HELLENIC TECHNOLOGY PLATFORM
«FOOD FOR LIFE»

POSITION PAPER

Athens, 2014
# Table of Contents

1. The Vision ................................................. 2
2. The Scope and the mission ............................... 4
3. The Organizational Structure ............................ 6
4. The Current situation .................................... 7
5. The obstacles ............................................. 7
6. Proposals & Recommendations for the improvement of the enabling environment .......... 8
7. Research Priorities defined by the HTP “Food for Life” ........................................... 9
   7.1. Key priority: “Define and promote the superiority of traditional Greek diet at molecular level and its implications for health and longevity” ........................................ 9
   7.2. Nutrition & Health” ................................... 10
   7.3. Food Safety & Quality ................................ 11
   7.4. Food Processing ...................................... 13
   7.5. Food Chain Management ............................ 16
8. Acknowledgments ........................................... 19
1. The Vision

The Hellenic food & drink industry is the largest manufacturing sector in Greece. The food and drink industry has a turnover of 16,456 billion euro and employees 360,000 people (direct & indirect), the majority within the SMEs sector. The Greek Food & Drink industry is the leading exporter, it affords significant added value and contributes significantly to the economic growth of Greece.

In 2009, the Hellenic Technology Platform “Food for Life” was established under the management of the Federation of Hellenic Food Industries (SEVT), which represents the interests of food and drink industries at national and European level. Since its establishment, the HTP “Food for Life” has brought together the main stakeholders of the food sector namely; food and related industries, academia and research community with the aim of working together to define the Hellenic research priorities in the food chain.

The vision of the Hellenic Technology Platform “Food for Life” is to achieve an effective integration of strategically-focused, national, concerted research in the field of food and nutrition science as well as consumer sciences and food chain management, that will deliver innovative and improved food products and processes for, and to, national, regional and global markets in line with consumer needs and expectations. Such targeted activities will promote the competitiveness of the Hellenic Food Industry based on economic growth, innovation, technology transfer, sustainable food production and consumer’s confidence.
There is an increasing societal awareness of the opportunities to improve the quality of life through healthy eating and of the contribution that sustainable production can make to improvement of the overall environment. The preferences of consumers for quality, convenience, diversity and health, and their justifiable expectations of safety, ethics and sustainable food production serve to highlight the opportunities for innovation.

A coherent research strategy for the future has been developed based upon the shared vision of the diverse stakeholders. Key elements of this flexible strategy comprise initiatives in nutrition & health, food safety & quality, food engineering & processing and food chain management.

Key top priority for Greece in order to develop a competitive advantage has been chosen the following: “Define and promote the superiority of traditional Greek diet at molecular level and its implications for health and longevity”.

The establishment of a Nutritional Foundation under the auspices of the Hellenic Technology Platform with funding initially from GSRT and from the New ESPA (2014-2020) is necessary for the achievement of this priority.

Networking opportunities in this segment have already been explored and networks have already been established in high priority areas at National level such as:

a) Back to the future (traditional) products i.e. promoting cultivation of Greek raw agro materials not been utilized systematically for the past years but which for centuries have been used as primary dietary source of nutrients.

b) Production of added value (e.g. nutritional or pharmaceutical) ingredients/compounds derived from waste of processing agricultural products (e.g. olives, grapes).

c) Implementation or even development of decision making strategies within the food chain based on a number of new and emerging monitoring technologies (e.g. in-on-at-line process monitoring sensors, measurement and non-destructive testing tools) together with an innovative system that can perform data mining and analysis allowing feedback control of quality and safety in highly dynamic industrial process and distribution chain.

A step-change in research intensity and investment, together with effective technology transfer, is a prerequisite for ensuring that the Hellenic Food & Drink sector remains innovative and competitive. The Technology Platform “Food for Life” will galvanize the resources available at national level and ensure effective co-operation under the umbrella of a coherent Strategic Research and Innovation Agenda.
2. The scope and the mission

The Hellenic Technology Platform “Food for Life” aims to:

- Provide vision for national renaissance.
- Provide an effective and sustained interaction among all stakeholders, promote increased R&D expenditure among its members.
- Identify research needs and priorities in the areas of nutrition, foods, aquaculture and agro-biotechnology and ask for increased funding of high national priority research in food.
- Coordinate food research and avoid duplication and contribute to the evaluation of research framework programs.
- Increase multidisciplinary / cross-sector education and researchers mobility.
- Increase R&D strategy and its funding.
- Ensure research funds are allocated to applied research with significant financial impact.
- Ensure increased confidence in the food supply chain among Greek consumers.

