D.T.2.3.2 Food safety and quality assessment tool-kit

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Food safety and quality assessment tool-kit

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Developing tools to improve competences in food sector

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SME Good Practice case study findings

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PU	Public	x
PP	Restricted to other programme participants	
RE	Restricted to a group specified by the consortium	
CO	Confidential, only for members of the consortium	

1. Introduction

The objective of Task 2 of the I-CON project is to develop tools and techniques to improve competences and skills of food related SMEs through cross-sector related tools and techniques.

In the previous phases of the I-CON project, advanced tools and techniques were identified (D.T2.1.1: Analysis report of existing advanced tools and techniques.) and good practice cases studies were collected (D.T2.2.1: Good practice guidelines; D.T2.2.2: Regional good practice case reports and D.T.2.2.3: Handbook tool) in order to provide support to the SMEs.

Based on the collected cases and existing tools, Campden BRI Hungary elaborated the Deliverable D. T2.3.2: Food safety and quality assessment tool-kit which helps to identify the gaps in the operation of the SMEs and in the same time provide possible solutions to them.

Within the framework of Activity A.T2.3- Developing assessment tools, two other SME assessment tool-kits were prepared by BIZ-UP and UNISEF:

- Deliverable D.T2.3.1- Mechatronic assessment tool-kit (BIZ-UP)
- Deliverable D.T2.3.3- Food Packaging Design assessment tool-kit (UNISEF).

