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Certification scheme for CPD training

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PP	Restricted to other programme participants (including Commission services and projects reviewers)	
CO	Confidential, only for members of the consortium (including EACEA and Commission services and projects reviewers)	

Summary:

This document provides an overview of certification schemes for food professional based on their job profiles. Attainment of the award that are provided by the respective organisations, are based on the assessment of an individual's knowledge, skills and competences. Criteria used are typically education level, job experience and/or training and also an examination. Re-certification depends on an individual undertaking a certain amount of CPD activities over a defined period of time. A certification scheme from the ISEKI-FOOD Association is proposed that uses a CPD Scheme not only as the format for award of the certification but also for re-certification. A set of standards for certification of CPD activities have been outlined, together with a description of different type of CPD activities are also provided. The options the FOOD-STA consortium can take in terms of certifying CPD training activities that are to be developed during the project.

After M10, trials on certification schemes for Food Product Development Technologist/Supervisor/Manager and Food Quality & Safety Technologist/Supervisor/Manager, where run, are described in section 6. Additionally, the application of the international norm on certification of persons was developed for future implementation by IFA.

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1 Introduction

In the context of the current global economy and increasing competitiveness, enterprises are demanding more and more professionals with updated knowledge, skills and competences. However, stakeholders to help their employees develop skills and competences "to progress from entry level to higher managerial or technical positions" (see EuFooD-STA deliverable 1.2). Market globalisation also demands the need for the harmonisation of professional profiles. The certification of professional skills and competencies, is therefore of upmost importance to ensure that professionals are able to move between different countries to develop their careers. Certifying a professional has 2 main outcomes:

1. Providing employers with an assurance of a future employee's competencies.
2. Guarantees an independently validated endorsement of a professional's (employee's) competencies, through a structured and impartial certification scheme.

It has the following benefits for the applicant:

- It is a demonstration of professional commitment to lifelong learning and excelling as a food professional.
- It can provide a pathway or framework for an individual's professional development, or can open new doors in the work environment.
- Enables better job performance.
- It is a complement to work experience and helps differentiating from other job candidates.
- He/she may find positions easier to obtain, and may increase their earnings.
- Increases recognition by peers, employers, and recruiters.

It has the following benefits for the employer:

- It is a means of verification that a credentialed employee has acquired the qualifications to competently perform their duties.
- It is a way to assess the training needs of employees as well as program their future training activities.
- It is an incentive for employees training, since it provides professional recognition.
- Differentiates between hiring candidates.

This report examines existing frameworks for professional certification of knowledge and competences, most commonly adopted by food and non-food professional associations. A professional certification scheme by the ISEKI-FOOD Association, using continual professional development (CPD) as the basis for assessment, is also outlined.

2 Overview of existing certification schemes

Professional certification is a growing trend and companies use it to recruit and train employees. It is very common in aviation, construction, ICTs, environment, and other industrial sectors, as well as health care, business, real estate broker and finance. In the last few years, a number of Food Industry related certifications have appeared at the international level. Table 1 show a range of certifications and related to quality and safety and product development. The majority of these certifications are awarded after the applicant has met the eligibility criteria, based on education level, job experience and/or training and also passing an examination at the required level. A re-certification is normally required, which normally requires the awardee to undertake some form of continual professional development (CPD) training. A number of food specific professional certifications are being offered:

1. *Food Scientist* (Institute of Food Technologists (USA) and Institute of Food Science & Technology (UK));
2. *Food Safety Professional* (National Environmental Health Association (USA) and Institute of Food Science & Technology (UK));
3. *Food Safety Auditor* (Spanish Association for Quality);
4. *Food Safety Manager* (Spanish Association for Quality, National Registry of Food Safety Professionals (USA) and Institute of Food Science & Technology (UK));
5. *Food Auditor/Mentor*, (Institute of Food Science & Technology (UK));
6. *Sensory Scientist* (Institute of Food Science & Technology (UK)).

A scheme for the certifications of *Food Quality & Safety and Food Product Development Professionals* has been proposed by the ISEKI-FOOD Association, which is described in the next section.

Table 1. Professional Certifications of job profiles

Certification	Organisation
Food scientist	Institute of Food Technologists (USA) http://www.ift.org/certification.aspx)
Food safety professional	National Environmental Health Association (NEHA) (USA) http://www.neha.org/credential/CPFS.html
• Professional registration (science technician, scientist, chartered scientist) • Food safety professional (technician, practitioner, manager and principal) • Food auditor and mentor (auditor, mentor) • Sensory scientist	Institute of Food Science & Technology (UK) http://www.ifst.org/professional-recognition
• Quality (auditor and manager) • Food safety (auditor and manager) Junior certifications need to prove professional experience to promote to senior certifications.	Spanish Association for Quality (ES) http://www.aec.es/web/guest/certificacion-personas AEC is member of EOQ
• Food safety manager • HACCP Food handler	National Registry of Food Safety Professionals (USA) http://www.nrfsp.com/ Certifications seem oriented to restaurant activities and cooking for collectivities
Certification of 17 different professions. Of our interest: • Quality technician • Quality engineer • Quality manager	American Society of Quality (USA) http://asq.org/cert
• Chartered Chemical Engineer • Professional Process Safety Engineer	Institution of Chemical Engineers (IChemE) (UK) http://www.getchartered.org
• EOQ personnel certification scheme • EOQ quality lead auditor	European Organization for Quality (BE) www.eoq.org (more than 60.000 certified professionals since 1993)
• New Product Development Professional • "NPDP Provisional Status", for those with no professional experience	Product Development and Management Association http://www.pdma.org/p/cm/ld/fid=52
• Certified Product Manager • Certified Product Marketing Manager • Certified Innovation Leader • Agile Certified Product Manager	Association of International Product Marketing and Management http://www.aipmm.com/html/certification/

3 IFA CPD certification scheme for Job profiles

The ISEKI- Food Association (IFA) has been developing a certification scheme for CPD training that aims at validating professional skills and competences obtained by individuals working in the food industry, as well as demonstrating a commitment to lifelong learning. The certification is supported on a scheme of progression routes that helps professionals to plan their career on a long term, particularly to supervisor and managerial positions, a need felt by the food and drink manufacturing and processing industry (EuFooD-STA deliverable 1.2). The certification scheme is based on a two-step process. A certification is awarded if an individual meets the requirements of a preliminary assessment of attainment of Knowledge (criteria A), skills (criteria B) and competences (criteria C). During the period of certification, which is suggested to be up to 3 years, individuals must maintain a Professional Development (CPD) portfolio by taking a minimum number of CPD activities. Certified individual should also seek enhancement of their profile by following a learning plan to cover learning outcomes prior to certification.

3.1 Job profiles

The job profiles to be launched on Food careers (https://www.foodcareers.eu/), will be the following:

- Food Quality & Safety *Technologist* (lower level)
- Food Quality & Safety *Supervisor* (intermediate level)
- Food Quality & Safety *Manager* (higher level)
- Food Product Development *Technologist* (lower level)
- Food Product Development *Supervisor* (intermediate level)
- Food Product Development *Manager* (higher level)

3.2 Application process

Applicants will be required to (i) conduct a preliminary self-evaluation by comparing achieved learning outcomes (LOs) for each set of criteria (A,B,C) against a Job profile LOs matrix for the required certification; (ii) fill in an application form if the self-evaluation indicates that the

candidate would likely be successful in meeting the criteria; (iii) upload evidence of attainment to demonstrate achieved LOs. The application process will be processed by the IFA certification committee (IFA-CC), which would comprise of members from the IFA accreditation committee (IFA-AC). The IFA-CC will forward the application to the appropriate IFA national technical committee (IFA-NTC), which will be responsible for evaluating the application and making a recommendation of an award to the IFA-CC. The IFA-NTC will consists of an IFA representative and 1-2 experts from national food associations from the applicant's country. The final decision on the award will be made by the IFA-CC.

3.3 Self-evaluation against learning outcomes

A set of learning outcomes have been developed for each certified job profile. The applicant should compare their knowledge and competences, based on their educational background, training courses undertaken prior to the application and working experience, against the learning outcomes (LOs). The LOs for each job profile have been classified into three groups:

1. Group A (theoretical and/or factual knowledge): LOs vs education and/or training courses needed to prove LOs.
2. Group B (cognitive and practical skills). LOs vs Education and/or training and/or working experience (position and years) to prove the LOs.
3. Group C (responsibility and autonomy-job function). LOs vs working experience (position and years) to prove the LOs.

Learning outcomes, from each group, are also divided into the different European Qualification Framework levels (table 2). These 8 levels have been re-classified into four levels of proficiency during the TRACK_Fast project. All LOs of all tiers are listed on Appendix I.

3.4 Award

An award, at the appropriate level, will be awarded if the applicant can demonstrate that they have met at least **70% of the learning outcomes** (LOs) **in each of the three criteria areas**. If an applicant has less than the 70% of the LOs, then a set of CPD learning activities should be taken for theoretical and/or factual knowledge (criteria A) and/or cognitive and practical skills (criteria B). Additional work experience can also be used to meet the minimum requirements for both

cognitive and practical skills (criteria B) and responsibility and autonomy in a job function (criteria C), that should indicate the number of years in a particular job function. The applicant can then submit the application when these requirements have been met. Entrance into the certification process would normally be through the lowest level for each job profile. However, a request can be made to be evaluated at the higher level, if an individual meets the minimum requirements of both the lower and next level of the job profile. It would also be possible for a certified individual in one job profile to request a certification in a higher level from a different profile, as long as the minimum requirements for the preferred job profile have also been met. Certification in more than one job profile at the same level would require the applicant to indicate the job profiles for evaluation on the application form. Separate comparisons of achieved LOs with job profile LOs need to be made. The same evidence of attainment can be used for more than one job profile, as long as the LOs align with the LOs for each job profile.

Table 2. Learning outcomes matrix for a certified profession-tier.

TRACK FAST LEVEL	EQF LEVEL	A – Knowledge: Theoretical and/or factual	B – Skills: cognitive and practical (able to do)	C – Competences: Responsibility and Autonomy (job function)
D Awareness	**Level 1**	*Basic general knowledge*	*Basic skills required to carry out simple tasks*	*Work or study under direct supervision in a structured context*
	Level 2	*Basic factual knowledge of a field of work or study*	*Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools*	*Work or study under supervisions with some autonomy*
C Familiar, low level	**Level 3**	*Knowledge of facts, principles, processes and general concepts, in a field of work or study*	*A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information*	*Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems*
	Level 4	*Factual and theoretical knowledge in broad contexts within a field of work or study*	*A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study*	*Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities*
B proficient, medium level	**Level 5**	*Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that*	*A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems*	*Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others*

		knowledge		
	Level 6	*Advanced knowledge of a field of work or study, involving a critical understanding of the theories and principles*	*Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study*	*Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups*
A expert, high level	**Level 7**	*Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields*	*Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields*	*Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams*
	Level 8	*Knowledge at the most advanced frontier of a field of work or study and at the interface between fields*	*The most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice*	*Demonstrates substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research*

4 IFA certification scheme for training activities

4.1 Certification standards for CPD activities

Individual CPD activities should be certified in order to ensure that they provide training that align with the learning outcomes of job profiles or a particular scientific area. For example, it is possible to propose a set of CPD activities that could be taken in order to ensure that an individual maintains his CPD. However, a general set of standards should be in place that ensure that the CPD activities are providing the training specified. A set of standards that have been published by the UK Chartered Insurance Institute, is proposed as the basis for the framework for assessing the adequacy of CPD activities (e-learning and other courses) developed during the FOOD-STA project. Examples of evidence for each of these standards can be found in table 3.

