



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 4: SETTING UP MECHANISMS FOR BOOSTING FOOD INNOVATION

D4.2- Operational Plans for food RTD and innovation

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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 Cerklje	ICRA	Slovenia
ERDF PP8	European Food Chain Parliament-Foodlawment	EFPF	Hungary
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10% PP3	Institute for Food Technology	FINS	Serbia

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Abstract: The current report includes the Operational Plans for food research, technological development and innovation developed in the participating Inno- Food SEE regions as well as the suggested transnational measures and activities.

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2. REGION OF CENTRAL MACEDONIA

2.1 DESCRIPTION OF THE REGIONAL CURRENT STATE OF PLAY

The Agrofood sector is particularly advanced in the **Region of Central Macedonia**, both in terms of the primary agricultural production as well as the food and manufacturing industry.

2.2.1 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. The table below present some key figures for the agricultural sector of the Region of C. Macedonia:

Table 1- 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%

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 its products and services¹. 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.

The main challenges for the agricultural sector (Source: “Operational Plan for the Region of Central Macedonia 2012- 2014- Strategic Planning”) are:

- The adoption by farmers and agricultural cooperatives of innovative technologies, new certification procedures and standardisation methods.
- The efficient and effective technical and organisation support of farmers by cooperatives, the state and agronomist experts;
- The restructuring of the agricultural sector and the efficient utilisation of raw materials;
- Organisational dysfunctions and weaknesses in the operation of agricultural cooperatives;

¹ Adapted from the “Operational Plan for the Region of Central Macedonia 2012- 2014- Strategic Planning”, August 2011, <http://goo.gl/7OY6M>.

- Dysfunctions related to the coordination of services and management units for the implementation of programmes for rural development;
- The low level of business cooperation and synergies with the food processing sector.

2.2.2 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 2- 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.

The food and drink sector is exposed to European and international competition from companies that offer more competitive prices and/ or products with significant added- value. In order to keep up with the competition, SMEs need to push forward with significant innovation and technology investments in cooperation with research institutes and technology providers.

The main challenges for the food industry (Source: "Operational Plan for the Region of Central Macedonia 2012- 2014- Strategic Planning") are:

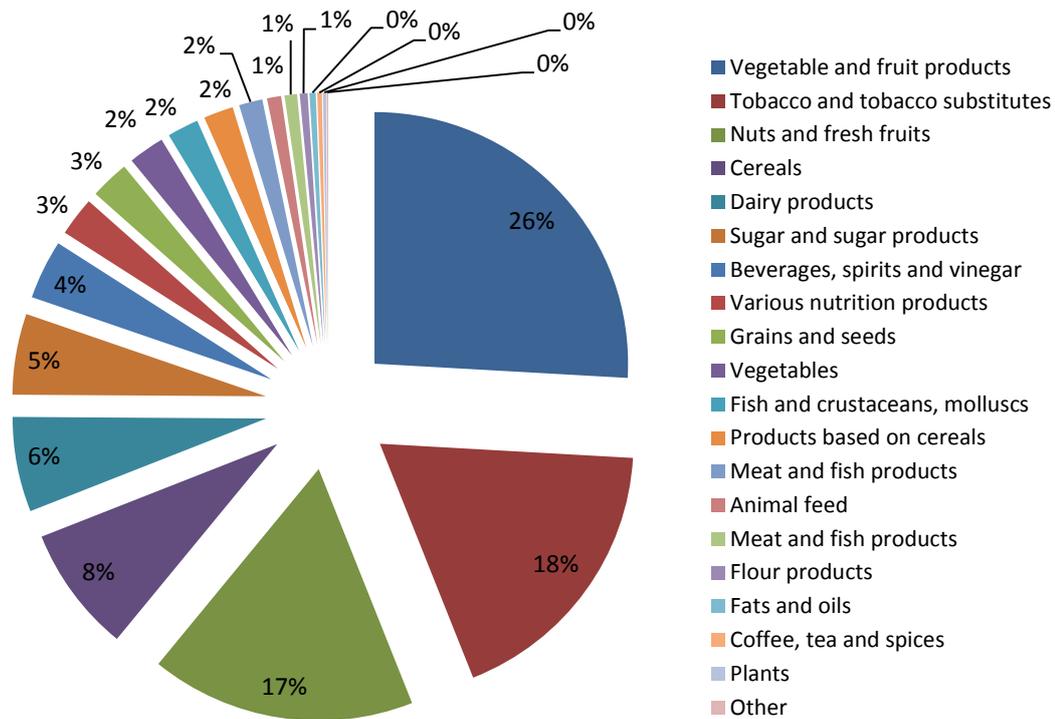
- The development of favourable, viable and operational synergies between the primary agricultural sector and the secondary food manufacturing sector;
- The restructuring and rationalisation of the production processes;
- The reduction of the production cost in the primary agricultural and the secondary manufacturing AgroFood sector;
- The standardisation of products and the enhancement of their quality;
- The diversification of products according to consumer needs;
- The valid assessment of the technology and know- how needs of the SMEs with regard to the adoption of innovation and technological solutions;
- The enhancement of cooperation between food industry and research entities;
- The increase in the demand, use and finance of research and innovation projects.

