



SUSFOOD - An FP7 ERA-NET on Sustainable Food Production and Consumption

Announcement

2nd Transnational Call for Proposals

The 2nd joint call for transnational research projects of the SUSFOOD ERA-Net initiative opens on 1st February, 2014.

This announcement will provide you with the relevant information on the topics, project eligibility and evaluation criteria, timeline, application procedure, and contact details.

1. BACKGROUND OF THE CALL

SUSFOOD is the acronym for “SUStainable FOOD production and consumption”.

The European transnational research cooperation project consists of a network of 25 partners from 16 European countries.

As an ERA-Net, SUSFOOD aims to increase collaboration and coordination between national research activities on sustainable food production and consumption.

The strategic goal of SUSFOOD is to reinforce the scientific cooperation between EU members and associated states in order to maximize the contribution of research to the development of more sustainable food systems from production to consumption.

The scope of SUSFOOD includes the entire food supply chain with the main focus on food chain sustainability beyond the farm gate. The farm level will be considered if it has direct impact on the sustainability of the other steps in the food chain.

SUSFOOD promotes a multi-disciplinary approach from biology to food engineering and social sciences and addresses the following socio-economic and



environmental goals:

- To develop sustainable food systems from production to consumption, to increase food production sustainably while reducing waste in food supply chain and limiting environmental impacts ;
- To improve the quality of life by improving food quality in a sustainable way and to ensure the resilience of the food supply chain;
- To encourage sustainable consumer behaviours and food choices;
- To improve competitiveness and economic growth in the European food industry with special attention to SMEs.

After a successful 1st transnational joint call of the ERA-Net SUSFOOD in 2013, the 2nd joint call for project proposals follows in 2014 – again based on funds from the participating countries:

Belgium (Flanders), Denmark, Estonia, Finland, France, Germany, Poland, Romania, Slovenia, Spain, Sweden, Turkey, UK.

The call is divided into two sections:

1) Section “Research”:

Project consortia are expected to be formed only by **research organisations**

2) Section “Research and Innovation”:

Project consortia are expected to be formed by research organisations and **industry** (enterprises)

Project consortia should apply to one of the **three thematic call topics** (for a detailed description see section [2 “Call topics”](#)):

- 1) Innovation in food processing technologies
- 2) Redesign input, waste and side flow strategies to increase resource efficiency and provide added value in food processing, manufacture etc.
- 3) Interdisciplinary research approach to innovative food products and use of new raw materials for food products

2. CALL TOPICS

Research project consortia should apply to one of the three topics, which will be funded according to the table under paragraph [6\) Budget](#).

Each topic contains several sub-topics (listed under each of the thematic research areas) which may be considered.

TOPIC I

Innovation in food processing technologies

There is a need for flexible, innovative food manufacturing, and resilient processes and systems. Opportunities must be identified to increase competitiveness, efficiency, and economic growth in a low-carbon European food and drink sector. Research needs to support innovative solutions to achieve sustainably produced food, through more efficient food processing, packaging and distribution embracing the retail and catering sectors and to produce food which is safe, healthy, sensorial, affordable, and nutritionally balanced. This will require development of new technologies or improvement of existing technologies to retain and improve the nutritional qualities of the raw materials through gentle processing or changed processing methods. Flexible and resilient processes and systems are needed to overcome the increased variability of raw materials in the future (due to agro-ecology, climate change and extreme climate events, global trade, and other factors), and optimize resource efficiency through reduced energy, water use and improve environmental impact through reducing greenhouse gases. New processes are needed to upgrade and valorize components from alternative sources to food grade ingredients based on functional directed isolation of food components from complex plant-, algae- or animal-based matrices (included aquatic) to ensure optimal use of raw materials.

This research area includes

- Development of separation technologies; new extraction, filtration and heat treatment or alternatives to heat treatment technologies consuming less material, water and energy
- Use of minimal processing, less specialised processes and alternative technologies to fractioning
- Development of processes based on fermentation technologies or enzyme technology
- Development of engineering solutions and process/systems automation for increasing efficiency and flexibility in food processing, packaging, manufacture, and distribution.
- Improvement of the match between processing technologies and raw materials availability and quality to maximise exploitation and functionality and reduce waste
- Development of flexible technologies and systems to optimize use of increasing raw material variability in quality, location and price
- Development of novel packaging concepts, materials and designs which promote re-use or recycling, minimise the overall environmental impact of food and are consistent with functionality.
- Development of smart technologies for single process operations
- Food process design, including supportive modelling of food processes, develop ICT-based management systems, process

control/optimization, systems for control and monitoring, including on/in-line rapid analyses based on advanced sensors, rapid data acquisition and multivariate data handling (Process Analytical Technologies - PAT)

Expected outcome:

More resource-efficient and innovative food processing technologies for food processing and manufacturing that address sustainability.

