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Alliance for Innovative Learning Environment in Advanced Agriculture through Technology and Management Project 101187399 - AGRITECH

D3.1 AGRITECH CERTIFICATION FRAMEWORK

#DDTG

#OECON, #PAMEA, #ELGO, #POLITO, #LAND

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List of abbreviations - if necessary

Abbreviation	Full Term	Definition / Explanation
ATM	AgriTech Manager	The professional profile developed within the project, combining agricultural knowledge, technological competencies, and managerial skills.
WP	Work Package	A structured part of the project plan, grouping related tasks to achieve specific objectives.
EQF	European Qualifications Framework	A European reference framework that standardizes learning outcomes and qualification levels (Levels 1–8).
VET	Vocational Education and Training	Education and training designed to prepare learners for specific professions, skills, and trades.
LOs	Learning Outcomes	Statements describing knowledge, skills, and autonomy/responsibility learners are expected to demonstrate after training.
QA	Quality Assurance	Processes ensuring the reliability, consistency, and credibility of assessments and certifications.
HEI	Higher Education Institution	Universities, colleges, and academic institutions offering bachelor's, master's or doctoral education.
HE	Higher Education	Post-secondary academic education (EQF 6–8).
ICT	Information and Communication Technologies	Digital technologies used in data collection, analysis, automation, and connectivity.
IoT	Internet of Things	Network of connected devices and sensors used in agricultural monitoring and automation.
LMS	Learning Management System	Digital platform for organizing, delivering, and tracking training activities.
CAP	Common Agricultural Policy	European Union framework for supporting sustainable agriculture and rural development.
CSA	Climate-Smart Agriculture	Agricultural practices that increase productivity, improve resilience, and reduce environmental impact.
Badge	Digital Credential	A verifiable, digital recognition of competence earned when completing a module or learning achievement.
Certification	Formal Recognition Certificate	The official confirmation awarded when a learner completes all competence requirements and passes assessments.

Executive Summary

The AGRITECH project was established to support the modernization and digital transformation of the agricultural sector by developing new professional roles, as well as learning pathways and opportunities for upskilling. The agricultural sector is undergoing a period of rapid change driven by an increasingly available array of digital tools, data-driven decision-making, automation, sensor technologies, and sustainable approaches to production. Emerging requirements necessitate that farmers, advisors, enterprise leaders, and agribusiness professionals not only understand agricultural systems but also know how to manage technology, plan innovation, and make organizational changes. Within this wider vision, the project identifies and supports the emergence of a new professional profile- the AgriTech Manager. Such a profile will bridge knowledge related to agriculture with advanced technological solutions to enable an organization to adopt innovation in a structured, efficient, and sustainable manner.

This document provides a Certification Framework for the AgriTech Manager profile that ensures translation of the knowledge, skills, and competences defined in previous work into a transparent and measurable system of learning outcomes and assessment criteria. The aim is to develop a certification framework that can be recognized across education and training systems and that supports the needs of new entrants in the agricultural field as well as experienced professionals transitioning into more technology-oriented responsibilities. The framework sets the base to establish a high-quality professional certification pathway that is credible, rigorous, and aligned with European standards.

This document defines the certification in a structured manner and explains how the AgriTech Manager role is conceptualized in relation to professional practice, sector needs and the context of digital transformation in agriculture. It provides a detailed description of the competence areas which comprise the core of the role and frames them in such a way that learning achievements can be evaluated and validated. Those competences will then be aligned to EQF levels 5, 6, and 7 in such a way as to reflect progressive advancement in terms of knowledge depth, technical capability, autonomy, and leadership. This corresponds, respectively, to operational practice, applied analytical decision-making, and strategic innovation management. Due to this tiered structure, the certification addresses the full range of learner profiles, such as vocational learners, early career professionals, specialists, and experienced practitioners who want to enhance their strategic responsibilities.

This framework also details how the certification will be delivered and recognized, including the assessment methods to be used for validation of competencies, the grading and verification mechanism, and quality standards to be upheld during implementation. Moreover, since the certificate will be tested and delivered through a digital environment, the paper gives details on how the framework will subsequently be translated into an online certification model. Such a model will be tested and further developed within the testing and validation activities of the project to ensure that it is functional, usable, inclusive, and fit for deployment within diverse training contexts and European regions. This, therefore, is not only a technical reference document but also a strategic enabler to support professional development and capacity building within the agricultural sector. In setting out a clear and credible certification pathway, AGRITECH will directly contribute to strengthening the workforce that can help steer agriculture toward more resilient, efficient, and sustainable futures. The document provides the long-term foundation for policy, education, and industry uptake of the AgriTech Manager role, supporting continuity, institutional recognition, and international transferability beyond the life span of the project.

1. Purpose, Scope and Governance of the ATM Certification Framework

1.1 Purpose

The AgriTech Manager Certification Framework aims to create a clear and transparent reference system for the formal recognition of competencies produced under the AGRITECH project. This translates the AgriTech Manager job profile and competence model established in Work Package 2 into a systematic array of assessable learning outcomes and explicitly defined evaluation criteria, ensuring that certification is conceptually aligned with sector requirements and practically based on measurable performance indicators. The framework facilitates the establishment of a formal certification pathway corresponding to Levels 5, 6, and 7 of the European Qualifications Framework. It caters to learners and professionals at various levels of competence and professional development during the certification process, while maintaining coherence and comparability across educational systems and national settings. Furthermore, it lays the foundation for the development of the online certification model, which will be piloted and validated in Task 3.2 and formally concluded at Milestone MS4. It guarantees that all future digital assessment and recognition elements will adhere to uniform and stringent qualification criteria.

1.2 Scope

The Certification Framework encompasses the knowledge, skills, and autonomous aspects integral to the professional function of the AgriTech Manager, as described in Work Package 2. It encompasses agronomic, technological, analytical, and management competencies, facilitating innovation uptake and organizational decision-making in agricultural situations. In addition to establishing the certification structure, the framework encompasses the development of learning outcomes corresponding to EQF levels 5, 6, and 7, as well as assessment criteria essential for the valid verification of competence. This document addresses the creation of certification deliverables D3.1 and D3.2, establishing the conceptual framework for the issuance of digital credentials to enhance transparency and mobility in the European labor market. The framework's implementation is scheduled to align with WP3, commencing at Month 10 for development and concluding at Month 18 for validation of the online certification model, which encompasses its application in a pilot environment. The framework does not delineate the operational and logistical components of the pilot implementation, which are addressed in Work Package 4. The long-term strategies for distribution, policy integration, and exploitation are outside the scope of consideration in Work Package 5. Although these topics are conceptually linked to the sustainability of certification, they beyond the explicit boundaries of this paper. The emphasis continues to be on the qualifying framework, assessment validity, and recognized principles of the certification.

1.3 Target Users and Stakeholders

The Certification Framework encompasses a wide array of users and institutional stakeholders. Individuals seeking certification may include vocational learners aiming to enter the agriculture sector, higher education students developing professional specializations, and seasoned practitioners desiring formal acknowledgment of new technology-driven duties. The framework is pertinent for vocational education and training institutions, universities, competence centers, and training hubs that will implement and provide the AgriTech Manager training program. Agricultural firms and sector organizations may utilize the framework to inform recruitment, professional development, and organizational transition plans related to digitalization and sustainability innovation. The project

framework is developed under the auspices of OECON GROUP, with contributions from ELGO, WRLS, DDTG, and LAND, which provide subject matter expertise, assessment design capabilities, and translation assistance. External quality assurance stakeholders may interact with the certification to offer insights on its robustness and usefulness within various evaluation environments.

1.4 Objectives and Expected Results

The primary objective of the Certification Framework is to establish a comprehensive structure for delineating the demonstration of competence at each EQF level pertinent to the AgriTech Manager profile, encompassing the articulation of learning outcomes, the specification of assessment methods, and the definition of evidence requirements. Another purpose is to ensure the certification is accessible to multilingual European audiences, utilizing English as the reference language, while translations will be produced according to the coordination methods established in WP3. The framework will undergo validation for digital implementation in Task 3.2 by assessing its clarity, usability, and functionality in authentic learning environments. The outcome is anticipated to be a certification system that is recognized, credible, scalable, and capable of facilitating mobility and employability through the issuance of interoperable digital credentials.

1.5 Design Principles

This certification framework is founded on a series of fundamental design principles that ensure the certification's relevance and trustworthiness. The primary premise is alignment and coherence: ensuring that the certification is entirely traceable to the competency architecture and curriculum frameworks established in previous project phases. The second concept is EQF consistency: the learning outcomes and evaluation criteria must reflect significant and gradual differences in complexity, autonomy, and responsibility throughout levels 5, 6, and 7. The framework will be valid, ensuring assessments accurately measure their intended objectives; reliable, providing consistency across various contexts; and fair, offering equitable circumstances for evaluation. Transparency is a fundamental principle: evaluation standards and certification requirements are explicitly articulated to learners and institutions, facilitating transferability among various training providers. The framework will be constructed to be digital by default, ensuring preparedness for online distribution, remote evaluation, and the issuing of secure digital credentials.

1.6 EQF Alignment Strategy: Levels 5–6–7

Alignment to EQF levels 5, 6, and 7 is achieved using a systematic technique. The competence profile described in WP2 is divided into learning outcomes that delineate the knowledge, abilities, and autonomy the learner is expected to exhibit. Internal alignment matrices differentiate levels of theoretical comprehension, task complexity, and decision-making autonomy, subsequently assigning each learning outcome to an EQF level. Upon achieving this, suitable assessment procedures for each level are determined, and performance standards and rubrics are established to guarantee clarity and consistency in evaluation. Thereafter, the level assignments and assessment schemes undergo internal and external reviews for consistency and validity. The certification framework facilitates learner advancement through progressively more sophisticated levels of competence.

