Entrepreneurship Competence
Agrifood industry

EntreComp Food

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Deliverable:

D3.2 - General EntreCompFood learning pathway

Leading partner: **AgroParisTech**

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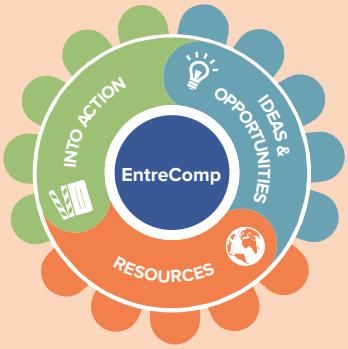
Be curious and open Be determined Team up Develop ideas Use resources responsibly Accept diversity Be innovative Be resilient Imagine Listen actively Think strategically Make the most of your time Guide action Learn by doing Behave ethically Learn from mistakes Don´t give up Think sustainably Reflect Assess impact Get support



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Introduction

This deliverable is devoted to the description of the framework of the general learning path of EntreCompFood, carried out by AgroParisTech.

EntreCompFood uses the EntreComp framework as a central tool for the promotion and adoption of entrepreneurship in the food sector. The focus is on the following 7 specific competences: Creativity, Vision, Ethical and sustainable thinking, Motivation and perseverance, Resource mobilisation, Working with others, Learning from experience. This document follows on from the first deliverable (D3.1) which already presented the possible uses of EntreComp in the context of EntreCompFood as defined by AE. This information has helped to better define entrepreneurial skills and propose approaches to develop them.

The general EntreCompFood learning pathway (D3.2) is the central part of the structuring of learning in the strategic action plan on learning opportunities. This pathway will be adapted by UL-BF and AE according to their local learning context (type of learning, learning environments, type of support and services). The basic structure of the pathway EntreCompFood will then be produced and tested through the participation of students and young entrepreneurs from AgroParisTech, UL-BF and AE (WP4 and WP5).

In spite of the abundant literature on the subject of entrepreneurship, it must be said that academic works dealing with the topic of entrepreneurial skills are still rare. Although there are competency frameworks associated with entrepreneurship, these have not been conceptualised for training engineering purposes.

The aim of this deliverable is to describe the prerequisites for the EntreCompFood programme in the first part. In the second part, we propose a way to integrate and evaluate the course in our institutions in a student and entrepreneurial context. In the third part, we present pedagogical approaches to be considered in order to develop the skills of the EntreCompFood programme. In the last part of this deliverable, we will discuss the tools and methods to be used by the entrepreneur in our institutions.

1. Prerequisites for the EntreCompFood pathway

Entrepreneurs and future entrepreneurs in the agro-food sector need to be able to rely on knowledge and skills that are not specifically related to the entrepreneurship approach, but which are necessary to properly understand the different issues and constraints of this sector, and thus to carry out an entrepreneurship project to its conclusion.

The courses followed during the Food sciences courses provide learners with a solid background of scientific, commercial, contextual and relational knowledge that is necessary to undertake and ultimately run a business.

In the field of food sciences, we can mention the following lectures:

- Food sciences (products, processes)
- Quality, Health and Safety
- Knowledge of the food economic sector
- Knowledge of the consumer, consumer trends and food innovation
- Business strategy and competitive analysis
- Income statement, balance sheets and break-even point
- Market knowledge and marketing approaches
- Sustainable development and corporate social responsibility
- Project management, financing strategy and financing plan
- Legal aspects: company statutes and intellectual property
- Team management

This knowledge base is an essential prerequisite for the EntreCompFood pathway, which aims to develop and/or strengthen entrepreneurial soft skills in the agri-food sector.

The EntreCompFood training pathway can therefore either be supplemented by other training elements related to the agri-food sector and the business world, or be aimed at learners who already have the necessary knowledge through their previous education/experience.

2. EntreCompFood pathway

The EntreCompFood model has 3 competence areas that reflect entrepreneurship as the ability to transform ideas into actions that can generate value for people other than oneself. The 3 competence areas identified are "Ideas and Opportunities", "Resources", "Implementation/Action". Their names have been given with the intention of underlining that entrepreneurial competence is the ability to transform ideas into action by mobilising the necessary resources. These three areas of competence are very closely linked to each other: Entrepreneurship as a competence is based on all three. These 3 areas are subdivided into 7 competences, which are also interlinked and interconnected and should be treated as part of a whole.

Many actors in higher education agree on the aim of training people capable of managing their potential acquired during training, of undertaking and creating, in order to deal in a relevant way with the multiple situations of their professional and social environment. The use of experience-based pedagogical methods is therefore crucial for developing entrepreneurial skills and competences.

The project-based learning method is increasingly being used in institutions. It helps to view the development of competences in a holistic dimension and to address the complexity of the entrepreneurial reality. The aim of project-based learning is to enable students and/or entrepreneurs to learn by doing and thinking, so that the project becomes an essential tool for building the organisation of the future. The aim is to provide benchmarks and encourage the expression of the entrepreneurial project.

The skills assessed at the end of this project-based learning by agri-food establishments are most often technical skills. The EntreCompFood pathway would contribute to the formalisation, development and evaluation of soft skills that are essential to entrepreneurship. In order to do this, we propose that it should be based on project approaches already widely implemented in the establishments, which it will complement.

2.1. Working environment of the EntreCompFood pathway

- Student context

We propose to develop EntreCompFood skills within the framework of training courses based on project-based learning, allowing for a strong involvement of the learners and the concrete implementation of the "soft skills" selected within the project.

In each institution, these projects may take different forms, in terms of ambition (from the generation of an original idea to a project leading to the marketing of a product), duration (projects conducted over a few days, a week or several years), and expected skill levels (projects conducted when all the prerequisites have not yet been acquired, for example in the first year of a bachelor's, master's or engineer's degree course, or, on the contrary, at the end or even at the end of a course). This type of "project-based" training will take on its full meaning when it is supplemented by an assessment to support learners, guide them, enable them to objectively assess their level and set realistic progression objectives.