TOPIC II

Redesign input, waste and side flow strategies to increase resource efficiency and provide added value in food processing, manufacture etc.

The food supply chain is complex and at all stages resources are used, greenhouse gasses emitted and waste is generated. Rising prices of raw materials, energy and water, together with water scarcity, regulation of greenhouse gases and waste management have an increasing impact on food production.

In order to achieve more sustainable and resilient food production – including prolonging shelf life without compromising food safety, nutritional and sensorial characteristics - there is a strong need for research supporting redesign of the supply chain and the whole production chain from raw material to consumption, to create the most efficient production, valorise products and side streams, optimize use of raw materials, ingredients, energy and water, and changes of packaging materials. The redesign should accommodate demanded food qualities including food safety, organoleptic and nutritional quality. The research may include impact assessment, including economic aspects of reduced (food) waste.

This research area includes

- Valorisation of raw materials, waste and side streams based on a zero-waste philosophy upgrading to more healthy foods, use of processing side streams that are normally not used for foods and valorisation of waste into food ingredients, fine chemicals or feed. Specific areas of interest are production chain re-engineering, bio-refinery and bioprocessing including use of enzymes and fermentation to add value to side streams and waste
- Based on analysing critical points in the food chain, development of new sustainable food manufacturing processes and technologies to reduce water and energy input. Specific focus areas include hygienic design of food processes and equipment (food safety), development of technologies to reduce energy consumption (including more efficient cooling and freezing processes and storage) and improving product quality (including food safety, nutrition, organoleptic), development of packaging and surface materials, and coatings for process equipment

- Modelling and simulating redesigned processes and food chain (through multi-model integration)
- Supply chain management, energy, water and environment in connection with future production systems, including distribution services, waste management, recycling, and choice of packaging materials
- Development of new materials and new polymer compounds for novel packaging of food

Expected outcome:

More efficient use of raw materials, resources, processing techniques and waste reduction for maintaining or improving microbiological, chemical, organoleptic and nutritional food quality.

TOPIC III

Interdisciplinary research approach to innovative food products and use of new raw materials for food products

There is a need for research in use of new raw materials for production of ingredients or foods based on side streams or by-products, which are important sources for a sustainable food production. To ensure affordable, safe and locally accepted foods that fulfil nutritional requirements for various consumer segments, there is a need to identify new ingredients from by-products, new and/or underexploited species, and whole crop harvesting systems. Likewise, there is a need for development of new ingredients with high nutrient density, taking into account the bioavailability of the nutrients. Development of new gentle methods to fractionate raw materials and isolate the compounds in focus without reducing their functional properties is essential for obtaining the right quality ingredients. There is a strong need to develop tools and protocols for registration of new types of raw materials as well as novel food products, and legislation has to be simplified.

This research area includes

- Functionalization of new and underexploited raw materials, including development of plant-based, insect protein, algae or other sea product alternatives to conventional animal protein products, using new and traditional raw materials
- Understanding the effects of various processing methods on the quality of the raw material. Identification of novel and innovative attributes in raw materials
- Reformulation and preservation of food products in response to consumer demands through processes with lower environmental impact

- Increased and secured nutritional and safety quality of foods and bioactive substances by understanding food microbiology and toxicology
- Development of infrastructures supporting negotiation with regulatory authorities in the EU and on export markets for approval of novel foods and food chains

Expected outcome:

Increased and broadened raw materials used for food production and consumption optimizing quantity and quality (nutritional, microbiological, chemical and organoleptic), and reducing waste, including addressing related technological and administrative impediments.

For the entire call, proposals on fisheries, aquaculture and seafood processing are not eligible. The applicants must submit their proposal to ERA-Net COFASP call for proposals. A submission to ERA-Net SUSFOOD call for proposals may be considered like a positioning deficiency.

3. OVERVIEW OF CALL PARTICIPATION

The 2nd joint call for proposals of SUSFOOD is divided into two sections.