1.7 Governance, Roles and Responsibilities

The governance of the Certification Framework reflects the management arrangement of Work Package 3 and the AGRITECH project. The OECON GROUP is responsible for overseeing the development and approval process of the framework to ensure proper adherence to project milestone deliverables and for maintaining the integrity of the certification logic. Content creation, assessment criteria, and translation materials are contributed by ELGO, POLITO, DDTG, and LAND. For conceptual continuity, consultations are made with Work Package 2 leads. Work Package 4 partners are

approached for consultations on whether the framework will be implementable under pilot conditions. Notification and communication of revisions, improvements, and clarifications are subjected to a structured change control procedure that enables transparency and version integrity.

1.8 Document Architecture and Versioning

This document is structured to reflect the logical development of the certification framework:

- Section 1 provides purpose, scope, principles, and governance.
- Section 2 describes the competence of architecture and learning outcomes derived from Work Package 2.
- Section 3 elaborates on the EQF mapping and assessment design details.
- Section 4 describes operational and delivery considerations.
- Section 5 presents quality assurance, review, and appeals procedures.
- Section 6 outlines the digital credential model.

Annexes provide detailed matrices, grading rubrics, procedural templates, and language assets.
The document follows a version control process to ensure consistent updating and traceability.

1.9 Interfaces and Dependencies

The framework depends directly on the competence profile, curriculum prototype, and learning materials developed in Work Package 2. Its operationalization will be tested and validated through the online certification model in Task 3.2 and then through the pilot activities in Work Package 4. In addition, dissemination and sustainability strategies developed in Work Packages 5 and 6 will be built upon the certification established here to support wider sector uptake and long-term continuity.

1.10 Compliance, Ethics and Data Protection

The implementation of the certification framework will be carried out in conformity with the ethical, confidentiality, and data protection requirements under the Grant Agreement. All personal data related to candidates, assessments, and certification records will be processed securely and used only for legitimate and recognized purposes. The design of the certification is accessible and fair; reasonable accommodation and formal appeals are allowed, and these will be presented in detail in the following sections.

2. The AgriTech Manager Role and Competence Architecture

2.1 Definition of the AgriTech Manager Role

The AgriTech Manager (ATM) is a professional role arising from the rapid digitalization and sustainability evolution in the agricultural industry. This position encompasses three interrelated areas of expertise: a fundamental comprehension of agricultural production systems, a practical proficiency in digital and technical solutions, and the managerial acumen to direct strategic decision-making and organizational transformation. The AgriTech Manager functions at the intersection of agricultural science, technological innovation, and adaptive leadership, positioning them as a pivotal figure in assisting agricultural organizations in the integration of new tools, data-driven methodologies, and advanced processes into their operations.

In contrast to conventional agricultural professionals whose roles are confined to production oversight or advisory functions, the AgriTech Manager must analyze intricate agronomic scenarios, identify and assess appropriate technological solutions, evaluate their effects on environmental and economic sustainability, and facilitate the implementation and adaptation of these solutions within actual farm or organizational settings. This position requires the capacity to convert technology potentials into pragmatic, context-aware solutions that optimize efficiency, minimize resource waste, enhance monitoring and traceability, bolster resistance to environmental stress, and support long-term sustainability objectives. The AgriTech Manager must serve as a mediator among many stakeholders, including farmers, enterprise directors, technicians, technology providers, policymakers, and researchers, enabling mutual comprehension and coordinated responses to innovative opportunities and difficulties.

2.2 Professional Context and Sectoral Relevance

The role of AgriTech Manager has become significant due to several structural transformations impacting the agricultural sector. Digitalization has facilitated novel methods of data collecting, surveillance, and automation, hence generating prospects for more accurate, informed, and adaptable decision-making. The incorporation of sensors, satellite technology, drones, artificial intelligence, robotics, and cloud-based data platforms necessitates that agricultural workers cultivate technological literacy and analytical reasoning skills that were not traditionally included in normal agricultural competencies. The shift towards climate-resilient and environmentally sustainable agricultural methods has heightened the necessity for strategic resource planning, environmental risk assessment, and the design of sustainable production systems.

The AgriTech Manager functions within a professional environment marked by ongoing technology advancement, regulatory modifications, environmental limitations, and fluctuating market and trade dynamics. The position is crucial for facilitating agricultural organizations' adaptation and competitiveness in a global context, while also advancing broader societal goals concerning food security, biodiversity conservation, carbon mitigation, and rural development. In smaller agricultural firms, the AgriTech Manager may directly spearhead the adoption of innovations, whereas in bigger organizations, the function may encompass strategic planning, coordination of multidisciplinary teams, and supervision of organizational transformation initiatives. In advice and consultancy roles, the AgriTech Manager may assist farmers or organizations in assessing investment prospects and technology selections, as well as in formulating and executing knowledge transfer projects.

2.3 Functions and Responsibilities

The core responsibilities of the AgriTech Manager can be understood in terms of three progressive layers of professional action: operational implementation, analytical decision-making and strategic leadership. At the operational level, the role involves understanding agricultural production processes and applying standardized technological tools for monitoring, measurement, recordkeeping and operational support. At the analytical level, the AgriTech Manager interprets data outputs, identifies patterns, evaluates technology performance in context, supports troubleshooting, and adapts system use to varying environmental, resource or organizational conditions. At the strategic level, the AgriTech Manager formulates innovation pathways, evaluates investment priorities, plans organizational learning processes, leads interdisciplinary discussion and supports adoption of new practices at institutional or enterprise scale. Moreover, the AgriTech Manager needs to ensure and secure handling of digital agricultural data and awareness of cybersecurity risks associated with IoT and cloud-based systems.

These responsibilities require not only technical understanding and methodological capacity, but also communication and leadership skills. The AgriTech Manager must be capable of articulating technological benefits and risks in ways that build shared understanding among decision-makers and practitioners. The role therefore requires a strong capacity for stakeholder engagement, negotiation, reasoning and the facilitation of change in environments where traditions, economic pressures and risk aversion may limit technological adoption.

2.4 Competence Architecture: Core Domains

The competence framework for the AgriTech Manager comprises a systematic arrangement of interconnected competence domains that together delineate the requisite knowledge, abilities, and autonomy for optimal performance. These domains constitute the basis for the formulation of learning outcomes and assessment standards. The initial domain pertains to the comprehension of agricultural systems and sustainability. It includes expertise in plant and animal production, soil and water management, environmental effects, and the capacity to assess agricultural choices on resource efficiency, resilience, and ecological accountability. The second domain pertains to digital agricultural technologies and necessitates the learner's comprehension, selection, and application of tools like sensor networks, automated machinery, geospatial systems, data platforms, and decision-support technologies in practical scenarios. The third domain pertains to data analysis and decision-making, encompassing the capacity to comprehend intricate datasets, extract insights, assess patterns and trends, and employ evidence-based reasoning to facilitate agricultural planning and management. The fourth domain pertains to leadership and innovation management, encompassing the capacity to strategize and orchestrate innovation adoption, facilitate team dynamics, promote organizational learning, mitigate resistance to change, and guarantee the implementation of technological advancements in a socially and economically sustainable fashion.

These fields of skill are interrelated rather than discrete. The AgriTech Manager must amalgamate agricultural expertise with technology selection, analyze data in the context of actual production systems, and convert information and analysis into strategic or operational decisions that correspond with company objectives. Effective architecture thus establishes the conceptual basis for aligning learning goals with EQF levels and creating assessments that accurately represent genuine professional responsibilities.

3. Competence Framework Mapped to EQF Levels 5–6–7

3.1 Rationale for EQF Alignment

The alignment of the AgriTech Manager Certification Framework with the European Qualifications Framework (EQF) is based on the overarching objectives of promoting transparency, comparability, and acknowledgment of professional competencies within the European education and labor sectors. The EQF serves as a common reference framework that articulates learning outcomes in relation to knowledge, skills, and degrees of professional autonomy. The AgriTech Manager qualification is positioned at Levels 5, 6, and 7 of the EQF, facilitating a systematic advancement from basic operational skills to data-driven decision-making and, ultimately, to strategic leadership in innovation processes. We need to underline that the title "Manager" at Level 5 refers to the management of technical processes, not necessarily organizational personnel management. In some cases because of National Frameworks, we need to consider using the title "AgriTech Specialist" for Level 5 and "AgriTech Manager" for Levels 6/7.

Agriculture is a dynamic field that intersects tradition, technology, environmental policy, food systems, supply chain economics, and climate adaptation. A singular, homogeneous qualification would inadequately represent the diverse tasks necessary for overseeing contemporary agricultural development. EQF alignment guarantees that the certification acknowledges learning accomplishments at all levels of professional development. It allows learners to commence the certification based on their existing proficiency and advance as their responsibilities develop. This method guarantees that employers, educational institutions, and regulatory authorities can comprehend the certification's value unequivocally, as EQF levels are broadly acknowledged across national qualification frameworks. It is important to note that a student may apply for any EQF certification level, provided that they meet the relevant prerequisites, even if they do not hold a formal certification from the preceding EQF levels.

3.2 EQF Level 5: Operational Competence and Applied Practice

EQF Level 5 signifies the proficiency of a learner in utilizing established techniques, tools, and procedures within recognized agricultural and technological contexts. The learner has a fundamental comprehension of agricultural processes, including crop and animal management, soil and water considerations, and the essential principles of sustainability. The individual may utilize digital tools, including data input platforms, monitoring devices, field sensors, or automated equipment, in compliance with prescribed instructions or operating norms.