4.1.1 Defining learning outcomes

All CPD training activities should have learning outcomes that clearly describe the type of training provided. Learning outcomes (LOs) should be specific to the subject area that is being proposed

for the training. The LOs should be achievable during the proposed period of training and examples of evidence should be sufficient in showing how these LOs can be achieved. A CPD activity handbook should be produced which outlines all requirements.

4.1.2 Evaluating learning design and delivery

The content and method of delivery should be appropriate to the type of CPD activity and the ability and learning preferences of the trainees. It should be technically accurate, balanced and up to date. There should be a clear structure and logical flow of how the trainee should cover the learning content. The language, pace and style should be appropriate to the trainees and the learning activity should be interactive and varied.

4.1.3 Evaluating the competence and credibility of trainers

Trainers, speakers, e-learning content authors and training designers should have relevant training, skills and experience. They should maintain their competences and have up to date knowledge of the learning content and methods of delivery.

4.1.4 Quality assurance of training

Processes and procedures should be in placed to ensure that standards are being maintained and that the learning activities are undertaken and delivered consistently at a high level. There should be processes that check that the learning materials are of a high quality and kept up to date. There should also be procedures to ensure that there are no breaches of copyright laws and content licencing arrangements, misuse of documents, information or certificates. All feedback should be reviewed and relevant actions taken.

4.1.5 Evaluation of training

There should be a regular review of all CPD training activities to ensure that it is ‘fit for purpose’. There should therefore be mechanisms in place to determine if learning outcomes have been met by the trainees. Method should be used to examine trainee learning experience and whether their development needs have been met.

Table 3. Example of evidence for CPD activities (Adapted from CII CPD Accreditation standards)

CPD Standard	Examples
Learning Outcomes	• Aims and learning objectives • Procedure for identifying training needs • Activity description and participant invitations • Structured approach to learning
Learning design and delivery	• Regular review of learning outcomes • Training plan and trainer notes • Description of learning cycle and range of learning preferences in the design of the activity • Activity is designed or modified to suit the delivery method and/or type of trainees • Clear explanation of terminology • Relevant facts and examples • Training materials reviewed by selected FOOD-STA consortium partners • Training observed by selected FOOD-STA consortium partners • Participant feedback
Competence and credibility of trainers, speakers, e-learning content authors and training designers	• Profiles showing relevant technical and training qualifications • Trainer CPD activity • Trainer notes and training plan • Competence standards used for selection and monitoring • Test run or practice sessions used to prepare activity • Participant feedback
Quality assurance of training	• Guidance should be provided on standards required for design and delivery of training activities • There should be regular review of learning activities, training material and feedback • Content, references, quotations and examples should be relevant, accurate and up to date • Feedback should be obtained not only from participants but also the trainers and speakers • Monitoring processes should be in place and improvements should be made to any identified areas • Training materials reviewed by selected FOOD-STA consortium partners • Training observed by selected FOOD-STA consortium partners
Evaluation of training	• Identification of how learning outcomes have been measured • Before and after training comparisons are used • Use of formal assessment • Trainee reflective statements • Use of a range of assessment processes • Trainee success rates • Review of satisfaction ratings

4.2 Type of CPD activities

Table 4 shows examples of CPD activities that have been outlined by the UK Chartered Insurance Institute. CPD activities can be defined as either as a structured activity or unstructured activity. A structured CPD activity is a formal learning activity designed to meet specific learning outcomes. An unstructured CPD activity is any activity that has not been specifically designed to meet CPD learning needs, that a trainee considers has meet a learning outcome.

Table 4. Learning activities and related evidences as proof of completion**.**

Activity	**Definition**	**Types of evidence you should look to keep as proof of completion***	**Typically structured or unstructured?**
Training courses and Workshops	An interactive, participative course provided by your employer or by an external third party which sets clear objectives and learning outcomes.	• Attendance certificate or written/email confirmation of attendance from the training provider or from your employer • Course/workshop outline or agenda (including time) which clearly shows what was covered during the session and the learning objectives • Any presentation slides sent to you • Any reflections on the outcome of the course/ workshop that may answer questions like: "Did the activity meet my learning needs? How has the activity benefitted me professionally?" and including information like how you felt about the activity and the effectiveness of the learning and learning method	**Structured**. Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.

Conferences, seminars and webinars	An informative presentation, or series of presentations, on topics provided by internal or external subject experts.	• Attendance certificate—or some other written/ email confirmation of attendance from event provider where possible • Event agenda which clearly shows what was covered during the session(s) and learning objectives (if applicable) • Any reflections on the outcome of the conference/seminar.	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.
Examination and tests	Any one examination, test or assessment offered by an examining body which is business related, including all related study and time spent in an examination sitting.	• Copy of qualification certificate or exam/ test/assessment entry confirmation (if not CII) • Copy of exam/test/ assessment syllabus (if not CII) • Information received from your employer (if applicable).	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.
Formal discussions/ meetings	Discussions facilitated by a third party (internal or external). Participation may include focus groups, research initiatives, committees or technical events. Excludes attendance at social events and client sales/ promotional meetings.	• Meeting agenda or any written details of the purpose of the discussion • Official minutes of the meeting/discussion or written confirmation of our participation by the organisers • Written confirmation of your participation by the organisers • Copies of research results.	**Normally unstructured** This involves activity which does not have stated learning objectives, and supporting activity and assessments designed to reinforce these. Instead these typically cover identified learning points incidentally.
On-the-job training	Interactive and participative discussion and instruction by a subject expert.	• Written confirmation from your employer that training has taken place • Broad outline of what has been covered • Any reflections on the outcome of the training.	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.

Internal training	Training which sets clear objectives and learning outcomes and include assessment measures, for example, an internal course and test or exam (includes time spent completing test or exam).	• Written confirmation from your employer that training has taken place • Copies of the course outline, learning objectives and learning outcomes • Any reflections on the outcome of the training.	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.
Training for others	Providing interactive and participative discussion, lectures, tutoring and/or instruction for others which involves setting clear objectives and learning outcomes.	• Written confirmation from the training organizers or copies of marketing literature for the course showing you as the trainer • Copies of the course outline, learning objectives and learning outcomes • Any reflections on the outcomes of your training work in relation to your learning and development needs.	**Structured** The preparation for the training would be structured. e.g. updating your knowledge on the subjects you are training in; attending courses on developing training skills. The delivery of the training would be **unstructured**. This involves activity which does not have stated learning objectives, and supporting activity and assessments designed to reinforce these. Instead these typically cover identified learning points incidentally.
Self-managed learning	Personal learning on one subject which is formally assessed by a third party subject expert, e.g. distance learning where assignments are sent to tutors for marking.	• Confirmation of enrolment (if applicable) • Course outline showing course content, learning objectives and learning outcomes • Copies of tutor marked assignments • Any reflections on the outcome of the learning.	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.

E-learning	Online packages which set clear objectives and learning outcomes and include assessment measures or reflection on learning (includes time spent completing assessments).	• Confirmation of the e-learning modules completed (these can be screen printouts). • certification from the learning provider on the outcomes of the learning activity	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.
Examination setting, marking and moderation	Setting and moderating any examination offered by an examining body which is business related.	• Details of the examinations you have worked on (e.g. exam name, awarding body and content outline) • Written confirmation from the relevant awarding body of your participation (if not CII) • Any reflections on the outcomes of your examining work in relation to your learning and development needs.	The examination setting and marking would be **structured,** e.g. updating our subject knowledge to inform your examining work. The moderation work would typically be **unstructured**. This involves activity which does not have stated learning objectives, and supporting activity and assessments designed to reinforce these. Instead these typically cover identified learning points incidentally.
Technical authorship	Writing articles, reports, books, instruction manuals, etc which are published for use by others.	• Copies of the items you've written and details of the publications they appeared in or who they were distributed to • If you have written a book please provide full details of the publication (e.g. title, publisher, year of publication and ISBN number if applicable).	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.

Reading and watching	Technical and trade publications, fact files, bulletins/regular updates, manuals, professional briefs, journals, financial or trade press, podcasts and relevant discussions via social media, e.g. LinkedIn Use of video (DVDs, YouTube, websites, etc), TV, audio and other media.	This category does not require evidence unless you wish to claim it as structured CPD activity (see notes in next column). In which case, please provide details of the learning outcomes or research reasons for undertaking this reading or use of other media.	**Structured** if your reading has been done with a specific purpose in mind, e.g. to meet a specified learning and development need or because you are researching a topic for a work-based project and the material used has been produced to meet a specific learning outcome. **Unstructured** if the purpose is to keep up-to-date with what is happening in the industry at a general level or the material used has not been produced to meet a specific learning outcome.
Mentoring/ Coaching/ Shadowing	Providing instruction, guidance and support.	• Written confirmation from an employer (if applicable) or the mentee • Any reflections on the outcomes of your mentoring work in relation to your learning and development needs.	The preparation for certain aspects of mentoring and coaching may be **structured**, e.g. attending a training course on developing mentoring skills. The actual mentoring or coaching is likely to be **unstructured** unless the mentor can identify specific learning they have had to undertake in their role. Where shadowing is specifically undertaken for learning purposes e.g. to understand the IT processing of an insurance policy, this would be structured

Pro bono or voluntary work	Work undertaken (without payment) for the public good using your professional skills and knowledge. It can take different forms e.g. provision of advice, involvement in shaping policy, delivery of training, serving as a school governor or on the board of a charity, etc.	• Written confirmation of your participation by the organisers (if not CII/PFS)	May be **structured** or **unstructured**. **Structured** where it is being undertaken specifically to address identified learning and development needs e.g. preparatory work to enhance technical knowledge where advice is being given or strategic leadership and management skills in the case of being a school governor.
Professional institute/ PFS regional network or trade body work	Participation in meetings, focus groups, research initiatives, committees or technical events. Excludes attendance at social events.	• Written confirmation or your participation by the organisers (if not CII/PFS) • Copies of meeting agendas or meeting minutes. • Copies of research results.	May be **structured** or **unstructured** depending on the nature of your participation and the objectives of the work you have been involved in.
New product development	Developing new business products, systems or corporate strategy.	• Written confirmation from employer of your participation in projects • Documentary evidence of the development process and outcomes.	**May be structured or unstructured depending on the nature of your participation and the objectives of the work you have been involved in.**
Undergraduate or post graduate course module as part of a higher education programme		• Document proving that the course has been done, including qualification. • Document which describes the course program, including learning objectives, outcomes and time.	**Structured.** Activities which: • Has stated learning outcomes, activity designed to address these; and some form of assessment or reflection; and • Addresses an identified learning need.

