

Food sector related knowledge integration



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WHO WE ARE

Partners from seven central European countries join their forces to improve entrepreneurial competences and skills in remote areas through food innovation potentials, led by the Pomurje Technology Park (Slovenia).

Slovenia

- Pomurje Technology Park
- Chamber of Agricultural and Food Enterprises

Austria

Business Upper Austria

Hungary

- Campden BRI Hungary Ltd
- South Transdanubian Regional Innovation Agency

Italy

- CNA National Confederation of Crafts and Small and Medium Sized businesses -Regional Association of Emilia Romagna
- Industry Association Service & Training of Treviso and Pordenone

Germany

University of Hohenheim

Poland

Polish Chamber of Food Industry and Packaging

Slovakia

Slovak Chamber of Commerce and Industry

INTRODUCTION

As the I-CON project is concerned with improving competences and skills in the food sector through innovation, it is apparent that a thorough investigation and assessment of the current state-of-the-art technology, needs and demands is necessary in order to take innovation actions. One important aspect of innovation especially for SMEs is the ability to have access to novel technologies in order to stay globally competitive and to keep up with constantly changing legislation issues.

The following summary is based on reports from project partners about meetings with relevant authorities, like food associations and producers, development agencies, research centres and national institutions as part of WP DT1: Food sector related knowledge integration of I-CON project. European countries included in I-CON are: Slovenia, Poland, Austria, Hungary, Italy and Germany.

K State-of-the-a

Current state-of-the-art technology in the food sector has been investigated in different countries and will be presented in this section in a short overview. After joining the EU, many countries experienced a dynamic development of their domestic food market, which resulted in new export opportunities and expanding markets. In Parallel, an increase in food quality and safety has been noticed in many EU countries, to meet EU guidelines and fulfill consumer demands.

Legislation in the European is undergoing constant changes, forcing food producers to adapt quickly. It has been noticed that many food producers also became more self-aware of those changes and are generally more informed about upcoming amendments, concerning legal issues. Especially traditional food producers, which are mostly small to medium sized enterprises (SMEs) are often struggling to do such, due to manifold obstacles explained in later sections.

The idea of innovation as an important tool for securing a company's competitiveness is becoming more and more obvious to food producers across the European Union, facing rising market pressure exerted by big food companies. Especially traditional SMEs struggle with implementing novel technologies into their production due to different reasons. It was shown that companies implementing innovative technologies are more competitive and globally oriented compared to those sticking to well-established, traditional ways. Innovative companies are also more attractive to experts from different fields, like mechatronics or automation, which have and will continue to become key disciplines in food production.



There are particular obstacles, which need to be overcome to successfully integrate innovative techniques - many of them being related to financial issues, knowledge gaps, asymmetric communication or limited access to specific knowledge. Different project partners also mentioned existing problems in the food quality management, which is related to growing capacities and integration of certain certification standards. Certification standards are usually linked to financial expenditures, which are often not feasible for small and micro-companies. Those certification standards however play a significant role in the marketing of food products and pose economic advantages to those companies who are able to afford them.

Some partners also explained that due to small domestic markets and low purchasing power, new innovations are hard to commercialize since people often prefer cheaper, low-quality products.

Throughout the many meetings and conversations with relevant authorities, specific needs on national levels were assessed and summarized. Those will be presented in the following, sorted by country.

Who funds us

Our project is funded by the Interreg CENTRAL EUROPE Programme that encourages cooperation on shared challenges in central Europe.

With 246 million Euro of funding from the European Regional Development Fund, the programme supports institutions to work together beyond borders to improve cities and regions in Austria, Croatia, Czech Republic, Germany, Hungary, Italy, Poland, Slovakia and Slovenia.

SLOVENIA



SI





Project partners from Slovenia met with public and regional authorities, such as development centres, SMEs (bakery, millers, farms), food associations, agricultural companies and politicians







Information about I-CON and its impact for local and regional businesses were communicated to different stake holders. It was highlighted that the food sector is a very important industry from a national point of view with stable revenues, however lacking proper management and performance on the macro level, especially when it comes to marketing or selling high quality goods. Slovenian food safety is on a high standard, due to their strict national food regulations.

It became clear, that a stronger connection between food producers and academics will be needed in the future, which can be established and supervised via intermediate institutions, such as independent R&D institutions or specialised mediators.