To achieve this, the platform will have to take a holistic view:

- Identifying potential needs, ‘new’ products, processes, sources services etc.
- Indicating pathways of commercial deployment of research.
- Providing strategic insights into market opportunities and needs.
- Mobilizing and networking innovation actors across national, European and international level enabling companies to gain a competitive advantage in global markets.

Four interrelated strategic research domains are decisive for the sector’s ability to meet its future challenges and to overcome its inherent development problems. They focus on serving:

1) Consumers through the provision of quality and diversity in food they can afford and trust.

2) Producers (farmers).

3) Food chains through better transparency for advancements in governance, trust, efficiency and innovation dynamics.

4) SMEs through better integration into the global and regional value chains.
The sector through better understanding of the dynamics in those critical success factors will improve competitive performance and sustainability.

- To develop strategies and provide a coherent business – focused analysis of research and innovation bottlenecks and opportunities related to the overall production, promotion and sale of the “back to the future” new food products: strategy function.

- Mobilizing industry and other stakeholders within Greece and beyond to work in partnership and deliver on agreed priorities: producing end food products and raw materials of added value, with health benefits, from farm to fork: mobilizing function.

- Supporting the improvement, and the dynamic of the primary sector of the food chain in all value outcomes, by promoting the cultivation of agro products of high nutritional value, transforming it from the weak end of the Greek food chain to the strong one: supporting function.

- Supporting the insertion of innovation management, and innovation tools into the SMEs participating in the food chain: supporting function.

- Sharing information and enable knowledge transfer to a wide range of stakeholders across the EU and beyond related to the use, and health properties of the end products produced: dissemination function.

- Building on system analysis and optimization and focusing on business relationships between actors, partnership formation, networking organization, risk management and organization.

- Dealing with present and future food chain scenarios, reduction of waste in resources/ products/ packaging/ time, trust throughout the food chain, emerging chains, change and governance.
The implementation of the mission will require the industry-led and focused stakeholders to understand, adapt, and actively participate in close collaboration with each other to the overall vision and objective. The promotion of innovation into the management of the Greek food industry in every part of the chain is required in order to upgrade its innovative capacity, enabling them to adapt this new vision, and actively participate in the overall production process.

For the dissemination and active implementation of the mission, the Platform will be required to work in close partnerships with the key ministries, the regional authorities, as well as Greek state based networks, and associations in order to achieve the insertion of this mission as an overall horizontal thematic action line within each one of the different national and regional developing programs of the period 2014-2020. The Working Groups will have to engage with stakeholders, including those along the food chain, NGOs, social platforms and consumer/societal groups, as appropriate, to address wider challenges and foster solutions within this mission that are socially responsible, inclusive and sustainable.

3. The Organizational Structure
4. The current situation

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D Intensity (% GDP)</td>
<td>0.67</td>
</tr>
<tr>
<td>Total R&amp;D spending (million €)</td>
<td>1.391,2</td>
</tr>
<tr>
<td>R&amp;D personnel (Head count)</td>
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</tr>
<tr>
<td>R&amp;D personnel (full time equivalent)</td>
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</tr>
<tr>
<td>Researchers (Head count)</td>
<td>45.239</td>
</tr>
<tr>
<td>Researchers (full time equivalent)</td>
<td>24.674</td>
</tr>
</tbody>
</table>


5. The obstacles

- Lack of long-term national policy for research and innovation.
- Lack of local production of added value raw materials and food processing equipments, which lead to high dependency from the international markets.
- Low R&D activities from the Greek food companies.
- Lack of research infrastructures and networking opportunities available for the food industry.
- Lack of coordination mechanisms among the public institutions that support the research, technology and innovation and fragmentation of the research infrastructures and activities.
- Lack of strong connections and trust between research community and food industry.
- Inflexible and bureaucratic system of the public funding schemes.
- Insufficient qualification of the Greek universities graduates’ for the needs and demands of the food industry.
- Lack of proper vocational training.
6. Proposals & Recommendations for the improvement of the enabling environment

- The area of Food has to be a distinguished thematic area at the project calls with specific budget proportional to the contribution of the sector to the national economy.