The EntreCompFood learning pathway will be structured as a sequence of courses (modules) and quizzes that enable learners (identified target user groups) to master entrepreneurial skills in small steps. The learner will be enrolled in a specific learning pathway which will comprise a number of courses in a particular order. As the learner completes each course, he or she will have access to the next one and will need to follow all the courses in order to complete the whole learning pathway. The two main channels of course delivery will be offered to the target user groups in the most appropriate form: face-to-face and online.

Learners will follow their so-called "pre-requisite" courses (specific to each institution), which are essential for drawing up a project, and in parallel with the EntreCompFood courses to develop their soft skills (mutualised between institutions). In addition to the project and the EntreCompFood pathway, the institution may offer additional types of support for entrepreneurship to help learners practice and/or launch their projects (see Part 4).

In the first year of the course (e.g. master's or engineering cycle), students follow a one-week "opening up to entrepreneurship" module. Following a first day of classes on entrepreneurship in the life sciences and specifically around the design of a food product, students are put into a creative situation with the aim of setting up several teams, each with an idea for an entrepreneurial project in the fields of training, i.e. around food: product, packaging, service, marketing offer, process. In the following sessions, the students are led, using an entrepreneurial methodology, to ask and answer a set of questions enabling them to clarify their project idea on its different dimensions. At the end of the week, they are trained to prepare an "entrepreneurial pitch", present their project orally in front of their classmates and are evaluated on their work and involvement. The week ends with a round table with

young entrepreneurs who come to present their projects and a visit to a device: scientific and technical pre-incubator in AgTech.

During the second year of the training cycle (master or engineer) or a second semester of a one-year training course, a module introducing students to entrepreneurship in the life sciences, particularly around food, is offered to students. This module begins with a day of lectures and reminders on entrepreneurship with the presentation of different methodologies and business models concerning food. Then we work on a case study "Inn The Maine", which allows us to recall, contextualize and apply the financial tools useful in business creation. Then, a creativity session is proposed and animated to come up with 5 project ideas for 5 teams of 4 students who will then work on the projects using the VIANEO approach and platform (ref part 4). The module ends with a pitch presentation, testimonials from entrepreneurs with an exchange and a visit to a specific Food incubator).

For these two modules, the students are in a "learning by doing" situation based on concrete projects that they define themselves in order to make them their own. To this end, several pedagogical approaches are used: the facilitation of creativity sessions, the use of adapted and recognised case studies, also the use of digital tools such as the VIANEO platform and entrepreneurial approach (https://www.vianeo.com/fr/) and the training of students in pitching. The skills to be developed in these modules relate to entrepreneurial skills in particular: creativity and openness to the innovation process, structuring a coherent project, evaluating an idea, analysing a market and defining a strategic opportunity, outlining a business model, identifying the means to be implemented, working in a collaborative manner and communicating with professionals.

- Entrepreneurial context

If the learner wishes to develop a business creation project, culminating in the creation of an economic activity, support can be continued within an incubator. There are different types of incubators, with varied and often complementary offers, which must be mobilised at the right time. These enable projects and their promoters to be supported right up to the setting up of their business and the development of sales of their product or service.

The functions expected of these incubators are as follows:

- The project leaders are selected to assess the robustness of the project and the technical and entrepreneurial skills of the team that will lead it.
- The incubator offers theoretical courses aimed at developing technical skills specific to entrepreneurship such as legal, financial, communication, sales, quality, etc. skills.

- Personalised support is provided in order to consolidate the business creation project and confirm the entrepreneurial skills of the team.

Depending on the stage of progress of the projects accepted by an incubator, the level of entrepreneurial skills required varies between intermediate and advanced stages. The jury passing the selection stages will test the initial level of the team, through written tests (constitution of a file covering, in particular, the elements of business creation that can be grouped into a CANVAS business) and oral tests (pitch).

The support provided by the incubator can be generalist or focused on a particular theme (agri-food, digital, deeptech, etc.). In both cases, it will consist of challenging the project and the team through detailed questioning and making available a certain number of resources and tools that will enable progress to be made in the creation of a business. The aim of this support is to bring the team to the expert level of entrepreneurial skills.

The use of EntreCompFood in the incubators that support agri-food projects could enrich the offer during the selection and personalised support process. Thus, during the selection process of entrepreneurial projects, it will enable a more complete and reliable diagnosis of candidate teams by evaluating the 7 competencies identified in the EntreCompFood system. This new way of making a diagnosis will guide personalised support by emphasising learning methods adapted to the strengths and weaknesses of each team.

In order to propose a generic approach to be used in various EntreCompFood skills training schemes, Table 1 presents the criteria to be used.

- Competencies that are not present in the EntreCompFood standard are assessed during these panels.
- Two competences from the EntreCompFood standard ("Motivation and Perseverance" and "Learning from Experience") are not currently assessed during these juries.

Negative pole	Positive pole	Corresponding EntreCompFood competence
Strategy not very detailed, unclear	Innovative strategic deployment, in line with market expectations	Stimulate your vision
Weak social and responsible commitment	Strong social and responsible commitment	Thinking ethically and sustainably
Project with no environmental stakes	Environmental issues taken into account in the short and long term	Thinking ethically and sustainably

Existing product	Innovative product whose development requires a scientific approach	Having creativity
Poorly defined, unclear equipment needs	Detailed equipment requirements	Resource mobilisation
The industrialisation of the project seems too complicated or not yet thought out.	The industrialisation aspect is already well thought out and realistic	Stimulate your vision
Fuzzy distribution of roles	Well-defined roles	Working with others
No awareness of a lack of skills	Action plan to address skill gaps	Resource mobilisation

TABLE 1: EXTRACT OF SELECTION CRITERIA USED AT THE FOOD'INN LAB AND CROSS-CHECKED WITH THE CORRESPONDING ENTRECOMPFOOD COMPETENCES

The proposed support must be provided, for each team, by a teacher-researcher working in the field targeted by the project. The mission of this duo is to:

- Challenge the project leaders and their project to enable them to make the best choices in an uncertain innovative environment and to have confidence in these choices.
- Put project leaders in contact with people in their network (within AgroParisTech or among the partners) who can provide assistance adapted to the specific problems of the project.
- Identify interesting training modules to develop the technical or entrepreneurial skills needed by entrepreneurs to succeed in creating their business with the right tools.

