UPINFOOD

ONLINE TRAINING COURSE

FOR FOOD REPRESENTATIVES

Manual for food business innovation addressing the trainers

WP4

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Introduction

Purpose:

The "Manual for Food Business Innovation" is specifically designed for trainers with the primary aim of enhancing their capacity to effectively engage and educate food entrepreneurs and managers. This manual serves as a comprehensive guide to delivering the UPINFOOD training, ensuring that the content is not only disseminated effectively but also resonates with the target audience, thereby amplifying its impact. By equipping trainers with the necessary tools and methodologies, this manual facilitates a deeper understanding of innovative practices within the food business sector, ultimately fostering a culture of continuous improvement and sustainability in the industry.

Target Group:

The manual is tailored for trainers, including educators at Vocational Education and Training (VET) schools, mentors within entrepreneur support organizations, and professionals involved in food industry support organizations. These trainers play a crucial role in shaping the skills and mindsets of food entrepreneurs and managers, making them pivotal figures in the multiplier effect of disseminating innovative practices within the food business sector.

Structure of the Manual:

The curriculum outlined in the manual is structured into two main components:

1. **Teaching Notes**: These notes provide trainers with detailed guidance on delivering the UPINFOOD training content effectively. Each topic covered in the UPINFOOD program is accompanied by practical activities and examples, designed to facilitate hands-on learning and application. The teaching notes are versatile, catering to various training modalities including classroom sessions, individual assessments, onsite workshops, and online courses.
2. **Collaborative Activities**: To foster a dynamic learning environment, the manual includes a series of collaborative activities that trainers can implement with their learners. These activities are designed to encourage participation, enhance problem-solving skills, and promote teamwork among participants.

The following table shows how the hours are distributed for each module:

MODULE	HOURS	
	Synchronous	Asynchronous
Module 1: Introduction / Basic Skills: Challenges and Obstacles in Agricultural Structures and Supply Chains	6	3
Module 2: Business Soft Skills part 1: Effective Communication for Collaboration and Trust	6	3
Module 3: Business Soft Skills part 2: Project and Process Management/ Stress Management and Resilience in Agri-Food Operations	6	3
Module 4: Sustainability Part 1: Transforming the Food Supply Chain towards more sustainable: Goals & Objectives	6	3
Module 5: Sustainability Part 2: Building Sustainable and Responsible Food Systems	6	3
Module 6: Innovation part 1: Transforming the Food Supply Chain towards more innovative: Goals and Objectives	6	3
Module 7: Innovation part 2: Digitalization in the Food Supply Chain	6	3
	42 hours	21 hours
TOTAL	**63 hours**	

Outcomes

Upon completing the modules, participants will be able to/have:

1. **Understanding of Food Business Innovation**: Deep insights into the latest trends, challenges, and opportunities in the food industry, including sustainable practices, digital transformation, and supply chain management.
2. **Familiarity with Agricultural Structures and Supply Chains**: A clear comprehension of the various agricultural structures and how efficient supply chains contribute to the sustainability and profitability of food businesses.
3. **Awareness of Regulatory and Market Dynamics**: Knowledge of the regulatory environment affecting the food industry, as well as market dynamics that influence food business operations and strategies.

CONTENTS:

MODULE 1: Introduction / Basic Skills: Challenges and Obstacles in Agricultural Structures and Supply Chains

Main topics and Duration

Module 1 consists of 4 Units, addressing the following topics:

- Unit 1: Introduction to Agricultural Structures and Supply Chains
- Unit 2: Differences in Agricultural Systems
- Unit 3: Common Challenges in the Food Supply Chain
- Unit 4: Collaboration and the Need for Improvement

The total duration includes 6 hours of synchronous training sessions and 3 hours of asynchronous reading materials.

Outcomes

Knowledge:

- Understanding of Agricultural Structures and Supply Chains: Participants will gain a foundational understanding of the different types of agricultural structures and the complexities of the agricultural supply chain.
- Awareness of Efficiency and Sustainability: Participants will learn about the significance of creating efficient and sustainable agricultural systems to support global food security and environmental health.
- Insight into Supply Chain Challenges: Participants will be knowledgeable about the common challenges within the food supply chain and their impact on agriculture.
- Comprehension of Collaborative Strategies: Participants will understand the importance of collaboration among various stakeholders in the agricultural sector to improve supply chain efficiency and sustainability.

Skills:

- Analytical Thinking: Participants will develop the ability to analyze and identify challenges within agricultural structures and supply chains.
- Problem-Solving: Participants will enhance their problem-solving skills by discussing and proposing solutions to the challenges discussed in the module.
- Collaboration and Communication: Participants will improve their ability to work collaboratively and communicate effectively through group discussions and activities.

- Application of Knowledge: Participants will gain hands-on experience applying the concepts learned through practical activities, preparing them to implement these ideas in their own contexts.

Attitudes:

- Value for Sustainability: Participants will foster a deeper appreciation for sustainable practices in agriculture and their role in promoting environmental health and food security.
- Openness to Collaboration: Participants will develop a positive attitude towards collaboration and recognize the value of stakeholder engagement in addressing agricultural challenges.
- Proactive Problem-Solving: Participants will adopt a proactive approach to identifying and solving problems within agricultural systems and supply chains.
- Innovation and Improvement: Participants will be encouraged to think innovatively and be open to implementing improvements in their agricultural practices or supply chain management strategies.

UNIT 1: Introduction to Agricultural Structures and Supply Chains

Aim: To provide participants with foundational knowledge about the various agricultural structures and the stages of the agricultural supply chain, emphasizing their significance in the overall agricultural ecosystem and their impact on the efficiency and sustainability of food production and distribution.

Outcomes:

- Understanding Agricultural Structures: Participants will gain a clear understanding of the different types of agricultural structures, such as barns, silos, greenhouses, and their specific roles and functions within the agricultural sector.
- Comprehension of Supply Chains: Participants will learn about the stages and components of agricultural supply chains, from production on farms to the delivery of products to consumers, and the key processes involved at each stage.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 1

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Ice-Breaking Activity: "Agriculture Quick Facts"** • The trainer starts by welcoming participants and explaining the purpose of the ice-breaking activity: *to create a relaxed environment and introduce participants to the topic of agriculture*. • Each participant is given a brief moment to share one interesting fact about agriculture. This can be something they've personally experienced, learned, or find fascinating about agriculture. • The trainer encourages active listening and engagement, fostering a sense of camaraderie and curiosity among participants.	Interactive and participatory	• Sticky Notes • Markers or Pens • Flip Chart or Whiteboard (Optional) • Presentation or Instructions (Optional)
10	**Introduction and Overview of the Module** • The trainer provides a brief introduction to the training module, outlining its objectives and relevance to the participants' roles or interests.	Lecture-style presentation with interactive elements	• Module 1, p. 4-6 • Projector or Screen

	• Key concepts related to agricultural structures and supply chains are introduced, highlighting their importance in ensuring efficient and sustainable food production and distribution. • The trainer sets the tone for the session, emphasizing the practical relevance of the topics to participants' professional contexts or daily lives.		• Whiteboard or Flip Chart (Optional)
30	**Condensed Theory Session: "Key Concepts and Challenges"** ● The trainer presents essential theoretical knowledge about agricultural structures and supply chains in a condensed format, drawing from the original Theory UNIT 1. ● Basic definitions and concepts are explained clearly and succinctly, with an emphasis on practical applications. ● Major challenges facing modern agriculture, such as climate change, resource scarcity, and market volatility, are discussed briefly, along with potential solutions. ● Case studies or examples are used to illustrate key points and stimulate discussion among participants.	Lecture-based with interactive elements	• Module 1, p. 6-10 • Projector or Screen • Whiteboard or Flip Chart (Optional) • Worksheet 1.1
20	**Interactive Group Discussion: "Efficiency and Sustainability"** • Participants are divided into small groups, ideally comprising diverse perspectives and backgrounds. • Each group is given a specific question or prompt related to the balance between efficiency and sustainability in agriculture. For example, "How can technology be leveraged to improve both efficiency and sustainability in agricultural practices?"	Group discussion facilitated by the instructor	• Paper • Pens

	• Participants engage in a facilitated discussion, sharing their insights, experiences, and perspectives on the topic. • The trainer encourages critical thinking and active participation, ensuring that each group has the opportunity to contribute to the conversation.		
30	**Practical Activity: " Farm-to-Table Simulation"** • The trainer arrange the fresh produce at a starting point, representing the farm. and sets up tables or designated areas for each stage of the supply chain: Processing, Distribution, and Retail. • Then, the trainer divides participants into groups or individuals and assigns each group or individual a specific stage in the supply chain (e.g., one group represents the farm, another processing, and so on). • The trainer explains to the participants that they will simulate the journey of the selected produce from the farm to the consumer's table, providing labels or tags for each stage, and participants should attach them to the produce as it progresses through the supply chain. For example, the farm group would attach the "Farm" label, the processing group the "Processing" label, and so on. • After the simulation is complete, participants are gathered for a discussion.	Experiential learning through role-playing	• A variety of fresh produce (e.g., tomatoes, apples, or lettuce). • Labels or tags for each stage of the supply chain • Tables or designated areas for each supply chain stage.

	• They discuss the importance of each stage in ensuring the product's quality and safety and emphasize how agricultural structures (e.g., farms and processing facilities) play a role in preserving the product. • The trainer highlights the role of supply chains in getting products to consumers efficiently.		
15	**Wrap-Up and Quick Feedback** • The trainer summarizes the key points covered during the session, emphasizing the main takeaways and insights gained. • Participants are invited to share one key takeaway or learning from the session, fostering reflection and consolidation of learning. • The trainer solicits brief verbal feedback from participants on the effectiveness of the session, as well as any suggestions for improvement. • The session concludes with a sense of closure and appreciation for participants' active engagement and contributions.	Summary and reflection facilitated by the instructor	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
25	**Readings Compilation: " Introduction to Agricultural Structures and Supply Chains** Read the provided compilation of short articles and videos introducing Agricultural Structures and Supply Chains	Reading Viewing	• Agricultural markets, supply chains and sustainable development (5') • Understanding Supply Chains Is Crucial for Good Agricultural Policy (10') • Supply Chain Management In 6 Minutes (6')

			• Differences between Supply Chain and Value Chain. (2’)
20	**Individual Reflection Exercise** • Reflect on what you’ve learned through your F2F training and the readings and write a brief response on the basic definitions and concepts, major challenges in Modern Agriculture and Potential Solutions	Reflection Questions	• Module 1, p. 6-10 • Lecture & Reading Notes • Markers & Pens • Worksheet 1.2
15	**Online Discussion Forum: "Sharing Insights and Strategies"** Post your reflections in the online forum and respond to at least two peers' posts. Discuss how different innovations might be implemented, adapted, or improved, fostering a collaborative learning environment."	Online forum	• Laptop/PC • Internet connection

UNIT 2: Differences in Agricultural Systems

Aim: To explore the diverse agricultural systems worldwide, understanding their unique characteristics, purposes, and the factors influencing their structures and production methods. By diving into these differences, participants gain a deeper appreciation for the adaptability of farming as it responds to various challenges and opportunities in the contemporary world.

Outcomes:

- Enhanced Understanding of Global Agriculture: Participants will gain a comprehensive understanding of the diverse agricultural systems around the world, including their characteristics, purposes, and the factors influencing their structures and production methods.
- Appreciation for Agricultural Adaptability: Participants will develop a deeper appreciation for the flexibility and adaptability of farming practices in meeting the challenges and opportunities of the contemporary world.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 2

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Ice-Breaking Activity: "Global Farming Perspectives"** • The trainer opens the session by explaining the purpose of the ice-breaker: *to familiarize participants with the diversity of global farming practices and how they relate to local and global food systems*. • The trainer instructs participants to share one interesting agricultural practice from a country or region of their choice. • Then, the trainer invites each participant to briefly explain their chosen practice, asking clarifying questions to engage the group and deepen the understanding. • The trainer summarizes the discussion, emphasizing the importance of diverse farming methods in addressing different environmental and cultural needs.	Interactive and participatory	• Notetaking materials • Markers or Pens • Sticky Notes [optionals]

30	**Deep Dive: "Types of Farming Systems"** • The trainer explains the different farming systems, highlighting key characteristics and purposes. • After presenting each system, the trainer asks the participants if they have any questions or if anyone can provide an example of this system from their own experience or knowledge. • The trainer engages the group in a brief discussion on how each system adapts to local environments and global market demands.	Lecture-based with interactive elements	• Module 1, p. 11-14 • Projector or Screen • Whiteboard or Flip Chart (Optional) • Worksheet 2.1
15	**Group Discussion: "Impacts of Geographic and Environmental Factors"** • The trainer divides participants into groups based on previously assigned topics related to geographic and environmental impacts on agriculture. • Each group is given a scenario describing a specific geographic area and its agricultural challenges. The trainer provides guidance on discussing these scenarios. • Groups use digital collaboration tools to brainstorm solutions to the challenges presented in their scenarios. • Each group presents their findings and proposed solutions. The trainer facilitates a discussion to compare ideas across different groups.	Group discussion facilitated by the instructor	• Internet access • Worksheet 2.2 • Digital tools (Google docs/Trello)

45	**Practical Activity: Agricultural System Snapshot** • The participants choose two different countries or regions known for their distinct agricultural systems. They can be from different continents, climates, or cultural backgrounds. • Then, the participants conduct online research to gather information about each chosen region's agricultural practices, including key crops, livestock, farming methods, and any unique features or challenges. • The participants create a concise "snapshot" or summary of each region's agricultural system using text, images, or bullet points and including key facts, characteristics, and any interesting findings from their research. • The trainer suggests them to use tools like PowerPoint, Google Slides, or a simple document editor. • The participants compare the two agricultural systems they've researched, identifying similarities and differences between them and considering factors such as climate, geography, environment, and technological advancements.	Experiential learning through role-playing	• Internet Connection • Electronic Device: • Document Editing Software (e.g Microsoft Word, Google Docs, PowerPoint, Google Slides, etc.) • UPINFOOD platform access

	• The participants note any challenges or advantages each region may have in their agricultural practices. • The trainer asks the participants to teflect on what they've learned from this activity, consider the significance of understanding diverse agricultural systems for global food production, sustainability, and cultural diversity. • Finally, the trainer asks the participants to share their snapshots and insights with fellow participants in the discussion forum, in order to discuss their findings and learn from the experiences of others.		
15	**Wrap-Up and Quick Feedback** • The trainer asks each participant to share one key insight they gained from today's activities. • The trainer summarizes the session, linking the discussions and activities back to the overall course objectives. • The trainer thanks everyone for their participation and provides information on the next steps in the course sequence.	Summary and reflection facilitated by the instructor	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
60	**Guided Reading: "Exploring Agricultural Systems"** Read the provided compilation of short articles and videos introducing Agricultural Structures and Supply Chains	Reading Viewing	• 7 characteristics of subsistence farming (2') • Subsistence Farming Step by Step (3') • Industrial Agriculture: Benefits And Risks Mitigation (10') • What is Organic Farming? (4') • The Incredible Benefits of Agroforestry on Small Farms (5') • DEFINITION: precision agriculture (10') • Sustainable Agriculture (10') • What Is Urban Farming? Understanding Urban Agriculture (5') • Hydroponics vs Aquaponics (10')

UNIT 3: Common Challenges in the Food Supply Chain

Aim: To address challenges within the food supply chain, focusing on their impact on farmers' livelihoods and power dynamics. By identifying key challenges like food safety, supply chain disruptions, and market access limitations, the unit aims to advocate for reforms promoting equitable pricing and resource access for farmers, ultimately enhancing food security and environmental sustainability.

Outcomes:

Enhanced understanding of challenges: Participants will gain insight into the multifaceted obstacles encountered by farmers in the food supply chain, encompassing concerns such as food safety, supply chain disruptions, limited market access, and regulatory complexities.