Further it was pointed out, that the agricultural sector needs to be strategically developed in the upcoming decade. Current obstacles for SMEs in acquiring or adapting novel technology from industry or academia were picked out as a central topic, which is also one of the major concerns of the I-CON project.



Needs

Specific needs for Slovenian SMEs are mainly:

- Fostering cooperation between big and small companies
- Simple access to information about new technologies
- Increasing storage capacities
- Implementation of tax reliefs
- Improved supply chains
- Education on marketing and branding/packaging

Companies
Cooperation
Technologies Access to information

Storage Tax reliefs Branding
Supply chains Packaging

AUSTRIA



AT





Project partners from Austria met with different engineering and food companies (brewers, farmers, mechatronic and mechanical engineering companies)





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Information about and tangible impact of the project were given as an overview in different phone calls, emails, internet and face to face meetings. The major topic of the several discussions were trends in agriculture, feeding, brewing and meat processing, especially in terms of the integration of automation in those sectors. Data about usage of agromechatronics in farming has also been discussed thoroughly.





Needs were communicated and are essentially:

- Fostering automation in agriculture
- Promoting innovation to SMEs to remain competitive



HUNGARY



HU





Campden BRI Hungary LTD



South Transdanubian Regional Innovation Agency

The partners met with different representatives from politics, different food and drink associations, research institutions, and regional food SMEs.





Needs

Report on meetings with relevant authorities



14

I-CON and its desired impacts were presented to the different stake holders. The general situation of Hungarian food market was discussed and the challenges and needs, particularly in terms of food safety, quality, processing (mechatronics) packaging/branding assessed.

However, information was not easily accessible, since regional offices are obligated to ask for permission to provide any kind of information to "third parties". Future collaborations on national level and in upcoming EU projects were also part of the discussions. In general, the willingness of SMEs to collaborate in

the project was limited, due to lack of trust, or bad former experiences.





The main needs of the Hungarian food industry are:

- Improved technology transfer, utilizing the multi-disciplinary approach
- Strengthening of competitiveness
- Strategic development of food sector
- Accredited food laboratories
- Improved hygiene
- Proper labelling and administration

Competitiveness Food laboratories

Development Technology transfer Labelling Administration Improved hygiene Transfer

ITALY



IT





Meetings with SMEs, farmers and some of the most important stakeholders for the agri-food sector at regional, local and national level were organized, involving farmers, food and drink associations, politicians and many more.





General information about the project and its impacts were communicated to the stakeholders. It was determined that small and micro-sized companies are paying great attention to product quality and production techniques. Effects of the accessibility of information through digital media and social media marketing was also part of the discussion. Italy has a long background with European law and food regulations, which means that companies are used to make necessary adaptions and efforts to comply with EU standards. Major subjects were the role and importance of industrial packaging,

food safety and administration and financing and monetary assistance for small companies.

After collecting all inputs, a SWOT analysis of the agri-food value chain has been composed:



Strengths

- High technology (food plants)
- Local food products traditional certified
- High quality of products
- Several companies caring for food and health and organic products
- Very high gastronomic and cultural level
- Good entrepreneurial skills in the agrofood sector (business models)
- Wellness culture

Weaknesses

- Business size
- Lack of adequate knowledge on the innovation opportunities
- Resistance to innovation
- Low inclination to research

Opportunities

- Synergy in several sectors
- Possibility to partecipate in national and European projects of the research groups existing in the region
- Possibility to better define, at global level, the concepts of quality and safety of food products
- Technology, organization and product innovations
- Diffusion of new food and process certification systems
- Adaptation to the evolving regulations: environmental and production sustainability
- Availability of low cost ICT technologies

Threats

- Difficult research-business collaboration in a sector with an agricultural background
- Need to train the staff more and more extensively
- Economic crisis and stagnation, employment indicators
- Negative trend in consumption due to the economic crisis
- Increase in production costs
- Diffusion on the markets of counterfeit food products damaging those of certified quality

Agri-food SWOT analysis



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Specific needs were mainly:

- Elaborated collaborations between food packaging designers and innovative material scientists, mentioning CreaActive Lab and MaTech as case studies
- Increase availability of testing labs for young, unexperienced farmers (case study: "FARMERS' LAB")
- Loosening administration on food production
- Introduction of funds and subsidizations for SMEs
- Improved labelling
- Information campaigns about food safety



Report on meetings with relevant authorities







University of Hohenheim

Meetings were conducted with national public authorities, such as the federal office for agriculture and food and various regional companies. Also, the regional consumer advice center and many food and drink associations were contacted for an opinion about the food-processing sector in Germany.