As an example, we present below the functioning of the Food'Inn Lab, an incubator specialising in food sciences within AgroParisTech.

The Food'Inn Lab, an incubator specialising in food sciences, offers mainly scientific and technical support, as well as support for overall strategic thinking thanks to the Vianeo tool, the operation of which is detailed in part 4.

The selection of projects and their leaders is based on an initial examination of the written dossiers, followed by a 40-minute oral presentation (20 minutes presentation; 20 minutes questions/answers). The criteria used to rate the projects and their promoters are detailed in Appendice 2.

2.2. Evaluation of the EntreCompFood pathway

Learning is created on the basis of knowledge that is acquired and new behaviours that are put in place. To facilitate this, the learner needs to anchor in his memory what he learns over time and to know what he knows in order to activate it at the operational moment when he can apply it. Knowing what he has acquired, he will be able to assess the gaps to be filled and what has been mastered. This will enable him to be awarded a badge, certificate or diploma in certain training courses and may be a prerequisite for obtaining them. Let us indicate here that it is because he knows what he knows that the learner is even more stimulated in his learning: the principle of metacognition reinforces the learning cycle. Thus the validation of learning outcomes is useful several times during a training course.

- Assessing knowledge acquisition using the Quiz method

Evaluation by Quiz is a modality of interrogative animation that allows a precise, factual analysis of the knowledge acquired at a given moment T in a learning experience.

This evaluation technique would bring a formal moment to the EntreCompFood training programme and could be gamified or not. The trainers of the training programme need to measure what the learners have retained and understood in order to adjust the training content and/or exercises if necessary. Quiz-based evaluation allows evidence-based, factual results, reflecting reality, to read the progress that attests to the learning outcomes of the training. It thus assesses the level and can provide guidance on additional inputs and/or keys to progress.

The method of evaluation by means of quizzes during the course is also a way of making it easier for learners to memorise by repeating knowledge and remains a good way of congratulating learners and providing them with long-term support.

Furthermore, digital technology has increased the number of offers to design relevant quizzes quickly on platforms, which is an advantage for us in the implementation of this type of assessment. There are now many tools available (free of charge or by subscription) to facilitate the development of these tests and the monitoring of learners' progress.

- Evaluate the increase in skills via an elevator pitch

An elevator pitch (also called an "elevator speech" or "elevator statement") is a short presentation aimed at convincing someone of a project or business idea. The term "elevator" does not refer here to the place of the presentation but to its duration: the few seconds or minutes that an average lift ride lasts.

Evaluating a project via a lift pitch is a very interesting method because it has several useful advantages for an entrepreneurial project. It helps to convey ideas quickly by going to the essentials and this forms the spirit of synthesis.

The content and structure of an elevator pitch is based on the AIDA model, a fundamental communication principle in classical marketing. The model shows the four steps a customer goes through to make a positive purchase decision. The AIDA model stands for 'Awareness, Interest, Desire and Action'. If we extend the AIDA principle slightly, we obtain the following diagram for the structure of an elevator pitch:

- **Offer**: what do you have to offer your interlocutor? What enables you to master this task rather than another?
- **Interest**: how can you make your offer interesting for a potential client or employer? What specific interest will your contact person find in it?
- **Advantages**: how do you stand out from your competitors? What would be the advantages of working with you?
- **Impulse**: why are you voluntarily addressing your offer to this person? Why are you interested in a possible collaboration?
- **Call for action**: What do you expect from your contact person? What can we do to help you at this stage?

If we want to make an elevator pitch specific to the food industry, we can direct the questions in the following way:

- **Offer**: what does the newly created food/packaging bring?
- **Interest**: how can you make your product interesting for consumers? What new functions does the newly created food/package fulfil?
- **Advantages**: How do you differ from competing products?
- **Impetus**: why do you address your product/packaging voluntarily to this type of consumer?
- **Call for action**: What can we do to help you at this stage?

In spite of its potential to train in an entrepreneurial context, the elevator picth, due to its short format, does not allow you to go into the details of the project and to assess the rise in skills in the course in an exhaustive manner. It would be interesting in the context of EntreCompFood to use this method and to copy it by others through other types of evaluation.

- The method of self-assessment of competences.

According to Marlyse Pillonel and Jean Rouiller (1993), "the development of student autonomy is inseparably linked to self-evaluation. Leaving autonomy to the pupil means finally

developing his critical mind so that he can take part in his learning, become active in it, capable of judging it and deepening it. Making them autonomous in their learning. »

Metacognitive activity is rooted in self-evaluation, it corresponds to the fact that the learner is in the analysis of the evaluation situation he has just experienced and no longer in direct evaluation. Rather than being interested only in the goal, the learner is going to take into account the entire process of his thinking, the approach that led him to solve the problem. According to Gérard De Vecchi (2014), the student must be able to answer the following questions: "What I have learned", "How I have done it", "How I can reuse this knowledge". It is a question of getting to know oneself as a learner, analysing one's practices and operating methods. This enables them to get to know themselves better, to take a step back from their work and to be able to improve it. This capacity is inseparably linked to self-evaluation, the student will become aware of himself in a metacognitive process which will not be without difficulties but which will enable him to improve his learning.