5 Integration of certification of job profiles and of training activities

A scheme for the certification of job profiles have been suggested in this report as a means for the certification of CPD training activities. In order to maximize the usefulness of the certification of job profiles and the certification of training activities, it would be important to identify training activities that have learning outcomes that align with the learning outcome matrices of the job profiles proposed by the ISEKI-FOOD Association. The FOOD-STA consortium can either: (i) develop a set of CPD activities that when undertaken by a trainee in part[1] or in totality would result in an award of the certification in the selected job profile; or (ii) develop individual structured CPD activities that when undertaken by a trainee would meet some of the training needs recommended by work developed under WP1; (iii) develop a set of CPD activities that meet some of the training needs recommended by work developed under WP1 that when placed together could be suggested for a CPD scheme for professionals working in certain job profiles in the food industry but does not completely meet the requirements proposed by the ISEKI-FOOD Association for job profiles in Food product development and Food Quality & Safety. Each CPD activities that is to be develop should conform to the CPD standards outlined in section 4 of this document.

[1] An assessment of learning needs and previously attained learning outcomes can be used to select a subset of CPD activities. More details have been described in section 2.

6 Certification trials

6.1 Certification standards and initial procedure

The certification standards are described in the appendix 1 of deliverable 3.2. These consist of learning outcomes divided in three categories – (A) Knowledge Theoretical and/or factual, (B) Skills Cognitive and practical and (C) Competences Responsibility and Autonomy – each identified with the correspondent European Qualifications level.

The applicants were asked for the following documentation:

- Authenticated identity card or passport.
- All the merits (jobs and training), proved through the validated documents.
- An alignment table of the learning outcomes with the merits

The documentation was sent by the applicant and, evaluated by an expert in each job profile. The initial idea was that the submitted documentation would be evaluated by two national experts but one trial was done both a national expert (same nationality of the applicant) and the other with an international expert (different nationality of the applicant).

Due to personal data protection issues, the information related to the two trial applicants is not presented in this report.

6.2 Trials

Two trials were run. Maria Ana Marques (FRULACT) was asked to collaborate on the Food Product Development Technologist trial as the food professional applying to the recognition of this job profile. Kristberg Kristbergson, from the University of Iceland, a well-known expert on food product development, was contacted to assess the application against the standards defined in D3.2.

Vanessa Patrício, a food engineer at Lugrade company (Portuguese codfish processing company) was asked to collaborate on the Food Quality & Safety Technologist trial as the food professional applying to the recognition of this job profile. António Oliveira, a food engineer from the frozen foods company Frip (Portugal), with a career of more than 25 years in the industry, was contacted to assess the application against the standards defined in D3.2.

The alignment table was supposed to be filled in the following way: in one column, the learning outcomes were identified; in a second column, the application would explain how the learning outcome can be verified, either citing her education and/or her professional experience. The tables with the learning outcomes (appendix 1 of deliverable 3.) were supplied to clarify the EQF levels of each learning outcome.

However, the applicants were unable to fill it in this way showing difficulties in wording the verification of each learning outcome. After several iterations, with both applicants, it was decided that an additional column will be supplied and the applicant will only need to identify with a cross and indicate which merit (education and/or job experience) assures the learning outcome.

The following step was the analysis of the documentation by each expert. Each expert found the supplied material to be enough to certify the applicants at the technology level.

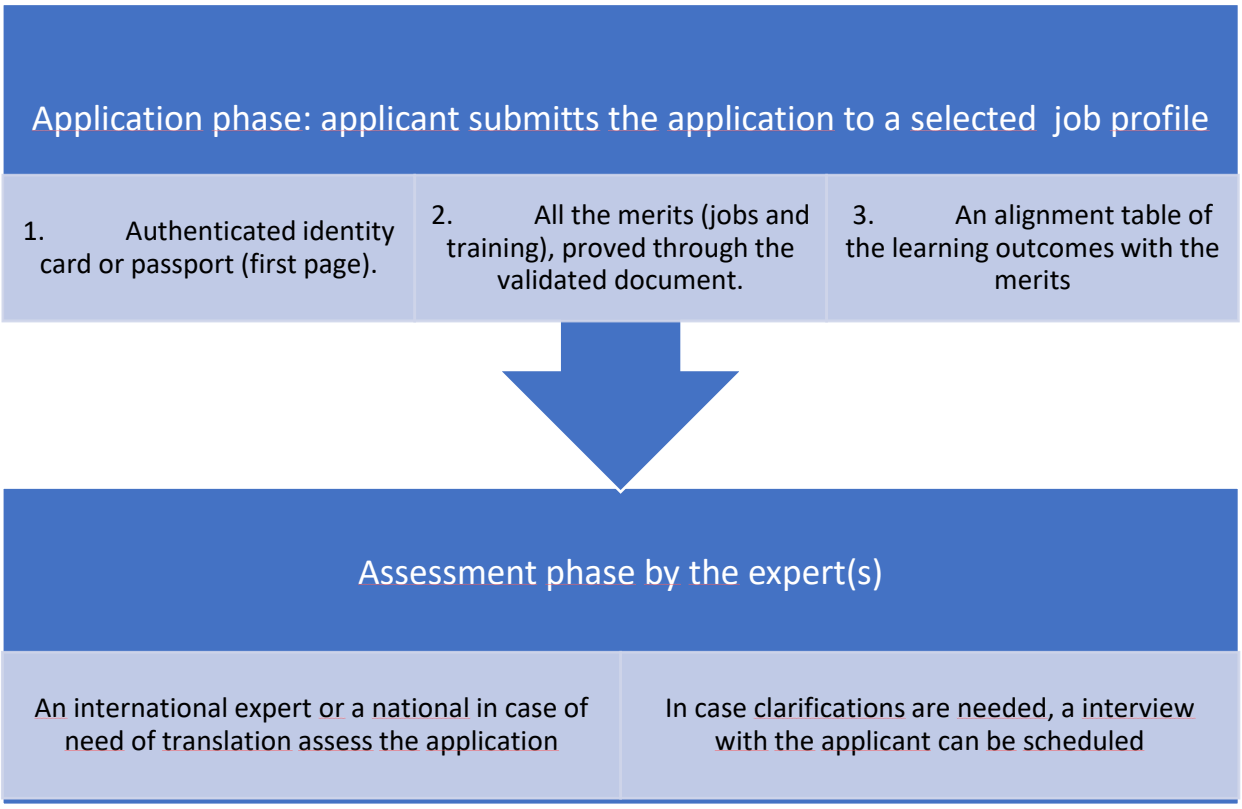
Additionally, it was clear to the applicants and the experts that in other cases an interview may be useful or needed if less clear applications are submitted.

It also became evident that in future real applications, if this will be an international certification, the priority would be to choose an international evaluator and only when documentation is submitted in non-English language, a native speaker will be contacted for assessment.

6.3 Final procedure and guidelines

The final procedure is summarized in the following scheme:

The following indicative education and professional experience will be supplied to the applicant for guidance:



Technologist	A **degree in FST** or food-related area **plus 2 years** of working experience in the selected area (Q&S or Product Development). Demand in working experience will be lower for higher university qualifications and higher for non-food related degrees or no higher education.
Supervisor	A **degree in FST** or food-related area **plus 4 years** working experience in the selected area (Q&S or Product Development), one of the years in supervision activities. Demand in working experience will be lower for higher university qualifications and higher for non-food related degrees or no higher education.
Manager	A **degree in FST** or food-related area **plus 8 years** working experience in the selected area (Q&S or Product Development), two of the years in management activities. Demand in working experience will be lower for higher university qualifications and higher for non-food related degrees or no higher education.

This procedure will be implemented online and all the information available online. The alignment table will be supplied online in menu like.

7 ISO/IEC 17024:2012

The implementation of certification of job profiles by IFA is suggested to follow ISO 17024 Conformity assessment — General requirements for bodies operating certification of persons.

"This International Standard specifies requirements which ensure that certification bodies for persons operating certification schemes for persons operate in a consistent, comparable and reliable manner. The requirements in this International Standard are considered to be general requirements for bodies providing certification of persons. Certification of persons can only occur when there is a certification scheme.
The certification scheme is designed to supplement the requirements included in this International Standard and include those requirements that the market needs or desires, or that are required by governments.
This International Standard can be used as a criteria document for accreditation or peer evaluation or designation by governmental authorities, scheme owners and others." (ISO/IEC 17024:2012)

The standard has the following principles:

- The overall purpose of ISO 17024 certification of persons is to recognize an individual's competence to perform a task or job.
- The ISO 17024 certification body has the responsibility to ensure that only those persons who demonstrate competence are awarded certification.
- Certification of persons provides value through public confidence and trust. Public confidence relies on a valid assessment of competence, by a third party, reconfirmed at defined intervals.
- The certification body should act in a responsible manner so as to provide confidence to interested parties in its competence, impartiality, and integrity.

The requirements of this ISO are presented in Appendix II. A draft certification scheme document for IFA is provided in Appendix III.