2.2.3 EXPORTS OF AGRICULTURE AND FOOD PRODUCTS

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). An analysis of the value of exports by type of agricultural product is presented below:

Table 3- Exports of agricultural and food products by type from the Region of Central Macedonia, in thousands of euros, Year 2010 (Source: Institute of Export Surveys and Studies, Federation of Exporters of Northern Greece)

Type	Thousands of euros	Share of total	Change 2006-2010
Vegetable and fruit products	309.383	25,9%	4,6%
Tobacco and tobacco substitutes	215.846	18,1%	-4,5%
Nuts and fresh fruits	201.085	16,9%	3,1%
Cereals	97.033	8,1%	2,7%
Dairy products	72.695	6,1%	17,8%
Sugar and sugar products	61.619	5,2%	51,6%
Beverages, spirits and vinegar	45.797	3,8%	1,7%
Various nutrition products	30.100	2,5%	-4,1%
Grains and seeds	29.771	2,5%	15,8%
Vegetables	27.463	2,3%	-2,4%
Fish and crustaceans, molluscs	23.266	2,0%	-12,0%
Products based on cereals	22.632	1,9%	3,8%
Meat and fish products	17.687	1,5%	-6,2%
Animal feed	10.775	0,9%	14,5%
Meat and fish products	9.442	0,8%	39,8%
Flour products	5.375	0,5%	11,1%
Fats and oils	5.136	0,4%	11,4%
Coffee, tea and spices	3.960	0,3%	34,9%
Plants	2.357	0,2%	5,5%
Other	1.607	0,1%	-30,9%
Total	1.193.028	100,0%	2,9%



Graph 1- Share of agricultural and food products exports, Region of Central Macedonia, 2010 (Source: Institute of Export Surveys and Studies, Federation of Exporters of Northern Greece)

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

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

The **key comments- findings** of the round- table synthesis meeting organised at the premises of the Federation of Industries of Northern Greece (FING) on the 25th of September 2013 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**;

² Study for the export activity of agricultural products sector”, 2008, (Source: Institute of Export Surveys and Studies, Federation of Exporters of Northern Greece).

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- 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 reactivity 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.