At this level, the learner is not yet required to assess alternative actions or justify modifications in response to changing conditions. Performance is defined by the capacity to adhere to structured processes with precision, uphold data integrity, and facilitate the adoption of technology-assisted agricultural practices under the supervision of seasoned specialists. The learner may assist with data gathering, preliminary problem identification, or standard system modifications, but generally operates within the parameters and processes established by others. This level is specifically designed for persons initiating their engagement with digitization in agriculture, necessitating organized assistance to enhance confidence and operational familiarity.

3.3 EQF Level 6: Analytical Competence and Adaptive Decision-Making

At EQF Level 6, the learner exhibits the capacity to amalgamate agricultural expertise with technical reasoning to facilitate adaptive problem-solving in dynamic or context-specific scenarios. This level signifies a conceptual transition from the procedural and routine focus of Level 5 to a more interpretative and analytical approach to practice. The learner is now required to analyze data produced

by digital agricultural systems, assess its dependability, discern trends, and make conclusions that impact operational decisions, rather than merely applying known methodologies.
Proficiency at this level entails identifying the ramifications of various technical alternatives, appraising risks, analyzing resource trade-offs, and choosing suitable interventions that correspond with sustainability and productivity goals. The learner functions autonomously and may substantiate decisions with evidence rather than habit. The person is increasingly cognizant of the social, environmental, and economic elements influencing agricultural decision-making and can modify behaviors to align with local conditions, climatic pressures, or organizational limitations. This level corresponds to the duties of agronomists, agricultural consultants, farm management specialists, and novice innovation facilitators.

3.4 EQF Level 7: Strategic Competence and Innovation Leadership

EQF Level 7 signifies a level of professional proficiency where the individual can spearhead intricate innovation processes and facilitate organizational change. The individual demonstrates a comprehensive and sophisticated understanding of agricultural systems, digital technologies, sustainability requirements, market dynamics, and regulatory frameworks. The learner can synthesize extensive information, see new difficulties and opportunities, and devise strategic responses that direct long-term organizational growth.
Proficiency at this level encompasses the formulation of innovation trajectories, the orchestration of multi-stakeholder partnerships, the facilitation of discourse among participants with divergent priorities, and the management of opposition or ambiguity throughout transformation processes. The learner exhibits the ability to function amidst insufficient information, making decisions that entail considerable operational, environmental, or economic ramifications. This level aligns with professional positions in leadership, consultation, organizational direction, collaborative management, research-based advisory roles, and strategic policy execution.

3.5 Progression and The Internal Logic of Learning Development

The three levels are interconnected, embodying a cohesive and deliberate progression of learning and professional development. The change from Level 5 to Level 6 is marked by a shift from executing activities to comprehending and evaluating the ramifications of those actions. The progression from Level 6 to Level 7 signifies a shift from educated decision-making to strategic orchestration and leadership. The framework acknowledges that leadership in agricultural technology innovation cannot be attained only through theoretical knowledge; it develops progressively through the accumulation of procedural expertise, analytical insight, contextual understanding, and reflective practice.
The framework's architecture accommodates learners at various developmental stages and enables their progression as their skills evolve. This path guarantees that the certification is both academically sound and relevant for practical agricultural change, where leadership relies on the amalgamation of knowledge, technological proficiency, and adaptive judgment.

3.6 Foundation for Assessment Model Design

The distinctions articulated in this section form the basis for the assessment system outlined in the next chapter. The type of evidence required to demonstrate competence varies across levels because the cognitive demand and professional responsibility differ. The assessment design therefore moves from demonstration of correct application to demonstration of analytical reasoning, and finally to demonstration of strategic leadership. *The framework thus ensures that the certification not only recognizes competence but also supports the development of professional identity, critical awareness and capacity for innovation.*

4. Assessment Methodology and Certification Award Criteria

4.1 Assessment Philosophy and Principles

The evaluation technique supporting the AgriTech Manager Certification Framework is founded on the concept that competence should be exhibited by genuine and significant performance rather than through abstract or solely theoretical recollection. The AgriTech Manager role necessitates the amalgamation of agronomic expertise, digital proficiency, analytical acumen, and leadership in innovation. Consequently, the assessment methodology must embody these interconnections and appraise the learner's ability to apply knowledge in practical scenarios. The evaluation framework prioritizes tasks that reflect the complexity of actual agricultural scenarios, including assessing field data, identifying suitable technology solutions, analyzing sustainability implications, and suggesting organizational strategies for the adoption of innovation.

The evaluation technique is structured to guarantee equity, uniformity, and clarity. Students must comprehend the expectations linked to each work, the criteria utilized for performance assessment, and the degree of independence necessary at each EQF level. To provide reliable evaluation, assessors must utilize explicit criteria that differentiate skill levels according to reasoning depth, interpretation correctness, solution selection sophistication, and choice justification confidence. The system thus incorporates standardized rubrics, narrative evaluation guidelines, and moderation protocols to guarantee uniform judgments among assessors, institutions, and national contexts.

Ultimately, given the certification will be administered and verified in a digital environment, the examination design incorporates the online format from the beginning. Assessments will be organized to facilitate administration, monitoring, submission, and review via a secure digital platform, ensuring accessible for various learners and institutions.

4.2 Assessment Methods Across Competence Levels

The evaluation of competence under this framework progresses through the three EQF levels to denote the escalating cognitive complexity, autonomy, and professional responsibility linked to each certification level. At EQF Level 5, evaluation emphasizes verifying the learner's capacity to implement established procedures with precision and consistency. This may entail showcasing the proper utilization of digital tools, precise execution of data collecting tasks, or suitable application of sustainable approaches within standard agricultural settings. The focus is on showcasing dependable execution rather than autonomous assessment. At EQF Level 6, assessment necessitates the student to analyze information, assess circumstances, and make informed decisions among options. Tasks at this level may entail reviewing datasets produced by monitoring technology, evaluating potential interventions in response to identified trends, or modifying operational decisions to account for environmental or resource factors. The learner must substantiate decisions with facts, illustrating that choices are rational, contextually relevant, and consistent with agricultural and environmental goals. At EQF Level 7, evaluation focuses on the ability to formulate, advocate for, and direct innovation strategies. Responsibilities may encompass formulating a strategic implementation plan for technology adoption, evaluating organizational readiness for transformation, devising cross-stakeholder communication strategies, or articulating a justification for investment in new technology. The learner must exhibit the ability to function autonomously, navigate complexity, evaluate various interrelated factors, and assume accountability for the wider implications of decision-making. Evaluation at this level necessitates an oral or written defense of strategic suggestions, expert discourse, thoughtful reasoning, and the synthesis of diverse evidence sources.

4.3 Evidence Requirements and Performance Standards

Competence is demonstrated through the submission of evidence that reflects the learner's ability to perform tasks associated with the AgriTech Manager role. Evidence must be sufficiently detailed and authentic to allow assessors to determine whether the learner has met the relevant learning outcomes. Performance standards vary according to EQF level and are defined by the depth of explanation, the precision of interpretation, the independence with which decisions are made and the degree of strategic foresight demonstrated.

To ensure consistency, assessors draw on structured evaluation criteria that describe the characteristics of performance at different levels. These criteria articulate distinctions between routine execution, adaptive reasoning and strategic vision. They also outline how reasoning is documented and how decisions are justified. Assessors are trained to apply these standards consistently and are expected to provide feedback that explains evaluation decisions clearly. Moderation processes are applied where necessary to ensure comparability across different assessors or institutions.

4.4 Capstone Assessment and Integration of Competence

The culmination of the certification pathway occurs through an integrated capstone assessment designed to demonstrate the learner's ability to synthesize agricultural, technological, environmental and organizational considerations in a unified project. The capstone assessment requires the learner to define a real or realistic challenge in agricultural innovation, analyze the technological and operational implications, develop a strategy to implement technological solutions and present a justified plan for organizational or farm-level transformation.

The capstone assessment is particularly important for learners seeking certification at EQF Level 7, as it demonstrates the transition from analysis to leadership. However, it also serves an integrative purpose for learners completing the pathway at Level 6, ensuring that analytical decision-making is connected to practical implications and implementation strategies. The capstone is evaluated through a combination of written documentation, data interpretation, stakeholder planning and oral or digital presentation, ensuring that the learner demonstrates clarity of reasoning, coherence of strategy and awareness of the broader socio-technical and environmental implications of innovation.

4.5 Certification Award, Progression and Reassessment

Certification is awarded when the learner has demonstrated competence in accordance with the required learning outcomes, performance standards and evidence criteria associated with the selected EQF level. Learners may begin the certification process at the level corresponding to their prior experience and qualifications and may progress to higher levels as they develop new capabilities. Progression is cumulative, meaning that higher-level certification assumes mastery of the knowledge and skills associated with preceding levels.

If a learner does not initially meet the required performance standard, reassessment is permitted under defined conditions. Reassessment processes are designed to ensure fairness and to support learning, without compromising the integrity of certification standards. Records of certification achievements are stored securely in accordance with data protection provisions and may be linked to digital credentials to ensure portability and long-term visibility of qualifications.

4.6 Certification Decision Rules and Award Logic

This section defines the formal decision rules used to determine certification outcomes within the AgriTech Manager Certification Framework. While previous sections describe assessment philosophy, methods, rubrics and quality assurance principles, the present section specifies **how assessment evidence is translated into pass, reassessment or fail decisions** in a transparent, consistent and auditable manner. The decision rules apply across EQF Levels 5, 6 and 7, with level-specific requirements as specified below.

Minimum Requirements per Competence Domain

Certification decisions are based on the principle of **domain integrity**, reflecting the integrated nature of the AgriTech Manager professional role. The certification framework is structured around four core competence domains:

1. Sustainable Agriculture and Environmental Responsibility
2. Digital Agricultural Technologies and Systems
3. Data Interpretation, Evidence-Based Reasoning and Decision-Making
4. Leadership, Communication and Innovation Management

All four competence domains are **mandatory** for certification at any EQF level. The following rules apply:

- A learner must demonstrate at least a **minimum acceptable standard** in **each competence domain** in order to be awarded certification.
- **Full compensation across domains is not permitted**. High performance in one domain cannot offset a failure to meet minimum requirements in another domain.
- Where performance in **one competence domain** falls below the minimum standard, the learner may be offered **targeted reassessment** limited to that domain.
- Where performance in **two or more competence domains** falls below the minimum standard, certification is not awarded at that level.

