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

Project Code: SEE/B/0028/1.3/X

WORK PACKAGE 4: SETTING UP MECHANISMS FOR BOOSTING FOOD INNOVATION

D4.2- Operational Plans for food RTD and 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	EFPF	Hungary
10% PP1	Odessa National Academy of Food Technologies	ONAFI	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

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D4.2- Operational Plans for food RTD and innovation

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EXECUTIVE SUMMARY

(to be compiled by CERTH- INEB)

1. INTRODUCTION, SCOPE AND METHODOLOGY

(to be compiled by CERTH- INEB)

In the framework of this activity, the partners will develop Operational Plans for supporting food innovation in their regional context with a view to promoting knowledge- based economic development in the agrofood sector. The idea is that these Operational Plans will be presented and suggested to regional and national authorities as a part of the debate for the development of the various instruments introduced in the upcoming Programming Period 2014-2020.

How to draft the Operational Plans

Phase 1: *The Inno- Food SEE partners will use the results of D3.3 and D3.4 and develop a set of suggestions for the measures that could be included in the Operational Plans. The partners will use a standard template for drafting the measures (to be provided at a later stage), this will enable presenting the measures in such a manner that would be easy for the stakeholders and decision makers to utilise and comment upon in the 2nd phase.*

Phase 2: *A meeting with the selected stakeholders and decision makers per region/ country will be organised to feed the consultative process for the development of the Operational Plans. The stakeholders and decision makers should receive the suggested measures beforehand, thus the meeting will be dedicated to discussing the measures.*

Phase 3: *One (or two- see below) meeting/-s of 2-3 stakeholders and decision makers from each region/ country will be organised in order to feed the consultative process for the development of the Operational Plans and to propose measures on a SEE/ regional level.*

One meeting is already described under act. 2.5; it is part of the final Conference that will take place in Budapest. In the possible event of securing a 6-month project extension and a consequent organisation of the next project meeting in Plovdiv in September, it is also suggested that a meeting of regional stakeholders is organised adjoined to the meeting in Plovdiv as a preparatory step for the finalisation of the Operational Plans.

Phase 4: *In this final step the Inno- Food SEE partners will synthesise the feedback from the previous phases and finalise the measures.*

2. REGION OF ROMANIA

2.1 DESCRIPTION OF THE REGIONAL CURRENT STATE OF PLAY

ROMANIA

INTRODUCTION

Romania is a country located in the South-East of Central Europe, on lower Danube, in the northern part of Balkanic peninsula and on the north-western side of the Black Sea. On its territory is included almost Danube Delta area and the southern and central part of the Carpathian Mountains. Its neighbours are Bulgaria in the South, Serbia in the South-West, Hungary in the North-West, Ukraine in the North and in the East, The Republic of Moldavia in the East and the Black Sea side in on South-East. Romania has a surface of 237.500 km² and it is the second biggest East European country after Poland (312.685 km²) having almost the same surface as the United Kingdom of the Great Britain and Northern Ireland.

ECONOMIC ACTIVITY

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 rate in Europe.

As a result of world economic crisis, **the Romanian GDP** decreased with more than 7% in 2009, which forced the Romanian Government to ask for the International Monetary Fund (IMF) and European Union emergency package of 26 billion euro. In 2010, due to the restriction measures, the Romania's GDP decreased with 1,3%, but in 2011 the economy had a lower increasing, due to the exports and of an outstanding agricultural crop, together with a weak request of the internal consum.

The industrial production of Romania increased with 2.8% in April 2012 versus April 2011. The industrial production is an important indicator for the economic forecast and often is used to the measurement of the inflation pressure against the prices variation.

Accordingly with the Report of the Ministry of Agriculture and Rural Development (MADR) in April 2012, at national level, agriculture is one of the most important sector of the economy.

The contribution of agriculture, forestry and fishery is about 6% of GDP, in comparison with the EU member states which is about 1.7%. **The Land Fund**, accordingly with the Agricultural Register of 2010, out of the 23,8 million ha of Romanian territory, the used agricultural area is representing about 62.1% (14,8 million ha) and out of which 8.3 million ha is arable land. This is the highest percentage between the European Union member states. **About 4.9 million people work in agriculture**, fishery and forestry industry, representing 42.8% out of the total labour force.