The pupil who has become aware of his learning will look at it and make a judgement on it. This critical mind can be developed through several areas: reflection on the strategy adopted, the type of activity, the ideas developed, the skills or the results.

In the EntreCompFood training programme, questions could be asked to a learner in the context of "Learning by doing", such as the following:

- « What did you learn about your product/packaging ? »
- « Are you satisfied with the designed product/packaging? Why is that? »
- « Did you encounter any difficulties in developing the project ? If so, what difficulties ? »

From the point of view of learner autonomy in EntreCompFood learning, this phase seems to be indispensable for the student.

3. What pedagogical approaches should be envisaged to develop the 7 Entrepreneurial competences of the EntreCompFood pathway?

Innovative or specific pedagogical approaches are gradually emerging in higher education. Some approaches allow learners to take an active part in their learning in order to develop their knowledge through experimentation. These methods encourage the construction of in-depth learning and a real appropriation of knowledge. They lead learners to grasp the meaning of the proposed activities, to use the knowledge acquired, to look for relevant resources, to demonstrate a critical mind and to confront their point of view.

The pedagogical approaches used in training courses tend to vary, in part, according to the conditions of the institution making use of them. The choice of pedagogies is linked to factors such as institutional policies or the experience of teachers, which in some way condition student learning. However, even if the types of teaching methods are varied, their efficacité depends on the educational objectives to be achieved and the conditions in which they are implemented. Its effectiveness also depends on the length of study, and it is necessary to adapt to a one-year (or even semester, two or three year) training course.

In this section, we present pedagogical approaches commonly adopted in entrepreneurial training and particularly those designed to promote the competences identified in the EntreCompFood scheme.

We recall that the EntreCompFood model includes 3 competence areas that reflect entrepreneurship as the ability to transform ideas into actions that can generate value for people other than oneself: "Resources", "Ideas & Oportunities", "Into Action".

The first area of expertise "Ideas & Oportunities" contributes to the emergence of an entrepreneurial/innovative opportunity. The skills to be developed in this area are creativity, vision or ethical and sustainable thinking. These skills can be developed through ideation techniques. Ideation refers to the process by which everyone can come up with ideas through a creative process of production, development and communication. Perfectly associated with co-creation, ideation takes shape through a set of exercises or methods that boost creativity, stimulate imagination and collective invention. The main advantage of Ideation compared to Brainstorming is the wide range of exercises which encourage collective work both orally and in writing. This makes it possible to choose and adapt each Ideation method according to the progress of the project, the problems encountered, the composition of the team and the character of each collaborator. Where Brainstorming could block those who are less at ease orally and in public, the different Ideation methods favour collaborative work in a friendly and educational atmosphere. Simple ideation methods such as Zero draft[27], Brain writing[3] or Forced login[11] could be used within the framework of EntreCompFood to develop all the skills of the training programme but mainly those of the "Ideas & Oportunities" domain.

The second competence area, "Resources", pushes the learner to have an entrepreneurial and/or innovative stance. It groups together the competence "Motivation and perseverance" and the competence "Mobilising resources" which has several dimensions: personal resources (i.e. self-awareness and self-efficacy, motivation, perseverance), material resources (e.g. means of production or financial resources) or non-material resources (e.g. specific knowledge, skills, attitudes).

Gamification is a method which consists in transposing the mechanics of play into a non-playful domain, to solve real life problems or improve an offer. Training gamification promotes

the development of this type of skill and its applications. Modern pedagogical approaches such as Serious Game[21], Escape Game[10] or Pedagogical Game[13] allow skills to be developed and learning to be improved through a pedagogical and collaborative experience. Participants are active and engaged through an original, interactive and effective experience, mobilising their resources and working on their perseverance and motivation.

To develop skills in the field of "Resources" it is also interesting to work on problem solving. As an example, we can quote Call for a hero[5], a game where small groups will imagine how their problem could be solved, if it were given to a known character, fictional or real. The aim is to choose a personality or superhero who you think has the qualities required to help develop the project according to your ideas, or on the contrary a less conventional character, who could propose solutions that you wouldn't even dare to imagine.

The third area of competence "Into Action" consists in being in action, i.e. acting and launching an innovative project. Tools to help build the company's business model such as Lean startup[14], Business model Canvas[4] and Design Thinking[8] encourage an entrepreneurial stance and a clear idea of the project. The previously described approaches such as Serious Game[21], Escape Game[10] or Pedagogical Game[13] can be used to strengthen teamwork and experiential learning.

Table 2 shows a matrix where the first dimension represents pedagogical approaches and the second dimension represents EntreCompFood entrepreneurial skills.

	RESOURCES		IDEAS & OPPORTUNITIES			INTO ACTION	
	Mobilizing Resources	*Motivation & Perseverance*	*Creativity*	*Vision*	*Ethical & Sustainable Thinking*	*Working with others*	*Learning through experience*
Pedagogical Game[13]	√	√	√			√	√
Serious Game[21]	√	√	√			√	√
Escape Game[10]	√	√	√	√		√	√
BrainWritting[3]			√	√		√	
The Draft[9]			√	√		√	
Zero Draft[27]	√		√	√	√	√	
BrainStorming[2]			√	√		√	
Mental Maps[15]			√			√	
Forced login[11]			√	√		√	
The Carrying out[6]	√			√		√	
Analogies[1]	√		√	√		√	
Morphological analysis[16]	√	√	√	√		√	
PNI Evaluation[18]	√	√	√	√	√	√	
Worst possible idea[26]	√	√	√	√		√	
Six hats[23]	√	√	√	√	√	√	
Call for a hero[5]	√		√	√		√	
Story-Boarding[22]			√	√		√	
S.W.O.T.[24]	√	√		√	√	√	
Scavenger Hunt[20]	√	√	√	√	√	√	√