This approach safeguards professional integrity by ensuring that certified AgriTech Managers demonstrate balanced competence across sustainability, technology, data-driven decision-making and leadership, rather than excellence in isolated areas.

Weighting of Rubric Dimensions

Within each competence domain, learner performance is evaluated using the rubric dimensions defined in Annex B. To support consistent decision-making, the following weighting is applied to rubric dimensions across all EQF levels:

Rubric Dimension	Weight
Knowledge Understanding and Conceptual Clarity	25%
Application and Technical Execution	30%
Analytical Reasoning and Decision Justification	25%
Autonomy, Communication and Professional Responsibility	20%

In addition to weighted scoring, the following **non-waivable requirements** apply:

- At **EQF Levels 6 and 7**, *Analytical Reasoning and Decision Justification* must meet at least the minimum standard. A learner cannot be certified at these levels if analytical reasoning is assessed as below standard, regardless of overall score.
- At **EQF Level 7**, *Autonomy, Communication and Professional Responsibility* must also meet at least the minimum standard, reflecting the leadership and strategic accountability expected at this level.

These rules ensure that higher EQF levels reflect not only increased knowledge, but also the capacity for independent reasoning and leadership.

Pass, Reassessment and Fail Logic

Certification decisions are made by aggregating domain-level outcomes according to the following logic:

Outcome	Decision Rule
Pass	Minimum standard met in all four competence domains
Conditional Reassessment	Minimum standard not met in one competence domain only
Fail	Minimum standard not met in two or more competence domains

Where conditional reassessment is applied:

- Reassessment is limited to the competence domain(s) not meeting the minimum standard.
- Reassessment evidence must address the same learning outcomes and performance criteria.
- The EQF level remains unchanged during reassessment.

This approach supports learning progression while maintaining certification standards.

Cut-Score Setting and Review

Initial cut-scores and minimum performance thresholds are defined by the **Certification Governance Group** in accordance with the assessment rubrics, EQF alignment and professional role requirements. Cut-scores are subject to structured review:

- Following pilot implementation and validation activities conducted under Work Package 4.
- At regular intervals thereafter, or when significant changes occur in assessment design, professional requirements or regulatory context.

Any modification of cut-scores must be justified through documented evidence, reviewed within the quality assurance framework described in Section 5, and recorded through the document versioning and change control procedures.

Moderation Triggers

To ensure fairness and consistency, moderation procedures are automatically triggered in the following situations:

- Assessment results fall within a predefined **borderline range** around the cut-score.
- There is **significant divergence** between assessors' judgments across domains or rubric dimensions.
- Certification decisions are based on **EQF Level 7 capstone assessments**, given their strategic importance and high level of professional autonomy.

Moderation outcomes are documented and form part of the certification record, in line with the quality assurance and data protection provisions of the framework.

5. Quality Assurance, Moderation and Governance of Assessment

5.1 Quality Assurance Framework

The quality assurance framework for the AgriTech Manager Certification guarantees that all assessment and certification processes are dependable, transparent, fair, and uniform throughout the institutions and contexts in which the certification is administered. The certification acknowledges professional competence with immediate consequences for agricultural innovation and organizational decision-making; therefore, it is imperative that learner performance evaluation adheres to stringent academic and professional criteria. Quality assurance functions at various levels, starting with the explicit definition of learning outcomes and assessment criteria, progressing through the training and standardization of assessors, and culminating in the evaluation and validation of assessment judgments.

Quality assurance includes the design of learning and assessment materials, ensuring that assignments are practical, pertinent to agricultural practice, and suitably matched with the goals and obligations of the AgriTech Manager position. The accreditation must consequently encompass not only technical expertise but also the integrative reasoning, judgment, and ethical awareness necessary to facilitate sustainable agricultural change. All assessment instruments are pre-evaluated to guarantee that they do not favor certain cultural, geographical, or educational backgrounds, and that they offer equitable opportunities for demonstrating competency irrespective of the learner's prior experiences.

5.2 Assessor Competence and Calibration

The dependability of assessment results is largely contingent upon the readiness and uniformity of the evaluators of learner performance. Assessors must possess a comprehensive understanding of the learning outcomes and standards linked to each EQF level, together with knowledge of the professional contexts relevant to the AgriTech Manager function. To maintain consistency, assessors get training that acquaints them with evaluation criteria, performance standards, and the distinctions among operational, analytical, and strategic competencies. During this preparation, assessors acquire the ability to identify the profundity of explanation, autonomy of judgment, and coherence of thinking that differentiate performance at Levels 5, 6, and 7.

Calibration operations are performed to guarantee that various assessors comprehend and apply the criteria consistently. These actions entail examining sample evidence, deliberating evaluation conclusions, contemplating the interpretation of criteria, and developing a consensus on what defines satisfactory, proficient, or excellent performance. Calibration persists during implementation to maintain the stability of assessment judgments and to resolve any arising problems or ambiguities in interpretation.

5.3 Internal Review and External Validation

Internal review mechanisms are integrated into the certification system to ensure that assessment practices remain coherent, fair and aligned with the intended competence standards. Assessment results are periodically reviewed by designated internal reviewers who verify that the standards have been applied consistently and that learners have received feedback that accurately reflects their performance. When necessary, reviewers may recommend refinements to assessment instruments or adjustments to evaluation guidelines in order to improve clarity and coherence.

In addition to internal review, external validation may be conducted by independent experts familiar with agricultural innovation, vocational and higher education certification, or professional competence

assessment. External perspectives support continuous improvement of the certification and help ensure that the standards reflect evolving practices in agricultural technology and sustainability management. External validation is particularly relevant during Task 3.2, when the certification is tested in an online environment and refined in response to real learner experiences and institutional implementation feedback.

5.4 Appeals, Reassessment and Candidate Support

The certification framework includes mechanisms to ensure that learners are treated with fairness and dignity in the event that they disagree with an assessment decision. A structured appeals process allows learners to request clarification or request a formal review of an assessment outcome. Appeals are handled by personnel who were not involved in the original evaluation to ensure impartiality. The process is conducted transparently, with outcomes communicated in clear and respectful language.
Reassessment opportunities are available to learners who have not yet met the required standards, acknowledging that competence development is iterative and that learning is strengthened through reflective practice. Reassessment does not imply leniency in standards; rather, it reflects a commitment to educational quality and learner development.
Throughout the assessment process, learners receive guidance on expectations, instructions for task completion, and feedback that supports continuous improvement. The certification framework therefore values not only the final demonstration of competence, but also the formative learning processes that enable individuals to develop professional identity, responsibility and confidence.

5.5 Record Keeping, Documentation and Data Protection

All records associated with learner assessment, certification, progression and appeals are stored securely in compliance with the data protection, confidentiality and ethical provisions of the project and relevant legal requirements. Certification documentation is maintained in a structured and traceable format to ensure that awards are verifiable, durable and portable for future educational or employment purposes. The digital certification and credentialing model developed later in the project will provide mechanisms to ensure the long-term accessibility and international recognizability of the qualification.

5.6 Data Handling and Protection in Certification Processes

The AgriTech Manager Certification Framework is implemented in compliance with applicable data protection and privacy legislation, including the General Data Protection Regulation (GDPR). Beyond general compliance principles, this section specifies the **operational data handling arrangements** applicable to certification, assessment and digital credentialing processes.

Roles and Responsibilities
For the purposes of certification delivery:

- The **Certification Issuer** acts as the **Data Controller**, determining the purpose and means of processing personal data related to assessment, certification and credential issuance.
- Digital platforms or service providers supporting assessment delivery, storage or credential verification act as **Data Processors** under documented agreements with the Data Controller.

All data processing activities are limited to what is necessary for certification integrity, quality assurance and verification.

Types of Data Processed
The following categories of data may be processed:

- Learner identification and registration data
- Assessment submissions and evaluator records
- Certification outcomes and progression records
- Digital credential metadata

Assessment artefacts and performance evidence are processed solely for evaluation, moderation, audit and appeals purposes.

Data Storage and Retention
Data retention follows the principle of proportionality:

- **Assessment evidence and evaluation records** are retained for a defined audit period necessary to ensure certification integrity and to support appeals or quality review procedures.
- **Credential metadata and certification status** are retained long-term to ensure verifiability of awarded credentials.
- Raw assessment artefacts are stored in secure, access-restricted environments and are not publicly accessible.

Retention periods are reviewed periodically in line with quality assurance and governance requirements.

Learner Rights and Access
Learners have the right to:

- Access their personal data related to certification and assessment;
- Request correction of factual inaccuracies;
- Receive information on how their data is processed and stored.

Requests for erasure are assessed in accordance with legal obligations and certification integrity requirements. Where data is required for auditability, verification or legal compliance, erasure may be limited, with justification communicated transparently to the learner.

Verification and Disclosure Boundaries
Public or third-party verification mechanisms associated with digital credentials confirm **credential validity only**. No assessment grades, rubric scores, qualitative feedback or evidence artefacts are disclosed through verification services.
This ensures transparency and trust in certification outcomes while protecting learner privacy and confidential performance data.

Integration with Quality Assurance
Data handling procedures form part of the overall quality assurance framework described in Section 5. Compliance with data protection requirements is monitored as part of internal review, external validation and continuous improvement activities.

Moreover,

- the digital certification will be secure,
- the data from evaluations and digital credentials will be protected,
- the platform will meet cybersecurity standards.