2.3 DESCRIPTION OF KEY MEASURES

Name of the measure		BioAgroFood Cluster
Region	<i>Central Macedonia (Greece)</i>	
Timeframe	Medium Term (2- 5 years)	
Rationale	<p>Worldwide, consumers' need to turn to a more healthy way of nutrition in order to decrease the development of serious illnesses and also to prevent pathological situations creates new trends in Food industry for new products. These innovative products address to different groups of consumers and are related to new food needs and trends, new life styles and social standards. Furthermore, specialized foods are among these products that bring food companies to new markets and can boost the sales. A future estimation of the market is of \$300 billion within the next 10 years. Such a fast growing market leads to an increase of the demand for innovative food products which has as a consequence the increasing pressure for research, development and production in the field. Similar is also the trend for the Greek Food Industry. The Greek Bio-Agrofood Cluster (BAF Cluster) aims to the research, technology development and organization for the production of innovative food products for specific groups of consumers.</p> <p>The base of the Bio-AgroFood Cluster is the:</p> <p>Scientific and technology excellence, human resources and new farmers, small and large food industry, the experience in contractual agriculture, the natural environment of our country and the well-posted groups of consumers.</p>	
Particular sector and subsector	Agriculture, Food Processing, Food Industry, Biotechnology	
Objectives	<ul style="list-style-type: none"> ➤ To enhance the quality of Greek products for specific target groups of consumers such as diabetic people, pregnant women etc. as a first approach to the personalized nutrition. ➤ The incorporation of the obtained knowledge from the genomics progresses, especially those of the sequencing and analysis of multiple genomes of microorganisms, plants, animals as well as human in the food productive process. ➤ The fulfilment of our country need for more qualitative products, in accordance with the governmental and latest European policy of EU, where the consumers' needs guide the food industry in the concept "from fork to farm" and reorganizing the productive and industry process by connecting the agricultural production with the industry and the consumers ➤ Support of the regional economy according to the basic aims of the National Plan for Regional Development, preserving and creating employment, increasing the annual income and therefore the quality of life of the rural population. 	
Core activities	The cluster has a lot and variable actions such as research and development, creation of spin-offs, access to research infrastructure to companies etc. In the realization of the Bio-AgroFood Cluster participate a wide range of organizations such as research and technology organizations, educational organizations, Industries and specific consumer groups.	
Implementing entity	Region of Central Macedonia or General Secretariat for Research and Technology	
Financial resources	Regional Operational Plans or National Research and Technology	

Programme	
Target groups	Agrofood SMEs, research entities, consumer associations, special target groups, regional authorities, investors, consultants, media, etc.
Indicators for implementation success	<ul style="list-style-type: none"> - Number of entities participating - Grants, funds and investments directed to the cluster - Number of patents/ number of spin- off

Name of the measure	Standardisation and upgrade of local agrofood products
Region	<i>Central Macedonia (Greece)</i>
Timeframe	Medium Term (2- 5 years)
Rationale	Local agrofood products can better penetrate new markets and significantly increase their market value by means of standardisation, quality control, marketing, etc. and by highlighting their special organoleptic characteristics (Products with protected designation of origin- PDO)
Particular sector and subsector	All sectors but particularly of products with special organoleptic characteristics and regional character
Objectives	<ul style="list-style-type: none"> ➤ To increase the market value of local agrofood products ➤ To increase of exports of local agrofood products
Core activities	<ul style="list-style-type: none"> - Support in the standardisation of agrofood products - Accreditation of agrofood products by use of specific food standards - Validation of food origin, by means of DNA labelling and other tracing methods - Upgrading of safety features of agrofood products
Implementing entity	Region of Central Macedonia
Financial resources	Regional Operational Plans
Target groups	Farmers, agrofood companies, research entities, innovation support services providers, standardisation and accreditation bodies
Indicators for implementation success	Increase of exports of local agrofood products and increase in their market value

