOOD INDUSTRY

		Opportunities					Threats					
		O1	**O2**	**O3**	**O4**	**O5**	**T1**	**T2**	**T3**	**T4**	**T5**	
Strengths	**S1**	**19**	10	11	6	**15**	7	7	7	3	6	**91**
	S2	8	**17**	13	6	**12**	3	5	**11**	5	4	84
	S3	10	**15**	10	14	7	5	6	9	3	7	**86**
	S4	15	6	8	6	5	1	2	0	8	7	58
	S5	14	13	**17**	21	11	**8**	8	8	5	5	**110**
Weaknesses	**W1**	14	13	7	10	10	8	13	9	6	6	**96**
	W2	8	9	**19**	8	7	6	5	8	4	5	79
	W3	3	**14**	10	3	3	**18**	9	**18**	2	4	**84**
	W4	3	6	7	9	**14**	7	3	10	11	10	80
	W5	1	8	6	10	12	8	2	7	3	10	67
		95	**111**	**108**	93	**96**	**71**	60	**87**	50	64	

	Opportunities	**Threats**
Strengths	**Attack** **289**	Defence 140
Weaknesses	Reorientation 214	Crisis 192

General prospects for the industry is to ATTACK. The highest score was obtained in the “attack” quadrant: 289.

A high score of S/O combinations can be translated into good chances of maximizing the opportunities using all strengths.

The **main opportunities** are:

- Availability of R&D funds for research and innovation
- Increasing export trends

The **main threats** are:

- Insufficient incentives addressed to the sector
- Scarce funding resources for R&D available

Main strengths that can help to grasp the main opportunities or limit the main threats:

- Management capacity
- Product and process quality
- Highly skilled personnel

Main weaknesses that can prevent you from grasping the opportunities or make the threats more threatening:

- Poor networking with public actors
- Low financial capacity

The SOR matrix suggests the <u>following observations:</u>

- The capacity to attract **R&D funds for research and innovation** (O= 111) should be improved by high **product diversification** (S/O=17) and by using the most valuable resource of a company, **highly skilled personnel** (S/O= 15). This will enable the food companies to face the problem of **cofinancing** (T=87).
- The food companies should take into account that the export trends are increasing (O=108) and for that they should valorise the management's capacity (S/O=17). Although, in order to take the advantage of this opportunity, the **international orientation** should be reopened (W/O=19).
- The research activity in the food sector should be supported and should take the advantage of the existing **RTD& innovation programmes tailored to the sector** (O=96) **by constantly improving product quality (**S/O=15) **and product diversification** (S/O=14). The industry should also **think of their own R&D units** (W/O=14)**,** in order to grasp this opportunity**.**

5.3 RECOMMENDATIONS AND REMARKS

(i) Both SOR analysis go for “ATTACK”, showing a positive perspective for RTD units and sectoral SMEs. The strengths could be improved, to use the upcoming opportunities:
- i.e. continuing to have high skilled personnel and strong research base in the RTD units is a guarantee that international networking and the new European and regional programmes will be accessed with applications. In the mean time, product and process quality in the industrial SMEs may support the sector to keep the strong national/regional product identity and to make possible the access at existing RTD and innovation programmes tailored to the sector;

(ii) It is a fact that it is still a poor linkage between industry and research in the country which create also a weak understanding between researchers and industry experts. Using the opportunity of the increasing networking possibilities (like professional associations, clusters, technology platforms, for a) is the most direct answer to minimize the weakness and in time the cooperation between industry and research to become a strength.

(iii) In the country and in the country’s regions there are no direct programmes for food sector (the food thematic lines are part of the general programmes). Launching such sectoral programmes will be a larger opportunity for the sectoral RTD units and SMEs and it would be the task of the consortium to find innovative tools to propose them to public authorities in charge for RTD and innovation which may consider in the future promoting a sectoral food program.

ANNEX 1

RESEARCH

Preliminary SWOT results

Strengths	***Weaknesses***
1. Open exchange of experience in research and technology development (22 responses)	1. Not enough start ups (20 responses)
2. Highly skilled personnel (24 responses)	2. Low size of budget for R&D (29 responses)
3. Public-private cooperation (21responses)	3. Poor linkage between firms and research entities (10 responses)
4. Strong research base (21 responses)	4. Weak understanding between researchers and industry complicates joint projects (11 responses)
5. Increasing number of collaboration with firms (7 responses)	5. Lack of formal collaboration between actors (3 responses)
Opportunities	**Threats**
1. New R&D European and regional programmes (26 responses)	1. Bureaucracy barriers (13 responses)
2. Networking (22 responses)	2. Funding programmes to support research with content far from current research interests (11 responses)
3. Availability of EU R&D funds for research (13 responses)	3. Failure to attract international researchers (10 responses)
4. Surplus of well educated researchers	4. Brain drain (15 responses)

(13 responses) 5. Increasing demand for more/better varieties (5 reponses)	5. Few incentives for university researchers to engage in collaboration with the industry (14 responses)

ANNEX 2

INDUSTRY

Preliminary SWOT results

Strengths	***Weaknesses***
1. Product and Process Quality (33)	1. Poor networking with public actors (14)
2. Product Diversification (20)	2. No international orientation (14)
3. Highly skilled personnel (15)	3. Low financial cappacity (11)
4. Geographical positioning (15)	4. No dedicated R&D unit (9)
5. Management cappacity (15)	5. Low technology level (9)
Opportunities	**Threats**
1. Strong regional/national product identity (16)	1. Insufficient incentives addressed to the sector (24)
2. Availability of R&D funds for research and innovation (14)	2. Bureaucracy / Regulation barriers (22)
3. Increasing export trends (14)	3. Scarce funding resources for R&D available (15)
4. Networking possibilities (associations, technology platforms, fora, etc) (12)	4. No political long-term commitment to the sector (14)
5. Existing RTD & innovation programmes tailored to the sector (8)	5. Need of adaptation to new regulations, normatives and priorities (10)

6. REGION OF SLOVENIA

6.1 INTRODUCTION

6.1.1 GENERAL PROFILE OF THE REGION

Republic of Slovenia is one of the smallest EU member states and covers 20,256 square kilometres. It borders with Austria in the North (the length of border is 324 km), with Italy in the west (235 km), Hungary in the northeast (102 km) and Croatia in the south and southeast (546 km). Slovenia's coastline on the Adriatic Sea in the southwest is 47 km long.

