

SRIP HRANA

Strategic research and innovation partnership for Sustainable food production

1. Objectives

The main objective of SRIP HRANA is personal growth and development of our members, the agro-food sector and consequentially the entire Slovenian economy. This will ensure the establishment of at least three modern and competitive value chains.

In line with already defined objectives to focus an area of Sustainable food production (part of Smart specialization strategy) the main focus will be:

- **Guidance of agro-food system and value chains** to ensure sustainable production and processing of food with higher quality and recognized traceability.
- **Development of new marketing models** to improve position on domestic, European and global market.
- **Human Resources development and growth of competences** to improve the transfer of knowledge, technologies, entrepreneurial activity and, consequently, the competitiveness of the agro-food system.
- Development of new integrated products with a greater functionality for consumers, catering and tourism, with a focus on short supply chains.

2. Global indicators SRIP HRANA

Indicator	Initial state (2015)	Target quantifications (by the end of 2018)	Target quantifications (by the end of 2022)
Number of new products on the market (average per year per company)	5	7	10
The coverage of imports by export (%)	51,7	54	57
Number of researchers in food enterprises	55	60	66
Internal expenses for development and research activities (A01, C10, C11) (mio EUR)	8,26	9,1	10
Investments (A01, C10, C11) (mio EUR)	79	85	95

Statistical background

Table: Performance indicators of the agro-food sector (2015)

	Enterprises (A)	Cooperatives (A01, C10, C11)	Agricultural holdings	Food enterprises (C10, C11)
Number	454	92	72.377	704
Number of employees	3.104	606	80.000*	12.658
Income from sales (mio EUR)	380	103		2.010
Income from exports (mio EUR)	122,3	24		501
Export orientation (%)	32,2	22,8		24,3
Added value per employee (EUR)	35.856	28.022	525**	36.742

*PDM (full-time labor power)

**added value of agricultural activities

Table: Number of researchers in agricultural and food enterprises (2008-2015)

	2008	2009	2010	2011	2012	2013	2014	2015
A01-A03 Agriculture and hunting, forestry and fishing	0	1	1	2	2	0	0	4
C10, C11 Manufacture of food products and beverages	13	14	12	39	48	59	62	55

Table: Internal expenses for development and research activities for agricultural activities and food production (2008-2015); in 1.000 EUR

	2008	2009	2010	2011	2012	2013	2014	2015
A01-A03 Agriculture and hunting, forestry and fishing	-	228	273	424	551	-	9	557
C10, C11 Manufacture of food products and beverages	1.398	1.416	1.499	3.614	3.671	6.401	6.379	7.708

Table: Investments in fixed assets for agriculture, food and beverage production (2008-2015); in 1.000 EUR

	2008	2009	2010	2011	2012	2013	2014	2015
A01-A03 Agriculture and hunting, forestry and fishing	37.907	31.492	24.198	25.281	22.729	15.684	23.754	20.571
C10, C11 Manufacture of food products and beverages	108.58 9	81.561	72.040	78.295	60.735	43.956	59.050	59.080

3. SRIP HRANA strategy

SRIP HRANA aims to arise developmental orientation of all potential productions and processing chains. Furthermore, it aims to form modern and sustainable operations of chains, which will ensure uninterrupted supply with high quality food products on the domestic market as well as developmental breakthrough on the international market. Primary interest of SRIP HRANA is progress/growth/evolution/development of those in agricultural chain who exploit the natural and structural features, while ensuring the supply of products to their population. Unlike other economic activities, it is necessary to provide solid and development-oriented chains in the field of food production and processing, which also provides economically rational shares in ensuring food security.