Nowadays, 85% of the agricultural surface is privatised. But these lands are usually small. Out of 3.9 million land owners, 40% is working less than 1 ha and only 0.6% of the farms have more than 10 ha.

SOUTH-EAST DEVELOPMENT REGION

INTRODUCTION

Location: 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 km², being the second largest development region of Romania (15% of the country's territorial area).

ECONOMIC ACTIVITY

The region is participating with 11.2% of the national GDP, the 6th place between the 8th Development Regions of Romania. The GDP per capita in 2008 has a maximum in 2008 with a Region's average of 5,368 euro (but varying between 3,242 euro of Vrancea county to 6,709 euro of Constanta county).

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%; others 24%

Main export issues (and percentages) from the region in 2009: 27.5% - spare parts for machines, aircrafts, ships and other transportation means; 25,5% - metals and metal manufacturing products; 19.8% - mineral products

In 2008, 26% of the labour force has been concentrated in a couple of large companies in the region and these companies concentrated 40% of the gross investments. The SMEs of the Region are acting mainly in trade, real estate and manufacturing sector. In 2008, the total number of registered companies in the region was 59,783 out of which 99.63% were SMEs (59,560 small and medium companies)

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

BUCHAREST-ILFOV DEVELOPMENT REGION

INTRODUCTION

Location: The Bucharest Ilfov Development Region is located in the southern part of Romania, being surrounded by the South-Muntenia Development Region. It is constituted 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 km² (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.

ECONOMIC ACTIVITY

The region is participating with 26.1% of the national GDP, the 1th place between the 8th 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 main export issues** (and percentages) for the region in 2009: 10.2% - machines and devices, spare parts for TV and recording devices; 12.7% - mineral products; 11% - vegetal products; 9.4% - metals and metallic products. Other export issues: edible oils, food and drinks, chemical products, plastics, leather products and wooden products.

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.

THE AGRICULTURAL SECTOR AND FOOD INDUSTRY

AGRICULTURE

The contribution of agriculture, forestry, hunting, fishery and nurseries in GDP had a variable evolution, with a maximum of 7.8% in 2006 and a minimum of 5.8% in 2007, after then varied between 6.0 and 6.5 between 2008 and 2011. In 2010, the value of agricultural production was about 16,000 million euro (with +1% bigger then in 2009) and its distribution was: +6.6% the vegetal one, -6.8% the animal one and -26.5% agricultural services. Despite the important agricultural resources, between 2006-2010 the production had an under-potential evolution, due to the non-favourable weather conditions, as well as the insurance way for agricultural inputs and the performing of specific agriculture works.

In 2010, a production of 5,774 thousand tones of wheat (+4.5% more then 2006) and 9,008 thousand tones of corn (+0.3% more then 2006) has been registered. One year before, in 2009, production of 1,267 thousand tones of sunflower and 3,284 thousand tones of potato has been registered also.

The productions of fruits and vegetables had a variable evolution, in 2010 the quantities had been 3.875 thousand tones and 1.420 thousand tones respectively. The pork and cattle meat productions decreased in 2010 in comparison with 2006, the only increasing was registered at chicken meat production.

FOOD INDUSTRY

The food industry in Romania is having a turnover of about 10 billion euro annually, meaning a contribution of 8% to the GDP and offers jobs for about 200,000 people, accordingly with Romalimenta - the Federation of Food Patronal Association. In 2010, the food industry has been the third industry of Romania based on turnover.

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 Food industry in Romania had an annual turnover of 9,76 billion euro in 2010, the third position of the country industries standing, with a contribution of 8% of GDP. The production of food industry had an increasing of 5% in 2006 against 2005 and a 25.5% increasing in 2010 against 2005.

Also, in 2010, there were registered 185,000 employees (accordingly with Romalimenta) a decreasing from 2006, 2007 when more then 200,000 employees have been

counted. The same food patronal federation announced an average of 10 billion euro annually turnover for the period of 2006-2010.

Meat processing sector had the most important contribution with an annual turnover of 1.3 billion euro, bakery had 1.1 billion euro and non alcoholic drinks with 1 billion euro. Also, the meat production sector had an annual turnover of 840 million euro and dairy production sector had 800 million euro.