2. Food safety assessment tool-kit

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
1. System of responsibilities											
• Is there an organisational structure, which clearly defines job functions, responsibilities of those staff, whose activities affect food safety, legality, quality of the products and cost efficiency of the operations?											
• Are all employees aware of their responsibilities?											
2. Efficiency											
• Is the consumption of energy, water, gas, raw material/ingredients, packaging material measured, recorded and evaluated?											
• Is the use of labour-time, amount measured recorded and evaluated?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Is the time of breakdowns measured, recorded and evaluated?											
a) Is this applied for whole workshops?											
b) Is this applied for whole production lines?											
c) Is this applied for individual machinery?											
• Are potential sources of excessive/unnecessary use of labour identified, measured and analysed?											
d) Are these applied for whole workshops?											
e) Are these applied for whole production lines?											
f) Are these applied for individual machinery?											
• Are potential sources of excessive/unnecessary use of heating and cooling identified, measured and analysed?											
a) Are these applied for whole workshops?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
b) Are these applied for whole production lines?											
c) Are these applied for individual machinery?											
• Are potential sources of excessive/unnecessary use of electric energy identified, measured and analysed?											
a) Are these applied for whole workshops?											
b) Are these applied for whole production lines?											
c) Are these applied for individual machinery?											
• Are potential sources of excessive use of raw materials, ingredients identified, measured and analysed?											
• Are potential sources of excessive use of packaging material identified, measured and analysed?											
• Are potential sources of excessive use of water identified, measured and analysed?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
a) Are these applied for whole workshops?											
b) Are these applied for whole production lines?											
c) Are these applied for individual machinery?											
• Is smart process control applied for the main process?											
• Are there effective controls in place for all operations that ensure the production of consistently safe, legal products with the desired quality properties and minimal waste of material and other resources?											
• Are there digital methods used for process control, particularly for temperature, time, pressure, chemical properties, and mass flow?											
• Is variation in processing conditions kept under control and monitored regularly?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Are advanced logistic solutions applied for accessing perishable products by consumers?											
3. Quality assurance											
• Is systematic internal auditing of the quality management system carried out?											
• Is this internal auditing carried out by own resources or by shared resources with other partner businesses of networks, clusters?											
• Are there accurate and adequately detailed specifications available for all											
- raw materials,											
- primary packaging materials,											
- processing aids,											
- semi-finished products,											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
- finished products?											
• Is compliance of											
- raw materials, ingredients,											
- primary packaging materials,											
- secondary packaging materials											
to specifications checked regularly?											
• Is compliance of											
- finished products,											
- semi-finished products											
to customer specifications/requirements and legal requirements checked regularly?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Are non-conforming											
- finished products,											
- semi-finished products,											
- raw materials, ingredients,											
- packaging materials											
identified, segregated and blocked?											
• Are the root causes of the non-conformances identified?											
• Does root cause analysis of non-conformances cover all failures, deviations identified in the food safety and quality management system?											
• Are there timely corrective actions defined and implemented for handling the non-conforming products for elimination of the root cause and for prevention of the reoccurrence?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Is quality of the products, including weight, volume, and number controlled?											
• Are computer controlled multi-head weighing systems applicable for the product?											
• Are multi-head, computer controlled weighing in systems used?											
• Are there process steps for which advanced processing technologies can be applied to improve quality, nutritional value, food safety?											
• Are sensory properties of products assessed by a panel of trained evaluators?											
• Are these methods applied to verify sensory evaluation carried out by individual persons by regular comparison with a trained panel?											
• Are the sensory evaluators screened for sensory ability?											
• Are appropriate methods adjusted to the specific tasks used for sensory evaluations?											
• Are consumer preferences assessed by consumer methods?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Are products benchmarked for sensory properties against competitor's products?											
• Are consumer methods used for design new product and product modification?											
• Are non-destructive rapid instrumental techniques applied to assess quality?											
4. Risk assessment and management											
• Is there an effective HACCP system in place?											
• Are appropriate pre-requisite programmes implemented, including											
- cleaning and disinfection,											
- pest control,											
- maintenance programmes for equipment and buildings,											
- personal hygiene requirements,											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
- staff training,											
- purchasing,											
- storage and transport,											
- process to prevent cross-contamination											
- allergen control?											
• Are CCPs defined including the typical CCPs for the product type, as necessary?											
• Are all relevant risks associated with microbiological/biological, chemical, physical hazards considered, assessed and controlled?											
• Does this assessment cover contamination of raw materials, intermediate/semi-finished products and finished products?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Is documented risk assessment for each raw material and ingredient or group of raw materials and ingredients and primary packaging materials available covering the following aspects:											
- microbiological/biological contamination,											
- chemical contamination,											
- foreign body contamination,											
- allergen contamination,											
- GMO occurrence,											
- substitution or fraud?											
• Are there evidences available for the appropriate, effective managing of these risks including											
- food safety,											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
- quality,											
- authenticity and											
- consumer information aspects?											
• Is the vulnerability and authenticity of raw materials, ingredients assessed?											
• Is there a traceability system in place, which is operated effectively and ensuring to trace raw materials, primary packaging, and semi-finished products from their source to finished product and to finished product to raw material, primary packaging material source to ensure safety, declared quality, authenticity and legality?											
• Is there a product recall and crisis management system, which ensures effective product recall?											
• Are potential risks to the product and the site from deliberate activities to contamination or damage assessed?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Is this security assessment systematic and results in identification of sensitive or restricted areas?											
• Are there measures in place to protect sensitive areas?											
• Are there advanced methods used for controlling access to production area?											
• Are there easy to use methods used for sealing of transport vehicles?											
• Are anti-tampering solutions used?											
• Are appropriate measures applied for hygienic design of layout, structures of buildings?											
• Are appropriate measures applied for hygienic design of machinery?											
• Is the risk of contamination with Listeria monocytogenes and other pathogens analysed systematically and in appropriate details?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Are there appropriate measures in place including process controls and solutions in place to prevent contamination of the ready-to-eat finished products with Listeria monocytogenes and other pathogens?											
• Are there high risk/high care zones operated for ready to eat products?											
• Are there appropriate facilities and procedures in place to control the risk of microbiological/biological/chemical and physical contamination of the product?											
• Do these controls include appropriate segregation measures?											
• Are decision support tools (calculation tools, predictive methods) used to assess the microbiological risks?											
• Is there a system in place for minimalizing the allergen contamination of products?											
• Does this allergen management system include:											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
- assessment of all raw materials, ingredients, processing aids for presence of and contamination with allergens?											
- handling procedure of materials, products to prevent cross-contamination?											
- measures to ensure that labels of products meet the legal requirements on labelling allergens of the EU/country of sale?											
- validation of all claims made on allergen free status of the products?											
- verification of efficiency of cleaning procedures for removal of allergens?											
• Are risks for maintenance activities assessed systematically including chemical, physical and microbiological risks?											
• Are segregated changing facilities, provided for high risk, high care areas?											
• Are appropriate hygiene practice applied for high risk/high care area?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Are metal detectors and/or other foreign body detectors used?											
• Are good practices followed for foreign body detectors?											
• Are appropriate cleaning methods and practices applied?											
• Is the effectiveness of cleaning and disinfection practices monitored?											
• Are rapid methods used for verification of cleaning practices?											
• Is there a documented procedure for developing new products?											
• Does this procedure include											
- Completing HACCP study of all new products before testing them in the production area?											
- Shelf-life studies?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
• Are conditions of storage, transport, handling, preparation of the product and product packaging considered during shelf-life studies?											
• Is safe shelf-life of the product validated?											
• Are there advanced measurement techniques, such as photonic sensors, intelligent packaging, predictive modelling, etc. used to establish safe shelf-life?											
5. Product labelling and packaging											
• Is there a system in place to ensure that food labelling complies with the legal requirements?											
• Is there a double check of the compliance of the labels by at least two persons having relevant knowledge of that?											
• Is nutritional information indicated on the label of the products?											
• How the nutritional information indicated on the label is determined?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
- by tests?											
- by calculation from data from reliable references?											
• Is a specific claim applied, such as											
- health claim?											
- nutritional claim?											
- specific origin claim ?											
- method of products (organic, Halal, etc.)?											
- assured status?											
- GMO status?											
- Identity preserved?											

	Available/Conforms (Y/N)	Comments	Cost efficiency	Quality assurance	Risk assessment	Compliance to regulations	Product performance	Information for users	User's satisfaction	User's feedback and reaction	Others
- specific trademarked ingredients?											
• Are sustainable, biodegradable packaging materials applied?											
• Are temperature sensible labels applied?											
6. Capacity building, knowledge transfer											
• Does the company participate in networks, working groups to exploit collective learning, collective research, collective marketing?											
• Does the company participate in collective knowledge sharing activities?											

3. Reference

D.T2.1.1: Analysis report of existing advanced tools and techniques.

D.T2.2.1: Good practice guidelines

D.T2.2.2: Regional good practice case reports

D.T.2.2.3: Handbook tool