• Appreciation of reform imperatives: Participants will grasp the imperative for wide-ranging reforms and cooperative efforts to tackle these challenges, emphasizing the significance of equitable pricing, resource accessibility for farmers, and the crucial role in bolstering global food security and environmental sustainability.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 3

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Opening Activity: "Mapping the Chain"** • The trainer opens the session by explaining the purpose of the mapping activity—*to visualize the complex nature of the global food supply chain and identify potential points of challenge and failure*. • The trainer distributes markers and sticky notes to participants and instructs them to write down key elements of the supply chain they are familiar with. • The participants write on sticky notes and place them on a large world map, representing the flow from production to consumption. • The trainer reviews the map with the group, pointing out common areas where challenges occur and asking participants for input on why these points are vulnerable.	Interactive and participatory	• Notetaking materials • Markers or Pens • Sticky Notes [optional]

30	**Deep Dive: Key Challenges and Their Impacts** • The trainer introduces the main challenges facing the food supply chain • Then, the trainer explains the significance of each challenge—food safety, supply chain disruptions, transportation and storage, and market access—and how they impact both the global economy and local farmers. • The participants are encouraged to take notes and prepare questions for a deeper discussion following the introduction. • The trainer then proceeds with an in-depth look at the challenges, using a detailed case study to illustrate the real-world impact.	Lecture-based with interactive elements	• Module 1, p. 16-18 • Projector or Screen • Whiteboard or Flip Chart (Optional) • Worksheet 3.1
25	**Group Discussion: Strategies for Mitigation** • The trainer breaks participants into small groups, assigning each group a different challenge to focus on. • The trainer provides each group with specific scenarios related to their challenge and asks them to develop a strategy for addressing the issue.	Group discussion facilitated by the instructor	• Internet access • Worksheet 3.2 • Notetaking materials

	• The participants collaborate to create practical solutions, which they will later present to the larger group. • The trainer circulates among the groups to offer guidance and ensure that discussions remain on track.		
40	**Role Play: Negotiation Simulation** • The trainer sets the stage for a role-playing exercise by dividing participants into two groups—farmers and agribusinesses. • The trainer provides each group with a scenario involving negotiation over prices and resources. • The participants engage in the role-play, attempting to negotiate from their assigned position. • The trainer observes the negotiations and interjects with hypothetical market changes or news that could impact the negotiation dynamics.	Experiential learning through role-playing	• Notetaking materials • Worksheet 3.3 • Timer
10	**Wrap-Up: Reflection and Feedback** • The trainer concludes the session by inviting each group to share insights and learnings from the exercises.	Summary and reflection facilitated by the instructor	-

	• The participants share their key takeaways and discuss how the knowledge gained can be applied in their own professional contexts. • The trainer collects feedback on the session's structure and content, discussing what worked well and what could be improved for future sessions.		

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Practical Activity: Food Supply Chain Challenge Analysis Activity** • Download or collect the printed activity sheet provided in the Worksheet. • Set up a comfortable workspace with all necessary materials, including access to reference materials either online or in print. • Select one challenge that resonates or seems particularly relevant. This could be food safety, supply chain disruptions, or any other listed challenge. • Describe the selected challenge in a few sentences on the activity sheet, aiming to capture the essence of why it is a significant issue.	Reading Viewing	• Lesson Notes • Worksheet 3.4 • Reference Materials: Depending on the specific challenge selected, you may benefit from access to reference materials, such as research articles or reports • Internet access

	• Identify and list the major causes of the selected challenge using the reference materials for detailed insights and data. • Write a brief description of each cause in the designated area on the activity sheet, ensuring to link back to sources where applicable for deeper context. • Analyze and note down the direct and indirect impacts of the challenge on different stakeholders in the food supply chain. • Use the activity sheet to record how these impacts affect both local and global scales, considering economic, environmental, and social dimensions. • Brainstorm potential solutions or improvements to address the identified challenge. • Record these solutions on the activity sheet, specifying practical steps that different stakeholders can take to mitigate the challenge. • Where possible, suggest innovative ideas or technologies that could be implemented to overcome or manage the challenge more effectively. • Upon completion, the participant uploads the completed activity sheet to the course platform or emails it to the course facilitator. • Optionally, engage in the course discussion forum to share insights from the activity with peers and receive feedback.		• Pens/Pencils

UNIT 4: Collaboration and the Need for Improvement

Aim: To underscore the critical role of collaboration in agriculture by exploring its significance, strategies to foster cooperation, knowledge sharing, and collective decision-making among various stakeholders. It emphasizes the potential benefits of collaborative approaches, including increased productivity, innovation, risk mitigation, market access, sustainability, and resilience, ultimately aiming to enhance food security, sustainability, and economic prosperity within the agricultural industry.

Outcomes:

- Deepened understanding of collaborative significance: Participants will grasp the pivotal role collaboration plays in agriculture, gaining insights into effective strategies for fostering cooperation, facilitating knowledge sharing, and promoting collective decision-making among stakeholders.
- Heightened awareness of collaborative benefits: Participants will explore the diverse advantages of collaboration in agriculture, including increased profitability, innovation, resource efficiency, and resilience in the face of sectoral challenges.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 4

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Opening Activity: "Building Collaborative Networks"** • The trainer opens the session by explaining the purpose of the activity—*to understand the importance of networks in agriculture and identify key players*. • The trainer provides markers and sticky notes to participants and instructs them to write down stakeholders they are familiar with in the agricultural sector. • The participants write on sticky notes and place them on a large network diagram, representing connections between stakeholders. • The trainer reviews the diagram with the group, highlighting typical areas where collaboration is strong and where it might be weak, asking participants for input on improving these connections.	Interactive and participatory	• Notetaking materials • Markers or Pens • Sticky Notes [optional]

30	**Deep Dive: The Importance of Effective Collaboration** • The trainer outlines the main objectives of understanding collaboration in agriculture. • Then, the trainer explains the significance of collaboration—sharing resources, knowledge, and optimizing supply chains—and how it impacts sustainability and productivity. • The participants are encouraged to take notes and think of questions or insights they might have about their experiences with collaboration.	Lecture-based with interactive elements	• Module 1, p. 20-23 • Projector or Screen • Whiteboard or Flip Chart (Optional)
15	**Group Discussion: Collaborative Dialogue Circles** • The trainer introduces the session by explaining the concept of Dialogue Circles, a method aimed at fostering open discussion and deep exploration of topics related to agricultural collaboration. • Participants are organized into small circles, each focusing on a specific aspect of collaboration, such as knowledge sharing, resource pooling, or innovative cooperative structures. • The trainer provides a set of guiding questions to each circle to stimulate discussion. These questions explore the benefits, challenges, and potential strategies for enhancing collaboration in the assigned area.	Group discussion facilitated by the instructor	• Internet access • Worksheet 4.1 • Notetaking materials

	• Participants engage in a round-robin discussion, where each member shares their perspectives and experiences related to the topic. This format ensures that every participant has the opportunity to contribute. • The trainer periodically interjects to steer discussions deeper or to introduce subtopics based on the flow of conversation. • Towards the end of the session, each circle synthesizes their discussion into key points and one member presents these insights to the larger group.		
50	**Practical activity: Collaboration Quest** • The trainer assigns roles by distributing role cards to each participant, assigning them roles such as farmers, government officials, researchers, and distributors. • The trainer sets the scene by describing the scenario for the first round, focusing on a specific phase of agricultural production or supply chain management (e.g., planting season, trade negotiation). • Participants work within their roles, communicate with each other, and make decisions collaboratively to overcome challenges and achieve objectives. • The trainer presents challenges or opportunities that require collaboration among participants to address effectively.	Experiential learning through role-playing	• Notetaking materials • Worksheet 4.2

	• The trainer introduces the next phase by describing the scenario for the second round, building upon the outcomes of the first round and introducing new challenges or opportunities. • Participants adapt their strategies based on the evolving situation, collaborate effectively, and work towards achieving their goals. • The trainer gathers participants for a group discussion and reflection on the game experience. • Participants share their thoughts, insights, and experiences from the game, focusing on the importance of collaboration and teamwork in agriculture.		
10	**Wrap-Up: Reflection and Feedback** • The trainer concludes the session by inviting each group to share insights and learnings from the exercises. • The participants share their key takeaways and discuss how the knowledge gained can be applied in their own professional contexts. • The trainer collects feedback on the session's structure and content, discussing what worked well and what could be improved for future sessions.	Summary and reflection facilitated by the instructor	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
60	**Practical Activity: Food Supply Chain Challenge Analysis Activity** • Think about a farming scenario where collaboration among farmers could be beneficial. It could be related to sharing resources, knowledge, or facing a common challenge. • Describe how collaboration in this scenario could lead to better outcomes for farmers, the environment, or the community. • Reflect on any challenges or obstacles that farmers might face when trying to collaborate. How could these challenges be overcome? • Imagine you are a farmer in this scenario. How would you actively participate in collaboration to maximize its benefits? • If you are conducting this activity in a group setting, you can have a brief discussion afterward where you can share your reflections with each other	Reading Viewing	• Lesson Notes • Internet access • Notetaking materials

	• Conclude by summarizing the importance of collaboration in agriculture and how it can lead to improved outcomes. Encourage learners to think about how they can promote collaboration in their own lives or communities, even beyond agriculture.		

MODULE 2: Business Soft Skills part 1: Effective Communication for Collaboration and Trust

Main topics and duration

Module 2 consists of 4 units, addressing the following topics:

- Unit 1: Importance of effective communication, trust, and empathy in business relationships
- Unit 2: Techniques for developing effective negotiation skills in the agri-food industry
- Unit 3: Strategies for building lasting relationships with customers, partners, and stakeholders
- Unit 4: Addressing challenges and potential conflicts in agri-food partnerships

The total duration includes 6 hours of synchronous training sessions and 3 hours of asynchronous reading materials.

Outcomes

Knowledge:

- Insight into Basic Soft Skills: Participants will have the necessary knowledge of the soft skills needed for effective communication and relationships within and outside their agri-food business.
- Comprehension of Techniques for Maintaining Business Relationships: The module will provide the participants with techniques crucial for long-lasting relationships with partners and customers.
- Understanding the Role of Trust, Communication and Empathy in Negotiation and Relationship Building: Participants will learn about the reasons why trust-building is crucial, how to communicate effortlessly, and what impact this has on business and its success.

Skills:

- Teamwork Ability: Thanks to the practical activities included in the module, participants will be able to face challenges as a group and test their soft skills in real-life situations.
- Communication: The contents of the module enable participants to become proficient in effective communication and negotiation.
- Negotiation and Problem-Solving: Such skills are important when it comes to taking care of companies but also about the well-being of customers and partners so that they create one ecosystem.

Attitudes:

- Openness to Collaboration and Trust: Participants will be more open to other people and maintain professional relationships. Having combined it with trust, they will communicate more effectively.
- Improvement: Participants will be open to any improvements concerning a successful agri-food business and surrounding society.
- Addressing Challenges and Potential Conflicts: Participants will have the courage to address existing issues within their agri-food business to improve communication and trust.

UNIT 1: Importance of effective communication, trust, and empathy in business relationships

Aim: To provide participants with fundamental soft skills, such as collaboration, trust, and empathy, and their role in maintaining business relationships. Besides, this learning unit helps to understand how basic soft skills can influence the agri-food business, its performance, and foster strong professional relationships.

Outcomes:

- Comprehension of Soft Skills: Participants will learn what soft skills are and which of them may prove useful in business relationships.
- Understanding the Importance of Effective Communication, Trust, and Empathy in Business: Participants will gain a thorough understanding of the impact of these soft skills on relationships with customers, partners, and the overall well-being of their agri-food business.
- Understanding Common Barriers in Communication: Participants will be able to discuss barriers to effective communication and, therefore, improve their communication practices by keeping in mind key elements of communication and building trust.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 45 minutes

Structure of Unit 1

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Ice-Breaking Activity: "Soft Skills: Introduction"** • The facilitator starts by explaining the aim of this activity: to create a relaxed and collaborative environment and introduce participants to the topic of basic soft skills in business and the agri-food field. • Each participant has a moment to provide an example of soft skills and give a brief explanation. • The facilitator encourages active listening and participation by sharing the participants' thoughts, fostering a sense of unity and collaboration among the participants.	Interactive and participatory	• Markers • Flip Chart or Whiteboard (Optional)
10	**Introduction and Overview of the Module** • The facilitator provides a brief introduction to the training module, outlining its objectives and relevance to the participants' roles or interests, highlighting the key competencies.	Lecture-style presentation with interactive elements	• Module 2, p. 5-7 • Projector or Screen

	• The facilitator presents key concepts like soft skills, teamwork, communicativeness, negotiation and problem-solving. • The topics of the module may be enumerated to show the participants what to expect throughout the learning process, and how the topics may relate to their existing experience.		
30	**Condensed Theory Session: "Key Concepts and Applications"** • Essential theoretical knowledge about basic soft skills (communication, empathy and trust), and relationship building presented in a condensed format. • Basic definitions and concepts are explained thoroughly and according to the participants' needs. The facilitator may make use of the concepts mentioned in the Glossary section (Module 2, p. 10-11). • Major reasons for the need for effective communication, trust, and empathy are discussed, based on the Module 2 content. • Most common communication barriers and key elements of effective communication and building trust are discussed.	Lecture-based with interactive elements (e.g., presentation)	• Module 2, p. 7-11 • Projector or Screen
15	**Group Discussion: "Essence of Effective Communication"** • The facilitator presents a list of key elements of effective communication • Then the participants are encouraged to discuss which elements they find most effective and why. The facilitator tries to encourage them to share individual experiences or observations.	Group discussion facilitated by the facilitator	• Pens • Paper • Module 2, p. 12

	• The facilitator ensures that each participant has the opportunity to contribute and share his/her insights.		
40	**Practical Activity: "Exploring the Role of Effective Communication in Business"** • The facilitator divides participants into 3 groups and arranges a few meetings with each group; each group – a different medium (email, a video call, a face-to-face meeting). • Each participant is assigned a particular role. Each of them should be responsible for one mistake that is a barrier to effective communication (see Module 2, p. 9). • The groups discuss a topic of choice. Participants should try to spot what they have failed to discuss properly, whether they understood everything, and if the message was clear. They can also focus on the aspect of a chosen medium and whether it is suitable or not. • Then, the participants should try to use the best medium in their opinion and try to discuss the topic again, but now they apply the elements of effective communication (active listening, empathy, clarity, non-verbal communication, respect, being personable, etc.). They should provide their observations on the worksheet. • The facilitator allows a discussion with all the participants together to rethink whether the topic was discussed effectively, and what differences did they notice.	Experiential learning through role-playing	• Worksheet 2.1 • Pens • Module 2, p. 9

10	**Wrap-Up and Quick Feedback** • The facilitator summarizes the key points discussed during the session and highlights the insights and possible applications. • Participants are invited to share their thoughts on the topic. • Any kind of feedback from the participants is welcomed. Should the participants have any queries, doubts, or suggestions for improvement, they can provide the facilitator with them. • The learning session concludes with a summary and an appreciation for the participants' active engagement.	Summary and reflection facilitated by the facilitator	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Video Content: "Professional Communication Skills"** • Watch the video which may contribute to improving your professional communication skills.	Watching a Video Content	• Professional Communication Skills [Business Communication Pro] • Laptop/PC • Internet Connection
20	**Self-Reflection Exercise** • Reflect on whether you understand all the concepts from Unit 1 and their applications, as well as the content from the provided video.	Reflection Questions	• Module 2, p. 7-11 • Lecture & Notes • Video Content • Pens • Worksheet 2.2
15	**Mind Map Exercise** • Create a Mind Map based on Unit 1. In your opinion, write down the most important aspects, especially the ones that you found most intriguing or difficult to remember.	Mind Map	• Paper • Markers • Pens • Module 2, p. 7-11

UNIT 2: Techniques for developing effective negotiation skills in the agri-food industry

Aim: To equip the participants with knowledge of techniques aimed at developing effective negotiation skills adapted to the agri-food business. Unit 2 helps to close company deals, resolve conflicts, and build relationships as well.