Slovenia has a population of about two million people. Similarly to other modern societies, the country has been facing demographic issues, such as ageing, and low birth rate. Population density in Slovenia is about 100 inhabitants per square kilometre which is much lower than in the majority of European states. Approximately one third of the population live in towns with more than 10,000 inhabitants, the rest live in nearly six thousand smaller towns and villages. The larger towns are Ljubljana (the capital), Maribor, Kranj, Celje, Koper, Novo Mesto, Nova Gorica, Velenje, Ptuj, MurskaSobota, SlovenjGradec.

In spite of its geographically small size, Slovenia is a convergence point of a range of different landscapes – Alpine and Mediterranean, Pannonian and Dinaric, each of which has its own characteristics and unique features as well as this area has always been the juncture of various cultural impacts. With its position between the Alps and the northernmost gulf in the Mediterranean, Slovenia represents one of the most important passages from the south-eastern Europe to the west. Slovenia's geographical position is favoured by the proximity of propulsive, fast developing European regions playing the role of development generators. Thanks to its geographical position and good understanding of the Balkan region, Slovenia has good chances of actively participating in the process of political democratisation and economic restructuring of this region. Owing to its central location, Slovenia has always been at a crossroads.

The country's topography is very diverse. Slovenia is rich with its man-made environment, architecture and the heritage of settlements and extensive natural systems. This can be illustrated by the fact that 35% of the territory of Slovenia is regarded as NATURA 2000. Approximately 90 per cent of the country lies more than 300 m above sea level, forests cover more than half of its territory (56.7%) and about 85 per cent of the other half is agricultural

land. This is all reflected in the number of natural regions, naturally formed borders, a variety of relief, the diversity of land great biodiversity, long borders, minorities, richness of surface and underground waters, wealth of landscape and nature as well as extensive woodlands. The consequence is that some areas are hard to pass and thus unfavourable conditions have been created for the organisation of economic activities.

6.1.2 SNAPSHOT OF THE REGIONAL FOOD-SECTOR

(Contribution to regional GDP, main food products, RTD and innovation actors, no. of enterprises, employment)

Slovenian agro-food sector is relatively small in terms of its contribution to the national economy. The shares in GDP, employment and trade have fallen since the beginning of the 1990s and are expected to decrease further, mostly due to the faster growth of non-agricultural sectors of the economy. The key determinant of situation in the national agro-food sector is the fact that the natural conditions for agriculture are relatively unfavourable in Slovenia and that the structural deficits impede competitiveness growth of the food industry.

Agriculture:

Natural conditions for agriculture are relatively unfavourable in Slovenia. Availability of land for agricultural production is limited in Slovenia, with forests covering more than 60% of the country's territory. The agricultural area accounts for about 30% of total land and its area has been steadily declining due to expansion of forests, built-up territories and new transport infrastructure. The greatest share of the structure of agricultural land use is covered by permanent grassland and pastures (58 %), followed by fields (36 %) and perennial crops (6 %). In Slovenia the grassland share in the structure of the agricultural land use is nearly as twice as large as the average in EU.

The unfavourable conditions do not make agricultural activity entirely impossible, but they cause lower production capacity of the farms, narrow down the choice of crops, production management and demand technology adaptation, which again causes a more expensive production.

The sectorial structure of agricultural output has remained almost unchanged in last decade, with livestock and crop production accounting for about 50% of GAO each. Milk and beef production are the most important livestock sub-sectors, followed by pig and poultry production. In the structure of crop production, beside forage plants, fruits and wine together represent the highest share of GAO, followed by cereals.

Table 2- Composition of GAO by commodity, 2010 *(Source: SORS, 2012)*

	Value in mio EUR	**Share**
AGRICULTURAL OUTPUT	**1.111**	**100,0%**
Crop output	**596**	**53,6%**
Cereals	80	7,2%
Industrial crops	26	2,4%
Forage plants	186	16,8%
Vegetables and horticultural plants	65	5,9%
Potatoes	22	2,0%
Fruit	100	9,0%
Wine	116	10,4%
Other crop products	0	0,0%
Animal output	**495**	**44,5%**
Animals	301	27,1%
Cattle	138	12,4%
Pigs	62	5,5%
Horses	2	0,2%
Sheep and goats	8	0,7%
Poultry	90	8,1%
Other animals	2	0,1%
Animal products	194	17,4%
Milk	151	13,6%
Eggs	30	2,7%
Other animal products	13	1,2%
Agricultural services	**21**	**1,9%**

According to the last agricultural census (SORS, 2012) there is 74.646 farms with the average size of only 6,4 ha – farms are thus around 3-times smaller compared with the EU average. The comparison with the previous census in year 2000 shows rather intensive

structural changes, since the average size increased by 13%, however the consolidation process are slower than in the majority of other EU member states.

Food industry:

Slovenian food processing industry is economically and technologically rather advanced, when compared to other EU new member states, however the key competitive pressure recently comes from the expansive companies from incumbent members. Therefore, the opening up of the food market after the Slovenia's EU accession affected business performance significantly. This is clearly evident from the industry contribution to the national GDP and employment which diminished from around 2,3% in the pre-accession period to 1,5% and 1,7 respectively.

Despite the fact, the production of food and beverages is still one of the most important activities of the Slovene processing sector. In 2011, 1.183 business subjects were registered in the food processing sector out of which 599 companies and 584 individual entrepreneurs, providing employment for 15.987 employees. The incomes generated amounted to EUR 2,1 billion, while the value added amounted to EUR 0,471 billion

The food processing industry, with 8,5% of employees is the third major employer in Slovenian processing sector, after the metalworking industry and the production of electric devices. Considering the percentage share of turnover of 9,0%, food processing occupies fourth place, while the percentage share of value added is 7,6% (fourth place in the processing industry).

Meat processing and the bakery sectors are two major activities, in terms of the number of companies and employees, together accounting for more than a half (57% in 2011) of all employed in the food industry. In terms of sales value the share of meat processing industry is around 30%, while the bakery sector contributes 14%, and the same share comes from the dairy industry (AJPES, 2012).
In general, Slovenian food processing sector produces great variety of contemporary and traditional food products of a Central European and partly Mediterranean type. Certainly meat and dairy products deserves special attention, however, also variety and quality of bread and vine also should be noted.

Despite its small geographical size, meat products vary significantly with Slovenian regions and even sub-regions. Generally; three distinct regions might be separated: central and north-western part of the country; Karst with costal region and north-east and Panonian region. Products specific for the regions have some similarities with neighbouring nations-eg. in Karst and costal region products possess some similarities with the Italian type of meat production; similarly central and north-east region is nearer to Austrian tradition.