Table 2: Matrix of pedagogical approaches that can be implemented for the development of the 7 EntreCompFood competences

	RESOURCES		IDEAS & OPPORTUNITIES			INTO ACTION	
	Mobilizing Resources	*Motivation & Perseverance*	*Creativity*	*Vision*	*Ethical & Sustainable Thinking*	*Working with others*	*Learning through experience*
The Wish[25]	√		√	√	√	√	
S.C.A.M.P.E.R[19]			√	√	√	√	
Defectology[7]	√		√	√	√	√	
Pitch[17]						√	√
Lean Startup[14]			√	√	√	√	
ISMA 360[12]	√	√	√	√	√	√	
Business Model Canvas[4]	√	√	√	√	√	√	
Design Thinking[8]	√	√	√	√	√	√	

Table 2: Matrix of pedagogical approaches that can be implemented for the development of the 7 EntreCompFood competences

4. Provide tools and methods for the use of entrepreneurs in our establishments

Additional types of entrepreneurship support such as competitions or entrepreneurial networks can have a profound impact on the development of individual entrepreneurial will and motivation. This type of support plays an important role in individuals' abilities to identify business opportunities, validate business ideas and access resources such as customers, business partners, suppliers and advisors.

In this section we develop 5 types of entrepreneurial support tools to be used in the EntreCompFood training programme:

- **EntreCompFood Community - Linkedin Coco EN**

In the framework of the EntreCompFood project, collaborative communities of entrepreneurship at the local level have been built with the aim of creating synergies between entrepreneurs, offering centralised information on entrepreneurship in the food sector, and providing a space for reflection and exchange on entrepreneurship and its challenges.

Online platforms for professional networking are today essential communication tools for entrepreneurs and LinkedIn is by far the professional social network par excellence. The creation of a LinkedIn account is now essential. With 77% of French companies present on this network, it is the first professional social network in the world.

This is why, in addition to running workshops and webinars, AgroParisTech and Ania have set up a LinkedIn Coco FR page to firstly contribute to the community's animation and secondly to give learners of the EntreCompFood training programme access to a professional network focused on entrepreneurship in the food industry.

This Linkedin CoCo FR page allows to share and centralise information that is very often scattered and yet important for entrepreneurs in the agro-food sector. We will be able to cite prizes and competitions, calls for projects, webinars, conferences, trade fairs, as well as new entrepreneurial methods in the agri-food sector.

- **ECOTROPHELIA Competition**

ECOTROPHELIA aims to promote entrepreneurship and competitiveness within the European food industry by setting up a training network of excellence in food innovation and by organising national and European food innovation competitions "The Student Awards of Food Innovation": a real revelation for the food industry.

ECOTROPHELIA is a great platform of innovation and inspiration for the food industry. It allows us to capitalise on the boundless creativity and energy of our brightest and most enterprising students, supported by the best universities and higher education institutions.

The competition is a major catalyst:

- Offering students large-scale learning and training, confronting them with real-life situations, the rules and laws of an uncompromising and ever-changing market.
- To develop a culture of curriculum innovation, by bringing about changes in teaching methods, in particular through project-based learning, in direct contact with professionals in the sector.

ECOTROPHELIA is an incubator of "real ideas" for the food industry, it is a marker of the consumer trends of the Millennium and Z generation.

- **Vianeo**

Within the framework of our teaching, we rely on a digital platform called Vianeo which exists in freemium version and allows innovative entrepreneurial project leaders, through a teacher's animation, to work on their project by forcing them to ask themselves and answer all the essential stakes that will allow an idea to reach a market (Why believe in this project ? Who are the users and their problem to solve? How to integrate into the existing ecosystem? Are there partners and competitors? With which solution(s) will the users' problems be solved? Who are the customers and how does the project make money? This platform is based on research work in entrepreneurial cognition, in particular the logic of execution which was initially modelled in the ISMA360 method (see glossary). This method has been translated and has evolved to become Vianeo, which also uses the concepts of design thinking, lean startup and business model canvas.

(https://www.vianeo.com/fr/ https://www.lancetonidee.com/).

In addition, we use this platform for the long-term follow-up of all our entrepreneurial projects (in this case we use the premium version) and also for the submission of applications for our Maturation and Entrepreneurship Awards.

- **Moodle**

Moodle is a free online Learning Management System distributed under the GNU General Public License written in PHP. Developed on the basis of pedagogical principles, it enables the creation of learning communities based on content and activities. The word "Moodle" is the abbreviation for Modular Object-Oriented Dynamic Learning Environment.

In addition to the creation of courses using integrated tools (resources and activities) for use by trainers, Moodle offers the possibility of organising courses in the form of streams which also give it characteristics that are specific to the implementation of complete teaching systems. In addition to a Content Management System (CMS) already mentioned, Moodle also adds numerous tools for pedagogical and communicative interactions creating an online learning environment: this application makes it possible to create, via the network, interactions between pedagogues, learners and teaching resources. Thanks to its modular architecture, Moodle takes advantage of plugins developed by its community to allow the extension of its functionalities and thus meet specific needs.