- The Greek Technology Platform “Food for Life” has to be recognised by the policy makers as the advisory body for research in the food area in order to provide:
  - Input for the research priorities which will be funded,
  - Evaluators for the submitted project proposals,
  - Input for the assessment of the effective funds’ allocation.
  - Input for the final evaluation of the financial impact of the proposals.

- The research and innovation funding schemes have to be improved in order to correspond to the needs of the food sector.
  - With a simplified application procedure with a fixed timeframe evaluation procedure.
  - With increased number of the evaluators from private sector.
  - To reallocate the funds for research in order to support and promote the extroversion of the food industries.
  - With the development of a reliable evaluation system for the financial impact of the funded projects.
  - With a simple and flexible “fast track” evaluation scheme continuously open for innovative ideas.

- To development of a new and “flexible” legislative framework for research and innovation, including tax benefit for R&D as well as IPR related tax benefits.
7. Research Priorities defined by the HTP “Food for Life”

Using a series of scientific working groups drawn from industry, academia and research institutions, the HTP developed a series of research priorities in (4) four scientific pillars and identified also a key priority in which Greece can develop a competitive advantage to be supported by GSRT of Ministry of Education & Religion through and by Ministry of Development.

7.1. “Define and promote the superiority of traditional Greek diet at molecular level and its implications for health and longevity”

The current research trend in nutrition is the exploitation of nutrigenomics in order to make evidence for the impact of diet to health and longevity of people. Greece has valuable, high quality and value added raw materials which are the basis of the Greek diet. It should be a national priority to investigate and exploit the potential of these raw materials (defining soft processes that maintain their nutritional benefit, developing new value added products, etc), to correlate them with the superiority of the Greek diet and to provide evidence for the beneficial nutrient combination of the Greek diet.

Tools toward this aim are: the focus on this thematic area and the reorientation of the existing research infrastructure to deal with such issues through the techniques of genetic and molecular biology. In this way the effect of various substances and bioactive compounds (essential fatty acids, probiotics and prebiotics, antioxidants etc) will be studied through nutrigenomic research, defining the role of nutrients to gene expression and providing valuable input for their impact to the maintenance of the health and to the management of the chronic diseases and of the autoimmune diseases such as gluten enteropathy, Crohn disease, etc.

The ultimate goal will be to understand the functions and the effect of the nutrients at the molecular level and in gene expression, to find ways to manipulate the system of the human organism through diet and to provide guidance for the development of personalized diets.

**Recommendations**

The GSRT has to develop a programme project with focus to the molecular advantages of the Greek diet composition and effect and to support it by:
- providing very specific and dedicated project calls,
- putting pressure, in organized way, to redirect the research efforts towards molecular and genetic level, and
- evaluating the impact of the research activities to the priorities of the country.
7.2. Nutrition & Health

a. Definition
Nutrition & Health refers to improve diet and health by investigating their relationship, examining the influence of genotypes, dietary patterns and life styles and exploiting bioactive compounds for the production of high added value products.

b. The priorities
- Understanding of the human metabolic energy efficiency including the human gut micro biota.
- Nutritional, sensory and textural needs of the elderly.
- Dietary advice to the aging population.
- Plant protein sources for the use in high quality food.
- Early biomarkers for deviation from the norm.
- In vitro models for in vivo nutritional predictions.
- Use of stable isotopes in food and nutrition research to:
  - Develop techniques for food labeling
  - Determine the metabolic fade of nutrient’s.
- Role of diet in:
  - Pregnancy on the outcome of offspring.
  - Pregnancy: preventing iron deficiency through food fortification with iron.
  - Preventing cognitive decline.
  - Treatment of low-grade inflammation.
  - Drug delivery.
  - Delivery of health promoting ingredients.
- Optimum growth and development and prevention of chronic diseases in infancy and preschool age.
- Coexistence of obesity and nutritional deficiencies in the pediatric populations: Designing and using foods, services and health promotion programs in tackling this modern threat.
- Personalized health care in middle aged: Determinants and risk factors.
- The role of nutrition in Public Health Promotion: Major Risk Factors and Chronic Diseases.
- Reduction of “anti-nutritive” components in food:
  - Allergens.
  - The gluten challenge.
- Reduction of health-care costs and increment of quality of life.
- Exploitation of bioactive compounds for the production of high added value products.
- Increase of nutrient bioavailability through the study of changes they go through the processing, storage, digestion and degradation by the human gut.
7.3. Food Safety & Quality

a. Definition
Food safety and quality refer to improving the quality and safety of foods by developing devices, techniques and traceability systems for the direct monitoring of the quality features and security.

b. The priorities
- Systematic and active investigation and surveillance of foodborne diseases in Greece.