The described topics apply to both sections. The difference just concerns the participation of industry:

In the *Research Section* of the call (*) just academic partners may participate. Whereas in the *Research and Innovation Section* (**) of the call industry participation is mandatory. For further details and clarification see National Regulations.

Table 1: Call participation

Organisation	Country	Research Section *	Research & Innovation Section **
IWT	Belgium	0	x
DASTI	Denmark	x	x
EVPM	Estonia	x	0
MMM	Finland	x	0
ANR	France	0	x
BMBF	Germany	x	x
EZ*	Netherlands*	?	?
UEFISCDI	Romania	x	x
NCBR	Poland	x	x
MIZS	Slovenia	x	x
ELIKA	Spain	x	x
INIA	Spain	x	x
FORMAS	Sweden	x	0
GDAR	Turkey	x	0
DEFRA	UK	x	x

* The Netherlands still have to decide on participation.

4. APPLICATION PROCEDURE

The application has to meet and consider the following eligibility criteria:

- The language of the call and applications is English;
- Project duration is up to three years;
- The project consortia have to consist of researchers from at least three countries funding the ERA-Net SUSFOOD call (see these countries in table 1);
- Researchers from countries who do not fund the SUSFOOD call are welcome to participate in project proposals as associated project partners on the condition that they are proven financially covered;
- Industry participation is only possible via the “Research and Innovation”-section of the SUSFOOD call (see National Regulations);
- The eligibility of each organization has to be checked according to the national criteria published in the National Regulations;
- If one or more partners of the project consortium appear not to be eligible, the Call Group, which consists of all funding partners, will decide case-by-case whether to give the project consortium the possibility to solve the eligibility problem or to reject the pre-proposal.

5. TIMELINE

Event	Date
Pre-Announcement	15/01/2014
Open Call for pre-proposals	01/02/2014
Closing date for pre-proposals	01/04/2014 – 3 p.m. CET
Evaluation/Selection (internal review)	28/04/2014
Selection Meeting	07/05/2014
Invitation for submission of full proposals	02/06/2014
Closing date for full proposals	01/08/2014 – 3 p.m. CET
Evaluation/Selection (peer review)	Approx.25/09/2014
Selection Meeting	Approx. 09/10/2014
Negotiation and start of the projects	November 2014 - April 2015

6. BUDGET

Country	Funding Partner	Contribution up to (in EURO)
Belgium	IWT	750,000 €
Denmark	DASTI	500,000 €
Estonia	EVPM	100,000 €
Finland	MMM	200,000 €
France	ANR	1,000,000 €
Germany	BMBF	1,000,000 €
Netherlands*	EZ	?*
Poland	NCBIR	300,000 €
Romania	UEFISCDI	500,000 €
Slovenia	MIZS	630,000 €
Spain	ELIKA	100,000 €
Spain	INIA	250,000 €
Sweden	FORMAS	1,500,000 €
Turkey	GDAR	200,000 € ¹
United Kingdom	DEFRA	350,000 €
TOTAL		7,380,000 €

* The Netherlands still have to decide on participation

7. SUSFOOD META KNOWLEDGE BASE

The SUSFOOD Meta Knowledge Base (<http://susfood-db-era.net>) is an online freely accessible database listing national funding bodies, research organisations and research projects about sustainable food production and consumption currently undertaken by European researchers of research institutes and of industrial companies including SMEs. As mapping of the European research

¹ Participation is limited to the governmental research institutions (see [further information](#)).

landscape is one of the aims of SUSFOOD, **registration to this database is a prerequisite to this call**. During the call procedure, you will be asked whether all projects partners are registered. **It is also strongly recommended** to post your finished and running research projects within the scope of SUSFOOD in this database via a small abstract and some well-defined keywords. The output of this database will be used by SUSFOOD to map the research projects in Europe in order to generate a view on overlaps and gaps within the current European research in the field of sustainable food production and consumption.

This database can also help you finding consortium partners and provides a private partnering tool to facilitate the creation of project proposals!

For more information or assistance: Katrien.Broekaert@ilvo.vlaanderen.be

8. FORMS AND GUIDELINES

The online submission platform and the guidelines will be available via the website <https://www.susfood-era.net/submission-platform> from February 01st, 2014 onwards.

9. CONTACTS

Please do not hesitate to contact the SUSFOOD ERA-Net Call Secretariat or your National Contacts (see [ANNEX 1](#)) if you need support. We will be pleased to assist you and guide you through this process.

ANNEX 1

SUSFOOD ERA-Net Call Secretariat:

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