Assortment of dairy products offered by the Slovenian diary companies is easily comparable with the most advanced markets in Europe. Especially the “probiotic” fermented drinks (probiotic yogurt) segment is well developed. This type of products holds the highest share in the yogurt category.

The Slovene agro-food industry is well incorporated in international trade; however the country is traditionally a net food importer. Trade deficit remained relatively stable in the pre-accession period at the level of around EUR 350 million. Agro-food trade was stimulated in both directions after the EU accession due to abolished border protection and changes in trade regimes, with imports increasing in particular. Trade deficit has risen to about 982 million EUR in 2011, the highest level so far. In the same year the imports reached 1.854 million EUR while the exports were at about 873 million EUR.The two major export categories of the Slovene food processing industry include the group comprising milk, dairy products, eggs and honey and meat and meat products, and fish and products thereof. In 2011, more than one half of the value of Slovenian exports was realised in four key markets. First place is occupied by Italy with more than one quarter of the total export value, next comes Croatia, with 12%; Bosnia and Herzegovina with 9% and Austria with approximately the same share of the total export value of processed food and beverages.

6.2 SWOT ANALYSIS

6.2.1 SWOT METHODOLOGY ADAPTED

The SWOT analysis used as a strategic planning method evaluated the strengths, weaknesses, opportunities and threats related to food innovation.In the methodology, the focus of this analysis is dual:

- the capacity of the food industry to innovate and/or to absorb research results

- the capacity of the regional food-related RTD entities to develop and adapt relevant and added value research results for commercial use.

The SWOT analysis was made following the methodology, as follows:

The first step in elaborating the SWOT analysis was the collection and analysis of information from SMEs and RTD entities and other stakeholders.

For the first focus (the capacity of the food industry to innovate and/or to absorb research results).8questionnaires from RTD units and about 31questionnaires from SMEs have been received.

Each SME and RTD was asked to check between several Strengths, Weaknesses, Opportunities and Threats.

After concluding to a particular SWOT table (one for the SMEs and one for the research entities), several experts from stakeholders were asked to bring their opinion about the preliminary results of the analysis.

Considering that group of experts agreed with the categories, the five most selected S, W, O, T were aggregated into two separate tables.

The next step of the analysis was the collection and the processing of key regional information and data.

The third step of the methodology was the synthesis of the SWOT analysis.

The process of normalization had the goal of clarify the situation of the Slovenian food industry.For an opinion we asked of several experts. The expert's opinions matched the results for both tables.

After this step, the final two SWOT tables were drawn.

6.2.2 RESULTS OF THE SWOT ANALYSIS FOCUSING ON RTD ENTITIES

The SWOT analysis emerged from the three steps described in the methodology is:

Strengths

- Open exchange of experiencesand research
- Highly skilled personnel
- Public-private cooperation
- Increasing number of collaboration activities with companies
- Strong research base and technology development

Weaknesses

- Unreadinessto the current situation
- Lack of open projects, incentives
- Poor linkage between companies and research entities
- Weak understanding between researchers and industry complicates joint projects
- Unfocuseddevelopment

Opportunities

- Availability of EU R&D funds
- The establishment ofdevelopment centers
- Networking
- Expandingof product and service assortment
- Usageof well-educated researchers

Threats

- National budget cut for research
- No jobs for university researchers
- Brain drain
- The entry of foreignowners in food companies
- Unsuccessful attraction of international researchers

6.2.3 RESULTS OF THE SWOT ANALYSIS FOCUSING ON THE NEEDS OF THE SMES

The SWOT analysis emerged from the three steps described in the methodology is:

Strengths

- Product and Process Quality, Standards
- Geographical position of Slovenia
- Product market positioning
- Financial capacity
- Product Diversification

Weaknesses

- Low financial capacity
- No dedicated R&D unit within food companies
- Poor networking with public actors
- Low innovation commitment
- No flexible organisational structures

Opportunities

- Increasing export possibilities
- Increasing consumer demand for more/better varieties
- Strong regional/national product identity (power of labels)
- Availability of R&D funds for research and innovation
- High quality infrastructures (equipment, technology)

Threats

- Bureaucracy / Regulation barriers
- Insufficient incentives addressed to the sector
- No political long-term commitment to the sector
- Constant adaptation to new regulations andrequirements
- Competition coming from third countries (e.g. globalisation)

6.2.4 STRATEGIC ORIENTATION OF THE FOOD SECTOR OF THE REGION

6.2.4.1 Focus on food industry

		Opportunities					Threats					
		O1	**O2**	**O3**	**O4**	**O5**	**T1**	**T2**	**T3**	**T4**	**T5**	
Strengths	**S1**	**14**	7	10	5	0	8	2	0	6	**12**	64
	S2	11	8	9	5	0	2	0	0	0	6	41
	S3	10	6	13	5	6	0	8	**12**	0	**14**	74
	S4	**16**	10	7	12	9	**12**	7	7	11	9	**100**
	S5	7	11	2	0	4	0	1	0	0	9	34
Weaknesses	**W1**	**15**	9	11	14	**16**	13	0	0	11	14	103
	W2	5	13	5	**15**	10	10	1	1	9	9	78
	W3	0	2	8	13	13	10	**16**	**15**	9	7	93
	W4	7	**16**	9	**16**	14	2	10	12	11	9	**106**
	W5	7	10	10	8	13	10	3	0	12	7	80
		92	92	84	**93**	85	67	48	47	69	**96**	

	Opportunities	**Threats**
Strengths	Attack 187	Defence 126
Weaknesses	**Reorientation** **259**	Crisis 201

Speaking about the food industry, it came out from the SOR matrixthere is a need ofreorientation. Thus,the highest score was obtained in the “reorientation” quadrant: 259.

Having thehigher score within the W/O quadrant means clean ship or reorientation, which in practice means the food industry needs to work on its weaknesses to take benefit of present, most important opportunities.