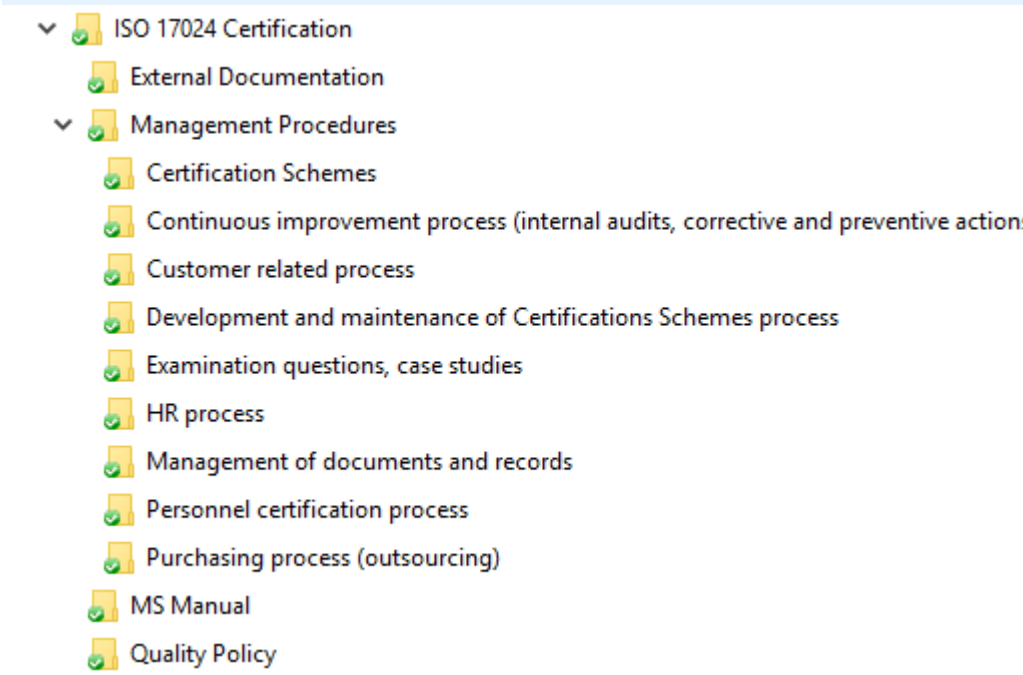
Every Management System under the ISO Standards is based on the Quality Manual (a draft for IFA is provided in Appendix IV), that is the document that describes the entire structure and operation of the system. It can be more complex or simpler depending on its content and the level of the of ancillary documentation. The Quality Manual content must contain the following sections.

Quality Manual Content
1 -The Personnel Certification Body
1.1 Introduction
1.2 Fields of Operation
1.3 Legal Status
1.4 Financial Stability
1.5 Liabilities
1.6 Quality Policy
2 Organisation and Management
2.1 Board Structure
2.2 ISEKI Ethics and Standards
2.3 Board Management

2.4 Personnel
3 Quality System
3.1 Structure
3.2 Documentation Structure
4 Certification Activities
4.1 General
4.2 Certification Scheme Documentation
4.3 Design and Development of New Schemes
4.4 Confidentiality
4.5 Impartiality
4.6 Management of Risks
4.7 Use of Certificates, Logos and Marks
5 Measurement, analysis, feedback, improvement and review
5.1 General
5.2 Internal Audits
5.3 External Audits
5.4 Complaints
5.5 Appeals
5.6 Disputes
Annexes
Vision and policy
Quality objectives
Organizational structure
Process map
Other PCB relevant documents (statutes, general functioning rules, etc)

Provided that it complies with the Standard's mandatory requirements, the organization of the management system by the certification body is flexible and adaptable to the way of working of each one.

Below, there is an example of organization of a ISO 17024 Management system:



Each folder contains documents and records concerning the compliance of all mandatory requirements. To achieve and maintain accreditation, a certification body shall create and keep several documents up-to-date, in particular the following ones:

List of Documents required for Accreditation (IPAC*, PT)
List of relationships (see in particular §4.3.6 of ISO / IEC 17024)
List of owners (individual and / or entities)
Description of the mechanism (s) to safeguard impartiality (see §4.3.8 of ISO / IEC 17024)
Manual of the Quality or equivalent document that describes the management system
Matrix with list of documents of the management system and its correlation with the applicable normative reference
Model certificate available to certified persons
Public documents (rules of certification, rules of use of the certification mark, etc.)
Documents describing the certification procedure or methodology
Procedure (s) of qualification and monitoring of examiners
Nominal organization and (where applicable) organization chart of the legal entity where the certification body is involved (if not included in the Quality Manual)
List of staff performing duties
List of qualified examiners with assigned competences
Technical and schematic commissions list (if applicable)
Sub-contractor list (if applicable)
List of Certifications of People under Flexible Accreditation with identification of the person responsible for approval of same and example of comparative table (if applicable)

* Instituto Português de Acreditação (Portuguese Accreditation Body)

References

- Chartered Insurance Institute. 2012. CII Continuing Professional Development (CPD) Scheme. Briefing document.
- Chartered Insurance Institute. 2015. CII CPD accreditation standards.
- Ho, P., Major, L. 2015. IFA working document on Continual Professional Development certification of job profiles for the food industry.
- Janna Weßels, Peter Ho, Cristina L.M. Silva, Björn Surowsky, Gerhard Schleining, Mona Popa, Elisabeth Dumoulin. 2013. An European certification scheme for Continual Professional Development (CPD) for the food professional. Report of D3.3, TRACK FAST: Training Requirements and Careers for Knowledge-based Food Science and Technology in Europe, GA 2272

Appendix 1: Job Profiles

1 - Job Profile: Food Quality Technologist				
Category (Portfolio)	EQF Level	A - Knowledge Theoretical and/or factual	B - Skills Cognitive and practical (able to do)	C - Competences Responsibility and Autonomy (job function)
D - Awareness	Level 1	*Basic general knowledge:*	*Basic skills required to carry out simple tasks:*	*Work or study under direct supervision in a structured context:*
	Level 2	*Basic factual knowledge of a field of work or study*	*Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools*	*Work or study under supervisions with some autonomy*
C – Familiar, low level	Level 3	*Knowledge of facts, principles, processes and general concepts, in a field of work or study* Understand how to maintain personal hygiene standards in food manufacture	*A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information* Carry out testing for quality control in food manufacture / Ability to perform laboratory analyses / Maintain personal hygiene standards in food manufacture / Implement and evaluate an improvement programme in food manufacture / Carry out quality audits in food manufacture / Communicating / Managing Information and Computer Literacy	*Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems*
	Level 4	*Factual and theoretical knowledge in broad contexts within a field of work or study* Understand how to monitor quality of work activities in food manufacture / Understand how to maintain workplace food safety in manufacture / Understand provision of food safety information for consumers / Knowledge of applicable food laws / Knowledge of regulations of labelling / Knowledge of standards in the food sector / Understand Food safety regulations / Understanding of ethical principles / Understand how microorganisms affect food safety and food spoilage / Understand food safety auditing in manufacture	*A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study* Monitor product quality in food manufacture / Carry out sampling for quality control in food manufacture / Control and monitor safe supply of raw materials and ingredients in food manufacture / Develop, implement and evaluate quality assurance systems in food / Evaluate and improve quality assurance systems in food manufacture	*Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities* Monitor and control quality of work activities in food manufacture / Monitor and control throughput to achieve targets in food manufacture / Maintain workplace food safety standards in manufacture / Demonstrating Positive Attitudes and Behaviours / Being Responsible / Being Adaptable / Learning Continuously / Working Safely / Improving own performance / Working with Others / Corporate Social Responsibility CSR

Co-funded by the Erasmus+ Programme of the European Union

B – proficient, medium level	Level 5	*Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge* Understand how to carry out sampling for quality control in food manufacture / Understand testing for quality control in food manufacture / Understand how to contribute to quality improvements in food manufacture / Understand how to raise food safety awareness in manufacture / Understand safe sources and supply of raw materials and ingredients in food manufacture / Understand the use of rapid food hygiene test methods / Understand quality assurance systems in food manufacture / Understand quality audits in food manufacture / Understand food safety management procedures in manufacture / Understand management of food safety in manufacture	*A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems* Implement systems for food safety information / Monitor food hygiene standards using rapid test methods / Use and apply food standards and food regulation resources in the working place and daily activity / Product Design and Optimization	*Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others* Contribute to quality improvements in food manufacture / Provide guidance on food safety information / Ensuring compliance with legal and regulatory requirements in the food sector / Raise food safety awareness in manufacture / Develop specifications for safe sources and supply of raw materials and ingredients in food manufacture / Develop policy and guidelines to manage food safety in manufacture / Develop working practices and procedures to manage food safety in manufacture / Develop recording procedures to monitor food safety in manufacture / understanding and updating (internal) Food standards / Maintain product quality in food manufacture / Contribute to continuous improvement of food safety in manufacture / Participating in Projects and Tasks
	Level 6	*Advanced knowledge of a field of work or study, involving a critical understanding of the theories and principles* Understand how to maintain product quality in food manufacture / Understand how to control product quality in food manufacture / Understand how to carry out process control in food manufacture	*Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study* Monitor food safety at critical control points in manufacture / Implement controls to manage safe food sources and products in manufacture / Ability to perform food control according to applicable legislation / Using Numbers / Thinking and Solving Problems / Concept Generation and Development	*Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups*
A – Expert, high level	Level 7	*Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields* Understand how to implement and evaluate a quality improvement programme in food manufacture	*Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields*	*Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams*
	Level 8	*Knowledge at the most advanced frontier of a field of work or study and at the interface between fields*	*The most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice*	*Demonstrates substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research*

2 - Job Profile: Senior Food Quality Technologist				
Category (Portfolio)	EQF Level	A - Knowledge Theoretical and/or factual	B - Skills Cognitive and practical (able to do)	C - Competences Responsibility and Autonomy (job function)
D - Awareness	Level 1	*Basic general knowledge:*	*Basic skills required to carry out simple tasks:*	*Work or study under direct supervision in a structured context:*
	Level 2	*Basic factual knowledge of a field of work or study*	*Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools*	*Work or study under supervisions with some autonomy*
C – Familiar, low level	Level 3	*Knowledge of facts, principles, processes and general concepts, in a field of work or study* Understand how to maintain personal hygiene standards in food manufacture	*A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information* Carry out testing for quality control in food manufacture / Ability to perform laboratory analyses / Maintain personal hygiene standards in food manufacture / Implement and evaluate an improvement programme in food manufacture / Carry out quality audits in food manufacture / Managing Information and computer literacy	*Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems*
	Level 4	*Factual and theoretical knowledge in broad contexts within a field of work or study* Understand how to monitor quality of work activities in food manufacture / Understand how to maintain workplace food safety in manufacture / Understand provision of food safety information for consumers / Knowledge of applicable food laws / Knowledge of regulations of labelling / Knowledge of standards in the food sector / Understand Food safety regulations / Understanding of ethical principles / Understand how microorganisms affect food safety and food spoilage / Understand food safety auditing in manufacture	*A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study* Monitor product quality in food manufacture / Carry out sampling for quality control in food manufacture / Control and monitor safe supply of raw materials and ingredients in food manufacture/ Develop, implement and evaluate quality assurance systems in food / Evaluate and improve quality assurance systems in food manufacture	*Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities* Monitor and control quality of work activities in food manufacture / Monitor and control throughput to achieve targets in food manufacture / Maintain workplace food safety standards in manufacture / Demonstrating Positive Attitudes and Behaviours / Being Adaptable / Learning Continuously / Working Safely / Improving own performance / Corporate Social Responsibility CSR