Name of the measure		Support of research cooperation projects
Region	<i>Central Macedonia (Greece)</i>	
Timeframe	Medium Term (2- 5 years)	
Rationale	Agrofood companies face particular technological challenges; they constantly need to upgrade their variety of products to meet customer needs, ensure the safety of products, minimize cost and optimise their production.	
Particular sector and subsector	All agrofood sectors	
Objectives	<ul style="list-style-type: none"> ➤ To develop new agrofood products ➤ To minimise production costs ➤ To minimise environmental footprint ➤ To ensure food safety ➤ To meet food standards 	
Core activities	<p>Development of cooperation projects engaging agrofood companies, research entities and support entities. Areas may cover:</p> <ul style="list-style-type: none"> - Adoption of standard food technologies in food production - Adoption of Biotechnology and genomics in food production - New methods of ensuring food safety - Improvement of seeds; improvement of animal capital - New innovative and functional packaging, new methods for the preservation and transport of food - Energy conservation and use - Minimisation of environmental impact - ICT applications, automation, RFID technologies - Food chain logistics - Organisational innovation, branding, marketing, etc. 	
Implementing entity	Region of Central Macedonia	
Financial resources	Regional Operational Plans	
Target groups	Agrofood companies, research entities, , innovation support services providers, standardisation and accreditation bodies	
Indicators for implementation success	Increase of the competitiveness of food companies, increase in food exports, increase of related jobs.	

Name of the measure	Innovation Vouchers
Region	<i>Central Macedonia (Greece)</i>
Timeframe	Short term (1-3 years)
Rationale	Many smaller 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.
Particular sector and subsector	All agrofood sectors
Objectives	➤ To resolve particular focused technological problems of the agrofood companies
Core activities	- Agrofood companies are subsidised for the purchase of particular services and solutions of a focused and targeted nature. Activities engage usually one company and one research entity or innovation support services provider
Implementing entity	Region of Central Macedonia
Financial resources	Regional Operational Plans
Target groups	Agrofood companies, research entities, innovation support services providers
Indicators for implementation success	<ul style="list-style-type: none"> - Participation of agrofood companies - Degree of project success

Name of the measure	Mobility schemes for researchers to agrofood companies
Region	<i>Central Macedonia (Greece)</i>
Timeframe	Short term (1-3 years)
Rationale	The interaction of research and industry should be systematically enhanced, Schemes for the mobility of researchers towards the industry is a key instrument. This would allow companies to acquire know- how and a valid assessment of their technological and innovation needs and at the same time highlight these challenges to researchers/ research entities so that they better focus more to the development of services specially designed for the needs of the regional and national food industry
Particular sector and subsector	All food sectors
Objectives	<ul style="list-style-type: none"> ➤ To enhance research and industry cooperation ➤ To help map the technological challenges of agrofood companies ➤ To help resolve particular technological problems of companies ➤
Core activities	Supporting industrial PhDs, i.e. placement of researchers in agrofood companies with a particular project to be developed.
Implementing entity	Region of Central Macedonia or General Secretariat for Research and Technology
Financial resources	Regional Operational Plans or National Research and Technology Programme
Target groups	Agrofood companies, research entities, innovation support services providers
Indicators for implementation success	<ul style="list-style-type: none"> - Participation of agrofood companies - Degree of project success

Name of the measure	Support in the development of analytical laboratories and related services
Region	<i>Central Macedonia (Greece)</i>
Timeframe	Medium term (2-5 years)
Rationale	Agrofood companies would particularly benefit by acquiring access to accredited analytical methods and tools, pilot units and infrastructure for standardization, testing and development of new food products and quality control.
Particular sector and subsector	All food sectors
Objectives	<ul style="list-style-type: none"> ➤ To facilitate standardisation of food products to meet various standards set by the international markets ➤ To support the development of new food products
Core activities	- Supporting the development of infrastructure such as analytical laboratories, pilot units, etc.
Implementing entity	Region of Central Macedonia or General Secretariat for Research and Technology
Financial resources	Regional Operational Plans or National Research and Technology Programme
Target groups	Agrofood SMEs, research entities, clusters, etc.
Indicators for implementation success	<ul style="list-style-type: none"> - Number of new food products developed - Number of agrofood companies serviced by the laboratories and pilot units