- Baseline surveys on hazards in foods and under Greek conditions; Quantitative risk assessment of pathogenic micro-organisms and its implementation in food chill chain products.

- Improved safety and quality of Greek foods, including organic and functional products e.g. (i) To study the interaction and inter-relationships of pathogens, spoilage and other micro-organisms in order to control and prevent the growth of the pathogens and spoilage bacteria (ii) To develop and implement at industrial level new preservation methods with emphasis on protective cultures, microbial metabolites, proteins, enzymes and plant extracts (iii) Emerging intervention / preservation techniques (hurdle technology) for controlling activity of pathogens and other indigenous bacteria.

- Design, optimization and adaptation of traditional and novel food processing technologies for production of high quality value-added Greek food products, as well as development of new products to cover the new dietary trends.

- Branding and name recognition of foods from Greece, as well as development and establishment of new markets for Greek food products.

- Modernization of food regulations, inspection and food chain traceability, and promotion of total quality control and food safety management systems for proper implementation within the conditions and environment of Greece.

- Potential risk associated with the emerging /traditional preservation methodologies / techniques.
• To develop rapid methods for quality determination with emphasis on non-destructive (in-line) methods.

• Development of holistic miniaturized low cost solutions, exploiting the EU leadership in critical areas (micro- and nano-technologies, food processing, monitoring sensors) for the monitoring of harmful substances in raw, as well as in processed food. Under this rationale, the development or adaptation and verification of analysis standards to the new solutions (methods of analysis and monitoring), where the quantity of the sample in considerably smaller compared to existing standard methods, is needed.

• Verification of authenticity of foodstuffs and the protection of consumer against fraud or adulteration for Greek traditional Products.

• Optimization of aquaculture conditions and post-Morten handling so as to maximize the quality and shelf life of sea bream and sea bass.

• The integration of active or bioactive substance in packaging materials can lead to increased food safety and better protection or enhancing of the nutritional content of foodstuffs. To that end, research on the applications of (biodegradable) polymer films or edible coatings containing compounds with antimicrobial or anti-oxidant properties or of nutrition value should proceed further. The proposed research objectives include:
  1. The study of the controlled release of the active compound from the packaging film and its diffusion to the foodstuff.
  2. The determination of the effect of the active packaging on the protection of the foodstuff safety and quality characteristics.
  3. The suitability for application in different food types, taking into consideration potential risks, as well as consumer preferences.
  4. The cost-benefit analysis for the potential adoption of the packaging materials under study potential application of such packaging technologies with ‘mild’ preservation-oriented processing technologies.
7.4. Food Processing

a. Definition
Food processing (washing, cutting, thermal or no thermal inactivation, packaging, etc) refers to the practices used by food and beverage industries that can change the physico-chemical (intrinsic) properties of its main ingredients of plant and animal materials into ‘new’ or different food products to obtain new properties and qualities or to prevent undesired changes. This approach encompasses the whole lifecycle of processed foods. Furthermore, food processing does not stop when the food is manufactured, or indeed when it is placed in the mouth, given the role of food structure and functionality to the performance of the food in the gut. Changes in food structure, texture, composition and quality continue in the food product following manufacture, during storage, meal preparation, following consumption as well as during digestion (gastrointestinal processing), and furthermore, are impacted on and monitored by the types of food packaging technologies used. The concept “from farm to fork” is limited, and needs to be expanded to that of “from farm through digestion”.

The main challenges that food processing and engineering faces are:

- Food Security.
- Sustainable supply, storage and transport of energy.
- Clean freshwater.
- Sufficient quantity and high quality food for a growing world population at a reasonable cost.
- Production of safe food products of high nutritional value and biofunctional properties, superior sensory attributes, long shelf life and convenience in use, and yet fresh like, minimally processed and with “clean label”.
- Continuous improvement of conventional processes as well as development of novel products and processes.
- Achieving all these in an environmentally and energy efficient way.
\textbf{b. The priorities}

- Optimize existing and new food processing lines using modern computational tools. Identify optimum processing conditions for the quality and safety of Greek products especially of those with high economic impact and high production fragmentation, e.g. tomato paste, canned fruits, juices, table olives etc. Research should examine processing at different scales. Results should aid enterprises in consciously selecting a plant scale, e.g., by having access to input figures (such as energy, water), investment and maintenance costs, output estimates (product at predetermined specifications, by-products and waste), etc. The development of user-friendly, interactive process planning tools is also in scope.