In addition to GDPR compliance, the certification system will incorporate basic cybersecurity safeguards to protect assessment data, digital credentials and platform integrity. Ethical handling of learner data, including transparency about data usage and storage, is a core requirement.

6. Digital Credentialing and Long-Term Recognition

6.1 Purpose and Role of Digital Credentials

Digital credentials serve as a central mechanism for ensuring that the competences certified through the AgriTech Manager Certification Framework are easily recognizable, verifiable and portable across institutions, geographic regions and professional sectors. In contemporary labor markets, where mobility, digital employability and international collaboration are increasingly essential, traditional paper-based certificates are no longer sufficient on their own. Digital credentials make it possible for individuals to present clear evidence of their qualifications in online environments, professional platforms, employment networks and educational registration systems. They also allow employers and institutions to verify the authenticity of the qualification quickly and reliably through secure, tamper-resistant verification methods. The inclusion of digital credentialing within this framework therefore reflects a strategic commitment to aligning the AgriTech Manager certification with modern expectations for transparency, accessibility and long-term relevance.

6.2 Structure of Digital Credential Representation

The digital certificate for the AgriTech Manager certification is intended to represent the final certification granted and, when applicable, individual competency accomplishments acquired during the process. This indicates that, alongside the comprehensive AgriTech Manager certificate corresponding to EQF Level 7, learners will additionally obtain verifiable digital records that detail the competencies acquired at Levels 5 and 6 or within designated competence domains. This stratified paradigm facilitates a flexible and inclusive methodology for professional growth, enabling individuals to incrementally enhance their skills while obtaining formal acknowledgment at each phase. The information for each certificate explicitly delineates the qualification level, the attained competency domains, the fulfilled evaluation criteria, the issuing organization, and the verification mechanism. This degree of information guarantees that credentials may be readily understood by external stakeholders without necessitating further clarification.

6.3 Verification, Authenticity and Trust

The reliability of digital credentials is contingent upon the strength of the verification methods employed for their issuance and storage. The certification framework employs safe digital credentialing standards that enable learners and third parties to authenticate credentials via reliable digital registries. This mitigates fraud and manual verification procedures, diminishes the risk of credential fraud, and bolsters institutional confidence in the certification. Verification techniques are engineered for durability, guaranteeing that digital credentials remain available beyond the lifespan of any individual technology platform or institutional structure. The enduring recognizability and stability of the credential are reinforced by alignment with established digital credentialing projects, qualification frameworks, and industry registries in Work Package 6, which emphasizes long-term sustainability and ecosystem integration.

6.4 Integration into Institutional and Professional Systems

The digital credentialing model is designed to be interoperable with higher education recognition systems, vocational qualification registers, employer human resource systems and professional learning platforms. This interoperability supports seamless transferability of the certification across different institutional contexts. For educational institutions, the digital credential can serve as formal documentation of learning achievements and can inform credit recognition or progression decisions in degree or professional programs. For employers, digital credentials provide a clear and evidence-based

reference when assessing candidate qualifications for roles involving innovation management, agricultural digital transition or sustainability planning. The alignment of credential metadata with international standards, the certification ensures that the AgriTech Manager qualification is readable and meaningful both within and beyond the agricultural sector.

6.5 Sustainability and Future Recognition Pathways

The enduring durability of the certification and its related digital credentials surpasses the project's duration. The accreditation is intended to be pertinent and flexible, accommodating future technological advancements, agricultural policy initiatives, and sector requirements. Work Package 6 will further delineate the conditions under which certification may be integrated inside sector alliances, educational networks, professional groups, or agricultural advisory services. These collaborations can facilitate the continual enhancement of the competence framework, guarantee sustained institutional demand for certified experts, and augment the visibility and significance of the qualification. The digital credential serves as both a record of acquired knowledge and a fundamental element of a sustainable European professional identity in agricultural technological innovation.

7. Conclusion

The AgriTech Manager Certification Framework presented in this document establishes a comprehensive and coherent foundation for the recognition of competences that are critical to guiding digital and sustainable transformation in the agricultural sector. Developed within the AGRITECH project's broader mission to modernize agricultural training and professional development, the framework translates the AgriTech Manager professional profile into a structured, assessable and internationally recognizable qualification pathway. Through the articulation of learning outcomes, assessment criteria, certification procedures and digital credentialing mechanisms, the framework ensures that the knowledge, skills and professional autonomy associated with the role are demonstrated in a transparent and verifiable manner.

By aligning the certification with EQF Levels 5, 6 and 7, the framework supports progression from foundational operational competence to advanced analytical capacity and ultimately to strategic innovation leadership. This tiered structure acknowledges that agricultural innovation is not achieved through the application of isolated technical skills, but rather through the integration of agronomic understanding, digital fluency, data interpretation, environmental responsibility and organizational change management. The certification therefore recognizes competence as a developmental process and creates pathways for learners and professionals at multiple stages of their careers to engage in meaningful professional growth.

The assessment methodology ensures that competence is evaluated through authentic performance, reasoned decision-making and reflective understanding. The emphasis on transparency, fairness and consistency reinforces the integrity of certification outcomes, while the integration of digital credentialing ensures that qualifications remain visible, verifiable and portable across borders and institutional contexts. The governance and quality assurance structures described in the framework support both immediate implementation and long-term sustainability, establishing processes for review, validation and improvement that can adapt to future developments in agricultural technology, education and policy.

As agriculture continues to evolve in response to technological innovation, climate adaptation challenges and shifting socioeconomic demands, the role of the AgriTech Manager will become increasingly important in leading change, supporting informed decision-making and ensuring that technological advancements contribute to resilient, productive and environmentally responsible agricultural systems. The Certification Framework therefore not only recognizes current professional competence but also supports the emergence of a new generation of sector leaders capable of guiding agriculture toward a more sustainable and technologically integrated future.

The implementation of this framework, followed by its digital operationalization and validation, positions the AGRITECH project to make a lasting contribution to agricultural education systems, professional training environments and strategic innovation capacity across Europe. The AgriTech Manager Certification stands as a structured, credible and forward-looking model that supports both the ongoing transformation of the sector and the professional empowerment of those responsible for shaping its future.

Annex A: EQF Learning Outcome Matrix (Levels 5–6–7)

This annex presents the detailed progression of learning outcomes associated with the AgriTech Manager certification. Each competence domain is expressed through three progressively complex levels of capability. The matrix reflects increasing depth of knowledge, autonomy in decision-making, analytical reasoning, and strategic leadership.
The competence framework is structured around four core domains:

1. **Sustainable Agriculture and Environmental Responsibility**
2. **Digital Agricultural Technologies and Systems Use**
3. **Data Interpretation, Evidence-Based Reasoning and Decision-Making**
4. **Leadership, Communication and Innovation Management**

Learning Outcomes (LOs) are formulated using EQF language, ensuring explicit reference to **knowledge**, **skills**, and **responsibility/autonomy**.

A.1 Competence Domain 1: Sustainable Agriculture and Environmental Responsibility

EQF Level	Learning Outcome Description
Level 5 (Operational)	Demonstrates foundational knowledge of agricultural production systems, including soil, water, crop and livestock management principles. Applies established sustainability practices under guidance, ensuring compliance with standard procedures. Recognizes the importance of environmental considerations but relies on predefined instructions when implementing eco-conscious practices.
Level 6 (Analytical)	Evaluates agricultural decisions in relation to environmental, climatic and resource conditions. Adapt sustainability strategies based on data and contextual variables. Demonstrates an integrated understanding of sustainability trade-offs and justifies decisions that balance productivity, resource efficiency and environmental stewardship.
Level 7 (Strategic)	Designs and leads sustainability-oriented strategies for agricultural systems transformation. Integrates long-term environmental objectives with technological, economic and regulatory considerations. Takes responsibility for promoting systemic sustainability transitions within organizations or regions, influencing long-term planning and innovation adoption.

A.2 Competence Domain 2: Digital Agricultural Technologies and Systems

EQF Level	Learning Outcome Description
Level 5 (Operational)	Uses digital tools, monitoring devices and agricultural information systems correctly under supervision. Follows established operating procedures to set up, maintain and record data from technological systems. Understands basic functions without yet evaluating their relevance or performance.
Level 6 (Analytical)	Selects appropriate digital tools based on agricultural and operational needs. Interprets technological outputs, evaluates system performance and adapts technology use to suit varying environmental or organisational conditions. Justifies technology choices based on comparative benefits, constraints and sustainability implications.
Level 7 (Strategic)	Designs and oversees the integration of advanced technological solutions within agricultural organisations. Leads evaluation of innovation readiness, investment planning and adoption roadmaps. Guides teams through technology transition processes, addressing resistance, training needs and organisational adaptation.

A.3 Competence Domain 3: Data Interpretation, Evidence-Based Reasoning and Decision-Making

EQF Level	Learning Outcome Description
Level 5 (Operational)	Collects, records and reports data from agricultural systems accurately. Understands basic cause–effect relationships but relies on predefined decision rules and external guidance when interpreting results.
Level 6 (Analytical)	Interprets datasets from field monitoring, remote sensing or automated systems to identify trends, anomalies or performance issues. Makes informed decisions based on evidence and explain reasoning clearly. Adjust agricultural practices or technological settings in response to data patterns.
Level 7 (Strategic)	Synthesize multiple sources of complex or uncertain data to formulate innovative strategies and organizational decisions. Anticipates consequences of decisions over time and under changing environmental, economic or policy conditions. Uses reflective reasoning and scenario analysis to guide strategic planning.