Name of the measure	Financial measures for the development of spin- offs and start-ups for the agrofood sector
Region	<i>Central Macedonia (Greece)</i>
Timeframe	Medium term (2-5 years)
Rationale	Research ideas need time, effort and particular support in order to materialise to innovation, products and services.
Particular sector and subsector	All food sectors
Objectives	➤ To provide initial funding for the development and marketing of ideas focused to the agrofood sector
Core activities	<ul style="list-style-type: none"> - Funding to spin- offs and spin- outs focused to the agrofood sector - Support in business planning, marketing, investment seeking, etc. - Management support
Implementing entity	Region of Central Macedonia or General Secretariat for Research and Technology
Financial resources	Regional Operational Plans or National Research and Technology Programme
Target groups	Talented researchers and technicians
Indicators for implementation success	<ul style="list-style-type: none"> - Number of spin- offs and spin- outs - Sales and exports of spin- offs and spin- outs - Leveraging of investments

Name of the measure	Enhancing the cooperation of the primary agricultural sector and the manufacturing food sector
Region	<i>Central Macedonia (Greece)</i>
Timeframe	Long term (4-7 years)
Rationale	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.
Particular sector and subsector	All food sectors, but in particular those that refer to mass production, e.g. cereals, milk, etc.
Objectives	<ul style="list-style-type: none"> ➤ To enhance the cooperation of the primary agricultural sector and the manufacturing food sector ➤ To develop raw materials that are relevant and suitable to the exact needs of the manufacturing food sector ➤ To ensure that agricultural production in absorbed and minimise fluctuations in pricing ➤ To develop raw materials with added market value
Core activities	<p>Support measures to enhance the cooperation of farmers (and their associations) with food companies (and their associations): Consensus building, feasibility studies, negotiations, financial incentives and guarantees:</p> <ul style="list-style-type: none"> - Contract farming: Contract farming involves agricultural production being carried out on the basis of an agreement between the buyer and farm producers. - Integrated farming: Integrated farming or integrated production is a commonly and broadly used word to explain a more integrated approach to farming as compared to existing monoculture approaches. It refers to agricultural systems that integrate livestock and crop production and may sometimes be known as Integrated Biosystems. - Organic farming: Organic farming is a form of agriculture that relies on techniques such as crop rotation, green manure, compost, and biological pest control.
Implementing entity	Ministry of Agricultural Production and Rural Development
Financial resources	Ministry of Agricultural Production and Rural Development
Target groups	Farmers (and their associations) with food companies (and their associations), support organisations.
Indicators for implementation success	<ul style="list-style-type: none"> - Number and size of contract farming agreements - Number and output of Integrated farming and Organic farming ventures

Name of the measure	Updating the academic curricula of academic studies to match current agrofood needs
Region	<i>Central Macedonia (Greece)</i>
Timeframe	Long term (4-7 years)
Rationale	Agricultural and food production necessitate new skills, techniques and knowledge in order to constantly produce products that are up- to- date with the market and consumer needs. Universities, technical schools, etc. should be able to provide these new skills and provide opportunities for practice in agricultural and food production.
Particular sector and subsector	All food- related sectors
Objectives	<ul style="list-style-type: none"> ➤ To provide skills that match the agricultural and food production needs ➤ To provide graduates with increased opportunities for acquiring relevant jobs in the sector ➤ To support the transformation of the agricultural and food production from a labour- intensive to a knowledge- intensive industry
Core activities	<p>Academics, researchers, industry representatives, innovation experts, consultants, etc. work together, perform a trends and needs analysis towards the development of updated academic curricula on relevant domains such as:</p> <ul style="list-style-type: none"> - Food technology studies - Biotechnology and genomics - Veterinary and horticultural studies - Chemistry, Physics, Engineering - Management, Marketing, Economics, etc.
Implementing entity	Ministry of Education
Financial resources	National Structural Funds
Target groups	Academics, researchers, industry representatives, innovation experts, consultants, etc. Final beneficiaries of the activities are students.
Indicators for implementation success	- Increase in the employment levels of new graduates from relevant academic departments.