The number of economic agents in food industry is slightly bigger then 10,000 units, a constant number between 2006 – 2010. The National Institute of Statistics prepared a monthly booklet of international trade of Romania and shows in the last issues of 2012, the following data for food industry:

- 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

EXPORT OF AGRICULTURE AND FOOD PRODUCTS

Type of products

The types of products included in the monthly booklet of the National Institute of Statistics:

- Meat and edible offal
- Fish and crustaceans, mollusks and other aquatic invertebrates
- Milk and dairy products; eggs; honey; edible animal products
- Edible vegetables, roots and tubers
- Edible fruits
- Coffee, tea, mate and spices
- Cereals
- Products of the milling industry, malt, starch
- Seeds and fruits; industrial and medicinal plants; straw and fodder
- Preparation of meat and fish
- Sugar and confectionery
- Cocoa and cocoa preparations
- Preparations of cereals, flour, starch, milk, pastry products
- Preparations of vegetables, fruits
- Alcoholic and non-alcoholic beverages; vinegar

Distribution channels

- Large networks of retails – the European retails networks are in Romania (Billa, Carrefour, Cora, Auchan, Kaufland, Lidl, Penny, etc);
- Large storage for importing food products;
- City public markets;

SOUTH-EAST DEVELOPMENT REGION

AGRICULTURE

By tradition, the South-East Development Region is an agriculture area. The main cereals: corn, wheat, oats, industrial plants, sunflower. The useful agriculture area is 2.332.000 ha meaning 15.85% of the total agricultural area of Romania. Here it is the second agricultural exploitation area in Romania.

30.47% of the region's population is involved in agriculture and 95.26% of the total agricultural production is coming from the private sector.

The region is having the largest vineyard area in the country (covering about 40.2% of the national vineyards area) producing wines which are very well known in abroad

The region is also having the largest production of sheep and goats meat and the largest production of wool.

The region is the second in the country as production of eggs, the fourth place at swine meat and fifth place at chicken meat.

Ecologic agriculture is having 62.514 ha in the region (28.2% of the total national ecologic agriculture), but it still represent only 2.68% of the overall agriculture area.

The number of the registered entities in 2009 as acting in ecologic agriculture was 331 (8% of the total national entities) in the sector).

FOOD INDUSTRY

In 2009, the region counted 1,699 licenced companies in the food industry: 163 in the milk and dairy 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 DEVELOPMENT REGION

AGRICULTURE

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

2.2 KEY POINTS FROM THE SWOT/SOR ANALYSIS AND POLICY RECOMMENDATIONS REPORT

RESULTS OF THE SWOT ANALYSIS FOCUSING ON RTD ENTITIES

Strengths

- Highly 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

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

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

STRATEGIC ORIENTATION OF THE FOOD SECTOR OF THE REGION

	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:

- 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

The main strengths:

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

The main weaknesses:

- Poor linkage between firms 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).

FOCUS ON FOOD INDUSTRY

	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

The main strengths are:

- Management capacity

-
- Product and process quality
 - Highly skilled personnel
- The main weaknesses are:**
- Poor networking with public actors
 - Low financial capacity

The SOR matrix suggests the following observations:

- 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.

RECOMMENDATIONS AND REMARKS

(i) Both SOR analysis go for "ATTACK", showing a positive perspective for RTD units and sectorial SMEs. The strenghts could be improved, to use the newcoming 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) there 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 strenght.

(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 sectorial programmes will be a larger opportunity for the sectorial 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 to promote a sectorial food program.

2.3 DESCRIPTION OF KEY MEASURES

Description of key measures to be suggested for implementation at a regional/ national/ SEE level; the measures should stem from the SWOT/ SOR analysis and the recommendations elaborated in D3.4.

Indicative types of measures could be as follows:

- *Supporting mobility of personnel between Industry and Research and vice- versa;*
- *Development, improvement and more efficient use of existing R&D infrastructure and facilities relevant to food innovation;*
- *Development of R&D projects funded either by National or European Funds;*
- *Matching of R&D results with R&D needs between research entities and Food SMEs;*
- *Networking between the involved actors and at a wider level with selected institutions and organisations from around Europe;*
- *Assistance to SMEs to more efficiently access business support schemes and to the participating partners that are involved in such schemes to improve their operations*
- *Updating of academic curricula of relevant university departments in order to better match the current industry trends and innovation needs.*

6-8 measures to be elaborated for each region. Below is presented the tabular template to be used and an indicative example of a measure:

These recommendations arose from the results of SWOT analysis and SOR and have been thought to be realistically adopted in the local or national context.