Outcomes:

- Understanding the Reasons for Failed Negotiations: Participants will be provided with the most common reasons for failed negotiations and their specifications.
- Application of the Most Useful Techniques in Negotiation: Participants will learn about the most successful negotiation techniques, and they will be ready to apply them in real-life situations.

Overall duration:

- Synchronous: 1 hour
- Asynchronous: 45 minutes

Structure of Unit 2

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Ice-Breaking Activity: "Negotiation Aims"** • The facilitator starts by explaining the aim of this activity: to create a relaxing and collaborative environment and introduce participants to the topic of negotiations. • The facilitator hands each participant a sticky note and asks them to write down their personal or professional negotiation goal (real, upcoming, or hypothetical). • Then the facilitator collects the cards and reads aloud all the goals without stating the author. Each participant takes one sticky note from the pile, provides some tips, and explains how he/she would approach this goal. • To sum up, the facilitator may ask the participants whether they think their goals are similar or not. • The importance of active listening and feedback is highlighted for successful negotiations.	Interactive and participatory	• Sticky Notes • Pens or Markers • Flip Chart or Whiteboard (Optional)
20	**Condensed Theory Session: "Key Concepts and Challenges"** • The facilitator explains key concepts and challenges related to the topic presented in Unit 2.	Lecture-based with interactive	• Module 2, p. 11-14 • Projector or Screen

	• Reasons for failed negotiations are discussed (the facilitator or participants may provide some real-life examples related to this issue). • The facilitator provides students with the techniques needed to succeed in negotiating (he/she may describe each technique by providing a short example to make it easier for students).	elements (presentation)	
25	**Practical Activity: "Role-Playing Scenario"** • The task aims to show how difficult negotiations can be and how to do them more effectively and effortlessly. • Participants are divided into pairs (colleagues/co-workers, etc.), and they think of a particular matter and aspect they want to discuss and negotiate on. It may be an issue connected to their agri-food business (e.g., higher price for a product, aspects of transportation of the goods, implementation of innovative agri-food technology with a new partner, etc.), • They are asked to prepare their statements, conditions, and views on the possible deal individually and try to bear in mind the techniques for successful negotiation (see Module 2, p. 12). • Then, they try to negotiate the best deal for them and their partner. Advise them to apply the techniques for effective negotiation. • Discuss the outcome of the process, share the difficulties they encountered, and explain how they overcame them.	Experiential learning through role-playing	• Module 2, p. 12 • Paper • Pens or Markers

15	**Wrap-Up Discussion and Quick Feedback** • The facilitator summarizes the key points discussed during the session and highlights the insights and applications. • Participants are invited to share their thoughts on the topic. • Any kind of discussion or feedback from the participants is welcome. Should the participants have any queries, doubts, or suggestions for improvement, they can provide the facilitator with them. • The learning session concludes with a summary and an appreciation for the participants' active engagement.	Summary and reflection facilitated by the facilitator	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
35	**Reading and Video Content: "Deeper Understanding of BATNA, MESOS Active Listening"** • Watch the video which may contribute to improving your professional negotiation skills and being a better partner as well.	Reading and Watching Video Content	• Best and Worst Alternative To a Negotiated Agreement BATNA/WATNA • 7 Active Listening Techniques For Better Communication • MESOS, The Most Powerful Tactic in Negotiation
10	**Self-Reflection Exercise** • Reflect on whether you understand all the concepts from Unit 2 and their applications, as well as the content from the provided video and the article on active listening.	Reflection Questions	• Module 2, p. 11-14 • Lecture & Notes • Pens • Worksheet 2.3

UNIT 3: Strategies for building lasting relationships with customers, partners, and stakeholders

Aim: To take a relationship-centric approach to establish strong, long-lasting, and positive professional relationships to improve interactions with stakeholders and clients by fostering collaboration.

Outcomes:

- Improved Interactions with Stakeholders: Participants will be provided with strategies for building relationships with partners and stakeholders.
- Awareness of the Existing Need for Taking Action: Participants will be engaged in practical activities and discussions to be aware of the existing problems, and to equip them with the most essential skills for ensuring lasting and healthy relationships with partners and customers.

Overall duration:

- Synchronous: 1 hour
- Asynchronous: 45 minutes

Structure of Unit 3

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Ice-Breaker Activity: "Agri-Food Business Relationships"** • The facilitator starts by explaining the aim of this activity: to create a relaxed and collaborative environment and introduce participants to the topic of forming long-lasting professional relationships. • Each participant is invited to share their view on business relationships and their experience with them, whether they were successful or whether they want to improve something. • The facilitator encourages active listening and participation by sharing the participants' thoughts, fostering a sense of unity and collaboration among the participants.	Interactive and participatory	• Pens or Markers • Flip Chart or Whiteboard (Optional)
15	**Condensed Theory Session: "Key Strategies for Building Professional Relationships"** • The facilitator explains key concepts and challenges related to the topic presented in Unit 3.	Lecture-based with interactive elements	• Module 2, p. 14-15 • Projector or Screen

	• The facilitator discusses each strategy for building professional relationships with partners, stakeholders, and customers. • He/she may provide some practical examples for each strategy, whenever he/she finds them necessary or useful for understanding.		
25	**Group Discussion: "Strengthening the Bonds"** • The participants are asked to briefly share a positive or challenging experience they have had in their professional relationships. This would allow the participants to recognize common issues and areas for improvement within their businesses. • The participants may be asked questions related to the ones below: ➢ How can clear and consistent communication improve professional relationships? ➢ What role do empathy and respect play in professional interactions? ➢ How can effectively managing disagreements enhance relationship quality? • Discuss how networking within the professional setting can be used to build and strengthen relationships. • The facilitator closes the discussion by emphasizing the continuous nature of building and maintaining professional relationships with customers or partners.	Group discussion facilitated by the facilitator	• Pens or Markers • Flip Chart or Whiteboard (Optional)

10	**Wrap-Up and Quick Feedback** • The facilitator summarizes the key points discussed during the session and highlights the insights and possible applications. • Participants are invited to share their thoughts on the topic. • Any kind of feedback from the participants is welcomed. Should the participants have any queries, doubts, or suggestions for improvement, they can provide the facilitator with them. • The learning session concludes with a summary and an appreciation for the participants' active engagement.	Summary and reflection facilitated by the facilitator	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Practical Activity: "Brainstorming Session"** • The aim of this activity is to find an innovative approach to the way agri-food businesses treat their co-workers, customers, partners, and stakeholders. It will help to spot potential problems and challenges which took place or are taking place and to get some useful insights and strategies to apply in real life. • Arrange a meeting with the management team, co-workers, and, if possible, partners. Make sure that all of you keep in mind the strategies for improving business relationships while discussing each point. • Discuss together the values of each party to be reassured that you understand them, and don't forget about the customers. Try to establish some shared goals. • Try to come up with some useful strategies for risk management. You can discuss the existing procedures and/or analyze the instances of other agri-food companies. • Develop a plan of systematic training programmes to integrate and collaborate with your colleagues and partners to make sure you have the same or similar views	Brainstorming Session	• Sticky Notes or Paper • Pens or Markers • Flip Chart or Whiteboard (Optional)

	and practices. During these sessions, you could also discuss and assess the health of your business relationships, and ways for improvement. • Try to develop a plan for improving and maintaining long-lasting relationships with your customers. You can make use of some special offers or a loyalty plan with such deals for regular customers, newsletters, assessment surveys, etc. • Write everything down to remember it and to have the chance to implement everything you have discussed. Propose some deadlines, and you can already assign the tasks to the people responsible for the ongoing changes, but remember about all the strategies, methods, and procedures of communication and negotiation that were earlier discussed.		
15	**Online Discussion Forum: "Best Practice Searching"** • Find one example of best practice connected to the discussed topic (Unit 3) and post it on the online forum. • You can also add your reflections or/and comment on your peers' posts.	Online forum	• Laptop/PC • Internet Connection

UNIT 4: Addressing challenges and potential conflicts in agri-food partnerships

Aim: To identify and solve existing problems quickly and effectively and predict potential challenges as well. Besides, this unit aims at learning the ability to evaluate complex problems as they arise, analyze data, and think creatively to find appropriate and viable solutions.

Outcomes:

- Ability to Take Risk: Participants will be ready to take risks in order to solve various challenges.
- Awareness of Various Reasons for Conflicts: Participants will be presented with different reasons for conflicts that may contribute to challenges faced by the agri-food business and its partners or customers as well.
- Practical Solutions to Apply: Participants will be ready to put strategies for resolving problems into practice thanks to practical activities and discussions.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 45 minutes

Structure of Unit 4

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Ice-Breaking Activity: "A Circle of Advice"** • The facilitator prepares pieces of paper with common business challenges written on them. These may include, for instance, adapting to technological changes, managing team conflict, meeting customer expectations, cash flow management, and staying innovative. Then the slips are put into a bowl. • Each participant takes one slip from the bowl and reads the contents aloud. • Each participant is asked to think for a moment about whether they faced such a challenge, how they dealt with it, or whether they had some problems with facing it. • The facilitator encourages active listening and participation by sharing the participants' thoughts, fostering a sense of unity and collaboration among the participants.	Interactive and participatory	• Sticky Notes • Pens or Markers • Flip Chart or Whiteboard (Optional) • A bowl

30	**Condensed Theory Session: "Key Concepts and Theories"** • The facilitator explains key concepts and theories related to the topic presented in Unit 4. • The facilitator discusses each challenge that may be faced by business partners. Then, he/she goes on to discuss each step in approaching such challenges. • The facilitator may provide some examples for each challenge and approach whenever he/she finds it necessary or useful for understanding.	Lecture-based with interactive elements	• Module 2, p. 16-19 • Projector or Screen
45	**Practical Activity: "Challenging Sandwiches"** • The facilitator divides participants into a few groups (ideally 4-5 people each). • Each team is given a unique name for a sandwich they have to prepare and are provided with only some of the ingredients needed for preparing a particular sandwich. • Each team decides how much time it needs to finish the sandwich. • The groups are allowed to discuss how they can solve the problem of missing ingredients and their expectations of the sandwich. The teams may collaborate to exchange the ingredients if they are in need, or they can come up with different solutions. • Each team has to assign tasks and responsibilities.	Experiential learning through role-playing	• Ingredients for each sandwich • List of ingredients for each group • Necessary utensils

	• The facilitator informs the teams that if they encounter problems, they should remember the methods for addressing the conflicts and challenges (see Module 2, p. 17-18). • After all the groups have finished the task, they should discuss the challenges that have arisen, and why (see Module 2, p. 17).		
15	**Interactive Group Discussion: "How to Overcome Potential Challenges?"** • Each team from the previous task gives a 2-minute presentation to share their observations, how they approached the problems, and whether they succeeded in solving them. If not, discuss the possible solutions with everybody. • Participants can refer to the information provided in Unit 4.	Group discussion facilitated by the facilitator	• Whiteboard or Flip Chart • Pens and Markers • Paper or sticky notes • Module 2, p. 16-19
15	**Wrap-Up and Quick Feedback** • The facilitator summarizes the key points discussed during the session and highlights the insights and possible applications. • Participants are invited to share their thoughts on the topic. • Any kind of feedback from the participants is welcomed. Should the participants have any queries, doubts, or suggestions for improvement, they can provide the facilitator with them. • The learning session concludes with a summary and an appreciation for the participants' active engagement.	Summary and reflection facilitated by the facilitator	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Video & Readings Compilation: "Challenges Faced by Partnerships and How to Resolve Them"** • To learn more about the potential challenges in business relationships and how to address them, watch the provided videos and read the articles.		• Agri&Food in the Canton of Fribourg - Ecosystem Partnerships (3 min) • Food trust: Challenges faced by today's food industry (1,5 min) • Challenges and Opportunities of the Partnership (3,5 min) • 5 Things to Cover in Weekly Team Meetings (9 mins) • Business Partnerships,

			Challenges and How to Overcome Them • 15 Tips To Realign And Resolve Conflict With Your Business Partner
15	**Mind Map Exercise** Create a Mind Map based on Unit 4. Put down the most important aspects, in your opinion, especially the ones that you found the most intriguing or difficult to remember. You can also include the information from the videos and short articles.	Mind Map	• Paper • Markers • Pens • Module 2, p. 16-19

MODULE 3: Business Soft Skills Part 2: Project and Process Management / Stress Management and Resilience in Agri-Food Operations

Main topics and Duration

Module 3 consists of 4 Units, addressing the following topics:

- Unit 1: Project Management Fundamentals
- Unit 2: Process Management Principles
- Unit 3: Strategic Thinking and Decision-Making
- Unit 4: Stress Management Techniques and Building Resilience

The total duration includes 6 hours of synchronous training sessions and 3 hours of asynchronous reading materials.

Outcomes

Knowledge:

- Understanding project management methodologies and techniques.
- Knowledge of process optimization and continuous improvement strategies.
- Familiarity with strategic analysis tools.
- Understanding stress triggers and effective stress management techniques.
- Knowledge of resilience-building strategies in agricultural operations.

Skills:

- Learners will gain the ability to meticulously plan and manage projects. They'll be taught how to use resources wisely, keep projects on schedule, manage risks effectively, and create a supportive and cooperative team atmosphere.
- The training will provide participants with analytical tools to scrutinize and improve business operations, with an emphasis on increasing efficiency and quality. Learners will be able to initiate and lead change, and pinpoint opportunities for operational advancements.
- Participants will learn to formulate and implement long-term planning strategies by analyzing market trends and organizational capacities. The ability to discern and capitalize on organizational strengths and remedy weaknesses is designed to prepare learners for strategic decision-making in a competitive market.
- Participants will practice methods for emotional regulation and work-life balance, fostering a stable and self-aware approach to both personal health and professional demands.

Attitudes:

- Participants develop a commitment to precision and structure in project execution, recognizing the value of clear communication and comprehensive tool use.
- The course cultivates a proactive approach to enhancing process efficiency and quality, with a continuous improvement mindset that acknowledges the critical roles of all team members.
- Learners adopt a forward-looking perspective, embracing strategic problem-solving and a willingness to learn from past experiences for better decision-making.
- The training emphasizes personal well-being and stress management as keys to professional success, advocating for self-awareness, resilience, and a balanced approach to work and life.

UNIT 1: Project management for effective implementation of initiatives in the agri-food sector

Aim: To equip learners with the necessary knowledge, skills, and tools to effectively plan, execute, and manage projects within the agri-food sector.

Outcomes:

- Understand project management fundamentals.
- Develop project action plans.
- Apply project performance management methodologies and tools.