A.4 Competence Domain 4: Leadership, Communication and Innovation Management

EQF Level	Learning Outcome Description
Level 5 (Operational)	Communicates effectively in structured agricultural environments and collaborates within established organizational workflows. Contributes to team tasks but relies on others to frame objectives or solve non-routine challenges.
Level 6 (Analytical)	Coordinates tasks, facilitates collaboration and supports problem-solving discussions in multidisciplinary teams. Communicates the implications of technological or sustainability decisions to colleagues and stakeholders. Demonstrates initiative in managing change at the operational level.
Level 7 (Strategic)	Leads organizational innovation processes and guides stakeholder engagement in complex environments. Communicates strategic vision, negotiates priorities, manages uncertainty and supports cultural transition toward digital and sustainable practices. Takes responsibility for long-term organizational learning and transformation pathways.

A.5 Progression Logic Across Levels

The three EQF levels represented in the certification framework reflect a deliberate and pedagogically coherent developmental pathway. At **EQF Level 5**, the learner's competence is centered around the **correct execution of tasks**, following established procedures and applying technological and agronomic knowledge in a structured manner. The learner at this stage demonstrates familiarity with agricultural processes and technological tools, but relies on predefined guidance, operational instructions, and externally determined standards when performing tasks or making basic decisions. The primary aim of this level is to build confidence in the correct and reliable application of digital agriculture techniques and sustainable production practices.

Progression to **EQF Level 6** marks the transition from execution to **interpretation, analysis and adaptation**. At this stage, the learner is expected not only to perform tasks correctly, but to understand why they are performed in particular ways, how outcomes vary under different conditions, and how decisions may need to be adjusted in response to contextual factors such as climate variability, soil conditions, resource constraints, or enterprise priorities. The learner develops the skills required to interpret data outputs, identify patterns, diagnose performance issues and select appropriate actions from multiple alternatives. Autonomy increases, as the learner is expected to justify decisions and take responsibility for their consequences in day-to-day agricultural operations.

At **EQF Level 7**, the learner moves beyond operational and analytic competence to assume **strategic orchestration and leadership** functions. The focus shifts from understanding and responding to existing systems, toward shaping systems, influencing organisational futures and guiding innovation trajectories. The learner demonstrates the capacity to plan technological transitions, facilitate multi-stakeholder coordination, address uncertainty, negotiate trade-offs and steer long-term organisational learning. Decision-making at this level is inherently complex, as it involves aligning technological

potential with operational feasibility, economic viability, regulatory constraints and environmental sustainability. Thus, Level 7 represents **professional mastery** and readiness to act as an agent of transformation.

This progression serves several important purposes. It provides **multiple entry points** for learners and professionals at different stages of their careers, enabling flexibility and inclusivity. It ensures **structured professional advancement**, where each level builds logically on the previous one. It reflects the **evolution of job roles in the agricultural sector**, where digitalisation and sustainability shift responsibilities from manual practice to analytical reasoning and strategic planning. And it guarantees **recognition consistency across diverse education and training systems**, making the certification both nationally adaptable and internationally transferable.

A.6 Application in Assessment and Certification

The progression described in the matrix forms the direct foundation for the assessment design of the certification framework. Each EQF level corresponds to a distinct **mode of cognitive engagement and professional responsibility**, and therefore requires assessment tasks that authentically reflect the nature of decision-making expected at that level.

At **EQF Level 5**, assessments focus on **execution**. Candidates are asked to demonstrate that they can apply procedures correctly, use digital tools accurately, and follow sustainability and agricultural management practices according to established guidelines. Tasks may involve operating monitoring devices, recording field data or performing standard agronomic assessments. The evaluation at this level verifies consistency, accuracy and adherence to best practice rather than independent judgement.

At **EQF Level 6**, assessments require **interpretation and justified choice-making**. Candidates examine data from agricultural or technological systems, identify patterns and anomalies, and select appropriate courses of action. Assessment therefore evaluates the candidate's ability to reason, justify decisions, adapt procedures and explain how variables influence performance outcomes. Evidence is assessed not only for correctness but also for coherence of interpretation and appropriateness to the situational context.

At **EQF Level 7**, assessments focus on **strategic synthesis, leadership and organizational foresight**. The learner must articulate a strategic vision, develop technology adoption or sustainability transition plans, evaluate implementation risks, and engage with stakeholder concerns. Assessment at this level often culminates in a capstone project requiring integrated reasoning across agronomy, data science, technology management and organizational strategy. Performance is evaluated based on the clarity of strategic rationale, anticipated long-term outcomes, and the candidate's ability to communicate, defend and refine their decisions.

The matrix therefore governs the full architecture of the certification, including the design of scoring criteria and evaluative rubrics, the expectations and performance thresholds for the capstone project at Level 7, and the conditions under which certification is awarded. It also informs the **metadata structure of digital credentials**, ensuring that each digital badge or final certificate clearly communicates the level of competence achieved, the type of professional responsibility demonstrated, and the learning outcomes verified. This systematic alignment between competence progression, assessment design and credential representation is essential to ensuring the **credibility, portability and long-term recognition** of the AgriTech Manager certification.

Annex B: Assessment Rubrics and Performance Descriptors

This annex provides the assessment rubrics that guide evaluation of learner performance at each EQF level. The rubrics ensure transparency, fairness and consistency by defining the criteria against which evidence of competence is judged. Each rubric is aligned with the competence domains and learning outcomes defined in Annex A, and reflects the cognitive complexity and professional autonomy expected at each EQF level.
Assessment is based on four overarching criteria:

1. **Knowledge Understanding and Conceptual Clarity**
2. **Application and Technical Execution**
3. **Analytical Reasoning and Decision Justification**
4. **Autonomy, Communication and Professional Responsibility**

These criteria are evaluated differently at each EQF level, reflecting progression from operational execution to analytical decision-making and finally to strategic leadership.

B.1 Rubric for EQF Level 5 (Operational Competence)

Criterion	Performance Descriptor (Level 5)
Knowledge Understanding	Demonstrates correct recall and basic understanding of agricultural and technological concepts relevant to assigned tasks. Shows awareness of sustainability principles, though explanations are procedural and based on predefined guidance.
Application and Execution	Applies established procedures accurately and consistently. Uses tools, devices and data systems correctly when instructions are available. Demonstrates reliability and attention to detail in routine conditions.
Analytical Reasoning	Identifies obvious issues or deviations but relies on external guidance for interpretation and problem-solving. Decision-making remains rule-based rather than context-responsive.
Autonomy and Communication	Works effectively within structured supervision. Communicates clearly in familiar situations. Contributes to team tasks but does not yet independently frame plans, diagnose complex challenges or propose solutions.

Pass Standard at Level 5:
Competence must be demonstrated in routine situations, with accuracy and consistency, and without requiring independent contextual adaptation.

B.2 Rubric for EQF Level 6 (Analytical and Adaptive Competence)

Criterion	Performance Descriptor (Level 6)
Knowledge Understanding	Demonstrates integrated understanding of agricultural systems, technological functions and sustainability interdependencies. Explains cause–effect relationships relevant to planning and operational decision-making.
Application and Execution	Adapts established procedures to reflect environmental conditions, resource constraints or data insights. Selects tools and methods appropriate to situational demands.
Analytical Reasoning and Justification	Interprets datasets, identifies patterns, evaluates alternatives and justifies decisions based on evidence. Demonstrates ability to explain reasoning and recognize implications of choices.
Autonomy and Communication	Works independently within area of responsibility. Coordinates with others, supports problem-solving in team settings, and communicates reasoning clearly to colleagues or stakeholders.

Pass Standard at Level 6:
Competence must be demonstrated through independent judgement, evidence-supported reasoning, and ability to adapt practices to contextual conditions.

B.3 Rubric for EQF Level 7 (Strategic and Innovation Leadership Competence)

Criterion	Performance Descriptor (Level 7)
Knowledge Understanding	Demonstrates advanced and systemic understanding of agricultural, technological, environmental and organizational interactions. Integrates strategic, long-term and cross-sectoral considerations.
Application and Execution	Designs and leads innovation processes, technology adoption strategies or sustainability transition frameworks. Aligns practical actions with organizational priorities and external constraints.
Analytical Reasoning and Strategic Synthesis	Synthesize multiple sources of incomplete, ambiguous or complex information. Anticipates long-term impacts, manages uncertainty, negotiates trade-offs and formulates coherent strategic responses.
Autonomy, Communication and Leadership	Operates with full professional independence. Facilitates stakeholder dialogue, manages resistance to change, advocates for sustainability commitments and articulates strategic vision with clarity and authority.

Pass Standard at Level 7:
Competence must be demonstrated through strategic synthesis, leadership capacity, change management awareness and the ability to shape organizational or territorial innovation trajectories.

B.4 Rubric Usage and Scoring Guidance

Assessors apply these rubrics when evaluating written submissions, practical demonstrations, project portfolios and capstone strategies. Each criterion is assessed as:

- **Exceeds Standard** (performance surpasses expectations for the level)
- **Meets Standard** (performance meets the required level)
- **Below Standard** (performance does not yet meet requirements)

A learner must meet or exceed standards in all criteria to achieve certification at the respective EQF level. Moderation sessions ensure that:

- Interpretations of descriptors remain consistent across assessors
- Borderline decisions are reviewed in dialogue
- Evidence sufficiency is confirmed before awarding certification

B.5 Alignment with Capstone Evaluation

The Level 7 capstone project is assessed using the **Level 7 rubric**, with particular emphasis on:

- Integration of sustainability, technology and organizational strategy
- Justified prioritization of solutions under real constraints
- Stakeholder and communication management
- Forward-looking reasoning and evaluation of long-term outcomes

The capstone is the culminating demonstration of synthesis and leadership.