- **The Prize**

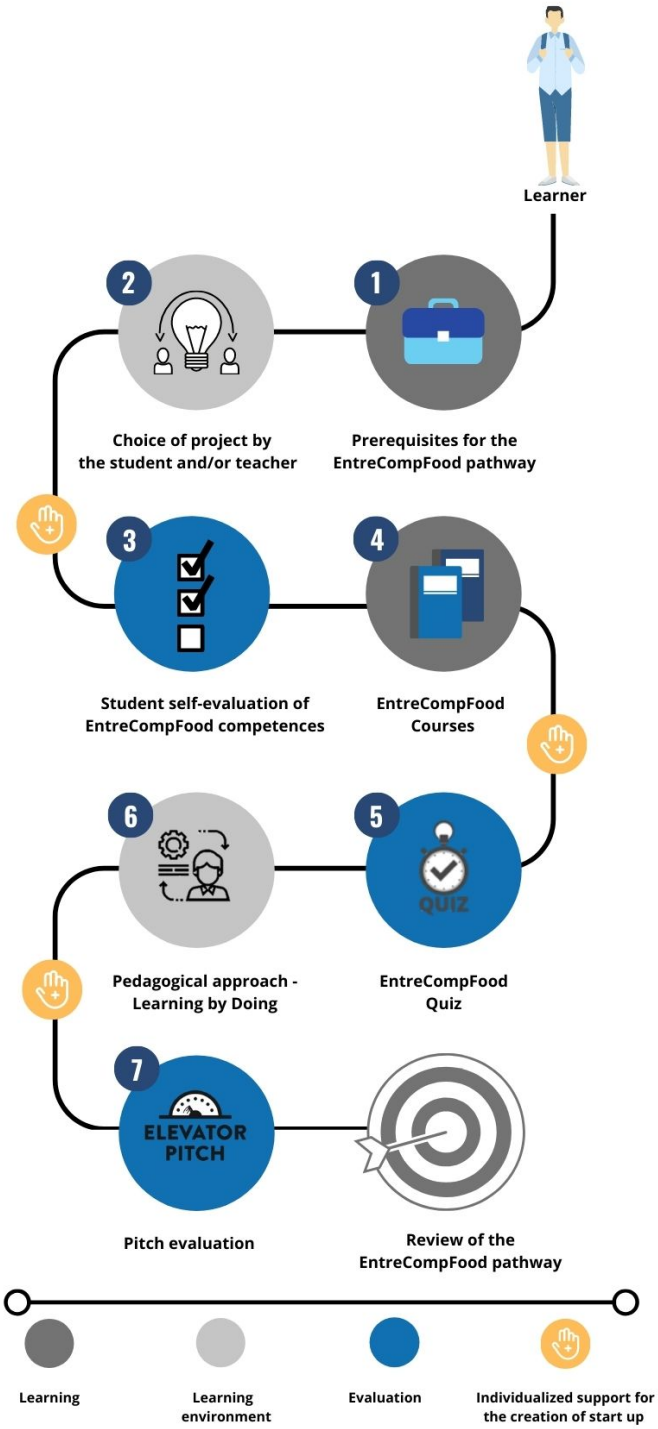
The Creativity Prize is an ideas competition open to all to raise awareness of entrepreneurship. Any AgroParisTech student can apply (engineer, master's, doctoral student, executive) where they can come and present for 5 minutes an idea for a solution (product, service, technology) that meets a need that has been identified and makes it possible to create an economic activity. A benevolent jury evaluates the ideas and rewards between 100 and 500 euros for the best projects thanks to the AgroParisTech Foundation. Motivated 1st year engineering students will then be able to follow the EU Entrepreneurship Opening Course (see above) and study the possibility of working on their project as part of an integrative module (see above).

In addition, we also organise the Maturation Prize dedicated to projects and teams that decide to embark on the entrepreneurial adventure on a concrete project that is already advanced but for which the proof of concept is still to be worked on. This takes place twice a year in November and April/May. It takes place in front of a confidential jury of professionals composed mainly of external experts and patrons of the AgroParisTech Foundation. An envelope of 10keuros per session can be distributed among the winning projects. Following a pre-selection based on a confidential dossier, the young people present their project during a 10-minute pitch followed by 20 minutes of discussion with the jury. We have developed a complete multi-criteria grid for the evaluation of each project. The winners thus win a prize and tailor-made support from AgroParisTech, the Foundation's patrons, the Inn Labs (Food Inn Lab in this case) and the INRAE.

Finally, we organise the Undertake Prize for projects that have reached the end of their maturation period. It is also held twice a year (November-April/May) in conditions very similar to the Maturation competition (around 15keuros/session) but the dossier to be submitted is much more substantial (complete Business Plan) and the evaluation grid is enriched. Final year engineering students can use a project teaching unit to work on their project. If they apply for national student entrepreneur status, they can carry out their final year engineering internship on their project. If they take a break between the 2nd and 3rd year (IEC: Certificate of

International Studies), they can also carry out a 6-month internship on their project, also using the student entrepreneur status.

5. Diagram of the EntreCompFood learning pathway



Conclusion

In this contribution, we have tried to understand both the entrepreneurial process and entrepreneurial competences in the integration of the general learning pathway EntreCompFood. In addition, we have detailed the learning framework by contextualising it at each stage of the deliverable with examples from the AgroParisTech establishment. In this respect, we believe that we have provided a conceptualisation of the educational and pedagogical approach to be developed for the development of the 7 Entrepreneurial competencies of the EntreCompFood pathway.

In conclusion, we propose to integrate the general EntreCompFood learning pathway into the framework of existing training pathways in our partner institutions. We recommend that the pathway be integrated into project-based learning, allowing for strong learner involvement and the concrete implementation of the "soft skills" selected in the EntreCompFood project. In each institution, these projects may take different forms in terms of ambition, duration and expected skill levels. This type of "project-based" training will take on its full meaning when it is supplemented by an assessment to support learners, guide them, enable them to objectively assess their level and set realistic progression objectives.

This configuration has been designed to facilitate implementation at a local level but also with the aim of providing a modular offer to learners and/or entrepreneurs wishing to join the programme.

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Appendices

Appendice 1 : Glossary – Pedagogical approaches

1. Analogies

It is a technique focused on the generation of ideas from the creation of associations of concepts that are usually not connected.

2. BrainStorming

Gather a group of people and unleash your mind, release ideas like a great rain. Finally, decide which is the most valid for the proposed objective.

3. BrainWritting

Brainwriting is a tool for creativity derived from brainstorming, which can only be implemented in writing. Starting from a first idea put in writing by a participant and transmitted to another participant, each participant bounces back, still in writing, on the previously expressed idea until the ideas are exhausted. The ideas are then listed to all participants.