Overall duration:

- Synchronous: 1.5 hours
- Asynchronous: 0.45 hours

Structure of Unit 1

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
5	**Ice-Breaking Activity: What is a project in the context of agriculture?** • The trainer says hello and explains that this activity is designed to introduce the project concept in the context of agriculture. • The trainer briefly explains that a project in an agricultural context which is a temporary effort to achieve a specific goal or ambition. • The trainer asks the students to think and share their knowledge about projects and engages with the topic.	Interactive and participatory The Socratic Method	• Sticky Notes • Markers or Pens • FlipChart or Whiteboard (optional) • Presentation or Instructions (optional)
20	**Introduction to the Unit and Theory Session:** • The trainer briefly introduces the training module, describing its objectives and relevance to the roles or interests of the participants. • The trainer Introduces the key concepts related to project management, highlighting their importance for effective initiatives in the agricultural sector.	Lecture-style presentation with interactive elements	• Module 3, p. 6-8 • Projector or screen • Whiteboard or flipchart (optional)
20	**Project management tools. Practical demonstration:** • The trainer chooses a few project management tools available on the internet. These can be “Gantt chart”, "Trello," "Asana," "Microsoft To Do", "Google Sheets” etc. • The trainer briefly introduces their use in the activity and highlights the purpose of using the tools.	Demonstration Practice	• Module 3, p. 8 • Project management tools • Projector or screen • Whiteboard or flipchart (optional)
5	**Questions and answers:** • The trainer conducts a short question-answer session to consolidate the theoretical material.	Active Listening Discussion.	• Module 3, p. 9-10 • Projector or screen

	• The trainer shoud use the glossary if needed.	The Socratic Method	• Whiteboard or flipchart (optional)
30	**Exercise: Develop an action plan for the project. Topic: Bee farm. New activities.** • The trainer introduces the purpose of the activity and emphasises that it will help students to practise the principles of project management in a real-life example. • The trainer gives the recommended action plan. • The trainer explains that students should document the whole plan on paper or on a whiteboard so that everything is clearly visible. • The trainer sets a time limit for the task.	Experiential learning in developing an action plan	• Module 3, p. 9 • Projector or screen • Sticky Notes • Markers or Pens • Paper • FlipChart or Whiteboard (optional)
10	**Summary and conclusion:** • The trainer asks students to give feedback on their learning experience and understanding. • The trainer gives individual feedback or guidance to students who ask for it or need extra help. • The trainer summarises key ideas: reviews the key learning points and ideas discussed during the session. • The trainer should be clear what students should do next, whether it's homework, further research or other related activities.	Group discussion, questions and answers	• Sticky Notes • Markers or Pens • FlipChart or Whiteboard (optional) • Presentation or Instructions (optional)

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Independent study of the presented material:** ● Familiarise yourself with the provided theoretical material and read it. ● Think and remember the projects you know that have taken place in the agricultural sector.	Reading Viewing	• Module 3, p. 6-10 • Pens • Paper • Laptop/PC
10	**Self-learning project management tools:** ● Choose a few project management tools available on the internet. These can be “Gantt chart”, “Trello," "Asana," "Microsoft To Do”, “Google Sheets” etc. ● Get to know them and try it out in practice.	Reading Viewing Practice	• Module 3, p. 8 • Project management tools • Laptop/PC
25	**Individual practical exercise:** ● Familiarise yourself with the given task in the material. ● Complete the task. ● Reflect on what you have understood. ● Participate in the discussion forum.	Reading Viewing Practice	• Module 3, p. 9 • Pens • Paper • Project management tools (optional) • Laptop/PC

UNIT 2: Process management to optimize operations and improve efficiency

Aim: To equip learners with the knowledge, skills, and tools necessary to analyze, optimize, and improve business processes for greater operational efficiency and quality.

Outcomes:

- Understand the principles of process management.
- Create and analyze process maps.
- Implement process improvements.

Overall duration:

- Synchronous: 1.5 hours
- Asynchronous: 0.45 hours

Structure of Unit 2

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Ice-Breaking Activity: What is a Process in the context of agriculture?** ● The trainer says hello and explains that this activity is designed to introduce the process concept in the context of agriculture. ● The trainer briefly explains that a process in an agricultural context is an iterative and transformative action. ● The trainer asks students to think and share their knowledge of the processes and engage with the topic. ● The class watch an excerpt from the film https://youtu.be/jTageuhPfAM?si=LJfEZ1Ubf3T_Ya-V	Interactive and participatory The Socratic Method	● Sticky Notes ● Markers or Pens ● FlipChart or Whiteboard (optional) ● Presentation or Instructions (optional)
20	**Introduction to the Unit and Theory Session:** ● The trainer briefly introduces the training module, describing its objectives and relevance to the roles or interests of the participants. ● The trainer introduces the key concepts related to process management, highlighting their importance for effective initiatives in the agricultural sector.	Lecture-style presentation with interactive elements	● Module 3, p. 10-12 ● Projector or screen ● Whiteboard or flipchart (optional)
15	**Process management tools. Practical demonstration:**	Demonstration Practice	● Module 3, p. 11-12

	• The trainer chooses a few process management tools available on the internet. These can be Draw.io (diagrams.net), BPMN.io, Lucidchart, Google Drawings, Pencil Project, etc. • The trainer briefly introduces their use in the activity and highlights the purpose of using the tools.		• Process management tools • Projector or screen • Whiteboard or flipchart (optional)
5	**Questions and answers:** • The trainer conducts a short question-answer session to consolidate the theoretical material. • The trainer shoulkd use the glossary if needed.	Active Listening Discussion. The Socratic Method	• Module 3, p. 13-14 • Projector or screen • Whiteboard or flipchart (optional)
30	**Exercise: Create a process description. Topic: Strawberry Harvesting.** • The trainer Introduces the purpose of the activity and emphasises that it will help students to practise the principles of process management in a real-life example. • The trainer gives the recommended action plan. • The trainer explains that students should document the whole plan on paper or on a whiteboard so that everything is clearly visible. • The trainer sets a time limit for the task.	Experiential learning in developing an action plan	• Module 3, p. 13 • Projector or screen • Sticky Notes • Markers or Pens • Paper • FlipChart or Whiteboard (optional)
10	**Summary and conclusion:**	Group discussion,	• Sticky Notes

	● The trainer asks students to give feedback on their learning experience and understanding. ● The trainer gives individual feedback or guidance to students who ask for it or need extra help. ● The trainer summarises key ideas: reviews the key learning points and ideas discussed during the session. ● The trainer should be clear about what students should do next, whether it's homework, further research or other related activities.	questions and answers	● Markers or Pens ● FlipChart or Whiteboard (optional) ● Presentation or Instructions (optional)

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Independent study of the presented material:** ● Familiarise yourself with the provided theoretical material and read it. ● Think and remember the process you know that has taken place in the agricultural sector.	Reading Viewing	• Module 3, p. 10-14 • Pens • Paper • Laptop/PC
10	**Self-learning process management tools:** ● Choose a few process management tools available on the internet. These can be Draw.io (diagrams.net), BPMN.io, Lucidchart, Google Drawings, Pencil Project, etc.. ● Get to know them and try it out in practice.	Reading Viewing Practice	• Module 3, p. 11-12 • Process management tools • Laptop/PC
25	**Individual practical exercise:** ● Familiarise yourself with the given task in the material. ● Complete the task. ● Reflect on what you have understood. ● Participate in the discussion forum.	Reading Viewing Practice	• Module 3, p. 13 • Pens • Paper • Project management tools (optional) • Laptop/PC

UNIT 3: The importance of strategic thinking and decision-making in project and process management

Aim: To develop learners' ability to think strategically and make effective decisions in the context of project and process management.

Outcomes:

- Apply strategic thinking to set long-term goals.
- Utilize decision-making techniques for business strategies.

Overall duration:

- Synchronous: 1.5 hours
- Asynchronous: 0.45 hours

Structure of Unit 3

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Ice-Breaking Activity:** why is it important to think strategically and make quick decisions in an agricultural context? ● The trainer says hello and explains that this activity is designed to introduce the importance of strategic thinking. ● The trainer briefly explains that good decisions in an agricultural context are a growing action. ● The trainer asks the students to think and share their knowledge about goals, strategies and decisions and engages with the topic.	Interactive and participatory The Socratic Method	● Sticky Notes ● Markers or Pens ● FlipChart or Whiteboard (optional) ● Presentation or Instructions (optional)
20	**Introduction to the Unit and Theory Session:** ● The trainer briefly introduces the training module, describing its objectives and relevance to the roles or interests of the participants. ● The trainer introduces the key concepts related to strategic thinking, highlighting their relevance for effective decision-making in the agricultural sector.	Lecture-style presentation with interactive elements	● Module 3, p. 14-17 ● Projector or screen ● Whiteboard or flipchart (optional)

15	**Specific methods and techniques:** ● The trainer chooses a few process management tools available on the internet. It can be https://en.dt-toolbook.com/tools https://www.nngroup.com/articles/design-thinking/ ● The trainer briefly introduces their use in the activity and highlight the purpose of using the tools.	Demonstration Practice	● Module 3, p. 15-16 ● Tools ● Projector or screen ● Whiteboard or flipchart (optional)
5	**Questions and answers:** ● The trainer conduct a short question-answer session to consolidate the theoretical material. ● The trainer should use the glossary if needed.	Active Listening Discussion. The Socratic Method	● Module 3, p. 17 ● Projector or screen ● Whiteboard or flipchart (optional)

30	**Exercise: Learn to analyse problems. Topic: A relevant problem you have now.** ● The trainer introduces the aim of the activity and emphasises that it will help students understand the causes and consequences of the problem. ● The trainer provides the recommended action plan. ● The trainer explains that students should document their work on paper or on the board so that everything is clearly visible. https://storiesforimpact.com/toolbox/problem-tree/ ● The trainer sets a deadline for the task.	Experiential learning using the methodology	● Module 3, p. 16 ● Projector or screen ● Sticky Notes ● Markers or Pens ● Paper ● FlipChart or Whiteboard (optional)
10	**Summary and conclusion:** ● The trainer asks students to give feedback on their learning experience and understanding. ● The trainer gives individual feedback or guidance to students who ask for it or need extra help. ● The trainer summarises key ideas: reviews the key learning points and ideas discussed during the session. ● The trainer should be clear about what students should do next, whether it's homework, further research or other related activities.	Group discussion, questions and answers	● Sticky Notes ● Markers or Pens ● FlipChart or Whiteboard (optional) ● Presentation or Instructions (optional)

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Independent study of the presented material:** ● Familiarise yourself with the provided theoretical material and read it. ● Think about the benefits of good strategy and timely decision-making in an agricultural context.	Reading Viewing	• Module 3, p. 14-17 • Pens • Paper • Laptop/PC
10	**Self-learning specific methods and techniques:** ● Choose a few process management tools available on the internet. It can be https://en.dt-toolbook.com/tools https://www.nngroup.com/articles/design-thinking/ ● Briefly introduce their use in the activity and highlight the purpose of using the tools.	Reading Viewing Practice	• Module 3, p. 15-16 • Tools • Laptop/PC
25	**Individual practical exercise:** ● Familiarise yourself with the given task in the material. ● Complete the task. ● Reflect on what you have understood. ● Participate in the discussion forum. https://storiesforimpact.com/toolbox/problem-tree/	Reading Viewing Practice	• Module 3, p. 16 • Pens • Paper • Laptop/PC

UNIT 4: Managing Stress and Maintaining Well-Being in a Stressful Working Environment and Building Resilience

Aim: To equip learners with the necessary skills and strategies for effectively managing stress, maintaining well-being in high-pressure environments, and developing resilience to face challenges.

Outcomes:

- Recognize and understand sources of stress and implement coping strategies.
- Develop a personal action plan to build and enhance resilience.
- Apply strategies to maintain well-being in the face of workplace stress.

Overall duration:

- Synchronous: 1.5 hours
- Asynchronous: 0.45 hours

Structure of Unit 4

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Ice-Breaking Activity: What is stress and what do you know about its causes?** ● The trainer says hello and explains that this activity is about stress management and resilience building. ● The trainer briefly explains the importance of psychological well-being in the context of agriculture. ● The trainer asks the students to think about and share their knowledge on how they increase their resilience and engage with the topic.	Interactive and participatory The Socratic Method	● Sticky Notes ● Markers or Pens ● FlipChart or Whiteboard (optional) ● Presentation or Instructions (optional)

20	**Introduction to the Unit and Theory Session:** ● The trainer briefly introduces the training module, describes its objectives and its relevance to the roles or interests of the participants. ● The trainer introduces basic concepts related to stress management, highlighting the importance of resilience in effective decision-making in the agricultural sector.	Lecture-style presentation with interactive elements	● Module 3, p. 17-21 ● Projector or screen ● Whiteboard or flipchart (optional)
15	**Specific methods and techniques:** ● The trainer chooses a few resilience-building tools and discuss their benefits. These could be apps, breathing exercises, meditation. ● The class try them out in practice.	Demonstration Practice	● Module 3, p. 19-20 ● Tools ● Projector or screen ● Whiteboard or flipchart (optional)
5	**Questions and answers:** ● The trainer conducts a short question-answer session to consolidate the theoretical material. ● The trainer should use the glossary if needed.	Active Listening Discussion. The Socratic Method	● Module 3, p. 21 ● Projector or screen ● Whiteboard or flipchart (optional)

30	**Exercise: Understand the factors influencing resilience and create an individual plan. Topic: Building Resilience.** ● The trainer introduces the purpose of the activity and stresses that it will help students to build psychological resilience. ● The trainer provides the recommended action plan. "My Action Plan for Building Resilience" ● The trainer explains that students should document their work. ● The trainer sets the deadline for the task.	Experiential learning using the methodology	● Module 3, p. 20-21 ● Projector or screen ● Pens ● Paper
10	**Summary and conclusion:** ● The trainer aska students to give feedback on their learning experience and understanding. ● The trainer gives individual feedback or guidance to students who ask for it or need extra help. ● The trainer summarises key ideas: reviews the key learning points and ideas discussed during the session. ● The trainer should be clear about what students should do next, whether it's homework, further research or other related activities.	Group discussion, questions and answers	● Sticky Notes ● Markers or Pens ● FlipChart or Whiteboard (optional) ● Presentation or Instructions (optional)

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Independent study of the presented material:** ● What is stress and what do you know about its causes? ● Read the theoretical material provided. ● Think about the benefits of developing well-being and resilience in the context of agriculture.	Reading Viewing	• Module 3, p. 17-21 • Pens • Paper • Laptop/PC
10	**Self-learning specific methods and techniques:** ● Choose a few resilience tools and understand their benefits. These can be apps, breathing exercises, meditation. ● Try them out in practice.	Reading Viewing Practice	• Module 3, p. 19-20 • Tools • Laptop/PC
20	**Individual practical exercise "My Action Plan for Building Resilience"** ● Familiarise yourself with the given task in the material. ● Complete the task. · https://www.easterseals.com/shared-components/document-library/plan-for-building-resilience.pdf ● Reflect on what you have understood. ● Participate in the discussion forum.	Reading Viewing Practice	• Module 3, p. 20-21 • Pens • Paper • Laptop/PC

MODULE 4 - Sustainability Part 2

Transforming the Food Supply Chain towards more sustainable: Goals & Objectives.

Main topics and Duration

Module 4 consists of 3 Units, focusing on the following topics:

- Unit 1: More Sustainable Food System – A global challenge.
- Unit 2: The Three Pillars of Sustainability.
- Unit 3: Easing the Transition to Become More Sustainable.

The total duration for this module: 6 hours of synchronous training sessions; 3 hours of asynchronous.

Outcomes

Knowledge:

- Interaction between Sustainable Food Systems and Sustainable Development Goals: learners will acquire knowledge about how to reach the ambitious goal of the European Union to become the first climate-neutral region by 2050, contributing to SDGs, and the role of CSR in the transition towards more Sustainable Food Systems.
- The Three Pillars of Sustainability: Trainees will deep into the three dimensions of sustainability, learning that each pillar is crucial to fully embrace it; moreover, learners will familiarize with Circular Economy approach, and all related concepts, such as food waste prevention and valorization of by-products.
- Easing the Transition to become more Sustainable: Trainees will explore the basics of the coordinated strategy needed to effectively work to let the supply chain become even more sustainable, exploiting innovation, such as food biotechnology – with the support of the EU.

Skills:

- Participants will boost their skills to effectively manage tools and knowledge to promote and implement efficient strategies to contribute to the transition towards more sustainable food systems.
- Learners will learn advanced notions about the three pillars of sustainability and how they are interconnected with the concept of the circular economy (including minimization of waste, reducing food losses and valorization of by-products).
- Participants will learn how strategic is the role of innovation, biotechnologies and NGTs to boost sustainable food patterns, healthier and safer food products, always in line with consumers requests.