Annex C: Capstone Project Guidelines

The Capstone Project represents the culminating demonstration of competence for learners pursuing certification at EQF Level 7 within the AgriTech Manager framework. It is designed to validate the learner's capacity to integrate the full range of knowledge, skills and professional responsibilities associated with strategic innovation in agriculture. The capstone is not simply a technical exercise or report; it is a comprehensive, structured and reflective process through which the learner formulates and justifies a strategic response to an identified real-world challenge. This challenge must require the application of advanced reasoning, multidisciplinary understanding and leadership capacity. For candidates at EQF Level 6, the capstone may be undertaken voluntarily as a demonstration of readiness to progress toward strategic-level competence. The capstone assessment within the AgriTech Manager Certification Framework serves as an integrative demonstration of competence; however, its **purpose, scope and complexity differ explicitly across EQF Levels 5, 6 and 7**. To ensure consistent implementation and to avoid uniform application of a single capstone model across levels, this section defines **distinct capstone specifications** corresponding to each EQF level.

Each capstone is aligned with the cognitive demand, degree of autonomy and professional responsibility expected at the respective level. Capstones are therefore **not scaled versions of the same task**, but level-specific demonstrations of competence.

Capstone Characteristics by EQF Level

Dimension	EQF Level 5	EQF Level 6	EQF Level 7
Primary Purpose	Demonstrate correct application of procedures	Demonstrate analytical reasoning and adaptive decision-making	Demonstrate strategic leadership and innovation planning
Scope	Single process, tool or operational task	Defined system component or decision context	Whole organisation, enterprise or territorial system
Problem Framing	Provided or narrowly defined	Partially defined, requiring interpretation	Learner-defined, complex and multi-dimensional
Data Use	Limited or provided datasets	Multiple operational data sources	Complex, uncertain, multi-source evidence
Innovation Expectation	Use of established solutions	Adaptation and optimisation of solutions	Design and justification of innovation pathways
Evidence Produced	Short report and operational artefacts	Analytical report with justification	Strategic dossier and implementation plan
Presentation / Defence	Not required or brief explanation	Structured question-and-answer discussion	Formal oral or digital defence

EQF Level 5 Capstone Specification >> At EQF Level 5, the capstone focuses on **operational competence and applied practice**. The learner demonstrates the ability to correctly apply established agricultural or digital procedures within a familiar context. The task typically involves implementing a defined process, using specified tools, recording outputs and explaining actions taken. The emphasis is on accuracy, reliability and adherence to established practices rather than independent evaluation or strategic planning. Supervision or structured guidance may be assumed.

EQF Level 6 Capstone Specification>> At EQF Level 6, the capstone requires the learner to demonstrate **analytical competence and adaptive decision-making**. The learner is expected to interpret data, evaluate conditions, compare alternative courses of action and justify decisions based on evidence. The task involves a broader system component or decision scenario than Level 5 and requires the learner to adapt procedures to contextual variables such as environmental conditions, resource constraints or organisational priorities. A structured discussion or defence may be included to assess reasoning.

EQF Level 7 Capstone Specification >> At EQF Level 7, the capstone represents the **culminating demonstration of strategic competence and innovation leadership**. The learner defines a complex, real or realistic challenge related to agricultural transformation, sustainability or digital innovation and develops a coherent strategic response. The capstone integrates agronomic knowledge, technological analysis, sustainability considerations and organisational dynamics. It requires the design of an innovation or transition pathway, assessment of risks and trade-offs, and consideration of stakeholder engagement and implementation feasibility. A formal oral or digital defence is mandatory at this level.

Implementation Rule >> Each EQF level requires a **distinct capstone design aligned with the specifications above**. Implementers shall not use a single capstone task across multiple EQF levels with only nominal re-labelling or adjusted grading criteria. Assessment instruments and evidence requirements must reflect the defined level-specific expectations.

C.1 Purpose and Learning Intent

The capstone project serves several interconnected purposes. First, it evaluates the learner's ability to identify and frame a problem or opportunity within a real agricultural or agri-food system. This requires not only technical understanding of production processes but also awareness of the economic, environmental and organizational conditions underlying the situation. Second, the capstone assesses the learner's capacity to analyze the problem using appropriate tools, data sources, and interpretive frameworks. This analytical phase requires the learner to separate symptoms from root causes and to synthesize information that may be incomplete, uncertain or complex.

Finally, and most critically, the capstone examines the learner's ability to translate analysis into a structured and feasible strategic plan for innovation. This plan should articulate the reasoning behind chosen interventions, explain how the proposed approach aligns with sustainability objectives, demonstrate awareness of resource and capacity constraints, and outline how stakeholder engagement and organizational readiness will be addressed. In this sense, the capstone does not merely test knowledge acquisition but rather the **professional maturity** to guide technological and organizational transformation in agriculture.

C.2 Scope and Thematic Focus

The capstone must be situated at the intersection of agricultural production, technological innovation, sustainability imperatives and organizational dynamics. The selected context may be a private farm, an agricultural enterprise, a cooperative, a rural advisory service, an agri-food company, or a public institution responsible for agricultural development. The learner may choose to focus on problems such as inefficiencies in resource use, challenges in climate adaptation, barriers to adoption of digital monitoring systems, lack of data integration for decision support, organizational resistance to innovation, or the need to redesign production processes for sustainability or profitability.

What is essential is that the chosen issue requires more than routine operational intervention. It must be a situation in which context-sensitive analysis and strategic planning are required to achieve improvement. The project must reflect the learner's ability to evaluate the systemic implications of change, including agronomic, technological, environmental, social and organizational factors.

C.3 Structure and Required Components

The capstone project is presented in three interrelated components that together form a coherent narrative from problem identification to strategic proposal.

C.3.1 Context and Problem Definition

In this section, the learner provides a detailed description of the agricultural environment in which the project is situated. This includes relevant agronomic conditions, production systems, resource availability, climatic or environmental considerations, organizational characteristics and economic pressures. The learner must clarify why the issue under examination requires strategic attention. This involves articulating the difference between problems that can be addressed through routine operational adjustments and those that require coordinated innovation, investment or organizational change. The problem definition must demonstrate clarity, relevance, and the potential for the proposed intervention to result in meaningful long-term improvement.

C.3.2 Analysis and Evidence Base

The analytical phase of the capstone requires the learner to establish a reasoned understanding of the causes and implications of the identified challenge. Data may be drawn from field observations, system monitoring outputs, remote sensing tools, economic or productivity records, environmental impact assessments, or stakeholder interviews. The learner synthesizes these inputs into a coherent interpretation, demonstrating the ability to identify critical variables, evaluate cause–effect relationships, and place the issue within broader sustainability or innovation frameworks. The objective is not merely to report data but to demonstrate the ability to convert data into meaningful insight that shapes strategic decision-making.

C.3.3 Strategic Innovation Proposal

The final component presents a strategy for addressing the identified challenge. The proposal should include a clear explanation of the technological, organizational or management practices being recommended, as well as an implementation pathway that identifies phases, dependencies, capacity needs and expected outcomes. The learner must justify why the proposed approach is appropriate by linking the strategy to the analysis conducted, demonstrating awareness of risks and limitations, and explaining how stakeholder support and organizational readiness will be achieved. The strategic proposal must show internal coherence, forward planning, and alignment with sustainability, efficiency and resilience objectives.

C.4 Presentation and Defense

Once the written project is complete, the learner presents the work in a structured oral or digital defense before qualified assessors. The defense provides an opportunity for the learner to demonstrate ownership of the reasoning process, respond to critical questioning, explain trade-offs and defend strategic priorities. The defense is not merely a repetition of the written material but a display of professional judgement, clarity of communication and confidence in leading dialogue on complex agricultural transformation processes. The ability to respond thoughtfully to challenges raised by assessors is considered an essential demonstration of Level 7 competence.

C.5 Evaluation Criteria

The capstone is evaluated using the EQF Level 7 performance descriptors outlined in Annex B. The assessment focuses on the coherence of the strategic argument, the quality and integration of the evidence base, the feasibility and sustainability of the proposed intervention, and the learner's demonstration of leadership reasoning. A capstone project is successful only if it satisfies the expectations of all four evaluation dimensions: knowledge integration, application and strategic execution, analytical reasoning and justification, and autonomy and communication capacity.

C.6 Resubmission and Iterative Development

In cases where the initial submission does not fully meet expectations, the learner receives structured feedback identifying areas of conceptual or strategic improvement. Resubmission is encouraged as part of the professional development process. The learner may refine analysis, strengthen evidence integration, or adjust implementation strategy. Resubmission does not imply reduced standards; rather,

it reinforces the developmental nature of competence acquisition and supports the emergence of reflective and capable innovation leaders.

Annex D: Digital Credential Metadata Structure

The digital credentialing model for the AgriTech Manager certification ensures that certified competencies are represented in a secure, verifiable and internationally recognizable format. Digital credentials support long-term visibility of qualifications, enabling learners to present evidence of competence across borders and sectors. The credential architecture aligns with the European approach to digital micro-credentials, European Skills/Qualifications Taxonomy, and emerging interoperable frameworks used in higher education, vocational training and professional mobility platforms.

Digital credentials issued under this framework are designed to be **machine-readable**, **human-interpretable**, and **verifiable via public or consortium-recognized registries**, ensuring reliability and trust while maintaining data protection and learner privacy.

D.1 Credential Types

Two credential categories are recognized:

1. **Full Qualification Credential**
   Issued upon successful achievement of all required learning outcomes and capstone demonstration at EQF Levels 5, 6 or 7.

2. **Modular Competence Credentials**
   Issued to learners who successfully complete one or more competence domains defined in Annex A but have not yet completed the overall qualification. These credentials allow progressive, flexible acquisition of competence.

This dual structure supports both **complete professional certification** and **incremental skill recognition**, enabling lifelong learning and stackable progression.