Herewith the proposed policy recommendations are listed:

1. *Strengthening public-private cooperation*
2. *Improving awareness and knowledge on innovation and competitiveness*
3. *Bridging knowledge from R&D system to SMEs*
4. *New incentives for researchers for cooperation with SMEs*
5. *Updating of academic curricula to match current food innovation trends*
6. *Improving skills for innovation management in SMEs*
7. *Favoring the creation of R&D department in SMEs*
8. *Funding SMES for adopting innovative technologies, also by patent applications*
9. *Bureaucracy simplification (times and rules) and more efficient project administration*
10. *Promoting a demand-driven knowledge transfer approach for Mediterranean Food Products*

The last measure has been suggested by a member of INNOFOOD SEE Apulian network of stakeholders and policy makers.

Name of the measure	<i>Increasing the industrial skills in transferring technology and research results</i>
Region	<i>Romania</i>
Timeframe	<i>Medium Term (2- 5 years)</i>
Rationale	<p><i>There is a need for strenghtening the skills of industrial engineers to present the company technological needs and to identify the appropriate research expertize and to be able to handle the technology transfer issues.</i></p> <p><i>Industrial staff has to learn to “understand” the researcher language and to present their company technological needs in a form to identify the possibility of transferring the research results or to generate research results in favour of their companies.</i></p>
Particular sector and subsector	<i>Agriculture and Food Industry</i>
Objectives	<i>To create within companies from food and agriculture sector, trained people (staff) able to identify and to match the company needs with available research expertize, in order to increase the technology transfer from research units (including universities) to industrial companies, especially those who are producers and food processors.</i>
Core activities	<ul style="list-style-type: none"> - <i>training sessions for industry staff;</i> - <i>pilot mobility sessions of industry within research labs;</i>
Implementing entity	<i>Association “Food for Life”</i>
Financial resources	<i>The Romanian Agency for Financing High Education Research, Development and Innovation (UEFISCDI” has a programme dedicated to innovation and one implementation tools is called “innovative services for companies/SMEs”</i>
Target groups	<i>Food companies (large and SMEs) and Agriculture farmers’ associations</i>
Indicators for implementation success	<ul style="list-style-type: none"> - <i>no. of training sessions;</i> - <i>no. of industrial staff trained;</i> - <i>no. of industry – research matching created;</i> - <i>no. of industrial visits to coresponding research labs</i>

Name of the measure	<i>Increasing the marketing skills of researchers or R&D units staff for valorising of research results</i>
Region	<i>Romania</i>
Timeframe	<i>Medium Term (2- 5 years)</i>
Rationale	<p><i>The research units (including universities) have good expertize in developping lab research, but very little skills to promote them outside the research unit and to transfer the results to corresponding industry.</i></p> <p><i>In the mean time, the researchers are very little able to identify the industrial needs and to respond to them by innovative research results and they also have difficulties in match the industry within national and collaborative projects.</i></p> <p><i>More, the food industry is not valorising the research at its value and is not looking to research as a service which may improve their competitiveness and to help them to make a step ahead on the market</i></p>
Particular sector and subsector	<i>Agriculture and Food Research</i>
Objectives	<i>To create within research units (including universities), trained people able to offer innovative services to industry and to SMEs, to match the research expertize with the industrial needs and to be able to identify and to launch new collaborative projects.</i>
Core activities	<i>- training sessions for research staff</i>
Implementing entity	<i>Association "Food for Life"</i>
Financial resources	<i>The Romanian Agency for Financing High Education Research, Development and Innovation (UEFISCDI" has a programme dedicated to innovation and one implementation tools is called "innovative services for companies/SMEs"</i>
Target groups	<i>Researchers or R&D staff from research institutes or universities</i>
Indicators for implementation success	<ul style="list-style-type: none"> <i>- no. of training sessions;</i> <i>- no. of research staff trained;</i> <i>- no. of research - industry matching created;</i> <i>- no. of research results transferred to industry</i>