4. Business Model Canvas

The business model canvas is a tool that is used to simply transcribe a company's business model. It is perfectly suited to the creation phase, and can also be used for the launch of a new product or service. The business model canvas provides information on, among other things, the financing of the company, the value proposition, the target customer segment and the cost structure.

5. Call for a hero

Small groups will imagine how their problem could be solved, if it were entrusted to a known character, fictional or real.

- What unexpected tests would Dr House have asked his teams to use to diagnose the cause of your problem?
- What revolutionary idea could Steve Jobs have to impress the world when he announced your product?
- What controversial technique would Tony Stark / Iron Man use to make your product indestructible?

The aim is to choose a personality or superhero who you think has the qualities required to help develop your project according to your ideas, or on the contrary a less conventional character, who could propose solutions that you wouldn't even dare to imagine.

6. The Carrying out

Performance is a pragmatic vision of business creation. The theory of effectuation was developed by researcher and professor of entrepreneurship Saras Sarasvathy in 2001, after she found that most successful entrepreneurs did not follow the classical process of business creation (idea > market research > business plan > search for financing...) but rather a much more personal process, based on available resources and opportunities.

7. Defectology

A list of defects or improveable aspects of a product is drawn up. Once these elements are identified, possible solutions are proposed to improve it. Each proposal is an idea of improvement.

8. Design Thinking

Design thinking is a set of methods that allows to solve an innovation problem or to manage an innovation project by applying an approach similar to that of the designer. The first step, called "Inspiration", concerns the problem that prompts the search for solutions. The second, called "Ideation", is about the process of generating, developing and testing ideas. Finally, the third, called "Implementation", is about the path from the project to the market.

9. The Draft

Visual thinking helps to develop ideas that writing and discussion could leave behind. This exercise, which is not unlike BrainWriting, consists of making connections based on ideas put forward by each collaborator, and does not require you to be an art expert! Each member will draw a picture in relation to the overall theme of the project or on a line of thought to be explored in greater depth. Each sketch is then passed on to the next collaborator who will add his or her own drawing on the same sheet of paper. The operation is repeated until everyone has been able to sketch their ideas on each piece of paper.

10. Escape Game

The Escape Game is a fun and innovative entertainment concept for all ages. Participants are locked inside a theme room and must try to get out in less than 60 minutes.

11. Forced login

This new exercise is a very playful way of bringing together ideas corresponding to different interests and needs in order to form a new concept. Many common products, such as the sofa bed

or the Swiss Army knife, are perfect examples of this concept. To set up this exercise at your next meeting, place the object illustrations in front of you and ask your colleagues to choose two or more, either instinctively or at random. They will need to explore the different ways in which they can be connected in a single concept! This technique, which can give quick results, is above all an excellent way to stimulate your team's creativity.

12. ISMA 360

ISMA360® is a registered acronym meaning "Innovation Systemic Marketing Analysis". The method was designed by Dominique Vian, an information systems engineer and professor at the Skema Business School, and detailed in his 2013 book, ISMA360®, the compass of the innovative entrepreneur. The aim of this method is to draw a roadmap for the innovative entrepreneur. It is the result of ten years of study, experience and support for several hundred innovative project leaders in France, the United Kingdom and the United States. It is an operational and effective approach designed to guide the entrepreneur and his team in their thinking, describing the entire process through which the innovator must pass in order to identify, at a given moment T, the most relevant route to the market. It mobilises the concepts of execution, design thinking, lean startup and business model Canvas and is the subject of a free digital Vianeo platform available in English and French.

13. Pedagogical game

A serious game with an educational objective. Reading these definitions, one realises that a large number of serious games are already known: the "If you manage to..." game used by parents, a job interview role-playing game in training, a game to accumulate points to encourage people to buy in supermarkets, a family board game on the highway code, a Montessori game box at school or even a Ludo-Educatif software, ... Many situations in life correspond to this definition. In fact, is life itself not a serious game?

14. Lean Startup

Lean startup works in successive iterations to ensure that the supply put in place meets market demand. It allows companies (start-ups or not, existing or in creation, large and small, ...) to set up projects quickly, with a sharp reduction in the failure rate and at a lower cost. The stated objective of Lean Startup / Lean Management is to reduce the design cycles of new products or services by frequently evaluating the progress made with as many target customers as possible in order to know, as quickly and as early as possible, their needs and their reactions to the product. This method makes it possible to design, with a minimum of investment, innovative solutions adapted to the expectations of users.

15. Mental Maps

It is a graphic technique in which new ideas are added from a key word or concept in tree branch shapes or radially.

16. Morphological analysis

A concept or situation is broken down into its most basic units or concepts. With these elements an array is built through which new relationships and combinations are sought between them.

The final images can finally be examined and discussed, allowing you to make new connections that each member would not have spotted individually.

17. Pitch

Pitch is a short and impactful communication exercise. It is an effective and punchy presentation of a project to convince in a short time (2 to 10 minutes maximum). The idea behind the pitch is to seize opportunities to present your project in order to make an impression and make people want to know more.

18. PNI Evaluation

It is a technique that will allow you to evaluate business ideas for later selection.The objective is to identify the potential and possible adverse effects of each of the ideas under analysis, in order, in this way, to facilitate the making of a decision on which is most appropriate for the business.

The selection is carried out from the allocation of values from: P: positive, N: negative, I: interesting.

19. S.C.A.M.P.E.R

It is a technique based on replacing, deleting, extending, reordering etc. All aimed at finding new perspectives that facilitate creativity.

First define an objective to be achieved: what is the idea, subject or problem you want to think about? Clearly state the purpose of your reflection:
1. How could this idea be improved?
2. How could this problem be solved?
3. How could a feature be improved?