General information about I-CON was provided. Subject of discussions were the current state of food safety, processing (mechatronics) branding. New regulations and technologies of packaging for improved shelf life, new eco-friendly cleaning systems and resourceconserving production of food by energy coupling. Another important point for discussion was the apparent rise of allergy and pseudo-allergy suffering persons in Germany, also in terms of the role of clean labelling and reduction of fat, salt and sugar in processed food. During the meetings, it became obvious that SMEs are not experienced in call applications or project management, which should

be improved in the future. The importance of easy-to-integrate solutions for SMES, like apps or inexpensive technologies (case study: "Wühlkegel", which is a toy for pigs) was again pinpointed. With respect to changing demographics and aging society the role of food for elderly people has been highlighted. Current trends in the German food sector were identified as Novel foods as sources for protein (meat substituted, insects) or dietary fibres (algae, secondary plant compounds), increase of startups, attractive packaging, nutrition as a lifestyle (organic products, vegan products, etc....).



POLAND

PL



Among others, most important needs were identified as:

- Development and application of forecast processes for raw material, ensuring reliable prices and quality
- Energy saving cleaning systems
- Fostering collaborations between companies
- Practice-oriented study programs
- Stronger collaborations between industry and academia
- Clear communications between employees to improve food quality and safety
- Waste reduction and improved shelf life
- With respect to changing demographics:
- Easily chewable meals
- Improved readability of labels
- Improved marketing
- Reduction of fat, sugar, salt







Polish Chamber of Food Industry and Packaging (KIGPSiO)

The partners met with or talked to relevant public and national authorities, such as the ministry of rural and agricultural development, several food clusters, food associations (association of butchers and meat), research institutions and advisory centers.



Among discussed topics were the development of the Polish food industry in recent years, in terms of improved food safety and quality. The behavior of Polish food producers has changed, in a way that they are more aware of changes in regulation.

Currently, the Polish food market is pushing towards extending their reach to North America and Asia. Future collaborations were also part of the discussions and links between I-CON and different food chambers were identified.



SLOVAKIA

SK





- Extending market reach to other continents
- Improved collaborations between companies









Slovak Chamber of Commerce and Industry

The partners met with national public authorities, such as the Ministry of Economy of the Slovak Republic or the Ministry for Agriculture and Rural Development. sectorial agencies, such as food associations (like the unions of producers for poultry, beef, meat and vegetables), food research institutes, and universities and many SMEs.



Slovak authorities were informed about I-CON and its aims, tasks and impacts. The benefits of the project were communicated to SMEs. In general, there was not much willingness for cooperation, potentially due to lack of trust, bad experiences or simply because they are focused on their daily business. However, they were very interested in integration of new technologies or innovations to remain competitive in the future. Meetings and phone calls with the different institutions have indicated their readiness to cooperate in the project and use I-CON results for future planning. Future workshops and seminars were generally appreciated. Regarding expectations from authorities it became clear, that Slovak authorities expect positive outcome of the project with many useful information, which can be used for future decision making on national level. It was also pointed out, that the I-CON newsletter can be a good platform for the promotion of I-CON.

Declining employment in traditional industries and entry of new competitors into the food industry has been widely discussed during the meetings, as well. Now and more so in the future, Slovak food producers are facing major competition from foreign companies, exerting strong price and market pressure.



Needs



- Information to SMEs about different funding possibilities
- Strengthening of the local and regional food market
- Improved technology transfer from industry and research institutions to SMEs
- Better marketing for high quality products

Funding possibilities Local food market

Marketing Research institutions
High quality products

CONCLUSION



Different reports from partners suggested that there is a large consensus about the importance of

I-CON for their respective country. Future outcomes of the project were broadly appreciated and nearly all institutions were willing to cooperate within the project and contribute useful information. It was also noticed, that readiness of many SMEs to take part in the project was limited, due to either bad experiences in past projects, insufficient information, lack of trust with sensitive information or simple because they are too engaged with their daily business.







About the authors

The I-CON project partnership was made upon knowledge and experiences from past and current initiatives dealing with innovation and cross-sector topics, with emphasis on food sector. Special thanks to the staff members of the partner organizations.





