Name of the measure	
Region	<i>Romania</i>
Timeframe	<i>Medium Term (2- 5 years)</i>
Rationale	<p><i>The SWOT/SOR analysis identified as a major barrier in promoting innovation the low level (and several times quality) of the local, regional and national dialogue between research units and food industry.</i></p> <p><i>The analysis done also identified very few innovative projects in the food sector (including the agriculture extension) in different national and international innovation programmes.</i></p> <p><i>The dialogue is not constant and there are difficulties in matching the interests of researchers with those of the industry, not mentioning the too different approach (the researchers are very enthusiastic in proposing everything, the industry is very reluctant in introducing innovation which has a technological risk of upscaling the lab research results and commercial and marketing prospective is not very clear.</i></p> <p><i>Only bringing together both actors – researchers and industrial experts – it is a possibility of matching their interests and approaches and identifying new partnership opportunities.</i></p>
Particular sector and subsector	<i>Agriculture and Food Industry and Research</i>
Objectives	<p><i>To identify and to launch new collaborative projects (with industry and research participation) at national or regional level. The projects are designed to help the food industry to promote and to transfer research results and to generate marketable innovative products.</i></p> <p><i>In the mean time, the research units is helped to develop innovative services for industry (including creation of spin-offs and start-ups) to valorise their research results.</i></p> <p><i>There is also a possibility for extended the national or regional partnerships with international collaborations and offering the local industry and research an access to international research expertize and possibility of accesing new markets for their innovative products.</i></p>
Core activities	<i>- to organise brokerage events and partnering events for identifying and launching new collaborative projects</i>
Implementing entity	<i>Association “Food for Life”</i>
Financial resources	<i>The Romanian Agency for Financing High Education Research, Development and Innovation (UEFISCDI” has a programme dedicated to innovation and one implementation tools is called “innovative services for companies/SMEs”</i>

Target groups	<i>Industrial companies (including SMEs), research units (including universities), centers for transfer of technologies, brokers of innovation, business intermediates, financing authorities;</i>
Indicators for implementation success	<ul style="list-style-type: none"> - <i>no. of brokerage events;</i> - <i>no. of companies participating;</i> - <i>no. of research units participating;</i> - <i>no. of project proposals identified and launched;</i> - <i>no. of spin-offs and start-ups created or ongoing;</i>

Name of the measure	<i>Updating academic curricula to match current food innovation trends</i>
Region	<i>Romania</i>
Timeframe	<i>Medium Term (2- 5 years)</i>
Rationale	<i>The analysis on Romanian food academic curricula showed the need to include new topics, in order to transfer advanced knowledge on emerging research themes in the field of biotechnology, food processing, food safety and security, health aspects, management and innovation, research policies. These topics should be complementary to basic disciplines. Ex: Nutrition, New Product Development, Cosumer Behaviour</i>
Particular sector and subsector	<i>Agriculture, Food Processing, Food Industry, Biotechnology</i>
Objectives	<ul style="list-style-type: none"> ➤ <i>to update academic curricula by including new emerging topics relevant to food innovation, according to a multidisciplinary approach</i> ➤ <i>to update skills useful for innovation management.</i>
Core activities	<i>Core activities will be represented by the proposal for new contents to be added as a basis set of food innovation topics, and to be approved by the Ministry of Education and Research including management, emerging technologies and demand-side.</i>
Implementing entity	<i>Ministry of Education and Research (at strategic level) and Universities (in terms of implementation, according to their own independence to define curricula)</i>
Financial resources	<i>The Romanian Agency for Financing High Education Research, Development and Innovation (UEFISCDI” has a programme dedicated to innovation and one implementation tools is called “innovative services for companies/SMEs”</i>
Target groups	<i>Universities</i>
Indicators for implementation success	<i>No. of new topics included in academic curricula</i>