Attitudes:

- Sustainability Awareness: Learners will embrace sustainability approach and all its dimensions. This attitude will let learners develop an overall responsibility towards environmental conservation and preservation, understanding the importance of the interconnection of different actors along the food supply chain.

- Openness to innovation: Participants will deep into innovation and its important role in driving the transition towards sustainable food practices. Through this attitude learners will understand how an active involvement in finding new sustainable solutions is crucial, especially when it engages all actors of the supply chain.

- Long-term strategy: Trainees will focus on the importance of a long-term strategy, when it comes to find new ways to enhance the sustainability of the supply-chain. This attitude will be crucial as it allows learners to get engaged in the process of identifying disruptive behaviors that will lead to the creation of an up-to-date and long-term strategy.

UNIT 1: More Sustainable Food System – A Global Challenge

Aim: Through this first unit, learners will get to know that the cornerstone for facilitating the shift to more Sustainable Food Systems is open and transparent communication among legislators, academics, and all parties involved in the food supply chain. In addition, this unit will provide general knowledge about SDGs and their contributions to draw more sustainable food systems. Finally, users will dive into the role of CSR in this transition, promoting healthy lifestyles and voluntary actions to promote the "green" approach.

Outcomes:

Sustainable mindset: Participants will enhance their competences on the elements needed to face the global challenge that food systems are now experiencing; from the integration with SDGs, at the basis to let Europe become the first climate-neutral region, passing through the necessity of a joint collaboration between public and private sectors, including Governments, and finally to the promotion of CSR and more in general healthier lifestyles. In brief, learners will develop openness towards the main principles of sustainability, based on the responsibility towards resources we have and how to better manage them.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hours

Structure of Unit 1

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Ice-Breaking activity and Introduction to Sustainability Concept** • This activity provides an overview of what more sustainable models of production and consumption are; the session is opened the lecturer welcoming participants and followed by a round table where learners are called to share their definitions for Sustainable Food Systems. • The ice-breaking activity can be led using the initial Self-Assessment Questionnaire, elaborated aiming at allowing students to approach the topic.	Interactive activity and group participation.	• Slido or similar tools. • Sticky Notes. • Flip Chart or Whiteboard (Optional).
20	**Introduction and Overview of the Module** • The trainer introduce an overview of the module, including the study methodology, and its main objectives. Key concepts such as SFS, SDGs, sustainability, circular economy, and bioeconomy are preliminarily addressed. • Students are encouraged to brainstorm what applications the various concepts presented might have. • Following the presentation of the trainer, a discussion session can be opened to boost active participation of trainees, letting them asking questions to clarify any doubts.	Presentations. Brainstorming. Q&A session.	• Module 4, p. 3-5 • PPT for definitions and main concepts, with any infographics of specific data (such as those of FAO). • Activityt 4.1.

45	**Explanation phase** • At this stage, students get into the core definitions and key/new concepts. The lecturer can delve deeper into all subjects, and learners can use this time to show that they grasp the new material they have received. • The Lecturer, through a Q&A session, will test to what extend students have internalized new concepts acquired.	Presentation of the lecturer. Q&A session.	• Module 4, p. 5-9 • Projector and PPT.
10	**Interactive Session for brainstorming.** • Participants are divided into small groups, to ease the brainstorming session among them. • Each group can be assigned a specific in-depth subject. • The trainer encourages critical thinking during group activities.	Group discussion: for each group a facilitator is assigned.	• Sticky notes or whiteboards for taking notes of ideas generated.
20	**Practical Activity** • Participants are called to enjoy a practical activity consisting in dividing the class in groups to identify solutions to enhance the transition towards more sustainable food systems, considering all features and elements studied.	Group activity, guided by facilitator.	• Sticky notes or whiteboards for group brainstorming. • Activity 4.2.

10	**Q&A and Wrap-up** • The trainer gives a short summary of every topic covered in the class and ask trainees to share at least one takeaway each. • The trainer one the final Q&A session.	Summary session from trainer. Interactive participation of students in Q&A.	• Sticky notes or whiteboards – not compulsory.

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Self-paced Reading and Watching** • Learners are involved in a self-paced activity, consisting in deepening topics previously covered in the synchronous session	Reading articles and watching videos.	• FAO Policy Series: Sustainable Food and Agriculture (3') • FEAT – Connecting the Dots: How Food Systems Impact multiple SDGs (5') • FAO – Sustainable food systems "Concept and framework" (8') • EU Parliament – Sustainable Food Systems(10') • What is CSR? (3')
30	**Self-assessment and individual exercise** • Students are now called to evaluate their own knowledge, repeating the notions learned.	Self-reflection.	• Module 4, p. 4-9 • Markers & Pens • Reading notes.

UNIT 2: The Three Pillars of Sustainability

Aim: The unit's objective is to provide participants with the knowledge they need to assess and effectively approach the wide concept of sustainability, in order to give the resources they need to create plans and strategies for successful sustainable development. Learners will explore each pillar of sustainability, and specific actions that can be ascribed to each dimension.

Outcomes:

- Deeper comprehension of sustainability dimension, including its three pillars, in a world in which global population keeps on increasing and safer, more affordable, and high-quality products are more that needed. Learners will be able to evaluate the impact of past and current production methods, while considering how they should evolve in the future.
- Expertise in evaluating all features of each pillar of Sustainability and effectively work to always mitigate more the production impact on the ecosystem. At the end of the Unit, learners will fully embrace the concept of Circular Economy, which is at the basis of many EU framework policies. They will then acquire practical skills for elaborating adequate and innovative for greening the food supply chain, preserving the core principles of the food supply chain to have high-quality, safe, affordable and nutritious food products, respecting biodiversity.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 2

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
25	**Overview of the three Pillars of Sustainability** • Before delving into an in-depth discussion of each feature of sustainability. In this way, students are introduced to the three features of sustainability: environmental, social and economic. Participants learn that each of them is crucial to fully reach a sustainable approach and boost Circular Economy.	Lecture, slides (if the lecturer finds them useful).	• Slides. • Whiteboard. • Module 4, p.10-11.

10	**Focus on environmental dimension of sustainability** • Trainer focuses on the environmental dimension of sustainability, as it encompasses a wide range of features and application fields: from the smart use of basic inputs to minimization of waste, from improving energy efficiency to reducing CO2 emissions and introducing innovative packaging. Students will get to know also the concept of food safety, which remains crucial to ensure proper food products, nutritional and of high-quality. • Students are then called to express their opinion about the implications of this first pillar on the supply-chain.	Lecture. Open Discussion.	• Module 4, p. 11-14. • Slides. • Sticky notes.
15	**Focus on economic and social dimensions of sustainability** • Trainer explores economic and social dimensions of sustainability, as they are gaining momentum in modern society. Companies' development, the impact on the local economy, consumers' health issues are at the core of the supply chain mission and vision. FAO research are explained to students. • Learners can then share their opinions about the implications of these two pillars on the supply-chain.	Lecture. Open Discussion.	• Module 4, p. 14-16. • Slides. • Sticky notes.

25	**Analysis of current methods to increase sustainability** • Participants discuss current methods used within the food supply chain to enhance “green” approach: recovery of by-products, eco-design of packaging, food waste prevention, efficient use of raw materials, reduction of water consumption and so on. They analyze the current techniques developed and investigate whether and how they could be increased.	Lecture, case study analysis, group discussions.	• Activity 4.3 • Sticky notes.
30	**Presentation on Circular Economy by an expert** • An expert from academia or industry talks about Circular Economy principles, how they can be applied to food supply chain, in order to let it be smarter, greener and more efficient. The expert also focuses on strategies developed by companies to be always more sustainable and in line with the relevant European provisions.	Guest lecture, Q&A session	• Module 5, p. 9-14 • Presentation slides. • Demo videos.
15	**Q&A and Wrap Up session** • Trainer sums up the notions shared. • Participants are asked to share at least one takeaway each of all lessons learned from this Unit. • The trainer open a Q&A session to let participants raise questions to clear any doubts.	Interactive session.	• Sticky notes, paper, markers, pens. • Possible lecture guidance and feedback.

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
40	**Reading articles and watching videos** • Participants explore numerous videos and articles about sustainability and circular economy, to delve into these encompassed concepts.	Independent activity.	• FAO Policy Series: Sustainable Agribusiness & Food Value Chains (3') • UN Environment Program - Why do we need to change our food system (4') • FAO – Reducing food loss and waste through sustainable food cold chains (3') • FDE – FoodDrinkEurope

			position on the future EU legislative Framework on Sustainable Food Systems (10') • FDE – Action Plan for Sustainable and Resilient Food Systems (12') • FDE – The path towards more sustainable food systems (1') • EU Science & Innovation – EU Food Safety policy : safe and healthy food for everyone (4')

			• FDE – Packaging and Circularity (3')
20	**Brainstorming** • Participants individually brainstorm the concepts explored and the terminology used during the Unit, in order to settle it and possibly further explore any unclear topics.	Individual brainstorming.	• Sticky notes. • PPT

UNIT 3: Easing the Transition to Become more Sustainable

Aim: The aim of this unit is to let students dive into innovation and biotechnologies. Participants gain an understanding of how innovation can help in the transition to became more sustainable, while keeping at the core of this shift the cornerstones of the food supply chain, namely, safety and high-quality. Students can then evaluate opportunities and challenges brought by innovation, biotechnologies and NGTs.

Outcomes:

- Exploring innovation and its application in the food sector, to let the transition be more in line with consumers' expectation, while preserving the environment we all live in.
- Delving into biotechnologies and NGTs, which are gaining momentum as they offer major opportunities.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 3

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
25	**Introduction about innovation in the food supply chain** • The trainer introduce the importance of research and innovation, topics which go hand in hand with sustainability. Focusing on the importance of being more	Lecture.	• Slides. • Whiteboard. • Module, p. 16.

	connected and at the same time becoming more sustainable, trainer focuses on SMEs engagement in this path.		
40	**Exploring the Potential of Biotechnologies** • Participants explore the dimension of biotechnologies and their implications in the food supply chain. They learn how biotechnologies can provide a contribution to enhancing the food production, especially if the increasing population is considered. • Students are asked to share their views on any biotechnologies already studied or experienced.	Lecture. Group discussion.	• Module 4, p. 17-18. • PPT. • Activity 4.4
40	**Presentation on Biotechnologies and NGTs** • An expert from research center or academia give a lecture on the evolution and development of biotechnologies in food industry. • Participants learn more about benefits of new technologies and can ask questions to go deeper.	Lecture with interaction.	• Module 4, p. 17-18. • Sticky notes.
15	**Group Brainstorming Session on Innovative Applications** Participants engage in a group brainstorming session to generate innovative ideas for utilizing algae and insects as raw materials in food products. They explore potential ingredient combinations, processing techniques and product concepts that leverage the unique properties of these alternative food sources.	Brainstorming session, group collaboration	• Whiteboard or virtual whiteboard. • Notes.

15	**Q&A and Wrap Up session** • Trainer sums up the notions shared. • Participants are asked to share at least one takeaway each of all lessons learned from this Unit. • The trainer open a Q&A session to let participants raise questions to clear any doubts.	Interactive session.	• Sticky notes, paper, markers, pens. • Possible trainer guidance and feedback.

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
45	**Reading and watching videos** • Participants further explore the dimension of innovation in the food supply chain, discovering how and why food systems need to undergo this transition. They also discover the importance of robust policy framework to accompany SMEs in this process.	Video presentations. Readings. Vocabulary.	• Food Systems Innovation (8') • FDE – Science, Research & Innovation (4') • EU Commission – Food 2030 (10') • NIH – New Applications of Biotechnology in the Food Industry (15') • Discovering 10 emerging Food Industry Trends in 2024 (8')
15	**Individual brainstorming** • Participants brainstorm the concepts explored and the terminology used during the Unit, in order to settle it and possibly clear any topics.	Self-study. Vocabulary and sum-up.	• Sticky notes. • Internet access.

MODULE 5: Sustainability Part 2:

Building Sustainable and Responsible Food Systems

Main topics and Duration

Module 5 consists of 3 Units, addressing the following topics:

- Unit 1: Strategies for enhancing by-products and waste for circularity of resources
- Unit 2: Sustainable and smart packaging solutions
- Unit 3: Utilization of sustainable raw materials, such as algae and insects

The total duration includes 6 hours of synchronous training sessions and 3 hours of asynchronous reading materials.

Outcomes

Knowledge:

- Addressing Food Waste and Loss: Participants will understand the magnitude of food waste and loss in the food supply chain and explore strategies to reduce waste and improve resource efficiency.

- Understanding Sustainable Raw Materials: They will define sustainable raw materials and explain their significance in promoting environmental conservation, reducing ecological impact and supporting circular economy principles.

- Exploring Sustainable Packaging Materials: Participants will explore various sustainable packaging materials and technologies, including biodegradable plastics, compostable materials, bio-based polymers, recycled content and alternative packaging solutions.

Skills:

- Participants will develop practical skills in identifying and implementing strategies to enhance by-products and reduce waste within food production processes.

- Participants will gain proficiency in selecting and implementing sustainable and smart packaging solutions suitable for different food products and supply chain stages.
- Participants will acquire hands-on skills in incorporating sustainable raw materials like algae and insects into food product development, considering factors such as taste, texture and nutritional value.

Attitudes:

- Environmental Consciousness: Participants will develop a heightened awareness of the importance of sustainability in food systems and its impact on environmental conservation and resource efficiency. This attitude entails a sense of responsibility and stewardship towards the environment, recognizing the interconnectedness between human activities and ecological well-being.

- Proactivity: Participants will cultivate a proactive attitude towards implementing sustainable practices within their own professional roles and organizations. This attitude involves taking initiative and being proactive in seeking out and implementing sustainable solutions, rather than waiting for external pressures or mandates.

- Open-mindedness: Participants will foster an open-minded approach towards novel and alternative food sources, recognizing their potential to contribute to a more sustainable and resilient food system. This attitude involves being receptive to new ideas, technologies and practices and being willing to explore and experiment with unconventional approaches to food production and consumption.

UNIT 1: Strategies for enhancing by-products and waste for circularity of resources

Aim: The aim of this unit is to provide participants with a comprehensive understanding of innovative strategies and techniques for maximizing the value of by-products and minimizing waste within food production processes. Participants will learn practical approaches to achieve circularity of resources by repurposing, recycling and upcycling food by-products and waste streams, thereby promoting sustainability and resource efficiency in the food system.

Outcomes:

- Enhanced Resource Utilization: Participants will gain the ability to identify and implement innovative strategies for enhancing the utilization of by-products and minimizing waste within food production processes. They will be equipped with the knowledge, skills to repurpose, recycle and upcycle food by-products effectively, thereby contributing to increased resource efficiency and reduced environmental impact.