- Development of adjusted processes and food products by employing the knowledge established in basic chemical engineering using modern tools such as computer-aided simulation, material sciences, novel measuring devices, nanotechnology, etc. Research in these fields will lead to a better understanding of the relationship between micro- and submicro-structures and functional properties such as bioavailability or bioactivity of food compounds and enable a target product design.

- Development of advanced unit operations aiming at improved sustainability, food safety and quality. For instance, the application of non-thermal processes, membrane technologies and reduction of scale could create novel processing schemes. Restructure and optimize traditional technologies with emphasis given on combining understanding of traditional processing mechanisms with optimised processing, food structure and nutritional quality.

- Identify and improve the carbon footprint products of key interest with moderate/ high carbon & water footprint. Develop processes for saving water & energy in the food industry and study the effect of such processes on product quality & safety issues.

- Increase the value of the food processing chain by developing value-added products from production by-products/ waste in a sustainable way, employing physical, chemical or biotransformation processes (e.g. membrane technologies for processing whey to get protein isolates).

- Incorporate materials that impact economy as also intermediates in composite product design (e.g. Greek almonds, hazelnuts, white raisin etc. that can be revitalized).

- Utilize waste and by-product streams (e.g. vegetables and fruits) for the production of both commodity and speciality products. Develop integrated processing schemes combining food production with waste and by-product valorization creating novel biorefinery concepts.

- Utilize waste for energy production (e.g. biogas from whey produced by cheese making, biomass (burn peach kernels to heat up greenhouses), wastewater treatment for agricultural & process purposes (water recycling for cooling purposes and emissions reduction).
• Reduce cost by improving process efficiency, energy utilization and waste reduction (a. energy regeneration, b. industrial engineering, c. control engineering, d. informatics (e.g. SAP)).
• Identify microorganisms (bacteria, yeasts, fungi) from the wild Greek flora with technological potential as starter cultures for the production of fermented foods with specific characteristics or production of high added value biotechnological products.
• Promote innovation through application of advanced technology like mild non-thermal food processing (High Pressure Processing, Ultraviolet Irradiation, Pulsed Electric Fields, Ultrasound, Cold Plasma, Irradiation and Pulsed Light) which ensures food safety, with the smallest possible degradation of quality, nutritional and organoleptic characteristics in the production of traditional as well as modern foods.
• Design of packaging articles and utilization of biodegradable packaging materials in order to improve sustainability, create environmentally benign packaging applications and improve shelf-life of food products. Food waste could be utilised for the production of biodegradable materials for food packaging.
• Food safety and quality: Promote the development of hygienic processing techniques (e.g. Clean Room technologies, Hygienic manufacturing and GMP improvements), supply chain informatics, or quality assessment technique.
• Improvement of plant based protein sources for high-quality food production (including animal-based products) for a more sustainable food chain.
• Development of novel processing methods using by products of plant and animal origin with high nutritional value ingredients (antioxidants, bioactive peptides, enzymes, fats and lipids, squalene etc.) in order to produce high nutritional value foods, nutraceuticals and compounds with interest for the pharmaceutical industry and increase the added value of food and related industry products.
• Optimization of unit operations and processes of food products playing a significant role for the Greek economy (e.g. olive oil, table olives and dairy products) in order to increase their nutritional value (e.g. increase of the concentration of bioactive compounds) and quality attributes (e.g. sensory attributes); and provide high added value products.
• Development of processes for production of nutraceuticals and foods containing the appropriate ingredients for specific target groups such as children, the elderly, patients suffering from diabetes etc.
• Isolation and characterization of bioactive compounds from waste (olive, grapes, orange peels), such as oligosaccharides, to be used as prebiotics with “friendly” microorganisms (symbiotic) in order to develop novel fermented products (dairy, meat etc) with added value.
• Replacement of chemical additives (e.g. antioxidants, emulsifiers, stabilizers) with “natural” additives derived from microorganisms and / or waste materials of plant and animal origin.
7.5. Food Chain Management

a. Definition:
The food sector as a whole is faced with major challenges that arise from changes in the sector’s economic and non-economic environments, from changes in lifestyles, from global increases in food consumption, and from a diminishing production base due to, e.g., the loss of arable land or its divergence for non-food production alternatives. The challenges cannot be met by any individual enterprise but require concerted actions and coordination of initiatives.

