2.4.2. Agrifood and Nutrition

The group of centres belonging to the strategic partnership in the Iberus ICE Agrifood and Nutrition area of specialisation provides first-class support for the intensification of technological innovation and development policies in the food industry, on issues related to agricultural, livestock, forestry and food systems, and the conservation of natural resources and the environment.

The ultimate goal of these actions is to contribute to agriculture, food and other potential strategies such as pharmaceuticals, materials and technologies in order to enhance their competitiveness and sustainability and to produce scientific and technical information that contributes to the development of competitive, efficient Agrifood systems that are both socially and environmentally sustainable.

The Ebro Valley ICE works towards integrating scientific advances in Agribusiness, along with other scientific fields and research activities in the Agrifood industry. It exploits advances in biotechnology in relation to microorganisms, plants and animals in order to develop new, healthier, eco-efficient and competitive products and services. Consideration will also be given to rural development, which will be focused on boosting the local economy, whilst at the same time preserving our heritage and cultural diversity.

The areas of action are focused on agricultural, livestock and forestry research, as well as aspects related to their quality and safety, and their impact on the markets. This will all be carried out from an integrated approach, through competitive production that is compatible with rural development and respect for the environment.

Research will also be conducted on safety in the human and animal food supply chain, food-related diseases, production, food processing and storage, consumers’ food preferences and the effects of diet and nutrition on health.

These areas of action correspond to the European strategy on life sciences and biotechnology which is expected to boost the competitiveness of European agriculture and biotechnology, companies in the food sector — advanced technology SMEs in particular. Moreover, they will also improve the general welfare of society.
The areas of research are aimed at:

- meeting social needs and demands in relation to sustainable methods of use, production, storage, processing and distribution of food products.
- promoting the quality, safety and health properties of food products—from an integrated approach—through competitive production that is compatible with rural development and respect for the environment.
- developing important innovations and the effective transfer of technology, addressing all industries and economic sectors that produce, manage, exploit or in some way transform biological resources.
- generating support for the implementation of current and future policies and regulations in the fields of public, animal and plant health and consumer protection.

Definition of research project areas:

- **Sustainable production and management of biological resources of land and sea**

  The aim is to facilitate research on sustainable production systems; plant and animal health and production; animal welfare; fisheries and aquaculture, including the exploitation and sustainable use of their biodiversity; development of better crops, forest resources, raw materials, marine products and biomass technologies that enable the creation of high-quality, useful, environmental and safe products that have high added value.

- **Genetic resources and improvement**

  The goal is to advance in the areas of biodiversity knowledge and management, identification of important characteristics for the production and genetic control of crops and generation of new variability. Consideration will be given to developing methodologies for more efficient genetic selection and the evaluation of the more interesting characteristics and the development of improved raw material for quality products through sustainable agriculture and livestock farming.

- **Integrity and control of the food chain**

  Based on a “from producer to consumer” approach, this area includes aspects of nutrition, health and animal welfare; research in food safety, with the same integral approach; and the study of consumer attitudes in order to meet their expectations.

- **Optimisation of Agrifood production and safe, quality products**

  The aim of production systems is to improve and optimise agricultural farming by incorporating techniques that ensure sustainable production using clean technologies and also to contribute to increasing and/or exploiting the biodiversity of agricultural systems.

This must all be in line with foreseeable changes in the medium-term future, such as climate change.
Also included in this area is crop production under extreme environmental conditions; a more rational use of irrigation systems and fertilisers; adaptation to new crop varieties or species and evaluation of farming systems in sustainable agriculture. The overall objective is to develop systems to improve the quality of agricultural products (healthier and safer food) and to minimise the environmental impact of agricultural practices.

• **Development of new ways of processing and preserving food**

These new ways of processing and preservation will be based on better use of resources, greater energy efficiency and greater respect for the environment, in order to produce food that is safer, healthier, more varied, of proven quality and longer-lasting.

• **Study and evaluation of the impact of climate change on Mediterranean agriculture and livestock farming, and on food safety and public health**

This area includes the study of mitigation and adaptation strategies for livestock farming in the face of climate change, and the development of future regional climate scenarios for the middle Ebro Valley. Assessment of the effect of food and water-borne diseases, identification of potentially-contaminating emerging pathogens in the food chain, transmitted by new vectors adapted to the new climatic conditions. This area will also study the promotion of participation of all those agents involved in the various sectors and systems, in order to integrate climate change adaptation into sectorial policies.

• **Development of sustainable farming systems**

The agricultural business is facing stiffer competition due to market globalisation, increased competition for land resources by urban and industrial users, the need to adapt production methods to the new Agenda 2000 guidelines and, lastly, increasing public interest in environmental issues.

• **Integrated approach to the study of the relationship between food, nutrition and diet and the health of the population, from the point of view of nutrition and derived pathologies**

Update of the European population’s reference intake of energy and nutrients. Promoting healthy diets and physical exercise, prevention of overweight, obesity and chronic diseases. Study of the relationship of overweight and obesity with lifestyle and diet. Establishment of dietary guidelines and healthy lifestyles. Optimisation of health services to citizens related to food.