D.2 Core Metadata Requirements

Each digital credential includes, at minimum, the following metadata, formatted in accordance with commonly used credentialing standards such as Open Badges / EDCI (European Digital Credential Infrastructure):

Metadata Field	Description
Credential Title	Name of the awarded qualification or competence (e.g., “AgriTech Manager – EQF Level 6”).
Credential Description	Summary of what the credential certifies, referencing competence domains.
EQF Level	Explicit identification of the qualification level (5, 6, or 7).
Learning Outcomes Achieved	Detailed listing, referencing the specific outcomes defined in Annex A.
Assessment Methodology	Description of how competence was validated (e.g., supervised project, capstone, portfolio evaluation).
Issuer Information	Name and authorization details of the certification-awarding organization(s).
Issue Date and Validity Conditions	Date of issuance, and if applicable, renewal or revalidation conditions.
Verification URL or Blockchain Record	Method allowing third parties to confirm credential authenticity.
Digital Signature / Seal	Cryptographic proof ensuring credential origin and integrity.

These metadata fields ensure **readability**, **transparency**, and **trustworthiness** for employers, academic institutions, and professional bodies.

D.3 Verification and Security Model

Verification is implemented through **secure registry lookup** rather than manual document validation. Each credential contains a unique secure identifier linked to a tamper-resistant record stored either in an authorized credential registry or a blockchain-backed ledger. Third parties may confirm authenticity instantly without accessing personal learner data.

The learner controls access to their credential and may share it in digital CVs, professional networks, recruitment platforms, academic admissions systems or enterprise HR systems.

No personal performance data or assessment artifacts are stored publicly; verification confirms **credential validity only**, in full compliance with GDPR and ethical data management requirements.

D.4 Interoperability and Platform Compatibility

The digital credential is designed to be interoperable with:

- European Digital Credentials for Learning (EDC)
- Europass Skills Profile and Portfolio Systems
- Higher Education and VET qualification registers
- HR skill-matching and professional mobility platforms
- LinkedIn, Open Badges display environments and similar professional digital ecosystems

This ensures the credential is **legible and transferable** across national, sectoral and institutional boundaries, supporting learner mobility and international career development.

D.5 Long-Term Sustainability and Update Pathway

To support longevity beyond the project, digital credentials are structured so that:

- They remain valid even if technologies, platforms or consortium structures change.
- They can be renewed or reissued based on updates to competence frameworks or job market expectations.
- They can be recognized in future sector alliances, accreditation schemes, or continuing professional development programs.

The governance procedures for updates and revalidation are aligned with **Work Package 6**, which ensures the long-term operational continuity and sector adoption of the certification.

D.6 Linking Credentials to Professional Identity Formation

The digital credential is more than a record of attainment; it is a formal component in developing professional identity for emerging AgriTech Managers. It recognizes the learner not only as capable of performing tasks, but as a contributor to technological sustainability transitions in agriculture.

Thus, the digital credential supports:

- Professional visibility and role recognition
- Access to advanced learning or leadership pathways
- Participation in agricultural innovation networks and expert communities

In doing so, it reinforces the project's strategic mission: to cultivate a skilled, confident and future-ready workforce capable of guiding agriculture through complex digital and environmental transformation.

D.7 Issuance Authority, Validity and Credential Lifecycle Management

This section clarifies the authority, responsibilities and lifecycle management of digital credentials issued under the AgriTech Manager Certification Framework. Clear definition of issuer roles and validity conditions is essential to ensure trust, portability and long-term recognition of the certification across institutional and professional contexts.

- **Issuing Authority**

During the lifetime of the AGRITECH project, digital credentials associated with the AgriTech Manager certification are issued under the authority of the **AGRITECH consortium**, acting through designated partner organisations formally authorised within the project governance structure.
Following the completion of the project, issuance authority may be transferred to a **designated legal entity, sector body or recognised certification authority**, subject to approval through the governance mechanisms defined in Section 1.7. Such a body shall assume responsibility for maintaining the integrity, consistency and recognition of the certification framework.
The issuing authority is responsible for ensuring that all credentials are issued in accordance with the defined assessment standards, quality assurance procedures and EQF alignment principles.

Authority to Renew, Suspend or Revoke Credentials

The credential issuer holds the authority to:

- Issue digital credentials upon successful certification decisions;
- Renew credentials where validity conditions apply;
- Suspend or revoke credentials in exceptional cases of verified misconduct, fraudulent representation or serious breach of certification rules.

Any decision to suspend or revoke a credential must follow documented procedures, be evidence-based, and allow for learner notification and appeal in accordance with the quality assurance and appeals processes defined in Section 5.

Validity Conditions

Validity conditions are applied in a differentiated manner, reflecting the level of professional responsibility associated with each EQF level:

- **EQF Levels 5 and 6**: Credentials are issued without mandatory expiry. Learners are encouraged, but not required, to engage in continuing professional development to maintain relevance of skills.
- **EQF Level 7**: Given the strategic and leadership-oriented nature of this level, periodic revalidation is recommended. Revalidation may take the form of documented continuing professional development, evidence of sustained professional practice, or updated competence demonstration, according to procedures defined by the issuing authority.

Validity conditions and revalidation requirements, where applicable, are clearly stated within the credential metadata to ensure transparency for learners and third parties.

Credential Lifecycle and Trust

All credentials issued under this framework are subject to version control, governance oversight and auditability. Changes to issuer authority, validity conditions or lifecycle rules must be formally approved through the certification governance structure and documented in updated framework versions.
This approach ensures that the AgriTech Manager digital credential functions not merely as a symbolic badge, but as a **credible, governable and professionally trusted certification** capable of long-term recognition beyond the project lifespan.

Annex E: Quality Assurance and Continuous Improvement Templates

This annex provides the quality management instruments necessary to ensure that the AgriTech Manager Certification Framework is implemented consistently, reliably and with sustained alignment to sector needs. The templates included here support the documentation of assessment decisions, monitoring of assessor calibration, review of candidate outcomes, handling of appeals, and continuous improvement of certification processes. These instruments form an operational backbone that enables the certification system to evolve over time while maintaining integrity, fairness and recognition credibility.

E.1 Quality Assurance Cycle Overview

Quality assurance is implemented as a continuous cycle that operates before, during and after assessment delivery. Prior to assessment, reviewers verify that learning outcomes, assessment instruments and scoring rubrics are coherent and aligned. During assessment, assessors apply agreed evaluation criteria, and calibration processes ensure consistency. After assessment, outcomes are reviewed to confirm fairness, identify areas for improvement, and incorporate learning into the next cycle.

The cycle consists of:

1. **Pre-Assessment Verification**
2. **Assessor Calibration and Alignment**
3. **Assessment Delivery and Documentation**
4. **Outcome Review and Moderation**
5. **Appeals and Reassessment Handling**
6. **Continuous Improvement Reporting**

This cycle reinforces both immediate reliability and long-term certification resilience.

E.2 Template: Pre-Assessment Verification Checklist

This template is used before assessments are released or delivered.

Verification Area	Review Requirement	Confirmation (Yes/No)	Notes / Adjustments
Alignment with Learning Outcomes	Assessment tasks explicitly reflect competencies defined in Annex A.		
EQF Level Appropriateness	Cognitive demand and autonomy expectations match Level 5, 6 or 7 standards.		
Transparency of Instructions	Learners receive clear instructions regarding required outputs and evaluation criteria.		
Accessibility and Inclusion	Tasks are free of cultural, linguistic or contextual bias; accommodations are available.		
Technical Feasibility	Tasks can be completed and evaluated within available digital tools and infrastructure.		

Completion of this checklist ensures the assessment is appropriate for release.

E.3 Template: Assessor Calibration Record

This template documents activities that ensure assessors apply scoring criteria consistently.

Calibration Session Date	Facilitator	Assessors Participating	Materials Used	Key Interpretation Agreements Reached	Follow-Up Required

This record ensures shared interpretation of evaluation standards across assessors and institutions.

E.4 Template: Assessment Scoring and Evidence Validation Sheet

This template is applied per candidate submission.

Candidate ID	EQF Level	Assessment Task / Capstone Title	Evidence Submitted (Yes/No)	Performance Rating per Rubric Criterion (Knowledge, Application, Reasoning, Autonomy)	Final Outcome (Pass / Reassessment Required)	Assessor Notes

This ensures traceability and justification of every evaluation decision.

E.5 Template: Appeals and Reassessment Form

This template supports fair handling of learner concerns.

Candidate Name / ID	Assessment Identifier	Basis for Appeal (e.g., clarity, scoring fairness, evidence consideration)	Reviewer Assigned	Outcome of Review (Confirmed, Adjusted, Reassessment Offered)	Notes to Candidate

Appeals are reviewed by individuals not involved in the original evaluation to ensure impartiality.

E.6 Template: Continuous Improvement Report

This report is completed periodically to document observations and recommend modifications.

Reporting Cycle (e.g., End of Pilot, Annual Review)	Responsible Authority	Summary of Assessment Outcomes	Identified Strengths	Identified Challenges or Inconsistencies	Recommended Adjustments (Framework, Assessment Tools, Assessor Preparation)	Timeline for Implementation

This process ensures the certification system remains dynamic and responsive.

E.7 Integration into Governance

The documents and procedures outlined in this annex are managed and updated under the governance model described in Section 1.7. Adjustments to templates or quality standards require review to ensure ongoing alignment with:

- The evolving competence needs of the agricultural sector
- The feedback generated during implementation and pilot testing
- The digital credentialing infrastructure defined in Annex D
- The sustainability and dissemination strategies defined in Work Package 6

Quality assurance therefore serves both operational reliability and strategic continuity.

E.8 Conclusion

This annex provides a standardized and transparent set of tools to support the consistent implementation and long-term evolution of the AgriTech Manager Certification. The templates ensure that assessment processes are not only rigorous and fair at the moment of delivery but also capable of refinement as agricultural technologies, sustainability imperatives and professional practices evolve. This ensures that the certification remains credible, respected, and future oriented.