Name of the measure	Applying innovative and new technologies to perform research (biotech, ICT, etc.)
Region	Romania
Timeframe	Medium Term (2- 5 years)
Rationale	<p>Agricultural production needs to substantially increase to meet global food, feed, fiber and energy demands in the face of population growth.</p> <p>Innovative agricultural technologies need to continue to play a critical role in addressing these challenges, in contributing to increased food production in a sustainable way, and in mitigating the adverse effects of climate change.</p> <p>The new technologies on agricultural practice/food chain will have impact on the: development of biotech for bio-remediation of soils, technologies for protection of natural resources, for management of water and soil resources, agricultural production of raw materials for the industry, energy resources, increase of income of population, increase of consumption requirements, development of underdeveloped regions, increase in life standard of Romanian population in line with EU standard.</p>
Particular sector and subsector	Agriculture, Food Processing, Food Industry, Biotechnology
Objectives	<ul style="list-style-type: none"> • Genetically markers, introduction of technologies less time and resource consuming, automation of research, cheaper and faster research, use of predictive models; • All the above are hardly affordable, people do not have enough capacity to use all the above technologies. • Knowledge based IT innovations in agriculture.
Core activities	Core activities will be represented by the proposal for new contents to be added as a basis set of food innovation topics, and to be approved by the Ministry of Education and Research including management, emerging technologies and demand-side.
Implementing entity	Ministry of Education and Research (at strategic level) and Universities/Research Institutes (in terms of implementation)
Financial resources	The Romanian Agency for Financing High Education Research, Development and Innovation (UEFISCDI” has a programme dedicated to innovation and one implementation tools is called “innovative services for companies/SMEs”
Target groups	Researchers, Food companies (large and SMEs) and Agriculture farmers’ associations
Indicators for implementation success	<ul style="list-style-type: none"> • Economic development following industrial application of new technologies • Increase of the researchers’ competitiveness on EU level.

Name of the measure		Developing R&D projects on food security
Region	<i>Romania</i>	
Timeframe	<i>Medium Term (5 years)</i>	
Rationale	<p>Agricultural production is not the only component determining people's food security. The UN-FAO World Food Summit 1996 created a defined food security: "Security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life".</p> <p>This field covers the aspects of: supply and utilisation of food, processing, packaging, distribution, retail and economic access.</p>	
Particular sector and subsector	<i>Agriculture, Food Processing, Food Industry, Biotechnology</i>	
Objectives	<ul style="list-style-type: none"> - Technical and Financial Support: Investing in international, regional, national and local activities with reference to infrastructure, roads, telecommunications, electricity, irrigation, supporting people through health, educational and nutritional programmes - Appreciation and support for small and medium-sized producers, participation of communities - Sustainable production methods should be implemented according to needs of local conditions, markets and consumer demands - Support more vulnerable farmers through assessment and provision of market and weather information, crop insurance, debt restructuring, and shifting from disaster relief to early warning systems to ensure, as far a possible action well in advance of food emergencies, as well as develop contingency plans to tackle emergencies - Adopt an ecosystems approach to agricultural production - Limiting unnecessary applications of pesticides and herbicides - Enhancing food nutrition - Increasing participation: Increased capacity building and efforts to involve local communities and especially the poor, in designing, implementing and monitoring projects. Involves sharing knowledge and good practice examples - Education: Developing and supporting vocational schools to train and educate around sustainable food principles 	
Core activities	<i>Core activities will be represented by the proposal for new contents to be added as a basis set of food innovation topics, and to be approved by the Ministry of Education and Research including management, emerging technologies and demand-side.</i>	
Implementing entity	<i>Ministry of Agriculture and Rural Development, Ministry of Education and Research (at strategic level) and Universities/Research Institutes/Industrial companies and SMEs</i>	

<i>(in terms of implementation)</i>	
Financial resources	<i>The Romanian Agency for Financing High Education Research, Development and Innovation (UEFISCDI” has a programme dedicated to innovation and one implementation tools is called “innovative services for companies/SMEs”</i>
Target groups	<i>R&D staff from research insttutes and universities, Food companies (large and SMEs)</i>
Indicators for implementation success	<ul style="list-style-type: none"> <i>No. of projects funded on the field.</i>

3. TRANSNATIONAL SEE ACTIVITIES

To be compiled by CERTH- INEB: Identifying and planning synergies and common activities of a transnational SEE character, e.g. on how to exploit future common financial instruments in order to enhance the agrofood research and innovation cooperation in the Southeast Europe area.

4. IMPLEMENTATION PLAN

(to be compiled by CERTH- INEB), Roles and responsibilities for the implementation of the OP measures, Financial Plan, Time Plan.

ANNEX 1 – FRAMEWORK AGREEMENT- INTENTION FOR TRANS-REGIONAL COOPERATION

(to be compiled by CERTH- INEB and signed by partners and stakeholders). This will provide the framework for continuous cooperation beyond the end of the project among the Inno- Food SEE partners and further stakeholders of strategic importance.