Global advantage of SRIP HRANA is its partnership, which associates:

- 3 organizations operating on the field of agriculture and food
 - o Chamber of Commerce and Industry of Slovenia - Chamber of Agricultural and Food Enterprises (180 agricultural and food enterprises)
 - o Chamber of Agriculture and Forestry of Slovenia (1.267 agricultural holdings)
 - o Cooperative Association of Slovenia (64 cooperatives)
- 3 the largest Slovenian universities
 - o University of Ljubljana (17 actively included faculties)
 - o University of Maribor (5 actively included faculties)
 - o University of Primorska (1 actively included faculty)
- 4 the most important research institutions
 - o Jozef Stefan Institute
 - o National Institute of Biology
 - o National Institute of Chemistry
 - o Agricultural Institute of Slovenia
- 6 other important organizations operating on the field of agriculture, food, nutrition and food technology (Consortium of Biotechnical schools of Slovenia, Scientific Research Centre Bistra Ptuj, NUTRIS, Scientific Research Centre Koper, Slovenian Institute of Hop Research and Brewing, IOS).

We believe that introduced partnership ensure critical mass of competences and capacity.

Number of included enterprises	41
Number of included research and development institutions	29
Number of participating experts	134
Enterprises	75
Research institutions	37
Branch organizations	22

Human Resources development is crucial for long-term achievement worked-out objectives, therefore SRIP HRANA pays special attention to it. Our work will include forecasting of long-term competence needs, identifying deficits in current and future competencies, and using and developing appropriate programs for upgrading and recruiting the necessary competences.

4. Action pillars and their activities of joint development

Action pillar 1

INGREDIENTS AND SUSTAINABLE USE OF RESOURCES

Assurance of high-quality vegetables and animal raw meat on the market requests technological development by incorporating innovations. Sustainable and efficient usage of resources is one of the key aspects of environmental protection which is increasing economic efficiency. Action pillar 1 is closely linked to SRIP Network for the transition to circular economy.

Objective:

Introduction of the principles of a circular economy for sustainable resource use in agro-food.

Areas of joint development:

Raw material quality management for sustainable vegetable food production and processing and for sustainable livestock production with an emphasis on risk management and reduction of environmental impact.

Action pillar 2

SMART PROCESS PLANNING AND PROCESS CONTROL

Planning, process control and analysis are key phases of smart process planning in agro-food industry. An important aspect is optimization of the entire process. Therefore, supply chain management and cooperation of its parts are very important. Action pillar 2 is closely linked to SRIP Smart Cities and Communities, and horizontal ICT network.

Objective:

Strategic and efficient management of supply chains.

Areas of joint development:

Optimization of agro-food processes based on automatization, digitalization and robotization.

Action pillar 3

ADVANCED EQUIPMENT AND TECHNOLOGIES FOR SUSTAINABLE FOOD PRODUCTION AND PROCESSING

Implementation of suitable and efficient technological solutions is key to interesting, competitive and innovative production of food products. In processing sector, less aggressive technologies will be necessary to ensure food safety, improved nutritional value and higher functionality. Action pillar 3 is closely linked to SRIP MATPRO.

Objective:

More efficient agricultural production and food production.

Areas of joint development:

Development and use of advanced technologies in the production and processing of food; development and use of advanced materials.

Action pillar 4

HYGIENE, SAFETY AND QUALITY OF FOOD

Despite a clear legal and regulatory framework, ensuring hygiene, safety and quality of food represents a major challenge for food business operators. Managing all kinds of risks in agro-food, advanced analytics, prolonging the shelf life of foodstuffs, new substrates and ingredients are only some of the challenges that will have to be taken into account in the further development of agro-food.

Objective:

Development of new innovative products and services for ensuring the safety and quality of finished products.

Areas of joint development:

Ensuring food safety, detecting food fraud at all stages of food production and processing.

Action pillar 5

FOOD, NUTRITION AND CONSUMER

The role of the consumers (integration into the functioning and development of the agro-food industry, monitoring and analyzing their behavior and food perception) is crucial in establishing an appropriate system that will lead to the innovation development of the entire agro-food chain. Due to the digital revolution, an open-minded perception of new technologies and products is needed. Action pillar 5 is closely linked to SRIP Health-Medicine and SRIP Sustainable Tourism.

Objective:

Establishment of a sensory center for the efficient consumer-led development of new functional food products for individual target population groups.

Areas of joint development:

Monitoring changes in the habits of consumers and the perception of individual aspects of food (packaging, new technologies, advertising, food labels, etc.) in order to efficiently plan the development of new functional foods and study the effects of food and nutrition on human health and the role of the consumer in the food offer for further development.