Main opportunitiesare:

- Availability of R&D funds for research and innovation, followed by
- Increasing export possibilities and
- Increasing consumer demand for more/better varieties

The main threat seems to be:

- Competition coming from third countries, the so called globalisation

- **Main strength** that can help the food sector to grasp the main opportunities and limit the main threat is:Financial capacity

There are two main weaknessesidentified that can prevent the food sector from grasping the opportunities and make the threats even more threatening:

- Low innovation commitment
- Lowfinancial capacity

Based on the SOR matrix, the following observations can be made:

- the food sector should take advantage of proper strengths as product and process quality as well as financial capacity in order to use all the export possibilities which are available;

- same strength, together with product market positioning, should be used in order to deal with all the threats identified

- the food sector is dealing with several weaknesses, which all together makes impossible to reach the opportunities available; we can't say one weakness is explicitly in front of the others

- the food sector should mainly focus on poor networking with public actors in order to deal with the main threats, being insufficient incentives addressed to the sector and nonexistence of political long-term commitment to the sector

6.2.4.2 Focus on RTD unities

		Opportunities					Threats					
		O1	**O2**	**O3**	**O4**	**O5**	**T1**	**T2**	**T3**	**T4**	**T5**	
Strengths	**S1**	11	7	**16**	12	12	1	4	2	0	9	74
	S2	10	9	5	11	4	0	4	1	0	6	50
	S3	7	**12**	8	8	7	6	7	8	0	5	68
	S4		11	6	10	11	4	**13**	**13**	0	4	**81**
	S5	7	6	7	7	6	5	9	10	0	**11**	68
Weaknesses	**W1**	6	4	3	8	8	6	7	10	0	8	60
	W2	4	4	6	7	9	0	8	10	0	9	57
	W3	**10**		6	4	5	4	**11**	**12**	0	6	**72**
	W4			8		5	0	8	6	0	4	57
	W5	0	0	0	3	5	**10**	8	7	5	8	46
		75	73	65	**79**	72	36	**79**	**79**	5	70	

	Opportunities	**Threats**
Strengths	**Attack** **219**	Defence 122
Weaknesses	Reorientation 145	Crisis 147

General prospect for the research units is to ATTACK. As the table shows, the highest score was obtained in the “attack” quadrant: 219.

The **main opportunity** is:

- expanding of product and service assortment

The **twomain threats** are:

- no jobs for university researchers
- Brain drain

Main strength that can help RTDs to grasps the main opportunityandlimit the main threats is:

- Increasing number of collaboration activities with food companies

Main weakness that can prevent RTDsfrom grasping the opportunities andmake the threats even more threatening is:

- Poor linkage between food companiesand research entities

Based on the SOR matrix, the following observations can be made:

- RTDs seems to be in a good position to grasp the opportunities which are available, mainly using the existing open exchange of experiences and research for successful networking with all the other stakeholders, dealing with R&D
- Increasing number of collaboration activities with food companies should be also used in order to deal with the existing threats of external environment, namely no jobs available for university researchers and brain drain
- In order to be successful in reaching available R&D funds and establishing development centers RTD should focus and take care of its weaknesses, being poor linkage between them and food companies, as well as weak understanding between researchers and industry, which complicates joint projects
- Poor linkage between food companies and research entities should be also taken into consideration in dealing withthe threats, where no jobs for university researchers and brain drain are again in the front

6.3 RECOMMENDATIONS AND REMARKS

The SOR analysis, which is focused on food industry, showed that there must be a REORIENTATION. Food industry has great export possibilities due to the position of the country, which needs to be well used. Slovenian products are known for their quality, so food industry should promote them beyond the country's borders.

Due to the increasing competition in the market, Slovene Food industry could succeed with advanced, innovative, quality products and services. The food sector should take advantage of proper strengths as product and process quality especially because there is increasing consumer demand for more/better varieties. Supporting food industry in this production (innovation, excellent process and product quality,..).

Food industry has a lot of opportunities as well as some strengths – Slovenian policy should foster this strengths and with long term commitment take care of sufficient support for this strategic industry.

In SOR analysis for RTD units go for ATTACK. This indicates a positive perspective for research units to take advantage of the opportunities that are available.

In order to be successful in reaching available R&D funds and establishing development centers RTD should focus and take care of its weaknesses, being poor linkage between them and food companies, as well as weak understanding between researchers and industry, which complicates joint projects. This also have influence on development of new innovations and products. Slovenia should foster innovation in food industry – in their documents and with founds - that will help and foster RTD institutes to have more firm connections with food industry (flow of information, knowledge, experts). Collaboration between food industry and RTDs will help to transfer the knowledge from theory to practice.

Slovenian politics should establish existence of political long-term commitment to the sector of food industry – because of its strategic role (food security – self sufficient supply).

ANNEX 1

SWOT RESULTS FOR RTDs

Strengths	**Weaknesses**
1. Open exchange of experience in research and technology development (7)	1. Unwillingnesson the current situation(7)
2. Highly skilled personnel (6)	2. Lack of open projects, incentives(6)
3. Public-private cooperation (5)	3.Poor linkage between firms and research entities (4)
4. Increasing number of collaboration activities with companies (5)	4. Weak understanding between researchers and industry complicates joint projects (2)
5. Strong research base and development (4)	5. Undirecteddevelopment(0)

Opportunities	***Threats***
1. Availability of EU R&D funds for research (8)	1. National budget cut for research(6)
2. The establishment ofdevelopment centers(6)	2. No jobs for university researchers (5)
3. Networking (3)	3. Brain drain (2)
4. Expandingof product and service assortment(1)	4. The entry of foreignowners in thefood company
5. Usageof well-educated researchers (1)	5. Unsuccessful attraction of international researchers (1)

ANNEX 2

SWOT RESULTS FOR SMEs

Strengths	**Weaknesses**
1. Product & Process quality (25)	1. Low financial capacity (21)
2. Geographic position of Slovenia (9)	2. No dedicated R&D Unit (8)
3. Market position (8)	3. Poor networking with public actors (5)
4. Financial capacity (6)	4. Low innovation commitment (5)
5. Product diversification (5)	5. No flexible organisational structures (3)
Opportunities	**Threats**
1. Increasing export trends (13)	1. Bureaucracy / Regulation barriers (23)
2. Increasing consumer demand for more/better varieties (12)	2. Insufficient incentives addressed to the sector (14)
3. Strong regional/national product identity (12)	3. No political long-term commitment to the sector (11)
4. Availability of R&D funds for research and innovation (11)	4. Constant adaptation to newregulations and requirements (9)
5. High quality infrastructures (8)	5. Competition coming from third countries (6)

7. REGION OF HUNGARY (CENTRAL HUNGARY DEVELOPMENT REGION)

7.1 INTRODUCTION

7.1.1 GENERAL PROFILE OF THE REGION

HUNGARY - Country Profile

Hungary has a surface of 93.028 km^2 Hungary is splitted in several administrative units called *counties* (19). To apply the European regional development policy, on the Hungarian teritory has been created 7 *development regions* as a free agreement between counties councils and local councils.