- Circular Economy Mindset: Participants will develop a mindset aligned with the principles of the circular economy, understanding the importance of closing resource loops and promoting sustainability within the food system. They will be empowered to integrate circularity principles into their professional practices, fostering a culture of responsible resource management and contributing to the transition towards a more sustainable and resilient food system.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 1

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Introduction to Circular Economy Concepts** Provide an overview of the principles of the circular economy, emphasizing the importance of resource efficiency and waste reduction within the food system.	Lecture-style presentation	• Lecture presentation with slides. https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview • Markers
20	**Introduction and Overview of the Module** • The facilitator begins by delivering a lecture presentation, providing an overview of the module's objectives and structure. Key concepts such as food loss and food waste are defined and explained, highlighting their significance in the context of sustainable food systems. • Supplementing the lecture, multimedia presentations featuring statistics, infographics and real-life examples will be utilized to illustrate the extent of food loss and	Multimedia presentation. Group discussion	• Module 5, p. 4-9 • Presentation Slides: Slide deck containing key information, definitions, statistics and case studies. • Multimedia Resources: Videos, infographics and

	waste globally. Visual aids help to convey the magnitude of the problem and its implications for food security, environmental sustainability and economic efficiency. • Engaging case studies highlighting successful initiatives and innovative approaches to enhancing by-products within the food industry are presented. These case studies highlight practical examples of by-product utilization, waste reduction strategies and circular economy principles in action. Participants are encouraged to reflect on the lessons learned and potential applications within their own contexts. • Following the presentations, an interactive discussion session is facilitated to encourage participant engagement and active participation. Questions are posed to stimulate critical thinking and encourage dialogue among participants.		images illustrating food loss, food waste and innovative approaches to enhancing by-products. https://www.youtube.com/watch?v=ZvOMMURrBMY&t=154s https://www.youtube.com/watch?v=wPO7NQ4LxzM
45	**Practical Techniques and Tools** Demonstrate practical techniques and tools for identifying, segregating and processing food by-products for optimal utilization. Discuss strategies for collaborating with stakeholders along the supply chain to implement circularity initiatives effectively.	Live demonstration by the facilitator Reflection Questions	• Module 5, p. 4-9 • Worksheet 5.1 • Samples of food by-products for demonstration purposes.
10	**Group Activity: Brainstorming Solutions** Divide participants into small groups and facilitate a brainstorming session to generate innovative solutions for enhancing by-products and reducing waste within specific food production contexts. Encourage creative thinking and collaboration.	Group discussion facilitated by the facilitator	• Flip charts or virtual whiteboards for recording ideas • Markers

20	**Interactive Workshop: Strategies for Circular Resource Management** Hands-on workshop or simulation activity where participants work in small groups to develop strategies for enhancing by-products and minimizing waste within a simulated food production scenario. **Objective:** To engage participants in a collaborative exercise aimed at developing strategies for maximizing the utilization of by-products and minimizing waste in a simulated food production scenario. **Scenario Presentation (5 minutes):** ▪ Present participants with a simulated food production scenario, describing a fictional food manufacturing facility. ▪ Provide details about the types of by-products generated in the production process and the current waste management practices employed by the facility. ▪ Highlight the challenges and opportunities associated with by-product utilization and waste reduction in the scenario. **Group Brainstorming (7 minutes):** ▪ Divide participants into small groups of 3-5 individuals. ▪ Assign each group the task of brainstorming and developing strategies for enhancing by-products and minimizing waste within the simulated food production scenario. ▪ Encourage groups to consider innovative approaches, such as product diversification, process optimization, and partnership collaborations. ▪ Remind participants to focus on practical and feasible solutions that can be implemented within the context of the scenario.	▪ Hands-on group work, facilitated discussion and peer feedback. ▪ Facilitator guides and prompts	• Flip charts or digital whiteboards for group brainstorming

	Strategy Development (5 minutes): ▪ Provide each group with a large whiteboard or flip chart paper and markers. ▪ Instruct groups to outline their strategies for enhancing by-products and minimizing waste on the whiteboard or paper. ▪ Encourage groups to use diagrams, charts, or bullet points to visualize their ideas and make their strategies clear and concise. ▪ Emphasize the importance of creativity and collaboration in developing effective solutions. **Group Presentation (5 minutes):** ▪ Invite each group to present their strategies to the rest of the workshop participants. Allow groups to explain their ideas, rationale, and potential benefits of their proposed strategies. ▪ Facilitate a brief discussion after each presentation, encouraging participants to ask questions and provide feedback. ▪ Encourage cross-group dialogue and idea-sharing to foster a collaborative learning environment. **Conclusion (2 minutes):** ▪ Summarize key insights and takeaways from the group presentations. ▪ Emphasize the importance of collaboration and innovation in addressing food waste and promoting sustainability in the food production industry. ▪ hank participants for their active participation and engagement in the workshop.		
10	**Q&A and Wrap-up** The facilitator summarizes the key points covered during the session, emphasizing the main takeaways and insights gained. • Participants are invited to share one key takeaway or learning from the session, fostering reflection and consolidation of learning. • Emphasize the importance of applying the knowledge gained to real-world scenarios. The session concludes with a sense of closure and appreciation for participants' active engagement and contributions.	Open floor for questions and answers, facilitated by the instructor.	None required

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Self-paced Learning Module on Food Loss vs. Food Waste** Participants engage in a self-paced learning module that provides an in-depth exploration of the differences between food loss and food waste. The module covers definitions, causes, impacts and global statistics related to food loss and food waste.	Watching Videos Content	• Food Loss and Waste: Facts and Figures (5') • Understanding Food Loss and Waste - Key Elements (6') • Food Waste: Causes, Effects and Solutions (10') • Global Food Loss and Waste: Extent, Causes and Prevention (4')
30	**Case Study Analysis on Strategies for Enhancing By-products** Participants review and analyze case studies of successful initiatives aimed at enhancing by-products within food production processes. Case studies may include examples of companies or organizations that have implemented innovative strategies to repurpose, recycle or upcycle by-products effectively	Reading and analysis, discussion forums (online), self-reflection	• Module 5, p. 4-9 • Case Study Exercise • Markers & Pens

UNIT 2: Sustainable and smart packaging solutions

Aim: The aim of this unit is to equip participants with the knowledge and skills to understand, evaluate, and implement sustainable and smart packaging solutions within the context of food systems. Participants will explore various packaging materials, technologies and design principles aimed at reducing environmental impact, enhancing product shelf life and improving overall sustainability. By the end of the unit, participants will be able to critically assess packaging options, select appropriate solutions for different food products and contribute to the development of more sustainable packaging practices within their professional roles and organizations.

Outcomes:

- Enhanced Understanding of Sustainable Packaging Principles: Participants will gain a deep understanding of sustainable packaging principles, including materials selection, design considerations and end-of-life management strategies. They will be able to critically evaluate the environmental impact of different packaging options and identify opportunities to minimize resource use, energy consumption and waste generation throughout the packaging lifecycle.
- Proficiency in Implementing Smart Packaging Solutions: Participants will develop proficiency in implementing smart packaging solutions that leverage emerging technologies such as active packaging, intelligent labeling and biodegradable materials. They will acquire practical skills in selecting and implementing innovative packaging solutions

tailored to specific food products, supply chain requirements and consumer preferences, thereby contributing to improved product quality, safety and sustainability.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 2

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
20	**Introduction to the Three-Tier Hierarchy of Packaging Systems** This activity introduces participants to the three-tier hierarchy of packaging systems: primary, secondary and tertiary packaging. Participants learn about the functions and	Lecture, visual aids (slides)	• Presentation slides pg. 11-12 in the Module

	characteristics of each packaging level and how they contribute to product protection, containment and distribution.		
25	**Case Studies Analysis of Sustainable Packaging Solutions** Participants analyze case studies showcasing innovative and sustainable packaging solutions implemented by companies across different industries. They examine the materials, design features and environmental benefits of each solution.	Small group discussions, case study analysis	• Case Study Exercise 2 • Discussion prompts
20	**Guest Speaker Presentation on Smart Packaging Technologies** A guest speaker from the industry or academia presents on the latest smart packaging technologies, including active packaging, intelligent labeling and digital tracking systems. Participants learn about the functionalities, applications and potential benefits of these technologies.	Guest lecture, Q&A session	• Module 5, p. 9-14 • Presentation slides • Demo videos https://www.youtube.com/watch?v=cTWVUdYGOOo&t=35s

			https://www.youtube.com/watch?v=O590ZOt1YbA&t=2s https://www.youtube.com/watch?v=P2izCyFt_d0
25	**Interactive Workshop on Packaging Material Selection** Participants engage in an interactive workshop to explore different packaging materials and their environmental characteristics. They discuss factors influencing material selection, such as recyclability, biodegradability and compostability.	Hands-on activities, group discussions	• Samples of packaging materials •Worksheet 5.2

15	**Design Thinking Exercise for Sustainable Packaging** Participants participate in a design thinking exercise to brainstorm sustainable packaging solutions for specific food product. They apply creative problem-solving techniques to ideate and prototype innovative packaging designs.	Design thinking methodology	• Design thinking toolkit • Prototyping materials (e.g., paper, markers)
15	**Group Presentations and Feedback Session** Participants present their sustainable packaging designs developed during the design thinking exercise. Peers provide feedback and constructive criticism, fostering collaboration and peer learning.	Group presentations, peer feedback	• Presentation slides • Facilitator guidance • Paper, Pens

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
20	**Research Assignment on Sustainable Packaging Materials** Participants conduct research on various sustainable packaging materials, such as biodegradable plastics, compostable materials and recycled paper. They explore the environmental characteristics, advantages and limitations of each material.	Independent research, Reading	• The Role of Sustainable Packaging in the Circular Economy (5') • Innovations in Sustainable Packaging: Trends and Technologies (6') • The Future of Sustainable Packaging: Trends and Challenges (10')

			• Sustainable Packaging: Understanding the Basics (4')
25	**Discussion Forum on Packaging Sustainability Challenges** Participants participate in an online discussion forum to share insights and perspectives on the sustainability challenges associated with packaging. They discuss topics such as single-use plastics, packaging waste management and the carbon footprint of packaging materials.	Online discussion forum	• Module 5, p. 9-14 • Use the Practical Activity 2.2.3 from Unit 2, pg. 12-13
15	**Brainstorming Session on Smart Packaging Technologies** In this asynchronous activity, participants engage in a brainstorming session to explore and generate ideas for incorporating smart packaging technologies into food product packaging. The goal is to stimulate creativity and innovation while considering the potential applications, benefits and considerations of smart packaging solutions. • Participants review the introduction video and materials on smart packaging technologies to familiarize themselves with the topic.	Idea generation	• Laptop/PC • Internet connection • Brainstorming prompts

	• They read the brainstorming prompt and reflect on potential ideas and solutions related to smart packaging technologies. • Participants post their ideas, insights and suggestions on the collaboration platform, engaging in discussions with their peers. • They draw inspiration from additional resources and examples to further develop their ideas and contribute to the brainstorming session. • After the allotted time, participants review and reflect on the ideas generated during the brainstorming session, considering their potential applications and implications for sustainable and smart packaging practices.		https://www.youtube.com/watch?v=hJtleCmLzzI

UNIT 3: Utilization of sustainable raw materials, such as algae and insects

Aim: The aim of this unit is to familiarize participants with the utilization of sustainable raw materials, such as algae and insects, in food production processes. Participants will gain an understanding of the nutritional value, environmental benefits and practical applications of these alternative food sources, as well as the challenges and opportunities associated with their incorporation into the food supply chain.

Outcomes:

- To explore the nutritional composition and potential health benefits of algae and insects as sustainable raw materials for food production.
- To examine the environmental sustainability and resource efficiency of utilizing algae and insects as alternative food sources compared to traditional agricultural commodities.
- To identify innovative techniques and practical applications for incorporating algae and insects into food products, including ingredient formulations, processing methods and consumer acceptance strategies.

Overall duration:

- Synchronous: 2 hours
- Asynchronous: 1 hour

Structure of Unit 3

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
20	**Introduction to Food Alternatives for Sustainable Development** This activity provides an overview of the concept of food alternatives for sustainable development, focusing on the importance of diversifying food sources to address environmental, nutritional and resource challenges. Participants learn about the role of alternative raw materials, such as algae and insects, in contributing to sustainable food systems.	Lecture, multimedia presentation	• Presentation slides pg. 17-21 in the Module • Videos on food alternatives https://www.youtube.com/watch?v=AmzSmIgNXv8 https://www.youtube.com/watch?v=avutyyRSh4w

25	**Exploring Algae as a Sustainable Raw Material** Participants delve into the world of algae as a sustainable raw material for food production. They learn about the nutritional composition, environmental benefits and potential applications of algae in various food products. Case studies and examples of successful algae-based products are discussed.	Case study analysis Group discussion	• Module 5, p. 14-20 • Case Study 3

25	**Navigating the Benefits and Challenges of Insects as Raw Materials**
	
	• This activity explores the utilization of insects as raw materials for food and feed.
	  • The facilitator introduces the topic of utilizing insects as raw materials for food and feed.
	  • Briefly explain the objectives of the activity: to explore the nutritional value, environmental sustainability, and cultural perceptions surrounding insect consumption.
	• **Step 1: Understanding Nutritional Value (5 minutes):**
	  • The facilitator provides information on the nutritional value of insects, highlighting their high protein content, essential amino acids, vitamins and minerals.
	  • Participants discuss the potential health benefits of incorporating insects into the diet and compare their nutritional profiles to traditional protein sources.
	• **Step 2: Exploring Environmental Sustainability (8 minutes):**
	  • The facilitator discusses the environmental sustainability of insect farming compared to conventional livestock farming, focusing on factors such as land use, water consumption and greenhouse gas emissions.
	  • Participants explore the ecological benefits of insect farming, including its potential to reduce environmental impact and promote biodiversity conservation.
	• **Step 3: Examining Cultural Perceptions (5 minutes):**
		Lecture-style presentation with interaction	• Module 5, p. 14-20
			• Unit 3 Overview, Projector or Screen

	• The facilitator leads a discussion on cultural perceptions surrounding insect consumption, addressing common attitudes, taboos and culinary traditions related to insects in different cultures. • Participants share their perspectives and experiences regarding the acceptance of insects as food or feed in their communities. • **Step 4: Discussing Challenges and Opportunities (5 minutes):** • The facilitator prompts participants to identify the challenges and opportunities of incorporating insects into the food supply chain. • Participants discuss issues such as regulatory barriers, food safety concerns, market acceptance and consumer education, as well as potential solutions and strategies to overcome these challenges. • **Conclusion (2 minutes):** • The facilitator summarizes key insights and takeaways from the discussion. • Participants reflect on the multifaceted nature of the topic and the importance of considering nutritional, environmental, and cultural factors when exploring alternative protein sources.		
20	**Group Brainstorming Session on Innovative Applications** Participants engage in a group brainstorming session to generate innovative ideas for utilizing algae and insects as raw materials in food products. They explore potential ingredient combinations, processing techniques and product concepts that leverage the unique properties of these alternative food sources.	Brainstorming session, group collaboration	• Whiteboard or virtual whiteboard • Brainstorming prompts

15	**Case Study Analysis of Successful Implementations** Participants analyze case studies of companies or organizations that have successfully incorporated algae and insects into their food products. They identify key factors contributing to the success of these implementations and draw lessons learned for future applications.	Case study analysis, small group discussion	• Analysis worksheet
15	**Wrap-up and Reflection** In this final activity, participants reflect on their learning from the unit and discuss key insights, challenges and takeaways. Facilitators summarize key points and encourage participants to consider how they can apply their knowledge and insights to their professional roles or organizations.	Reflection, group discussion	• Summary slides

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS

45	**Practical Activity: Exploring New Frontiers in Food Alternatives for Sustainable Development**
	• **Research Phase (30 minutes):**
	  • Participants are divided into small groups and do an online research in materials, including articles or reports on innovative food alternatives such as plant-based proteins, cultured meat and algae-based products.
	  • Each group conducts a thorough review of the assigned materials, focusing on the nutritional value, environmental sustainability and economic feasibility of the food alternatives.
	  • Participants discuss key findings and identify potential benefits and challenges associated with each alternative.
	• **Quiz Phase (10 minutes):**
	  • The facilitator administers a quiz to test participants' understanding of the researched food alternatives and their implications for sustainable development.
		Brainstorming & Idea generation	• Use 2.3.3 Multiple-Choice Exercise, pg. 21-24
			• Quiz
			• Internet access

	• The quiz includes multiple-choice questions, true/false statements, and open-ended questions related to nutritional, environmental and socio-economic aspects of the alternatives. • Participants work individually or in teams to answer the quiz questions, drawing on the knowledge gained during the research phase. • After completing the quiz, the facilitator leads a brief discussion to review answers, clarify any misconceptions and reinforce key concepts related to food alternatives and sustainability.		
15	**DIY Algae Cultivation Experiment** Participants conduct a do-it-yourself (DIY) algae cultivation experiment at home. **Experiment Steps:** 1. **Prepare the Algae Culture:** • Fill the clear plastic bottles or jars with water, leaving some space at the top. • If available, add a small amount of algae starter culture to the water. If not, you can collect a sample of water from a pond, lake, or any natural water source to introduce algae spores into the culture. • Optionally, add a pinch of sugar to the water to provide nutrients for the algae. You can also add a small amount of fertilizer to promote growth. 2. **Seal and Place in Sunlight:** • Seal the bottles or jars with a lid or plastic wrap to prevent contamination and evaporation. • Place the containers in a location where they can receive ample sunlight or near a bright light source, as algae require light for photosynthesis.	Hands-on experimentation, observation, data collection	• Clear plastic bottles or jars (empty and clean) •Water (tap water or distilled water) •Sunlight or a bright light source •Algae starter culture (optional, can be obtained from a natural water source) •Fertilizer (optional, such as aquarium plant fertilizer)

	3. **Observation and Maintenance:** • Monitor the containers daily and observe any changes in the water, such as cloudiness or the appearance of green coloration. • Over time, you should start to see algae growth in the containers. Algae may appear as green or brown patches or as stringy strands floating in the water. • If algae growth is slow or minimal, you can add additional sugar or fertilizer to the water to stimulate growth. • Ensure that the containers are not exposed to extreme temperatures or direct sunlight for prolonged periods, as this may affect algae growth. 4. **Record and Analyze Results:** • Take note of the changes observed in the algae cultures over time, including growth rate, color and texture. • Compare the growth patterns of different containers or conditions (e.g., with and without sugar or fertilizer) to understand their effects on algae growth. • Discuss the factors influencing algae growth, such as light, nutrients, temperature and water quality, and draw conclusions based on your observations.		•Sugar (optional, to promote algae growth)

MODULE 6: Innovation part 1: Transforming the Food Supply Chain towards more innovative: Goals and Objectives

Main topics and Duration

Module 6 consists of 2 Units, addressing the following topics:

- Unit 1: Understanding Innovation in Food Business
- Unit 2: Nurturing Innovation Minded Professionals

The total duration includes 6 hours of synchronous training sessions and 3 hours of asynchronous reading materials.