B – proficient, medium level	Level 5	*Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge* Understand how to carry out sampling for quality control in food manufacture / Understand testing for quality control in food manufacture / Understand how to contribute to quality improvements in food manufacture / Understand how to raise food safety awareness in manufacture / Understand safe sources and supply of raw materials and ingredients in food manufacture / Understand the use of rapid food hygiene test methods / Understand quality assurance systems in food manufacture / Understand quality audits in food manufacture / Understand food safety management procedures in manufacture / Understand management of food safety in manufacture / Knowledge of Suppliers	*A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems* Implement systems for food safety information / Monitor food hygiene standards using rapid test methods / Use and apply food standards and food regulation resources in the working place and daily activity / Communicating	*Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others* Contribute to quality improvements in food manufacture / Provide guidance on food safety information / Ensuring compliance with legal and regulatory requirements in the food sector / Raise food safety awareness in manufacture / Develop specifications for safe sources and supply of raw materials and ingredients in food manufacture / Develop policy and guidelines to manage food safety in manufacture / Develop working practices and procedures to manage food safety in manufacture / Develop recording procedures to monitor food safety in manufacture / Understanding and updating (internal) Food standards / Maintain product quality in food manufacture / Contribute to continuous improvement of food safety in manufacture / Being Responsible / Sales and Marketing / Finance and Resource Management
	Level 6	*Advanced knowledge of a field of work or study, involving a critical understanding of the theories and principles* Understand how to maintain product quality in food manufacture / Understand how to control product quality in food manufacture / Understand how to carry out process control in food manufacture	*Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study* Monitor food safety at critical control points in manufacture / Implement controls to manage safe food sources and products in manufacture / Ability to perform food control according to applicable legislation / Using Numbers / Product Design and Optimization	*Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups* Setting up Market Tests for new Products / Providing Leadership / Working with Others / Participating in Projects and Tasks / Communicating with Others / Business Planning and Strategic Management / Learning and Assessment
A – Expert, high level	Level 7	*Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields* Understand how to implement and evaluate a quality improvement programme in food manufacture	*Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields* Concept Generation and Food Product Development / Thinking and Solving Problems	*Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams*
	Level 8	*Knowledge at the most advanced frontier of a field of work or study and at the interface between fields*	*The most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice*	*Demonstrates substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research*

Job Profile: Food Quality Manager				
Category (Portfolio)	EQF Level	A - Knowledge Theoretical and/or factual	B - Skills Cognitive and practical (able to do)	C - Competences Responsibility and Autonomy (job function)
D - Awareness	Level 1	*Basic general knowledge:*	*Basic skills required to carry out simple tasks:*	*Work or study under direct supervision in a structured context*
	Level 2	*Basic factual knowledge of a field of work or study*	*Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools*	*Work or study under supervisions with some autonomy*
C – Familiar, low level	Level 3	*Knowledge of facts, principles, processes and general concepts, in a field of work or study* Understand how to maintain personal hygiene standards in food manufacture	*A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information* Carry out testing for quality control in food manufacture / Ability to perform laboratory analyses / Maintain personal hygiene standards in food manufacture / Managing Information and Computer Literacy	*Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems*
	Level 4	*Factual and theoretical knowledge in broad contexts within a field of work or study* Understand how to monitor quality of work activities in food manufacture / Understand how to maintain workplace food safety in manufacture / Understand provision of food safety information for consumers / Knowledge of applicable food laws / Knowledge of regulations of labelling / Knowledge of standards in the food sector / Understand Food safety regulations / Understanding of ethical principles	*A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study* Monitor product quality in food manufacture / Carry out sampling for quality control in food manufacture / Control and monitor safe supply of raw materials and ingredients in food manufacture	*Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities* Monitor and control quality of work activities in food manufacture / Monitor and control throughput to achieve targets in food manufacture / Maintain workplace food safety standards in manufacture / Demonstrating Positive Attitudes and Behaviours / Being Adaptable / Learning Continuously / Working Safely / Improving own performance

B – proficient, medium level	Level 5	*Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge* Understand how to carry out sampling for quality control in food manufacture / Understand testing for quality control in food manufacture / Understand how to contribute to quality improvements in food manufacture / Understand how to raise food safety awareness in manufacture / Understand safe sources and supply of raw materials and ingredients in food manufacture / Understand management of food safety in manufacture / Understand the use of rapid food hygiene test methods / Understand how microorganisms affect food safety and food spoilage	*A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems* Implement systems for food safety information / Monitor food hygiene standards using rapid test methods / Use and apply food standards and food regulation resources in the working place and daily activity	*Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others* Contribute to quality improvements in food manufacture / Allocate roles and responsibilities for food safety management in manufacture / Provide guidance on food safety information / Ensuring compliance with legal and regulatory requirements in the food sector / Managing Personnel / Corporate Social Responsibility CSR
	Level 6	*Advanced knowledge of a field of work or study, involving a critical understanding of the theories and principles* Understand how to maintain product quality in food manufacture / Understand how to control product quality in food manufacture / Understand quality assurance systems in food manufacture / Understand quality audits in food manufacture / Understand food safety management procedures in manufacture / Understand food safety auditing in manufacture / Understand how to carry out process control in food manufacture	*Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study* Monitor food safety at critical control points in manufacture / Implement controls to manage safe food sources and products in manufacture / Ability to perform food control according to applicable legislation	*Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups* Raise food safety awareness in manufacture / Develop specifications for safe sources and supply of raw materials and ingredients in food manufacture / Develop policy and guidelines to manage food safety in manufacture / Develop working practices and procedures to manage food safety in manufacture / Develop recording procedures to monitor food safety in manufacture / Understanding and updating (internal) Food standards / Being Responsible / Working with Others / Participating in Projects and Tasks / Sales and Marketing / Finance and Resource Management / Product Design and Optimiziation
A – Expert, high level	Level 7	*Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields* Understand how to implement and evaluate a quality improvement programme in food manufacture	*Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields* Implement and evaluate an improvement programme in food manufacture / Carry out quality audits in food manufacture / Using Numbers / Thinking and Solving Problems / Concept Generation and Food Product Development	*Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams* Maintain product quality in food manufacture / Contribute to continuous improvement of food safety in manufacture / Providing Leadership / Communicating with Others / Business Planning and strategic Management / Learning

				and Assessment
	Level 8	*Knowledge at the most advanced frontier of a field of work or study and at the interface between fields*	*The most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice* Develop, implement and evaluate quality assurance systems in food / Evaluate and improve quality assurance systems in food manufacture	*Demonstrates substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research* Develop, implement and evaluate quality assurance systems in food / Entrepreneurship

1 - Job Profile: Food Product Development Technologist				
Category (Portfolio)	EQF Level	A - Knowledge Theoretical and/or factual	B - Skills Cognitive and practical	C - Competences Responsibility and Autonomy
D - Awareness	Level 1	*Basic general knowledge:*	*Basic skills required to carry out simple tasks:*	*Work or study under direct supervision in a structured context:*
	Level 2	*Basic factual knowledge of a field of work or study*	*Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools*	*Work or study under supervisions with some autonomy*
C – Familiar, low level	Level 3	*Knowledge of facts, principles, processes and general concepts, in a field of work or study*	*A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information* Communicating / Managing Information and Computer Literacy	*Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems*
	Level 4	*Factual and theoretical knowledge in broad contexts within a field of work or study*	*A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study*	*Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities* Demonstrating Positive Attitudes and Behaviours / Being Responsible / Being Adaptable / Learning Continuously / Working Safely / Improving own performance / Working with Others / Corporate Social Responsibility CSR
B – proficient, medium level	Level 5	*Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge* Knowledge in nutrition / Understand market research for food product development / Understand how to develop test samples in food manufacture / Understand how to manage production trials in food manufacture / Understand how to develop product specifications in food manufacture / Knowledge of the relevant legal regulations	*A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems* Prepare test samples / Use laboratory instruments and techniques / Develop test samples in food manufacture / Develop product specifications in food manufacture / Product Design and Optimization	*Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others* Manage production trials in food manufacture / Understand the needs of the customer / Participating in Projects and Tasks
	Level 6	*Advanced knowledge of a field of work or study, involving a critical understanding of the theories and principles* Knowledge in Food Safety and Microbiology / Knowledge in food chemistry / Knowledge of requirements of the food production process /	*Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study* Analyse and interpret scientific data / Understand possibilities and limitations in research / Using Numbers / Thinking and Solving Problems / Concept Generation and	*Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups*

		Knowledge in sensory science	Development	
A – Expert, high level	Level 7	*Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields*	*Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields*	*Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams*
	Level 8	*Knowledge at the most advanced frontier of a field of work or study and at the interface between fields*	*The most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice*	*Demonstrates substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research*

2 - Job Profile: Senior Food Product Development Technologist				
Category (Portfolio)	EQF Level	A - Knowledge Theoretical and/or factual	B - Skills Cognitive and practical	C - Competences Responsibility and Autonomy
D - Awareness	Level 1	*Basic general knowledge:*	*Basic skills required to carry out simple tasks:*	*Work or study under direct supervision in a structured context:*
	Level 2	*Basic factual knowledge of a field of work or study*	*Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools*	*Work or study under supervisions with some autonomy*
C – Familiar, low level	Level 3	*Knowledge of facts, principles, processes and general concepts, in a field of work or study*	*A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information* Managing Information and computer literacy	*Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems*
	Level 4	*Factual and theoretical knowledge in broad contexts within a field of work or study*	*A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study*	*Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities* Demonstrating Positive Attitudes and Behaviours / Being Adaptable / Learning Continuously / Working Safely / Improving own performance / Corporate Social

				Responsibility CSR
B – proficient, medium level	Level 5	*Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge* Knowledge of Suppliers	*A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems* Prepare test samples / Use laboratory instruments and techniques / Develop test samples in food manufacture / Develop product specifications in food manufacture / Communicating	*Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others* Being Responsible / Sales and Marketing / Finance and Resource Management
	Level 6	*Advanced knowledge of a field of work or study, involving a critical understanding of the theories and principles* Knowledge in nutrition / Understand market research for food product development / Understand how to develop test samples in food manufacture / Understand how to manage production trials in food manufacture / Understand how to develop product specifications in food manufacture / Knowledge of the relevant legal regulations / Knowledge in Food Safety and Microbiology / Knowledge in food chemistry / Knowledge of requirements of the food production process / Knowledge in sensory science	*Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study* Analyse and interpret scientific data / Understand possibilities and limitations in research / Using Numbers / Product Design and Optimization	*Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups* Manage production trials in food manufacture / Understand the needs of the customer / Setting up Market Tests for new Products / Providing Leadership / Working with Others / Participating in Projects and Tasks / Communicating with Others / Business Planning and Strategic Management / Learning and Assessment
A – Expert, high level	Level 7	*Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields*	*Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields* Concept Generation and Food Product Development / Thinking and Solving Problems	*Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams*
	Level 8	*Knowledge at the most advanced frontier of a field of work or study and at the interface between fields*	*The most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice*	*Demonstrates substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research*