Food Chain Management (FCM) provides support for the identification and realization of “best” concepts for such actions and coordination needs. This support, in turn, provides enterprises with the means for improving their own and the sector’s competitiveness, sustainability and responsibility towards the expectations of its customers and the society. In meeting its challenges the sector needs to innovate in organizational relationships that reach beyond innovations in process improvement by building on the innovation potential inherent in enterprise networks and their flexibility in responding to customers’ and consumers’ demands. There is an urgent need to adjust the trend towards increased process integration along the value chain to the organization of a flexible and responsive network approach by utilizing the potential of technological change, of information and communication systems, and of institutional change.

FCM support can focus on operational improvements or on strategic development perspectives (Strategic FCM) that involve major investments and long-term commitments. A specific strategic development perspective concerns the investment in sector wide infrastructures such as electronic networks for food safety assurance, quality assurance and transparency in business communication as well as towards consumers. Such infrastructures could serve and benefit the sector as a whole but are beyond the investment capability of any single group, especially if their benefit depends on participation of a majority of enterprises, including SMEs, which might take time to materialize. For the infrastructures to become feasible and to deliver the envisaged benefits not just for enterprises and the industry but for society as a whole, the investment in conceptual design, organizational agreements and financial responsibilities require complementary engagement of groups from outside the value chain including research and policy, i.e., a Food FCM view that integrates policy and management initiatives alike.
The Greek food chain can be a key element in the Greek innovation ecosystem, helping Greece to turn to an innovative agro-food member of the European Union. To this end the Greek food chain management will have to take a holistic view, identifying the pathway to commercialize deployment of research, and innovation, provide strategic insights into the market opportunities and need, and mobilize the chain’s innovation actors across the nation in order to enable Greek companies, and their products to gain a competitive advantage in the global markets.

b. The priorities
Issues that the food sector and its individual actors need to deal with for timely and appropriate response to the sector’s challenges:

- Produce new, unique, innovative, Greek food products, of Mediterranean origin, attractive to the global market, with significant added value, and prospect for wide production. The products under consideration (to fork) will be produced by Greek raw agro materials (from farm) which have not been utilized systematically in the last 30 years of the “fake” economic growth, but were used in the past centuries as primary dietary resource (raw materials or foods themselves) of low cost for the feeding of the nations’ low and middle class (part of their Mediterranean food). The revitalization of these products is the vision by this working group, and the proposed motto for that purpose: products with “BACK TO THE FUTURE” origin. The strategic objective is old products, re-produced under new, modern, technological conditions and promoting them as “new” products to the global market. In every Greek region there were such traditional, unique agro-products, and foods made by them which are now days even forgotten, or produced in very small scale for family use only.

- Adapt rapidly (through changes in resource use, products, processes, services, and governance structures) to changing scenarios (markets, policy, resource availability etc.) and their requirements. This is challenging under the usual sector organization, where coordination is difficult, as its enterprises are rarely confined to well-structured chain relationships with established communication and coordination mechanisms but are usually part of an open enterprise network where enterprises may change their suppliers and customers at will.

- Overcome the sector’s structural problem due to its large number of SMEs. Their ability to innovate and interact successfully with the large and multinational enterprises, especially in agricultural supply industry and retail, depends on cooperation initiatives and the provision of external coordination support.
• Focus on changing consumer needs. These depend on a continuous adaptation of new developments in technology, production, management, communication, organization or cooperation and on the establishment of trust between all stakeholders along the food value chain including the consumer.
• Integrate and balance the interests of all stakeholders, including enterprises, consumers, and society, as a whole, considering of all the relevant factors for successful integration, e.g., economic efficiency, environmental control, process organization, food safety, marketing or transaction rules, etc.

The actual priorities for Food Chain Management research are further refined through the following major goals:

• Reduction of waste (dealing with diminishing resources).
• Assuring trust within the chain for better serving society and consumers.
• Supporting present and future food chain scenarios.
• Supporting newly emerging chains (analysis and optimization).
• Coping with demographics.
• Dealing with structural change.
• Improving on governance and innovation.
• Developing metrics for social responsibility to enhance fundamental/applied research and SMEs innovation.
8. Acknowledgments

The Position Paper of the Platform was developed with the contribution of the:

- Advisory Board
- Working Groups
- Ad-hoc Committee

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