Outcomes

Knowledge

Understanding innovation in food businesses/ Encouraging an innovation-driven approach

- Definition and types of innovation, including product, process, marketing and service innovations.
- Importance of innovation in micro and small food businesses to differentiate themselves in a saturated market and to face challenges such as resource constraints and competition.
- The role of innovation as a problem-solving tool to address unmet needs and improve business operations.
- The importance of adaptability and resilience in navigating market dynamics and external challenges.
- The importance of creative problem solving and customer-centric solutions to develop innovative responses to industry problems.

Skills

Creative problem solving/ Continuous learning and experimentation/ Strategic thinking and decision making

- Ability to address diverse problems creatively, thinking beyond obvious solutions and considering unconventional approaches.
- Developing customer-centric solutions by actively listening to feedback and adapting products or services accordingly.

- Embrace continuous learning to stay current with new ideas, technologies and practices in the food industry.
- Experimentation and prototyping skills to test and refine innovative ideas and solutions.
- Setting clear goals and objectives for innovation to provide direction and align with business strategies.
- Developing strategic thinking skills to anticipate market opportunities and adapt to changing conditions.

Attitudes

Openness to innovation and curiosity/ Acceptance of change and flexibility/ Value creativity and reward innovation

- Foster a culture of questioning where employees are encouraged to ask questions and explore new ideas.
- Foster curiosity through external exposure, mentoring programmes and innovation challenges.
- Be open to change and maintain a willingness to learn and grow.
- See obstacles as opportunities for innovation and creative problem solving.
- Recognise and reward creative thinking and innovative ideas to motivate professionals.
- Implement incentive programmes, innovation awards and involve employees in decision-making processes related to their ideas.

UNIT 1: Understanding innovation in food businesses

Aim:

This unit aims to provide food professionals with a comprehensive understanding of innovation in the context of micro and small food businesses. By exploring different facets of innovation, participants will understand its importance in driving growth and success within the industry.

Outcomes:

- Capture innovation in micro and small food businesses from all angles.
- To understand the difference innovation makes for small food businesses while helping them to address their problems.
- Have a problem-solving attitude to recognise market requirements, and come up with creative solutions.
- Discover why it is essential to set precise and well-defined objectives for innovation projects.
- Understand why it is important to align innovative objectives with overall business strategies.
- Be competent in setting feasible and measurable innovation objectives that can be adapted to specific business environments.

Overall Duration:

- **Synchronous:** 3 hour
- **Asynchronous:** 1.5 hour

Structure of Unit 1

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Ice-Breaking: Innovation stories** • The aim of this activity is to stimulate conversation, generate enthusiasm and establish a collaborative environment conducive to further exploring innovation among participants. • Participants can share with each other short anecdotes or stories related to innovation in the food business sector. • The stories can cover various aspects of innovation, such as product development, process improvement, marketing strategies or innovations in customer service.	Group discusión, sharing	• Presentation slides (Optional) • Whiteboard • Sheets or sticky notes • markers
30	**Introduction to the unit: Innovation in food businesses** • The facilitator can give a presentation introducing the concept of innovation in the context of food businesses.	Presentation with final Kahoot!	• Module presentation (p.5-7) • Worksheet 1.1 • Digital board • laptop

	• The presentation can highlight, for example, the importance of innovation in driving growth and success in the food sector. • Key points should include the definition of innovation and its various forms in food businesses: product innovation, process innovation, marketing and sales innovation, and service innovation. • Examples of each type of innovation are given, illustrating how they can be applied in real situations. • The facilitator encourages participants to ask questions and engage in discussion to ensure understanding and engagement.		• projector
50	**Discussion activity: Types of Innovation in food businesses** • This activity is intended to increase participants' understanding of the various forms of innovation in food businesses and their implications for the growth and competitiveness of the sector. • The facilitator initiates a group discussion focusing on the different types of innovation in the food business sector. • Participants are encouraged to actively participate by sharing their knowledge on the different types of innovation and providing examples from their own experiences or observations. • The moderator introduces the main types of innovation (e.g):		• Handouts (Worksheet 1.2) • Whiteboard/flip-chart • Laptops / tab-lets • Paper • Markers / pens

	- Product innovation: Development of new food products or improvement of existing ones. - Process innovation: Improvement of manufacturing, packaging or distribution methods. - Marketing and sales innovation: Introduction of new strategies to reach customers and increase sales. - Service innovation: Improving customer interaction and experience. • Participants engage in a dialogue in which they discuss the importance of each type of innovation and how they contribute to the success of food businesses.		
50	**Exercise: Innovation as Problem Solving** • The aim of this activity is to engage participants in a problem-solving exercise that demonstrates how innovation can address challenges faced by food businesses. • For example, participants are presented with concrete cases or problems faced by food businesses, such as declining sales, production inefficiencies or responding to changing customer preferences. • Participants devise innovative ways to address these challenges by working alone or in groups. • To stimulate creative thinking and get participants to think outside the box in problem solving, facilitators may ask leading questions or provide prompts for self-thinking.	Problem solving exercise	• Problem scenarios with solution sheets (Worksheet 1.3)

	• Participants will consider both temporary solutions and long-term strategies, and will be encouraged to set no limits to their imagination and to consider many possible outcomes to the situation at hand. • At the end of the session, participants have the opportunity to present their innovative ideas and discuss why they believe they can make a difference in the selected areas. • There may be a group discussion in which all proposed solutions are evaluated, indicating strengths, weaknesses, feasibility factors and so on. • It concludes with a reflection on the problem-solving process with an emphasis on how business challenges should be addressed through innovation while remaining open to eternal development.		
20	**Conclusions – Wrap up** • A summary is made of the key points discussed during the session, highlighting the most important ideas. • Participants are encouraged to participate through an open discussion to clarify any questions or concerns.	Group discussion, questions and answers	• Whiteboard • Markers • Slides • Projector • Laptop.

Note: It is important to note that only the training times are set. These do not include breaks or rest times in between.

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
40	**Innovation exploration: Resource Scavenger Hunt** • The facilitator has to provide clear instructions in advance on how the treasure hunt will work, including the topics or clues to be searched for by participants and the timeframe for completion. • It is important to raise questions or concepts related to the unit in order to learn more about what has been learned. • Participants conduct online research using search engines, academic databases, industry websites and other relevant platforms to find resources related to the quest questions. • Participants compile their findings in a structured format, such as a document, spreadsheet or online forum post, making sure to include brief summaries or key ideas from each resource.	Autonomous work, independent research	• Instructions sheet • Module 6
30	**Case study analysis: Lessons from success** • Participants analyse case studies of successful innovation initiatives in the food industry.	Autonomous work, Analysis techniques	• Initiatives and case studies provided by the facilitator (Work-sheet 1.4) • Tablet, • Laptop

	• The facilitator selects compelling case studies that showcase innovative practices, such as the introduction of new products, groundbreaking marketing campaigns or improvements in operational efficiency. (Prepare before) • Participants review the selected case studies individually or in small groups, focusing on key aspects such as challenges faced, innovative solutions implemented and results achieved. • They identify critical success factors and lessons learned from each case study, taking into account factors such as market trends, consumer preferences and competitive dynamics. • Participants reflect on how the strategies employed in the case studies can be applied or adapted to their own professional contexts.		• Paper • Pen or pencil
20	**Goal alignment with business strategy – DAFO** This activity aims to facilitate the alignment of objectives with business strategy by conducting a SWOT analysis to identify the strengths, weaknesses, opportunities and threats (SWOT) related to innovation in food companies. • Participants conduct a SWOT analysis focusing on innovation within their food companies for example. • They identify their companies' specific internal strengths and weaknesses, such as unique product offerings, efficient processes or limited resources. • Participants also explore external market opportunities and threats, such as emerging trends, competitive pressures or regulatory changes affecting the food industry.	Guided SWOT analysis, reflection and application	• SWOT template • Instructions or guidelines an example (Worksheet 1.5)

	• The facilitator guides participants through the analysis process, encouraging critical thinking and collaboration. • Individually or in small groups, they brainstorm and list the factors in each SWOT category. • The identified factors are prioritised according to their relevance and potential impact on innovation initiatives. • After completing the SWOT analysis, a reflection is made by the participants.		

UNIT 2: Nurturing innovation minded professionals

Aim:

To explore the critical role of digital certification systems within the food supply chain and understand their practical applications in ensuring the authenticity, safety, and compliance of food products.

Outcomes:

- Gain insights into how digital certification systems work and their key components.
- Understand the applications of digital certification systems in ensuring product authenticity, transparency, and sustainability.
- Explore regulatory aspects and compliance requirements related to digital certification systems in the food industry.
- Develop practical skills in verifying product certifications using digital certification systems.

Overall duration:

- **Synchronous:** 3 hour
- **Asynchronous:** 1.5 hour

Structure of Unit 2

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
20	**Introduction and contextualisation** • You can start by introducing the topic "The importance of an innovation-oriented approach in the food industry" and contextualise the session. • Emphasise the importance of micro and small enterprises.	Facilitator led discussion	• Module 6: Unit 2 (p.12-22) • Presentation • Projector • Laptop
30	**Brainstorming and ideation** • Conduct a brainstorming session where participants generate creative ideas to address food industry challenges. • Encourage innovative thinking and exploration of unconventional solutions.	Brainstorming sesión, facilitator guidance	• Whiteboard • Markers • Sticky notes
45	**Interactive Discussion** • Facilitate an interactive discussion on key principles for developing innovative-minded professionals, focusing on adaptation, problem solving, creativity, continuous learning, and gaining a competitive advantage. • Encourage participants to share ideas and experiences.	Group discussion, open forum for participants contributions	• Instructions (Worksheet 1.6) • Paper • Pens or markers

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
55	**Group presentations** • Divide participants into groups • Read unit 2 and search for success stories on the internet • Encourage groups to organize their thoughts, structure their presentation, and decide who will speak on behalf of the group. • Each group will have some minutes to present • After each presentation, allow 5 minutes for the audience to ask questions and provide feedback. • Facilitate a brief discussion after each presentation to encourage dialogue among participants. • Repeat the presentation process for each group until all groups have had a chance to present.	Reading and individual, groups research, making presentations,	• Laptop, paper, pen) • Module 6 (p.12-22) • Timer
30	**Reflection and action planing**		• Room or open aera

	• Facilitate a reflection session where participants discuss the lessons learned and identify actionable steps they can take to foster innovation in their own roles or organizations.	Group discussion, self reflection	• Whiteboard • Markers • Post it
Note: It is important to note that only the training times are set. These do not include breaks or rest times in between.			

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Case study analysis: reflective writing** • Participants choose one of the scenarios provided in the material (e.g., adapt to market dynamics, address external challenges, stay ahead of the competition). • They reflect on how they would approach the scenario as professionals with an innovative mindset. • Participants write a brief reflection on their analysis and proposed solutions.	Text based reading, brainstorming, self-paced	• Case study scenarios (Worksheet 1.7) • Pen or pencil • Paper or digital document
45	**Creative exercise: designing a sustainable packaging solution** • Introduction to the exercise of creative problem solving. • Participants brainstorm sustainable packaging solutions for a food product of their choice (e.g. bars, bottled beverages, fresh produce).	Brainstorming, self-paced, creativity, analysis	• Exercise (Worksheet 1.8) • Pen or pencil

	• Participants read a brief overview of sustainable packaging, including its importance in reducing environmental impact and meeting consumer demand for eco-friendly products. • They consider materials, design elements, and functionality factors such as durability and convenience. • Participants evaluate the ideas they have generated based on criteria such as environmental impact, feasibility and profitability. • They select one or more promising packaging concepts for further development.		• Paper or digital document
15	**Continuous learning: Self assessment quiz** • Participants complete a self assessment quiz to evaluate their understanding of the concepts discussed, focusing on continuous leaning and growth. • Reviewing their answers and identify areas for further learning and improvement • Questions and answers	Self assessment quiz	• Module 6 (unit 2) • Quiz questions • Pen or pencil • Paper or digital document

Module 7: Innovation part 2: Digitalization in the Food Supply Chain

This module focuses on understanding the role of digital technologies in revolutionizing the food supply chain. It explores various aspects of digitalization, including digital certification systems, big data utilization, artificial intelligence (AI), and enterprise systems (ERP), and their impact on market analysis, product development, operational efficiency, and decision-making processes within the food industry.

Outcomes Definition

Knowledge:
Understanding of digital technologies and their significance in transforming the food supply chain.
Knowledge of digital certification systems and their practical applications in food industry settings.
Familiarity with the utilization of big data and AI for market analysis, product development, operational efficiency, and decision-making in the food sector.
Understanding the role of enterprise systems (ERP) in integrating and managing supply chain operations within the food industry.
Skills:
Proficiency in identifying and evaluating digital technologies relevant to the food supply chain.
Ability to implement digital certification systems effectively in food industry operations.
Competence in utilizing big data and AI tools for market analysis, product development, and operational optimization.
Skills in implementing and managing enterprise systems (ERP) for integrated supply chain management in the food sector.
Attitudes:
Foster an innovative mindset towards embracing digitalization in the food supply chain.
Promote openness to adopting new technologies and digital solutions for improving efficiency and competitiveness.
Cultivate a proactive approach towards leveraging digital tools for sustainable growth and adaptation in the evolving food industry landscape.

Module Structure

Module 7 comprises 5 units focusing on different aspects of digitalization in the food supply chain.