3 - Job Profile: Food Product Development Manager				
Category (Portfolio)	EQF Level	A - Knowledge Theoretical and/or factual	B - Skills Cognitive and practical	C - Competences Responsibility and Autonomy
D - Awareness	Level 1	*Basic general knowledge:*	*Basic skills required to carry out simple tasks:*	*Work or study under direct supervision in a structured context:*
	Level 2	*Basic factual knowledge of a field of work or study*	*Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools*	*Work or study under supervisions with some autonomy*
C – Familiar, low level	Level 3	*Knowledge of facts, principles, processes and general concepts, in a field of work or study*	*A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information* Managing Information and Computer Literacy	*Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems*
	Level 4	*Factual and theoretical knowledge in broad contexts within a field of work or study*	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study Use laboratory instruments and techniques	*Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities* Demonstrating Positive Attitudes and Behaviours / Being Adaptable / Learning Continuously / Working Safely / Improving own performance
B – proficient, medium level	Level 5	*Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge* Knowledge in nutrition	*A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems* Prepare test samples	*Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others* Managing Personnel / Corporate Social Responsibility CSR
	Level 6	*Advanced knowledge of a field of work or study, involving a critical understanding of the theories and principles* Understand market research for food product development / Understand how to develop test samples in food manufacture / Understand how to manage production trials in food manufacture / Understand how to develop product specifications in food manufacture / Knowledge in Food Safety and Microbiology / Knowledge in food chemistry / Knowledge of the relevant legal regulations / Knowledge of requirements of the food production process / Knowledge in sensory	*Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study* Apply for research funding / Communicating	*Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups* Being Responsible / Working with Others / Participating in Projects and Tasks / Sales and Marketing / Finance and Resource Management / Product Design and Optimiziation

		science		
A – Expert, high level	Level 7	*Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields*	*Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields* Develop test samples in food manufacture / Develop product specifications in food manufacture / Analyse and translate critically scientific data / Understand possibilities and limitations in research / Using Numbers / Thinking and Solving Problems / Concept Generation and Food Product Development	*Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams* Manage production trials in food manufacture / Understand the needs of the customer / Providing Leadership / Communicating with Others / Business Planning and strategic Management / Learning and Assessment
	Level 8	*Knowledge at the most advanced frontier of a field of work or study and at the interface between fields*	*The most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice*	*Demonstrates substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research* Entrepreneurship

Appendix 2: ISO 17024 requirements

Requirement		What to do
4 - General Requirements		
4.1		
The certification body shall be a legal entity, or a defined part of a legal entity, such that it can be held legally responsible for its certification activities.		
4.2		
The certification body shall be responsible for, shall retain authority for, and shall not delegate, its decisions relating to certification, including the granting, maintaining, recertifying, expanding and reducing the scope of the certification, and suspending or withdrawing the certification.		
4.3		
4.3.1	-The certification body shall document its structure, policies and procedures to manage impartiality and to ensure that the certification activities are undertaken impartially - The certification body shall have top management commitment to impartiality in certification activities The certification body shall have a statement publicly accessible without request that it understands the importance of impartiality in carrying out its certification activities, manages conflict of interest and ensures the objectivity of its certification activities.	**Create a statement that includes all.**
4.3.2	The certification body shall act impartially in relation to its applicants, candidates and certified persons	
4.3.3	Policies and procedures for certification of persons shall be fair among all applicants, candidates and certified persons	
4.3.4	- Certification shall not be restricted on the grounds of undue financial or other limiting conditions, such as membership of an association or group - The certification body shall not use procedures to unfairly impede or inhibit access by applicants and candidates	

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4.3.5	The certification body shall be responsible for the impartiality of its certification activities and shall not allow commercial, financial or other pressures to compromise impartiality	
4.3.6	- The certification body shall identify threats to its impartiality on an ongoing basis - This shall include those threats that arise from its activities, from its related bodies, from its relationships, or from the relationships of its personnel.	
4.3.7	- The certification body shall analyse, document and eliminate or minimize the potential conflict of interests arising from its certification activities. - The certification body shall document and be able to demonstrate how it eliminates, minimizes or manages such threats. - All potential sources of conflict of interest that are identified, whether they arise from within the certification body, such as assigning responsibilities to personnel, or from the activities of other persons, bodies or organizations, shall be covered	
4.3.8	Certification activities shall be structured and managed so as to safeguard impartiality. This shall include balanced involvement of interested parties.	
4.4		
The certification body shall have the financial resources necessary for the operation of a certification process and have adequate arrangements (e.g. insurance or reserves) to cover associated liabilities		
5 - Structural requirements		
5.1 Management and organization structure		
5.1.1	The certification body activities shall be structured and managed so as to safeguard impartiality	

5.1.2	The certification body shall document its organizational structure, describing the duties, responsibilities and authorities of management, certification personnel and any committee. When the certification body is a defined part of a legal entity, documentation of the organizational structure shall include the line of authority and the relationship to other parts within the same legal entity The party/parties or individuals responsible for the following shall be identified: a) policies and procedures relating to the operation of the certification body; b) implementation of the policies and procedures;c) finances of the certification body; d) resources for certification activities; e) development and maintenance of the certification schemes; f) assessment activities; g) decisions on certification, including the granting, maintaining, recertifying, expanding, reducing, suspending or withdrawing of the certification; h) contractual arrangements	
5.2 Structure of the certification body in relation to training		
5.2.1	Completion of training may be a specified requirement of a certification scheme (see 8.3). The recognition/approval of training by the certification body shall not compromise impartiality or reduce the assessment and certification requirements	
5.2.2	The certification body shall provide information regarding education and training if they are used as pre-requisites for being eligible for certification. However, the certification body shall not state or imply that certification would be simpler, easier or less expensive if any specified education/training services are used.	

5.2.3	Offering training and certification for persons within the same legal entity constitutes a threat to impartiality. A certification body that is part of a legal entity offering training shall: a) identify and document the associated threats to its impartiality on an ongoing basis: the body shall have a documented process to demonstrate how it eliminates or minimizes those threats; b) demonstrate that all processes performed by the certification body are independent of training to ensure that confidentiality, information security and impartiality are not compromised; c) not give the impression that the use of both services would provide any advantage to the applicant; d) not require the candidates to complete the certification body's own education or training as an exclusive prerequisite when alternative education or training with an equivalent outcome exists; e) ensure that personnel do not serve as an examiner of a specific candidate they have trained for a period of two years from the date of the conclusion of the training activities: this interval may be shortened if the certification body demonstrates it does not compromise impartiality.	
6 Resource requirements		
6.1 General personnel requirements		
6.1.1	The certification body shall manage and be responsible for the performance of all personnel involved in the certification process	
6.1.2	The certification body shall have sufficient personnel available with the necessary competence to perform certification functions relating to the type, range and volume of work performed	
6.1.3	The certification body shall define the competence requirements for personnel involved in the certification process. Personnel shall have competence for their specific tasks and responsibilities	
6.1.4	The certification body shall provide its personnel with documented instructions describing their duties and responsibilities. These instructions shall be kept up-to-date	
6.1.5	The certification body shall maintain up-to-date personnel records, including relevant information, e.g. qualifications, training, experience, professional affiliations, professional status, competence and known conflicts of interest	
6.1.6	The certification body shall require its personnel to sign a document by which they commit themselves to comply with the rules defined by the certification body, including those relating to confidentiality, impartiality and conflict of interests.	

6.1.7	The certification body shall require its personnel to sign a document by which they commit themselves to comply with the rules defined by the certification body, including those relating to confidentiality, impartiality and conflict of interests	
6.1.8	When a certification body certifies a person it employs, the certification body shall adopt procedures to maintain impartiality.	
6.2 Personnel involved in the certification activities		
6.2.1	The certification body shall require its personnel to declare any potential conflict of interest in any candidate	
6.2.2 Requirements for examiners		
6.2.2.1	Examiners shall meet the requirements of the certification body. The selection and approval processes shall ensure that examiners: a) understand the relevant certification scheme; b) are able to apply the examination procedures and documents; c) have competence in the field to be examined; d) are fluent, both in writing and orally, in the language of examination; in circumstances where an interpreter or a translator is used, the certification body shall have procedures in place to ensure that it does not affect the validity of the examination; e) have identified any known conflicts of interest to ensure impartial judgements are made	
6.2.2.2	The certification body shall monitor the performance of the examiners and the reliability of the examiners' judgements. Where deficiencies are found, corrective actions shall be taken. Monitoring procedures for examiners can include, for example, on-site observation, review of examiners' reports, feedback from candidates.	
6.2.2.3	If an examiner has a potential conflict of interest in the examination of a candidate, the certification body shall undertake measures to ensure that the confidentiality and impartiality of the examination are not compromised. These measures shall be recorded	
6.2.3 Requirements for other personnel involved in the assessment		
6.2.3.1	The certification body shall have a documented description of the responsibilities and qualifications of other personnel involved in the assessment process (e.g. invigilators).	

6.2.3.2	If other personnel involved in the assessment have a potential conflict of interest in the examination of a candidate, the certification body shall undertake measures to ensure that confidentiality and impartiality of the examination is not compromised. These measures shall be recorded	
6.3 Outsourcing		
6.3.1	The certification body shall have a legally enforceable agreement covering the arrangements, including confidentiality and conflict of interests, with each body that provides outsourced work related to the certification process. For the purposes of this International Standard, the terms "outsourcing" and "subcontracting" are considered to be synonyms.	
6.3.2	When a certification body outsources work related to certification, the certification body shall: a) take full responsibility for all outsourced work; b) ensure that the body conducting outsourced work is competent and complies with the applicable provisions of this International Standard; c) assess and monitor the performance of the bodies conducting outsourced work in accordance with its documented procedures; d) have records to demonstrate that the bodies conducting outsourced work meet all requirements relevant to the outsourced work; e) maintain a list of the bodies conducting outsourced work	
6.4 Other resources		
	The certification body shall use adequate premises, including examination sites, equipment and resources for carrying out its certification activities	
7 Records and information requirements		
7.1 Records of applicants, candidates and certified persons		
7.1.1	The certification body shall maintain records. The records shall include a means to confirm the status of a certified person. The records shall demonstrate that the certification or recertification process has been effectively fulfilled, particularly with respect to application forms, assessment reports (which include examination records) and other documents relating to granting, maintaining, recertifying, expanding and reducing the scope, and suspending or withdrawing certification.	

