METROFOOD-RI is a distributed Research Infrastructure of Global Interest aimed to promote scientific excellence in the field of food quality and safety, by means of which it is possible to carry out different activities supporting data collection and measurement reliability, as well as basic and frontier research in food and nutrition. It provides high-quality metrology services in food and nutrition, comprising an important cross-section of highly interdisciplinary and interconnected fields throughout the food value chain.

METROFOOD-RI is aimed to strengthen scientific knowledge, promoting scientific cooperation and encouraging the interaction between the various stakeholders, as well as the creation of a common and shared base of data, information and knowledge.

METROFOOD-RI is characterized by a broad multidisciplinary approach with different application fields: agrifood; sustainable development; food quality, safety, traceability and authenticity; environmental safety; consumer sciences; human health.

Research activities cover the whole food chain and related services, from agrifood primary production up to final consumption, in order to support sustainability of food production and consumption, improve food quality and safety, achieve food traceability and authenticity demonstration, and optimise all the steps from farm to fork with a holistic approach.

The general objective is to enhance scientific excellence and scientific cooperation in the field of food quality & safety by promoting metrology in food and nutrition, allowing coordination on a European and increasingly on a Global scale.

Endorsements from International Organizations

Cooperating with: www.foodauthenticity.uk

Endorsements from International Organizations

Global level

ESFRI Roadmap 2018 • Domain "Health and Food"

High-level metrology services in food and nutrition for the enhancement of food quality and safety

METROFOOD-RI Coordination Office

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Metrofood-RI scientific offer is addressed to a broad set of users and stakeholders, such as: public and private labs and research groups; policy makers, food inspection and control agencies; Food Business Operators and producer associations; consumers/consumer associations and citizens.

A sustained, high-quality advanced training for academic and professionals, at different education levels and with training programmes developed in agreement with the counterparts (e.g., universities) will be provided, together with dissemination actions for promoting educational activities addressed to a wide public (consumers/citizens).

**Metrological and Standardisation Services**

RM development: Matrix RMs and primary RMs preparation on a large scale or customized on a specific customer request.

Development of methods and devices: development of methods for food characterization, traceability and authenticity; validation and comparison of methods and performance evaluation; set up of new and/or integrated measurement devices; development of smart sensors for in situ/on line monitoring; application of nanotechnology for sensors development.

Harmonization and standardization: provision of Proficiency Testing schemes; Interlaboratory and Round Robin testing; standardization and harmonization of methods and procedures.

**Improving Food Production and Consumption**

Food production: plant growth in controlled conditions; smart field/farms/fisheries experimental sites; pilot plants for food production optimization.

Food packaging, storage and distribution: facilities for development of bio-based food packaging and smart packaging; evaluation of performances, compliance assessment and optimization of food packaging; development of new sensors for monitoring storage and distribution; development of packaging integrated labels; development and implementation of new and integrated traceability and monitoring systems.

Food preparation and use: development of best practices to preserve food quality and safety; improvement of durability and reducing waste in retail and post-retail.

**e-services**

Tools for measurement standardisation and harmonisation; access to food data (composition, contaminants, markers, profiling), data related to food production & processing, data on environmental and health impact; tools for food production and processing (modelling, best practices); tools for food traceability and authenticity; data-link (origin, process technologies, food composition and property values); food consumption, nutrition, risk and benefit analysis; e-platform for data collection, sharing, interoperability, analysis and display; e-learning.