MANUAL VII	HOURS	
	Synchronous	**Asynchronous**
Unit 1: Overview of Digital Technologies and Their Impact on the Food Supply Chain	1	0,5

MANUAL VII	HOURS	
	Synchronous	**Asynchronous**
Unit 2: Digital Certification Systems and Their Applications	1	0,5
Unit 3: Utilizing Big Data and Artificial Intelligence (AI) for Market Analysis, Product Development, Operational Efficiency and Supporting the Decision-making Process	1	0,5
Unit 4: Using Enterprise Systems (ERP) for Integrated Management of Supply Chain Operations	2	0,5
Unit 5: Activation and Management of E-commerce Platforms for Product Enhancement and Marketing	1	1
TOTAL	6	3

UNIT 1: Overview of Digital Technologies and Their Impact on the Food Supply Chain

Aim:

To provide participants with a comprehensive understanding of the role and impact of digital technologies in the food supply chain, emphasizing their significance in enhancing efficiency, transparency, and traceability.

Outcomes:

1. Understand the foundational concepts of digital technologies in the context of the food supply chain.
2. Identify the key aspects of digital technologies and their applications, including efficiency enhancement, transparency, and data-driven decision-making.
3. Analyze the challenges and opportunities associated with the adoption of digital technologies in the food industry.
4. Engage in collaborative discussions to explore the implications of digitalization on industry trends and practices.
5. Reflect on personal insights and strategies for leveraging digital technologies in food business operations.

Overall Duration:

- **Synchronous:** 1 hour
- **Asynchronous:** 30 minutes

Structure of Unit 1

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Ice-Breaking Activity: "Digital Technology Trivia"** • Facilitator welcomes participants and explains the purpose of the activity. • Each participant shares one interesting fact or trivia about digital technologies in the food industry. • Facilitator encourages active participation and fosters a relaxed learning environment.	Interactive and participatory	• Sticky Notes • Markers or Pens, • Flip Chart or Whiteboard (Optional) • Presentation or Instructions (Optional)
15	**Introduction and Overview of the Module** • Facilitator provides a brief introduction to the training module, highlighting its objectives and relevance. • Key concepts related to digital technologies in the food supply chain are introduced, emphasizing their importance.	Lecture-style presentation with interactive elements	• Unit 1, p. 7-10 • Presentation Slides • Projector or Screen

	• The facilitator sets the context for the session, linking the topics to participants' professional contexts.		
25	**Interactive Group Discussion: "Digital Technologies and Industry Trends"** • Participants are divided into small groups to discuss the impact of digital technologies on industry trends. • Each group is given a specific question or prompt related to digitalization and its implications for the food industry. Example of the questions: *-How has the adoption of digital technologies transformed the traditional practices in the food industry?* *-What are some key digital technologies that have had a significant impact on supply chain management within the food industry?* *-Can you provide examples of successful implementations of digital technologies in food production, distribution, or retailing?* *-How do digital technologies contribute to enhancing food safety standards and traceability throughout the supply chain?* *-What are the main challenges or barriers faced by food businesses in adopting digital solutions, and how can these challenges be addressed?* • Participants engage in facilitated discussions, sharing insights and experiences related to the topic. • Facilitator encourages critical thinking and active participation from all group members.	Group discussion facilitated by the instructor	• Paper • Pens

5	**Wrap-Up and Quick Feedback** (5 minutes) • Facilitator summarizes the key points covered during the session and invites participants to share their main takeaways. • Participants provide brief verbal feedback on the effectiveness of the session and any suggestions for improvement. • The session concludes with appreciation for participants' engagement and contributions.	Summary and reflection facilitated by the instructor	-

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Readings Compilation: "Understanding Digital Technologies"** • Participants review a compilation of short articles and videos introducing digital technologies in the food supply chain. • Readings cover topics such as the role of digitalization, emerging trends, and potential challenges. • Participants engage in both reading and viewing materials to gain a comprehensive understanding.	Reading and viewing	• Reading Materials *Article How Digital technologies can save the food system* • Videos *Video Digital Agriculture* Video 6AI for food tech
15	**Individual Reflection Exercise** (20 minutes) • Participants reflect on the key concepts learned during the synchronous session and through the readings. • They write a brief response addressing basic definitions, major challenges, and potential solutions related to digital technologies. • Reflection exercise encourages participants to consolidate their learning and apply it to real-world scenarios.	Self-reflection and written response	• Unite 1 – Glossary p. 10 • Lecture & Reading Notes • Markers & Pens

UNIT 2: Digital Certification Systems and Their Applications

Aim:

To explore the critical role of digital certification systems within the food supply chain and understand their practical applications in ensuring the authenticity, safety, and compliance of food products.

Outcomes:

- Gain insights into how digital certification systems work and their key components.
- Understand the applications of digital certification systems in ensuring product authenticity, transparency, and sustainability.
- Explore regulatory aspects and compliance requirements related to digital certification systems in the food industry.
- Develop practical skills in verifying product certifications using digital certification systems.

Overall duration:

- **Synchronous:** 1 hour
- **Asynchronous:** 30 minutes

Structure of Unit 2

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
10	**Introduction and Overview of Digital Certification Systems** • The facilitator provides a brief introduction to Unit 2, highlighting the importance of digital certification systems in ensuring trust and authenticity in the food supply chain. • Key components and applications are outlined.	Lecture-style presentation	• Unit 2 p. 11-12 • Projector or Screen
30	**Theory Session: "Digital Certification Systems: Safeguarding Trust and Authenticity"** The facilitator presents theoretical knowledge about digital certification systems, focusing on their key components and applications in ensuring product authenticity, transparency, and sustainability.	Lecture-style presentation	• Unit 2 p. 11-12 • Projector or Screen
20	**Interactive Group Discussion: "Regulatory Aspects and Compliance"** • Participants are divided into small groups and given specific questions or prompts related to regulatory aspects and compliance requirements of digital certification systems in the food industry.	Group discussion	Paper, Pens

	Example of the questions: - *How does consumer trust play a crucial role in the successful application of digital certification systems,?* - *How do government regulations contribute to consumer protection regarding the use of digital certification systems in the food industry?* - *How do you think digital certification systems contribute to enhancing transparency and accountability in the food supply chain,* - *What implications do you think non-compliance with regulatory requirements for digital certification systems may have on consumer trust and industry reputation?* - • They engage in facilitated discussion, sharing insights and perspectives.	facilitated by the instructor	

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Implementing Digital Certification Systems in the Food Supply Chain** • Explore the critical role of digital certification systems (activites) • Participants are instructed to read through the materials (worksheet) and reflect on how digital certification systems have been implemented in real-world scenarios to ensure product authenticity, transparency, and sustainability. • After reading, participants are required to write a brief reflection summarizing key insights from the case studies and their implications for the food supply chain.	Reading and individual reflection	• Worksheet 1.1 • Laptop, paper, pen
optional	**Online Quiz on Digital Certification Systems:** • Participants are directed to an online quiz platform where they will find a set of multiple-choice questions related to digital certification systems and their applications in the food supply chain. • The quiz covers key concepts discussed in the synchronous session and theoretical content of Unit 2.	Online quiz for self-assessment	• Internet access

	• Participants are given a time limit to complete the quiz, and upon submission, they receive immediate feedback on their responses, allowing them to assess their understanding of the topic.		

UNIT 3: Utilizing Big Data and Artificial Intelligence (AI) for Market Analysis, Product Development, Operational Efficiency, and Decision-making Process

Aim:

To explore the transformative power of big data and Artificial Intelligence (AI) within the food supply chain, focusing on market analysis, product development, operational efficiency, and decision-making processes.

Outcomes:

- Understanding the role of big data and AI in market analysis, product development, and operational efficiency within the food industry.
- Recognizing the challenges and considerations associated with the utilization of big data and AI.
- Analyzing real-world data to identify trends in consumer preferences and proposing innovative food products or menu items based on market trends.

Overall Duration:

- Synchronous: 1 hour
- Asynchronous: 30 minutes

Structure of Unit 3

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
20	**Introduction and Overview of the Module** • The facilitator provides a introduction to Unit, emphasizing the transformative power of big data and AI within the food supply chain. • Key concepts related to big data and AI are introduced.	Lecture-style presentation	• Unit 3 p. 14-16 • Projector or Screen
10	**Session:** Big Data and Artificial Intelligence (AI) for Market Analysis – examples • Participants engage in viewing materials to gain a comprehensive understanding f the subject and see examples of practical use	Viewing	• Video material AI Applications in Food Industry
30	**Interactive Group Discussion: "Challenges and Opportunities"** • Participants are divided into small groups and given specific questions or prompts related to the challenges and opportunities of utilizing big data and AI in the food supply chain. Example of questions: - *What are some opportunities that big data and AI present for businesses in the food supply chain, particularly in terms of market analysis, product development, and operational efficiency?* - *Reflecting on the material, what are some key challenges associated with the utilization of big data and AI in the food industry, such as data privacy, data quality, and data integration?*	Group discussion facilitated by the instructor	• Paper • Pens

	- *How do you think businesses can overcome these challenges to fully leverage the potential benefits of big data and AI in improving decision-making processes and meeting customer demands within the food supply chain?* • They engage in facilitated discussion, sharing insights and perspectives.		

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Practical Activity: "Analyzing Food Trends Using Big Data"** • Participants choose a food delivery platform and collect data on consumer preferences. • They analyze the data to identify market trends and propose a new food product. Presentations and peer discussions follow.	Experiential learning through data analysis and presentation	• Worksheet 1.2 • Laptop/PC

UNIT 4: Using Enterprise Systems (ERP) for Integrated Management of Supply Chain Operations

Aim:

To understand the pivotal role of Enterprise Resource Planning (ERP) systems in the food supply chain and their applications for integrated management.

Outcomes:

1. Describe the components and benefits of ERP systems.
2. Analyze challenges associated with ERP implementation.
3. Develop a proposal for ERP system implementation in a food distribution company.

Overall duration:

- **Synchronous:** 2 hours
- **Asynchronous:** 30 minutes

Structure of Unit 4

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
40	**Theory Session: "Overview of ERP Systems in Supply Chain Management"** • Facilitator presents key components and benefits of ERP systems, focusing on integrated supply chain management, inventory management, accounting, and procurement. • Real-world examples are discussed to illustrate practical applications *Following examples illustrate how ERP systems can be effectively implemented in the food supply chain to optimize various aspects of supply chain management, improve operational performance, and drive business success.* *Streamlined Operations: Imagine a food manufacturing company that implements an ERP system to streamline its production processes. The ERP system automates inventory management, production scheduling, and order processing, leading to increased operational efficiency and reduced lead times.* *Inventory Management: Consider a grocery chain that adopts an ERP system to manage its inventory across multiple stores. The ERP system provides real-time*	Lecture-based with interactive elements	• Unit 4 p. 19-20 • Projector • Whiteboard or flip chart (optional)

	visibility into inventory levels, allowing the company to optimize stock levels, reduce stockouts, and minimize excess inventory holding costs. *<u>Accounting and Financial Management:</u> Discuss the case of a food distribution company that implements an ERP system to improve its financial management processes. The ERP system integrates accounting functions such as accounts payable, accounts receivable, and financial reporting, enabling the company to track expenses, manage cash flow, and generate accurate financial statements.* *<u>Procurement and Supplier Management:</u> Explore the scenario of a food retailer that uses an ERP system to enhance its procurement and supplier management practices. The ERP system streamlines the procurement process, automates purchase order generation, and facilitates communication with suppliers, resulting in improved supplier collaboration, better negotiation outcomes, and enhanced supply chain resilience.*		
30	• **Group Discussion: "Challenges in ERP Implementation"** • Participants engage in a facilitated discussion about challenges in ERP implementation, including integration complexity, change management, data security, and budget constraints. • They share insights and strategies for overcoming challenges.	Interactive discussion facilitated by the instructor	-
50	• **Group Simulation: "ERP Implementation Project Management"** ◦ **Objective:** To simulate the process of planning and managing an ERP system implementation project within the context of the food supply chain.	Interactive exercise in groups 4-6 pax	• Flipcharts and markers

	◦ **Instructions:** Formation of Teams: Divide participants into groups, each representing a fictional food company embarking on an ERP implementation project. Project Scoping: Provide each group with a scenario outlining the specific requirements, challenges, and objectives of their ERP implementation project. For example, one group may be tasked with implementing an ERP system to improve inventory management, while another group focuses on integrating accounting and financial management functions. Project Planning: Instruct each group to develop a detailed project plan, including key milestones, deliverables, timelines, resource allocation, and budget considerations. Encourage participants to brainstorm potential risks and mitigation strategies. Role Assignment: Assign roles to group members, such as project manager, IT specialist, finance manager, operations manager, etc. Each member should be responsible for specific tasks related to the ERP implementation project. Project Execution: Allow groups time to execute their project plans, making decisions and collaborating as a team to overcome challenges and achieve project objectives. Encourage participants to utilize project management tools and techniques to track progress and ensure alignment with project goals. Presentation: At the end of the simulation, each group presents their ERP implementation project plan to the rest of the class. They should discuss their approach, rationale behind key decisions, challenges encountered, and lessons learned during the simulation.		

	Key Learning Outcomes: Understanding the complexities of ERP implementation projects in the food supply chain and applying project management principles and techniques in a simulated real-world		

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30	**Play Role Case Study Analysis:** "Implementing an ERP System in a Food Distribution Company" • In this role-play exercise, you will step into the role of a project manager tasked with implementing an ERP system in a food distribution company. • Participants read a case study on ERP implementation in a food distribution company. • They analyze challenges faced, strategies employed, and outcomes achieved. Participants reflect on key learnings and implications for their own ERP projects.	Reading and individual reflection	Use the exercise 2.4.3. form Unit 4 p. 21

UNIT 5: Activation and Management of E-commerce Platforms for Product Enhancement and Marketing

Aim:

To understand the pivotal role of e-commerce platforms in enhancing product offerings and executing marketing strategies within the food supply chain.

Outcomes:

1. Grasp the significance of e-commerce in transforming the consumer experience in the food industry.
2. Recognize the key components and benefits of utilizing e-commerce platforms.
3. Develop practical skills in launching an e-commerce marketing campaign for a food product.

Overall duration:

- **Synchronous:** 1 hour
- **Asynchronous:** 30 -60 minutes

Structure of Unit 5

A. Synchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
15	**Theory Session: " Activation and Management of E-commerce Platforms for Product Enhancement and Marketing"** • Facilitator presents key components and benefits of E-commerce Platforms and e – commerce in food sector	Lecture	• Unit 5 p. 23-24 • Projector
30	**Interactive Scenario: "Launching an E-commerce Campaign"** • In this scenario-based activity, participants will step into the role of a marketing manager tasked with launching an e-commerce campaign for a specific food product. • They will develop a comprehensive marketing strategy, create a mock-up landing page, allocate a budget, and present their campaign to their peers. • Following the presentations, there will be a peer feedback session to discuss effective e-commerce marketing strategies and provide constructive criticism.	Interactive scenario-based learning, peer presentation, and feedback.	• Worksheet 1.3 • Access to Internet, presentation slides, virtual collaboration tools for peer feedback.

15	**Quick Quiz: E-commerce Essentials** • Participants will engage in a short quiz comprising multiple-choice questions related to the fundamental concepts of e-commerce in the food supply chain. • The quiz will cover topics such as the benefits of e-commerce platforms, key components, and strategies for product enhancement and marketing. • This activity aims to reinforce understanding and assess knowledge retention following the theory session.	Quiz-based assessment.	• Online quiz platform, quiz questions prepared in advance.

B. Asynchronous

TIME (minutes)	ACTIVITY DESCRIPTION	TEACHING METHODS	TEACHING MATERIALS
30-60 min	**Case Study Analysis: Best Practices in E-commerce for Food Businesses** • Participants will independently review two case studies highlighting best practices in e-commerce for food businesses: "MyMuesli" from Germany and "Hortex" from Poland (Best Practices). • They will analyze the strategies employed by these companies, focusing on personalized product offerings, effective use of e-commerce platforms, data utilization for customization, global expansion, and customer engagement. • Participants will reflect on key takeaways from each case study and consider how these strategies can be applied to their own e-commerce initiatives.	Case study analysis, individual reflection.	The best practices provided in the Module 7 p. 26