7.1.2	The records shall be identified, managed and disposed of in such a way as to ensure the integrity of the process and the confidentiality of the information. The records shall be kept for an appropriate period of time, for a minimum of one full certification cycle, or as required by recognition arrangements, contractual, legal or other obligations	
7.1.3	The certification body shall have enforceable arrangements to require that the certified person informs the certification body, without delay, of matters that can affect the capability of the certified person to continue to fulfil the certification requirements	
7.2 Public information		
7.2.1	The certification body shall verify and provide information, upon request, as to whether an individual holds a current, valid certification and the scope of that certification, except where the law requires such information not to be disclosed.	
7.2.2	The certification body shall make publicly available without request information regarding the scope of the certification scheme and a general description of the certification process.	
7.2.3	All pre-requisites of the certification scheme shall be listed and the list shall be made publicly available without request	
7.2.4	Information provided by the certification body, including advertising, shall be accurate and not misleading	
7.3 Confidentiality		
7.3.1	The certification body shall establish documented policies and procedures for the maintenance and release of information.	
7.3.2	The certification body shall, through legally enforceable agreements, keep confidential all information obtained during the certification process. These agreements shall cover all personnel.	
7.3.3	The certification body shall ensure that information obtained during the certification process, or from sources other than the applicant, candidate or certified person, is not disclosed to an unauthorized party without the written consent of the individual (applicant, candidate or certified person), except where the law requires such information to be disclosed.	
7.3.4	When the certification body is required by law to release confidential information, the person concerned shall, unless prohibited by law, be notified as to what information will be provided.	

7.3.5	The certification body shall ensure that the activities of related bodies do not compromise confidentiality.	
7.4 Security		
7.4.1	The certification body shall develop and document policies and procedures necessary to ensure security throughout the entire certification process and shall have measures in place to take corrective actions when security breaches occur.	
7.4.2	Security policies and procedures shall include provisions to ensure the security of examination materials, taking into account the following: a) the locations of the materials (e.g. transportation, electronic delivery, disposal, storage, examination centre); b) the nature of the materials (e.g. electronic, paper, test equipment); c) the steps in the examination process (e.g. development, administration, results reporting); d) the threats arising from repeated use of examination materials	
7.4.3	Certification bodies shall prevent fraudulent examination practices by: a) requiring candidates to sign a non-disclosure agreement or other agreement indicating their commitment not to release confidential examination materials or participate in fraudulent test-taking practices; b) requiring an invigilator or examiner to be present; c) confirming the identity of the candidate d) implementing procedures to prevent any unauthorized aids from being brought into the examination area; e) preventing candidates from gaining access to unauthorized aids during the examination; f) monitoring examination results for indications of cheating	

8 Certification schemes			
8.1	There shall be a certification scheme for each category of certification	Quality & Safety	Product Development
8.2	A certification scheme shall contain the following elements: a) scope of certification; b) job and task description; c) required competence; d) abilities (when applicable); e) prerequisites (when applicable); f) code of conduct (when applicable). NOTE 1 Abilities can include physical capabilities such as vision, hearing and mobility. NOTE 2 A code of conduct describes the ethical or personal behaviour required by the scheme	Technologist Supervisor Manager	Technologist Supervisor Manager
8.3	A certification scheme shall include the following certification process requirements: a) criteria for initial certification and recertification; b) assessment methods for initial certification and recertification; c) surveillance methods and criteria (if applicable); d) criteria for suspending and withdrawing certification; e) criteria for changing the scope or level of certification (if applicable)		
8.4	The certification body shall have documents to demonstrate that, in the development and review of the certification scheme, the following are included: a) the involvement of appropriate experts; b) the use of an appropriate structure that fairly represents the interests of all parties significantly concerned, without any interest predominating; c) the identification and alignment of prerequisites, if applicable, with the competence requirements; d) the identification and alignment of the assessment mechanisms with the competence requirements; e) a job or practice analysis that is conducted and updated to: — identify the tasks for successful performance; — identify the required competence for each task; — identify prerequisites (if applicable); — confirm the assessment mechanisms and examination content; — identify the recertification requirements and interval NOTE Where the certification scheme has been developed by an entity other than the certification body, the job or practice analysis might already be available as part of that work. In this case, the certification body can obtain details from the scheme documentation for verification.		
8.5	The certification body shall ensure that the certification scheme is reviewed and validated on an ongoing, systematic basis.		

8.6	When the certification body is not the scheme owner of a certification scheme it implements, the certification body shall ensure that the requirements contained in this clause (Clause 8) are met.		
9 Certification process requirements			
9.1 Application process			
9.1.1	Upon application, the certification body shall make available an overview of the certification process in accordance with the certification scheme. As a minimum, the overview shall include the requirements for certification and its scope, a description of the assessment process, the applicant's rights, the duties of a certified person and the fees.		
9.1.2	The certification body shall require the completion of an application, signed by the applicant seeking certification, which includes as a minimum the following: a) information required to identify the applicant, such as name, address and other information required by the certification scheme; b) the scope of the desired certification; c) a statement that the applicant agrees to comply with the certification requirements and to supply any information needed for the assessment; d) any supporting information to demonstrate objectively compliance with the scheme prerequisites; e) notice to the applicant of his/her opportunity to declare, within reason, a request for accommodation of special needs (see 9.2.5). NOTE Where permitted by law, other methods, including electronic signature, are acceptable.		
9.1.3	The certification body shall review the application to confirm that the applicant complies with the application requirements of the certification scheme.		
9.2 Assessment process			
9.2.1	The certification body shall implement the specific assessment methods and mechanisms as defined in the certification scheme		
9.2.2	When there is a change in the certification scheme which requires additional assessment, the certification body shall document and make publicly accessible without request the specific methods and mechanisms required to verify that certified persons comply with changed requirements. NOTE Recertification can be used to achieve this verification		

9.2.3	The assessment shall be planned and structured in a manner which ensures that the scheme requirements are objectively and systematically verified with documented evidence to confirm the competence of the candidate.	
9.2.4	The certification body shall verify the methods for assessing candidates. This verification shall ensure that each assessment is fair and valid.	
9.2.5	The certification body shall verify and accommodate special needs, within reason and where the integrity of the assessment is not violated, taking into account national regulation [see 9.1.2 e)]	
9.2.6	Where the certification body takes into account work performed by another body, it shall have appropriate reports, data and records to demonstrate that the results are equivalent to, and conform with, the requirements established by the certification scheme.	
9.3 Examination process		
9.3.1	Examinations shall be designed to assess competence based on, and consistent with, the scheme, by written, oral, practical, observational or other reliable and objective means. The design of examination requirements shall ensure the comparability of results of each single examination, both in content and difficulty, including the validity of fail/pass decisions.	
9.3.2	The certification body shall have procedures to ensure a consistent examination administration.	
9.3.3.	Criteria for conditions for administering examinations shall be established, documented and monitored. NOTE Conditions can include lighting, temperature, separation of candidates, noise, candidate safety, etc.	
9.3.4	When technical equipment is used in the examination process, the equipment shall be verified or calibrated where appropriate.	
9.3.5	Appropriate methodology and procedures (e.g. collecting and maintaining statistical data) shall be documented and implemented in order to reaffirm, at justified defined intervals, the fairness, validity, reliability and general performance of each examination, and that all identified deficiencies are corrected.	
9.4 Decision on certification		

9.4.1	The information gathered during the certification process shall be sufficient: a) for the certification body to make a decision on certification; b) for traceability in the event, for example, of an appeal or a complaint	
9.4.2	Decisions for granting, maintaining, recertifying, extending, reducing, suspending or withdrawing certification shall not be outsourced	
9.4.3	The certification body shall confine its decision on certification to those matters specifically related to the requirements of the certification scheme.	
9.4.4	The decision on certification of a candidate shall be made solely by the certification body on the basis of the information gathered during the certification process. Personnel who make the decision on certification shall not have participated in the examination or training of the candidate.	
9.4.5	The personnel who make certification decisions shall have sufficient knowledge of and experience with the certification process to determine if the certification requirements have been met.	
9.4.6	Certification shall not be granted until all certification requirements are fulfilled	
9.4.7	The certification body shall provide a certificate to all certified persons. The certification body shall maintain sole ownership of the certificates. The certificate shall take the form of a letter, card or other medium, signed or authorized by a responsible member of the personnel of the certification body.	
9.4.8	The certificates shall contain, as a minimum, the following information: a) the name of the certified person; b) a unique identification; c) the name of the certification body; d) a reference to the certification scheme, standard or other relevant documents, including issue date, if relevant; e) the scope of the certification including, if applicable, validity conditions and limitations; f) the effective date of certification and date of expiry	
9.4.9	The certificate shall be designed to reduce the risks of counterfeiting.	
9.5 Suspending, withdrawing or reducing the scope of certification		

9.5.1	The certification body shall have a policy and (a) documented procedure(s) for suspension or withdrawal of the certification, or reduction of the scope of certification, which shall specify the subsequent actions by the certification body.	
9.5.2	Failure to resolve the issues that have resulted in the suspension, in a time established by the certification body, shall result in withdrawal of the certification or reduction of the scope of certification	
9.5.3	The certification body shall have enforceable arrangements with the certified person to ensure that, in the event of suspension of certification, the certified person refrains from further promotion of the certification while it is suspended.	
9.5.4	The certification body shall have enforceable arrangements with the certified person to ensure that, in the event of withdrawal of certification, the certified person refrains from use of all references to a certified status.	
9.6 Recertification process		
9.6.1	The certification body shall have (a) documented procedure(s) for implementation of the recertification process, in accordance with the certification scheme requirements.	
9.6.2	The certification body shall ensure during the recertification process that it confirms continued competence of the certified person and ongoing compliance with current scheme requirements by the certified person.	
9.6.3	The recertification period shall be based upon the scheme requirements. The rationale for the recertification period shall take into account, where relevant, the following: a) regulatory requirements; b) changes to normative documents; c) changes in the relevant scheme requirements; d) the nature and maturity of the industry or field in which the certified person is working e) the risks resulting from an incompetent person; f) ongoing changes in technology, and requirements for certified persons; g) requirements of interested parties; h) the frequency and content of surveillance activities, if required by the scheme.	
9.6.4	The selected recertification activity/activities shall be adequate to ensure that there is impartial assessment to confirm the continuing competence of the certified person	

9.6.5	In accordance with the certification scheme, recertification by the certification body shall consider at least the following: a) on-site assessment; b) professional development; c) structured interviews; d) confirmation of continuing satisfactory work and work experience records; e) examination; f) checks on physical capability in relation to the competence concerned. NOTE "Physical capability" can require an evaluation by a health professional, or by a professional qualified to evaluate physical skills such as dexterity, strength and endurance, as well as the technical performance skills required for the certification.	
9.7 Use of certificates, logos and marks		
9.7.1	A certification body that provides a certification mark or logo shall document the conditions for use and shall appropriately manage the rights for usage and representation. NOTE ISO/IEC 17030 provides requirements for use of third-party marks	
9.7.2	The certification body shall require that a certified person signs an agreement for the following reasons: a) to comply with the relevant provisions of the certification scheme; b) to make claims regarding certification only with respect to the scope for which certification has been granted; c) not to use the certification in such a manner as to bring the certification body into disrepute, and not to make any statement regarding the certification which the certification body considers misleading or unauthorized; d) to discontinue the use of all claims to certification that contain any reference to the certification body or certification upon suspension or withdrawal of certification, and to return any certificates issued by the certification body; e) not to use the certificate in a misleading manner. NOTE Where permitted by law, other methods, including electronic signature, are acceptable.	
9.7.3	A certification body shall address, by means of corrective measures, any misuse of its certification mark or logo	
9.8 Appeals against decisions on certification		