For each letter of the acronym, answer the question asked about your project:
* S for Substitute: What could be replaced?
* C for Combine: What could we combine or merge to multiply its uses?
* A for Adapt: What changes could we make to adapt it to another context?
* M for Modify: What could we change to improve it?
* P for Propose: What other use(s) could it have?

* E for Eliminate: What could be removed to simplify it?
* R for Reorganize: How can it be reorganized to make it more efficient?

20. Scavenger Hunt

A scavenger hunt is a game in which the organizers prepare a list defining specific items, which the participants seek to gather or complete all items on the list, usually without purchasing them. Usually participants work in small teams, although the rules may allow individuals to participate. The goal is to be the first to complete the list or to complete the most items on that list. In variations of the game, players take photographs of listed items or be challenged to complete the tasks on the list in the most creative manner.

21. Serious Game

Serious Games where the medium is a video game/digital game.

22. Six hats

The Six Hats Method from Six Hats for Thinking is a personal or group management method, developed by Edward de Bono, for dealing with problems, one of the consequences of which is to avoid the censorship of new, disturbing, unusual ideas. To do this, each participant takes a "hat" of a particular colour, assigning or recognising a role to it. This hat can change during the meeting. It can also be identical to that of other participants.

23. Storyboarding

Storyboarding is a non-linear ideation technique that allows the ideas generated by the project team to be organised later. It is a good way to solve the different problems encountered because it is possible to add/modify/delete the different ideas at any time during the project. Using the Storyboard is useful when you want to classify and sequence ideas later and when you don't know how to structure things from the start. The materials needed for storyboarding are: post-its, preferably dark coloured markers, and a board/support to be able to arrange all your ideas.

- Define a goal at this meeting and present it as an Ideation method that allows the team to group and sequence ideas at a later time.
- As the group reflects, write down each idea on a post-it note and arrange them randomly on your flipchart.
- Ask each participant to help you arrange them in a logical order, so that it tells a story and fits with the defined objective or agenda.
- When the team agrees on a structure, number each of the ideas in the order you have agreed upon.

24. S.W.O.T.

The acronym SWOT comes from the English language. It refers to four terms: strengths, weaknesses, opportunities and threats. This analysis, carried out at the launch of a company or a new product, should enable the manager to put in place a roadmap, identifying the strengths and opportunities on which he can rely and the weaknesses and pitfalls he will have to deal with.
The SWOT analysis enables the development of a company's marketing strategy and the evaluation of the success of a project, by jointly studying different data, such as the company's strengths and weaknesses, but also the competition or potential markets.

25. The Wish

The wish method is used to trigger a new start on a project or product. It should encourage your team to unleash their imagination: we assume that anything is possible. Ask each employee to imagine the most extreme, most difficult solutions to solve a problem related to your project. Make a selection of the wishes expressed, and examine them, discuss your ideas in more detail, with the aim of triggering new, more realistic concepts in order to pursue them. What makes this wish impossible to realise? How could it be reduced or simplified? What are the characteristics of this wish that we could integrate with a different approach?

26. Worst posible idea

Worst Possible Idea is an ideation method where team members purposefully seek the worst solutions in ideation sessions. The “inverted” search process relaxes them, boosts their confidence and stokes their creativity so they can examine these ideas, challenge their assumptions and gain insights towards great ideas.

27. Zero Draft

This ideation technique helps to define the first steps of a new project based on a reflection that is put down on paper. It is also an excellent warm-up exercise for the team to free their imagination. Starting from the general theme of your project: Write down everything you currently know on the subject. Then write down what you would like to know about the subject that you don't already know. Think about why this topic is important. Add any ideas that come to mind, this is an opportunity to let your team know what is going through your mind. This method of writing down everything that goes through your mind can seem messy and aimless, so don't worry. The purpose of this exercise is to get over the blockage that poisons creative people at the beginning of a project. It is also used by writers to overcome the famous blank page syndrome.

Appendice 2 : Criteria for scoring projects and promoters - Food'inn Lab

The project			**/30**
Consummers needs not identified	———	Consummers needs identified	/5
Incomplete market study, plot view of the competitors	———	Complete and up to date market study, taking into account new actors	/5
Strategy not very detailed, unclear	———	Innovative strategic deployment, in line with market expectations	/5
Non-existent or unrealistic time-to-market	———	Detailed and realistic time-to-market	/5
Low social and responsible commitment	———	Strong social and responsible commitment	/5
Project without environmental stake	———	Environmental stakes taken into account in the short and long term	/5
The experimental aspects			**/30**
Already existing product	———	Innovative product whose development requires a scientific approach	/9
Poorly understood product creation issues	———	Product creation issues well integrated into the project	/9
Poorly defined and unclear equipment needs	———	Need for equipment specific and detailed	/7
The industrialization of the project seems too complicated or not yet thought through	———	The industrialization aspect is already well thought out and realistic	/5
The team			**/30**
Single-profile team	———	Multidisciplinary, balanced team	/5
Unclear role distribution	———	Role distribution worked out	/5
Defensive oral attitude	———	Open attitude to suggestions	/10
No awareness of a lack of skills	———	Action plan to acquire the needed missing skills	/10
The financial part			**/10**
Financial plan of the project not addressed	———	Complete financial plan over 3 years	/4
Well-constructed R&D phase financing plan	———	Detailed financing plan for the R&D part	/6

EntreComp Food

Entrepreneurship Competence Agrifood industry

Project title:

Applying EntreComp to attract young people to the 1st European manufacturing sector: the agri-food industry

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Contact:
Urška Pivk Kupirovič, PhD // Project coordinator // EntreCompFood project // urska.pivk.kupirovic@gzs.si

Project partners:

Gospodarska zbornica Slovenije – Zbornica kmetijskih in živilskih podjetij

Univerza v Ljubljani Biotehniška fakulteta

FIAB – Spanish Food and Drink Industry Federation

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