Main industries are: machinery industry;; chemical (plastic and pharmaceuticals industry; food industry;

In 2011, the economy is based on services (65,7% of GDP), and industry and agriculture had a contribution of 30,1% and 4,8% respectively. In the same time, 4,8% of the working population is involved in agriculture and 3,2% in food production.

CENTRAL HUNGARY DEVELOPMENT REGION

Region's Profile

The Central Hungary Development Region is neighbouring in the North-East with The North Development Region, in the West with Middle Pannon Development Region in the South with South-Plain Development Region.

The Region has a surface of 6918 km^2, (7,4% of the country's territorial area). The region is participating with 45% of the national GDP.

The Basic Economic structure of the Region The situation of the region is determined by its central position and by the dominance of the Capital and its agglomeration. 40% of all active economic organisations in the country is concentrated in the Region.

7.1.2 SNAPSHOT OF THE REGIONAL FOOD-SECTOR

HUNGARY - Food Industry

The food industry is Hungary is having a turnover of about 2300 billion HUF in 2012, meaning a contribution of 10,1% to the GDP in 2011 and offers jobs for about 95,000 people. In 2011, the food industry has been the third industry of Hungary based on turnover.

90% of total food production is given by big and middle enterprises. However 96% of enterprises active in the food industry are micro and small.

The sales of Hungarian food industry dropped nearly 30% between 2002-2009. It was caused by the too high general VAT (27%) including the food products. (in Bulgaria 20%, in Greece 23%, in Italy 20%, in Romania 24%, in Slovenia 20%, in Ukraine 20%, in Serbia 20%

CENTRAL HUNGARY DEV. REGION - Food Industry

There does not exists an official, public statistics on structure of food industrial enterprises of the Region. The information, summarised in Table below is based on experts consultations

Sector	micro entreprise	small-scale entreprise	middle-scale entreprise
Canning industy (mainly small-scale producers of sour products, some small-scale canned fruit producers)	40-80	3-5	1
Deep-Freezing industry		1-3	
Milk-production, dairy indusry	1-3	3-5	3
Milling industry		5-7	
Backery industry	250-350	60-70	15-20
Meat processing	30-40	5-8	3-5
Brewery industry	6-9		1
Wine making	600-900	10-15	1-3
Production of spirituous drinks	9-12	3-5	1

Mineral water and refreshing drinks	3-5	2-4	2
Vegetable oil production	2-4		
Biodiesel production	2		
Processing of herbs	2	2	1
Feed mix production		4	

7.1.3 AGRICULTURAL RESEARCH AND RESEARCH INSTITUTIONS IN THE REGION

Research institutions are maintained by the Hungarian Academy of Sciences (HAS), the Ministry of Rural Development (MRD) and the Ministry of National Resources (MNR) and some private companies. The MRD coordinates and manages the agricultural and environmental research and development as well as the innovation. Now there are 7 budgetary research institution under MRD. (Previously there were 24.) 4 of them there are in the Central Region (Central Fod research Institute, Agricultural Biotechnology Center, Agricultural Economics Research Institute, Hungarian Institute of Agricultural Engineering). In addition researches are conducted at the faculties of universities (Szent István University and Corvinus University). The number of agricultural researchers is 5,4% of total number of researchers in all sectors.

7.2 SWOT ANALYSIS

7.2.1 SWOT METHODOLOGY ADOPTED

The SWOT analysis used as a strategic planning method evaluated the strengths, weaknesses, opportunities and threats related to food innovation.

As said in the methodology, the focus of this analysis is dual:

- the capacity of the food industry to innovate and/or to absorb research results
- the capacity of the regional food-related RTD entities to develop and adapt relevant and added value research results for commercial use.

The SWOT analysis was made following the methodology, as follows:

(i). The first step in elaborating the SWOT analysis was the collection and analysis of information from SMEs and RTD entities and other stakeholders.

For the first focus (the capacity of the food industry to innovate and/or to absorb research results). Over 20 questionnaires from RTD units and about 40 questionnaires from SMEs have been received with useful information for the SWOT analysis.

Each SME was asked to check between several Strengths, Weaknesses, Opportunities and Threats.

Regarding the second focus (the capacity of the regional food related RTD entities to develop and adapt relevant and added value research results or commercial use), a number of 20 questionnaires were also spread in the entire country to a group of research entities, with a specific research activity:

- General research on agriculture production and technology,
- Other research on agricultural production and technology,
- Food technology ,
- General research on protection and improvement of human health,
- Nutrition and food hygiene
- Crops
- Animal products
- Protection of soil and groundwater
- Thermal water utilization

After concluding to a particular SWOT table (one for the SMEs and one for the research entities), several experts from stakeholders were asked to bring their opinion about the preliminary results of the analysis.

The categories of strengths, weaknesses, opportunities and threats raised no many comments, just the standing of them, especially in the case of SME's SWOT results were "bureaucracy" and "scarce funding resources" have been considered the biggest threats. The same in the case of weaknesses where "low financial capacity" was considered by the stakeholders' representative as major weakness.

Considering that group of experts agreed with the categories, the five most selected S, W, O, T were aggregated into two separate tables (one for each focus).

(ii) The second step of the analysis **was the collection and the processing of key regional information and data**

(iii) The third step of the methodology was the synthesis of the SWOT analysis.

After this step, the final two SWOT tables were drawn.

7.2.2 RESULTS OF THE SWOT ANALYSIS FOCUSING ON RTD ENTITIES

The SWOT analysis emerged from the three steps described in the methodology is:

Strengths

- Hungary's higher education, RTD as well as innovation potencial are concentrated in the Region
- Strong research base
- Highly skilled personnel
- The Region is a multifunctional centre (finance trade and services)
- Open exchange of experience in research and technology development Public-private cooperation

Weaknesses

- Low size of budget for R+D
- Transfer of entrepreneurial knowledge is weak
- Not enough start ups
- Regionally uneven economic development level
- Weak understanding between researchers and industry complicates joint projects

Opportunities

- New R+D European and regional programmes
- There is a strong networking between the actors of the research system
- Significant internal innovation and R+D capacity
- Major growth potential for the knowledgebased economy and innovative enterprises
- Surplus of well educated researchers

Threats

- Social cohesion is getting weaker
- Brain drain
- Few incentives for university researchers to engage in collaboration with the industry
- Bureaucracy barriers
- Funding programmes to support research with content far from current research interests