9.8.1	The certification body shall have a documented process to receive, evaluate and make decisions on appeals. The appeals-handling process shall include at least the following elements and methods: a) the process for receiving, validating and investigating the appeal, and for deciding what actions are to be taken in response to it, taking into account the results of previous similar appeals; b) tracking and recording appeals, including actions undertaken to resolve them; c) ensuring that, if applicable, appropriate corrections and corrective actions are taken.	
9.8.2	The policies and procedures shall ensure that all appeals are dealt with in a constructive, impartial and timely manner	
9.8.3	A description of the appeals-handling process shall be publicly accessible without request.	
9.8.4	The certification body shall be responsible for all decisions at all levels of the appeals-handling process. The certification body shall ensure that the decision-making personnel engaged in the appeals-handling process are different from those who were involved in the decision being appealed	
9.8.5	Submission, investigation and decision on appeals shall not result in any discriminatory actions against the appellant.	
9.8.6	The certification body shall acknowledge receipt of the appeal and shall provide the appellant with progress reports and the outcome	
9.8.7	The certification body shall give formal notice to the appellant of the end of the appeals-handling process.	
9.9 Complaints		
9.9.1	The certification body shall have a documented process to receive, evaluate and make decisions on complaints.	
9.9.2	A description of the complaints-handling process shall be accessible without request. The procedures shall treat all parties fairly and equitably	
9.9.3	The policies and procedures shall ensure that all complaints are handled and processed in a constructive, impartial and timely manner. The complaints-handling process shall include at least the following elements and methods: a) an outline of the process for receiving, validating, investigating the complaint and deciding what actions are to be taken in response to it; b) tracking and recording complaints, including actions undertaken in response to them; c) ensuring that, if applicable, appropriate corrections and corrective actions are taken.	

9.9.4	Upon receipt of a complaint, the certification body shall confirm whether the complaint relates to certification activities for which it is responsible and, if so, shall respond accordingly.	
9.9.5	Whenever possible, the certification body shall acknowledge receipt of the complaint and shall provide the complainant with progress reports and the outcome.	
9.9.6	The certification body receiving the complaint shall be responsible for gathering and verifying all necessary information to validate the complaint	
9.9.7	Whenever possible, the certification body shall give formal notice of the end of the complaintshandling process to the complainant.	
9.9.8	Any substantiated complaint about a certified person shall also be referred by the certification body to the certified person in question at an appropriate time	
9.9.9	The complaints-handling process shall be subject to requirements for confidentiality, as it relates to the complainant and to the subject of the complaint.	
9.9.10	The decision to be communicated to the complainant shall be made by, or reviewed and approved by, personnel not previously involved in the subject of the complaint.	
10 Management system requirements		
10.1 General		
	The certification body shall establish, document, implement and maintain a management system that is capable of supporting and demonstrating the consistent achievement of the requirements of this International Standard. In addition to meeting the requirements of Clauses 4 to 9, the certification body shall implement a management system in accordance with either option A or option B, as follows: — option A: a general management system which fulfils the requirements of 10.2; or — option B: a body that has established and maintains a management system, in accordance with the requirements of ISO 9001, and that is capable of supporting and demonstrating the consistent fulfilment of the requirements of this International Standard (ISO/IEC 17024), fulfils the management system requirements of 10.2.	
10.2 General management system requirements		

10.2.1	The certification body shall establish, document, implement and maintain a management system that is capable of supporting and demonstrating the consistent achievement of the requirements of this International Standard. he certification body's top management shall establish and document policies and objectives for its activities. The top management shall provide evidence of its commitment to the development and implementation of the management system in accordance with the requirements of this International Standard. The top management shall ensure that the policies are understood, implemented and maintained at all levels of the certification body's organization. The certification body's top management shall appoint a member of management who, irrespective of other responsibilities, shall have responsibility and authority that include: a) ensuring that processes and procedures needed for the management system are established, implemented and maintained; b) reporting to top management on the performance of the management system and any need for improvement	
10.2.2	Applicable requirements of this International Standard shall be documented. The certification body shall ensure that the management system documentation is provided to all relevant personnel.	
10.2.3	The certification body shall establish procedures to control the documents (internal and external) that relate to the fulfilment of this International Standard. The procedures shall define the controls needed to: a) approve documents for adequacy prior to issue; b) review and update as necessary and re-approve documents; c) ensure that changes and the current revision status of documents are identified; d) ensure that relevant versions of applicable documents are provided at points of use; e) ensure that documents remain legible and readily identifiable; f) ensure that documents of external origin are identified and their distribution controlled; g) prevent the unintended use of obsolete documents and apply suitable identification if they are retained for any purpose. NOTE Documentation can be in any form or type of medium.	

10.2.4	The certification body shall establish procedures to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of its records related to the fulfilment of this International Standard. The certification body shall establish procedures for retaining records for a period consistent with its contractual and legal obligations. Access to these records shall be consistent with the confidentiality arrangements. NOTE For requirements for records on applicants, candidates and certified persons, see also 7.1	
10.2.5	**Management review**	
10.2.5.1	The certification body's top management shall establish procedures to review its management system at planned intervals, in order to ensure its continuing suitability, adequacy and effectiveness, including the stated policies and objectives related to the fulfilment of this International Standard. These reviews shall be conducted at least once every 12 months and shall be documented	
10.2.5.2	The input to the management review shall include information related to the following: a) results of internal and external audits (e.g. accreditation body assessment); b) feedback from applicants, candidates, certified persons and interested parties related to the fulfilment of this International Standard; c) safeguarding impartiality; d) the status of preventive and corrective actions; e) follow-up actions from previous management reviews; f) the fulfilment of objectives; g) changes that could affect the management system; h) appeals and complaints.	
10.2.5.3	The output from the management review shall include as a minimum decisions and actions related to the following: a) improvement of the effectiveness of the management system and its processes; b) improvement of the certification services related to the fulfilment of this International Standard; c) resource needs.	
10.2.6	**Internal audits**	
10.2.6.1	The certification body shall establish procedures for internal audits to verify that it fulfils the requirements of this International Standard and that the management system is effectively implemented and maintained. NOTE ISO 19011 provides guidelines for conducting internal audits.	

10.2.6.2	An audit programme shall be planned, taking into consideration the importance of the processes and areas to be audited, as well as the results of previous audits.	
10.2.6.3	Internal audits shall be performed at least once every 12 months. The frequency of internal audits may be reduced if the certification body demonstrates that its management system continues to be effectively implemented in accordance with this International Standard and has proven stability.	
10.2.6.4	The certification body shall ensure that: a) internal audits are conducted by competent personnel, knowledgeable in the certification process, auditing and the requirements of this International Standard; b) auditors do not audit their own work; c) personnel responsible for the area audited are informed of the outcome of the audit; d) any actions resulting from internal audits are taken in a timely and appropriate manner; e) any opportunities for improvement are identified.	
10.2.7	The certification body shall establish (a) procedure(s) for identification and management of nonconformities in its operations. The certification body shall also, where necessary, take actions to eliminate the causes of nonconformities in order to prevent recurrence. Corrective actions shall be appropriate to the impact of the problems encountered. The procedures shall define requirements for the following: a) identifying nonconformities; b) determining the causes of nonconformity; c) correcting nonconformities; d) evaluating the need for actions to ensure that nonconformities do not recur; e) determining and implementing the actions needed in a timely manner; f) recording the results of actions taken; g) reviewing the effectiveness of corrective actions.	
10.2.8	The certification body shall establish (a) procedure(s) for taking preventive actions to eliminate the causes of potential nonconformities. Preventive actions taken shall be appropriate to the probable impact of the potential problems. The procedures for preventive actions shall define requirements for the following: a) identifying potential nonconformities and their causes; b) evaluating the need for action to prevent the occurrence of nonconformities; c) determining and implementing the action needed; d) recording the results of actions taken; e) reviewing the effectiveness of the preventive actions taken. NOTE The procedures for corrective and preventive actions do not necessarily have to be separate	

Appendix 3: IFA certification scheme

EUROPEAN ASSOCIATION FOR INTEGRATING FOOD SCIENCE AND ENGINEERING KNOWLEDGE INTO THE FOOD CHAIN

registered at Bundespolizeidirektion Wien: ZVR 541528038

CERTIFICATION SCHEME

Food Quality & Safety

ISEKI - Food Association

DATE

EUROPEAN ASSOCIATION FOR INTEGRATING FOOD SCIENCE AND ENGINEERING KNOWLEDGE INTO THE FOOD CHAIN
registered at Bundespolizeidirektion Wien: ZVR 541528038

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Introduction

Professional certification is a process in which a person proves that he or she has the knowledge, skills and competencies to perform a specific job or task. It has a two-fold objective (AEC, 2015, http://www.aec.es/web/guest/certificacion-personas):

- Provide employers with a trust element on the employee's competencies.
- Guarantee professionals (employees) an independent endorsement which validates the possession of the competences established in a structured and impartial certification scheme.

Scope of Certification

Job and task description

Required Experience

Abilities (when applicable

Prerequisites (when applicable

Code of conduct (when applicable

Certification Process Requirements

Criteria for initial certification and recertification

Examples of criteria for initial certification might include prerequisites or assessment/examination, or any other requirements for issuance of certifications (e.g. background checks).

Clause 9.6 of ISO/IEC 17024 defines the requirements for the recertification process. Examples of criteria for recertification might include (Clause 9.6.5 of ISO/IEC 17024):

- *On site assessment*
- *Professional development*
- *Structured interview*
- *Confirmation of continuing satisfactory work and work experience records*
- *Examination*
- *Checks on physical capability*

Assessment methods for initial certification and recertification

For example, if the scheme competence requirements include assessing keyboarding speed, then a practical examination might be used

Surveillance methods and criteria (if applicable)

Criteria for suspending and withdrawing certification

Criteria for changing the scope or level of certification (if applicable)

Appendix 4: IFA certification quality manual

EUROPEAN ASSOCIATION FOR INTEGRATING FOOD SCIENCE AND ENGINEERING KNOWLEDGE INTO THE FOOD CHAIN

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MS MANUAL

Certification of People

ISEKI - Food Association

DATE

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Quality objectives

Organizational structure

Process map

Other PCB relevant documents (statutes, general functioning rules, etc)