7.2.3 RESULTS OF THE SWOT ANALYSIS FOCUSING ON THE NEEDS OF THE SMES

The SWOT analysis emerged from the three steps described in the methodology is:

Strengths

- Product and Process Quality
- Attractive natural environment (fine countryside, thermal waters, Danube)
- Strong presence of creative industries and copyright activities
- Transport the region, especially Budapest, has good accessibility
- Management capacity

Weaknesses

- SME's inadequate business skills, innovation ambitions, ICT facilities and access to finance
- Dual economic structure, with multinational and local businesses working in uncooperating isolation
- Low financial capacity
- No dedicated R+D unit
- Weak cooperation between businesses and researchers

Opportunities

- Significant internal innovation and R+D capacity
- Existing R+D and innovation programmes tailored to the SME sector
- Increasing export trends
- Networking possibilities
- Attraction of multinational companie's research centres into the region Innovation transfer role towards Eastern and South –Eastern Europa

Threats

- Insufficient incentives addressed to the sector
- Bureaucracy / Regulation barriers
- Scarce funding resources for R&D available

- Social cohesion is getting weaker
- Competitor regions (Vienna, Bratislava, Prague)

7.2.3.1 Focus on RTD unities

		Opportunities					Threats					
		O1	**O2**	**O3**	**O4**	**O5**	**T1**	**T2**	**T3**	**T4**	**T5**	**total**
Strengths	**S1**	8	5	4	2	6	5	**7**	5	4	6	**52**
	S2	9	4	**10**	5	6	7	4	7	**9**	3	**64**
	S3	7	**12**	**7**	3	7	1	4	6	3	5	55
	S4	**10**	3	6	8	**10**	3	5	4	4	5	58
	S5	7	6	5	8	1	2	1	0	2	6	38
Weaknesses	**W1**	6	1	6	3	5	7	2	2	1	7	**40**
	W2	4	7	4	7	4	4	7	1	2	6	46
	W3	6	8	6	0	5	5	3	2	1	**9**	45
	W4	4	**11**	3	5	6	2	**9**	3	6	7	56
	W5	5	6	**9**	4	3	4	5	4	0	4	44
	total	66	**63**	60	45	**53**	40	47	**34**	32	58	

	Opportunities	**Threats**
Strengths	**Attack** **159**	Defence 108
Weaknesses	Reorientation 128	Crisis 103

General prospect for the research units is to ATTACK. As the table shows, the highest score was obtained in the “attack” quadrant: 159.

This means that innovating system in the research area has good strengths to grasp some promising opportunities, that the chances for success are high.

The main opportunities are:

- New R&D European and regional programmes
- There is a strong networking between the actors of the research system

- Significant internal innovation and R+D capacity

The main threats:

- Brain drain
- Funding programmes to support research with content far from current research interests

Main strengths that can help to grasp the main opportunities or limit the main threats:

- Hungary's higher education, RTD as well as innovation potencial are concentrated in the Region
  Strong research base

Main weaknesses that can prevent you from grasping the opportunities or make the threats more threatening:

- Regionally uneven economic development level
- Not enough start ups

Based on the SOR matrix, the following observations can be made:

(i) The capacity to attract **new R&D European and regional programmes** (O=66) should be improved by using more efficiently the **strong research base** (S/O=10) and by maximizing the open exchange of experience in research and technology development.

(iv) The food science community should exploit the opportunity of an intensive **networking** (O=63) by using **the highly skilled personnel** (S/O=12). In order to grasp this opportunity, the **regionally uneven economic development level** should be minimize (W/O=11).

(v) The food science community should take benefit about the **availability of new R+D European and regional programmes for researchers** (O=60) in order to develop innovative, safety and secure food products. Currently, exists a **weak understanding between researchers and industry which complicates joint**

projects (W/O=9), however, **public - private cooperation** can help in attracting European funds for research (S/O=10).

7.2.3.2 FOCUS ON FOOD INDUSTRY

		Opportunities					Threats					
		O1	**O2**	**O3**	**O4**	**O5**	**T1**	**T2**	**T3**	**T4**	**T5**	
Strengths	**S1**	**19**	10	11	6	**15**	7	7	7	3	6	**91**
	S2	8	**15**	13	6	**12**	3	5	**11**	5	4	84
	S3	10	**17**	10	14	7	5	6	9	3	7	**86**
	S4	15	6	8	6	5	1	2	0	8	7	58
	S5	14	13	**17**	21	11	**8**	8	8	5	5	**110**
Weaknesses	**W1**	14	13	7	10	10	8	13	9	6	6	**96**
	W2	8	9	**19**	8	7	6	5	8	4	5	79
	W3	3	**14**	10	3	3	**18**	9	**18**	2	4	**84**
	W4	3	6	7	9	**14**	7	3	10	11	10	80
	W5	1	8	6	10	12	8	2	7	3	10	67
		95	**111**	**108**	93	**96**	**71**	60	**87**	50	64	

	Opportunities	**Threats**
Strengths	**Attack** **289**	Defence 140
Weaknesses	Reorientation 214	Crisis 192

General prospects for the industry is to ATTACK. The highest score was obtained in the “attack” quadrant: 289.

A high score of S/O combinations can be translated into good chances of maximizing the opportunities using all strengths.

The **main opportunities** are:

- Significant internal innovation and R+D capacity
- Increasing export trends

The **main threats** are:

- Scarce funding resources for R&D available
- Insufficient incentives addressed to the sector

Main strengths that can help to grasp the main opportunities or limit the main threats:

- Management capacity
- Product and process quality
- Strong presence of creative industries and copyright activities

Main weaknesses that can prevent you from grasping the opportunities or make the threats more threatening:

- SME's inadequate business skills, innovation ambitions, ICT facilities and access to finance
- Low financial capacity

The SOR matrix suggests the <u>following observations:</u>

- The capacity to attract the **existing R+D and innovation programmes tailored to the SME sector** (O= 111) should be improved by high **Product and Process Quality** (S/O=19) and by using the most valuable resource of a company, **management capacity** (S/O= 17). This will enable the food companies to face the problem of **scarce funding resources for R&D available** (T=87).
- The food companies should take into account that the **export trends are increasing** (O=108) and for that they should valorise the **management's capacity** (S/O=17). Although, in order to take the advantage of this opportunity, the **international orientation** should be reopened (W/O=19).
- The research activity in the food sector should be supported and should take the advantage of the existing **RTD& innovation programmes tailored to the sector** (O=111) **by constantly improving product and process quality (**S/O=15). The industry should also **think of their own R&D units** (W/O=14)**,** in order to grasp this opportunity**.**

7.3 RECOMMENDATIONS AND REMARKS

In the Region the improvement of the competitiveness of agricultural production and processing activities is hindered by the underdeveloped state of logistic systems, the lack of services to facilitate access to the markets that are to serve the sales of agricultural and food industry products. The number of organizations promoting the marketing of locally produced, special agricultural and food-industry goods is small, their networks need development. A similar situation can be seen in the field of services integrating market information and the production potentials of the Region.

It is a result of the existing peculiarities of the agricultural sector that in the regions the several stakeholders involved in the material flow (SMEs, large companies and private entrepreneurs) are situated as scattered in space, in many cases they have hardly any contacts with each other, and thus are forced to operate with low levels of organizational cohesion. In several regions, there is a lack of logistic service centers that would administer organizational, informational and other activities for the whole of the regions in the fields of purchasing, forwarding, warehousing, wrapping, packaging, distribution and sales, and thus assist the more efficient operation of agricultural enterprises.

The development of agricultural logistics involves the storing and manipulation of the produced commodity funds, agricultural products, their primary processing, as well as assistance to making the products competitive in the markets, to improving the conditions of market access. By linking up production, processing, warehousing and forwarding, agrilogistic bases exercise positive influences on the establishment and operation of producer organizations (Procurement and Sales Partnerships, Production and Sales Partnerships, producer groups), and also have a role in the improvement of the rural employment situation.

Logistic solutions related to the handling of agricultural bulk products serve the quality preserving storing of vegetable and fruit commodity funds, the moderation of the impacts of seasonality, the improvement of the safety of marketability, and thus in general the strengthening of competitiveness.

Strategies for the future development

The long-term vision of Regional development until 2020 is as follows:

"The Central Hungarian Region has become one of the leading regions of Central Eastern Europe, whereas it has become the main economic, social and cultural centre of the Carpathian Basin, meeting the criteria of sustainability in economic, environmental and social aspects as well. The Region has utilized its competitive advantage in the field of information society development, and has taken an active role in the dissemination of its achievements in Eastern Europe. Knowledge based human resources and economy development focuses on business services, research and development activities, cultural and leisure economy. Significant flagship projects are realized, attracting international attention. The conscious development actions result in multi-polar growth and coordinated land use. The Region provides high quality living and working conditions for its inhabitants."

8. REGION OF ODESSA, UKRAINE

8.1 INTRODUCTION

8.1.1 GENERAL PROFILE OF THE REGION

Odessa region is located in the far south-west of Ukraine. It borders on Romania in the south, Moldova in the west, Vinnitsa and Kirovograd regions in the north, and Nikolayev region in the east. Odessa region is the largest in Ukraine by its area (33.3000 sq. km) that constitutes approximately 5.5% of total Ukraine's territory and is comparable with the territory of such Western European countries as Belgium and the Netherlands.

The main peculiarity of economic and geographical status of the region consists in its coastal and boundary location. Free access to Black Sea - Azov basin and to large river routs of the Danube and the Dniester gives good advantages to Odessa region in the development of transport infrastructure. Sea ports of the region are located at the crossroads of existing international transport corridors. Thus, the region appears to be the main sea gate of Ukraine. Economically and geographically Odessa region is a zone of intensive steppe farming with advanced irrigation. Its coastal part is also included into the recreational zone of north-western Black Sea coast.

The population of the region numbered 2 388 300 inhabitants as of January 1, 2012. Odessa is an administrative center of the region, it is the third largest city in Ukraine with a population of 1,003,705 inhabitants. Odessa is also an important transportation, industrial, scientific, cultural, and resort center. The average population density of Odessa Region is 71.7 people per 1 sq km. The most densely populated suburban area is Southern part of the region, the less populated is central and northern parts.

The regional gross domestic product (GDP) at current market prices was 4.79 billion Euros (~5.32 % of total national GDP, Ukrstat 2009). GDP per inhabitant was 2 005 € (~10.1 % of national average).

Table 1- Key statistics of Odessa Region (Statistical publication "Regions of Ukraine", 2010)	
Area	33 310 km^2
Population	2 389 302 inhabitants (Ukrstat, 2012)
GDP	4 790 million € (Ukrstat, 2009), ~5.32 % of total national GDP
GDP per capita	2 005 € (Ukrstat, 2009), ~10.1 % of total national GDP
Sold industrial products	3070,72 million € (Ukrstat, 2009), ~3,3 % of total national
Gross agricultural output	417.88 million € (Ukrstat, 2009), ~4.15 % of total national
Employed aged 15–70	1.04 mln € (Ukrstat, 2009), ~5.14 % of total national
Unemployed aged 15-70 (by ILO methodology	0.075 mln (€ Ukrstat, 2009), ~3.76 % of total national
Average monthly salary	201,46 €
Investment into fixed capital	982.06 million € (Ukrstat, 2009), ~6.56 % of total national
Export goods and services, mln USD	1684,4 (Ukrstat, 2010) 4.43% of total national export
Import goods and services, mln USD	3520,3 (Ukrstat, 2010) 5.6% of total national import

Odessa region is a highly developed industrial region where industry plays a significant role in the structure of the real sector of economy of Ukraine.

The current industry structure is formed under the influence of the Odessa region sea location and its high agro-industrial potential. The region has factories producing petroleum products, machinery, repairs and installation of machinery, metallurgy and metal processing, chemical and petrochemical products, food, light industry and other industries.

8.1.2 SNAPSHOT OF THE REGIONAL FOOD-SECTOR

The leading place in the structure of the commercial products in Odessa Region is belonging to food industry, which includes sugar (Joint-Stock Company "Odessa Sugar Company", Kotovsk Sugar House and others), oil and fat, vegetable processing and wine making industries, production of food concentrates. The important role in the production complex is plaid by meat packing, dairy processing, alcoholic beverage and confectionary.

Agroindustrial complex is one of the powerful sectors of regional economy. The regional land fund is 3,3 mln. ha, including 2,6 mln. ha of agricultural lands, out of it 2,1 mln. ha (79,7%) of plough-land, 29,4 ths. ha (1,1%) of lea land, 50,7 ths. ha (2,0%) of hayfields, 354,3 ths. ha (13,7%) of pasture and 80 ths. ha of vineyards and gardens.

6844 agricultural enterprises and 5830 farms function. Basic directions of regional production agricultural specialization is a plant-growing (growing of cereals and technical crops, vegetables and grape) and stock-raising (breeding of cattle, pigs, sheep, poultry farming, production of milk, meat, wool).

Activity of agriculture is supported by strong scientific base. The Plant Breeding and Genetics Institute – National Center of Seed and Cultivar Investigations successfully operates in the regions and its main directions of activity are follows as development of theory of breeding of agricultural plants, scientific support and improvement of breeding process, creation of highly productive breeds of cereals, grain legume and green crops.

The Ukrainian National Research Institute of Viticulture and Vine Making named after V. E. Tairov is engaged in breeding of vines and development of new brands of wine on their basis.

The region pays great attention to foreign trade and investment activity. Now the enterprises of Odessa Region support relations with partners from 161 countries of the world. In 2010 the general volume of direct foreign investments from the countries of the world to the region made USD 38,5 mln.

8.2 SWOT ANALYSIS

8.2.1 SWOT METHODOLOGY ADOPTED

The SWOT methodology adopted in the region of Odessa was different from the typical methodology provided at a project level. This was a result of the limitations that relate to the status of the 3 participating Associated Strategic Partners from Ukraine, Moldova and Serbia and the non- availability of budget and resources for performing a full scale SWOT analysis.

However, the Ukrainian partners with the support of FING and CERTH- INAB have indeed performed a SWOT analysis following the next steps:

- Collection of preliminary SWOT results for SMEs and RTD entities, based on D3.2a and 3.2b;
- Discussion on the SWOT analysis and redefinition of ideas for policy formulation in the framework of the workshop performed in Odessa on the 14th of March with the guidance and support of CERTH- INAB and FING.

8.2.2 Results of the SWOT Analysis focusing on RTD entities

Below are the preliminary SWOT results collected from the questionnaires filled by the Ukrainian RTD entities. Because of the low return of answers (7 research entities were profiled), the results should be reviewed with caution and understanding of the limitations.

Strengths	***Weaknesses***
1. Open exchange of experience in research and technology development (5 responses) 2. Strong research base (5 responses) 3. Highly skilled personnel (4 responses) 4. Increasing number of collaboration with firms (2 responses) 5. Public-private cooperation (1 response)	1. Low size of budget for R&D (7 responses) 2. Poor linkage between firms and research entities (4 responses) 3. Not enough start ups (3 responses) 4. Lack of formal collaboration between actors (1 response) 5. Poor research base (1 response)
Opportunities	**Threats**
1. New R&D European and regional programmes (5 responses) 2. Availability of EU R&D funds for research (4 responses) 3. Increasing demand for more/better varieties (4 responses) 4. Surplus of well educated researchers (4 responses) 5. Networking (1 response)	1. Few incentives for university researchers to engage in collaboration with the industry (4 responses) 2. Other (4 responses) 3. Need of adaption to the new tools, rules and priorities (3 responses) 4. Failure to attract international researchers (3 responses) 5. Funding programmes to support research with content far from current research interests (1 response)

8.2.3 Results of the SWOT Analysis focusing on the needs of the SMEs

Similarly, below are the results of the SWOT performed for the Ukrainian food industry as these were collected from the questionnaires filled by the Ukrainian SMEs. The return of questionnaires was better compared to the RTD entities (15 SMEs were profiled):

Strengths	***Weaknesses***
1. Product & Process quality (15)	1. Low financial capacity (11)
2. Highly skilled personnel (9)	2. Poor networking with private actors (SMEs, large companies) (9)
3. Geographic positioning (8)	3. No flexible organizational structures (7)
4. Market position (7)	4. Poor networking with public actors (universities, research centers) ((2)
5. Management capacity / Dedicated R&D Unit / Adoption of highly innovative technologies (6)	5. No dedicated R&D Unit (2)
Opportunities	***Threats***
1.Increasing demand for more/better varieties (14)	1. Bureaucracy / Regulation barriers (10)
2. Increasing export trends (14)	
3. Existing RTD & innovation programs (9)	2. Scarce funding resources for R&D available (10)
4. Networking possibilities (8)	3. Need of adaptation to new regulations(7)
5. Availability of R&D funds (8)	4. No political long-term commitment to the sector (5)
	5. Insufficient incentives addressed to the sector / Competition coming from third countries (3)

8.2.4 Discussion and redefinition of the SWOT analysis

In the framework of the workshop performed in Odessa on the 14th of March (see deliverable D5.2) the participating colleagues were engaged in an open discussion on the results of SWOT analysis. Under the guidance of CERTH- INAB, the participants focused on the

Odessa region food industry and discussed Strengths, Weaknesses, Opportunities and Threats. It is worthwhile mentioning about the exercise that the results were not predefined; rather the participants were presented with the opportunity to start “from scratch” and the facilitators from CERTH- INAB guided the discussion by keeping the focus to the Ukrainian food industry sector, the relation of food and innovation, the internal/ external environment limitations, etc.

Here are the results of the discussion on the SWOT of the Ukrainian food industry sector:

Strenghts	***Weaknesses***
Variety of produced goods and raw material	Outdated infrastructure/ high energy consumption of food industry
Highly skilled graduates available for industry	Low managerial capacity to take the correct strategic decisions
Adaptability and flexibility of SMEs	Low motivation of personnel
	Lack of skilled administrative, legal and accounting personnel
	Low private RTD investment
Opportunities	***Threats***
High demand for particular goods	High cost of banking credit for SMEs
Big internal market	Low quality (instability) of raw material and resources
Significant export opportunities to adjacent countries and Europe	Distortion of competition (falsification of products and “household” producers)
Simplified tax system for SMEs	Inadequate national system for food quality control
Small capital needed to start-up a business	Unfavorable state regulations related to fixed prices of particular food products
Favorable geographical position	

8.3 RECOMMENDATIONS AND REMARKS

Following the discussion and definition of the refined SWOT results listed above, the participants engaged in an exercise focusing to the definition of preliminary recommendations for policy development for food innovation in the region of Odessa. These are listed below:

- To introduce public funding incentives for improving food industry infrastructure and employing highly skilled personnel from the industry, thus improving the innovation capacity of the food industry;
- To reinforce the national food quality control system and to adequately deal with distortion of competition caused by falsification of products and “household” producers
- To remove market barriers such as fixed prices of particular food products;
- To take advantage of the adaptability and flexibility of SMEs, the favourable geographical position and the availability and variety of food products and raw materials in order to cover the extended domestic needs and penetrate the adjacent countries and European markets.