



CATALOGUE OF CONFORMITY ASSESSMENT
STANDARDS COVERED BY THE TEF
2024-12-17

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List of Acronyms

AGV	Automated Guided Vehicles
AI	Artificial Intelligence
CAP	Common Agricultural Policy
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
EC	European Commission
ELSA	Ethical, Legal, Societal Aspects
ETSI	European Telecommunications Standards Institute
EU	European Union
HRAIS	High-Risk Artificial Intelligence System
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organization for Standardization
LCA	Life-cycle Assessment
MR	Machinery Regulation (EU) 2023/1230
NLF	New Legislative Framework
SME	Small and Medium-sized Enterprise
TEF	Testing and Experimentation Facilities
WP	Work Package

Terminology

Accreditation [1]	Third party attestation related to a conformity assessment body conveying a formal demonstration of its competence to carry out specific conformity assessment tasks.
Certification [1]	Third party attestation related to products, processes, or persons that conveys assurance that specified requirements have been demonstrated.
Conformity Assessment [1]	Demonstration that specified requirements relating to a product, process, system, person or body are fulfilled.
First, Second, and Third Party [1]	The first party is generally the person or organization that provides the object, such as the supplier. The second party is usually a person or organization that has a user interest in the product, such as the customer. The third party is a person or body that is recognized as being independent of the person or organization that is independent of the provider of the object of conformity assessment and has no user interest in the object.
Harmonised standard [6]	A European standard adopted on the basis of a request made by the Commission for the application of Union harmonisation legislation.
EU Regulation [6]	Binding legal force throughout every Member State and enter into force on a set date in all the Member States.





EU Directives [6]	Lay down certain results that must be achieved but each Member State is free to decide how to transpose directives into national laws.
EU Decisions [6]	Decisions are EU laws relating to specific cases and directed to individual or several Member States, companies or private individuals. They are binding upon those to whom they are directed.





Abstract

AgrifoodTEF establishes a network of test and validation infrastructures across Europe to support agrifood technology companies in advancing AI and Robotics solutions for efficient and sustainable agriculture. This initiative bridges the gap between cutting-edge research and practical products by leveraging existing experimental farms and facilities in key European agricultural regions. These facilities are clustered to enhance scalability, foster stakeholder collaboration, and strengthen Europe's role in ensuring global food security through standardized testing and validation frameworks.

This deliverable focuses on the regulatory and standardization aspects critical to the implementation of AI and Robotics in the agrifood sector. It provides an in-depth analysis of applicable standards and regulations, mapping them to the services offered within AgrifoodTEF. Key sectors examined include AI, Cybersecurity, Machinery, Liability, Product Safety, Interoperability, and Digital Services, among others under the New Legislative Framework (NLF). The analysis highlights existing alignments and identifies gaps requiring further action to ensure comprehensive coverage.

Additionally, this document synthesizes complex regulatory texts, outlining explicit requirements to facilitate their application by stakeholders. The findings contribute to the design and enhancement of AgrifoodTEF services, ensuring specific alignment with the EU AI Act, Machinery Regulation, Data Act, and Cybersecurity Act. This report is periodically updated to reflect evolving standards, regulatory changes, and advancements in AgrifoodTEF services, thereby maintaining relevance and broadening regulatory compliance across the agrifood domain.





Executive summary

AgrifoodTEF is a network of test and validation infrastructures in Europe that supports Agrifood technology companies to do near product development of their AI and Robotics solutions in real-world facilities. The overall aim is to close the gap between excellent research in these fields and actual products that support an efficient and sustainable agriculture, while meeting stringent usability and economic requirements of their end-users. AgrifoodTEF foundations are solidly rooted in existing experimental farms and facilities for AI and Robotics in Agriculture, already operational in various regions highly representative of European Agrifood production. These have been clustered to build scale and further enhance EU role in guaranteeing world food security with testing and validation facilities that will engage all relevant stakeholders with the best experts in the AI and Robotics technology domains. While each TEF-node will promote independent operations with a sustainable business model that will be optimized for the specialties and territorial needs, all TEF-nodes will share common guidelines, standards and support each other with services that can be offered across the different regions represented by nodes and satellites.

While other work packages (WP) of the project focus on physical and digital facilities for technical assessment of AI and Robotics solutions, mainly aiming at performance, quality and safety, WP 3 emphasizes aspects such as ethical, legal, societal, lifecycle, and cybersecurity assessments. These aspects are essential within the existing regulatory and standardization framework, particularly in the AI Act, the Data Act, and the Cybersecurity Act. The objective of WP 3 is to conduct a detailed analysis of the associated requirements and enable the project to offer a range of services that effectively address these aspects.

This deliverable provides a comprehensive analysis of the standards and regulations applicable to the agrifood domain, with a focus on their relevance to AI-based solutions. Building on this analysis, the document maps these standards and regulations to the services offered within AgrifoodTEF, highlighting gaps and opportunities for alignment.

The analysis identifies key sectors of interest for the agrifood domain, including AI, Data, Cybersecurity, Machinery, Liability, Product Safety, Interoperability, Digital Services, and additional regulations under the New Legislative Framework (NLF) related to machinery testing. AgrifoodTEF currently addresses AI, Cybersecurity, Machinery, Product Safety, the EU Cybersecurity Common Criteria, and certain directives of the NLF. This mapping reveals both areas of alignment and gaps where additional actions or services are needed to ensure comprehensive coverage.

An added value of this work is its ability to clarify and synthesize the various texts, explicitly detailing the requirements to facilitate their understanding and application. This report will be periodically updated to reflect the evolving landscape of standards and regulations, the development of new project services, and the implementation of actions to address identified gaps, thereby broadening the coverage of applicable standards and regulations.





Introduction

New technologies often spur public anxiety, but the intensity of concern about the implications of advances in Artificial Intelligence (AI) and Robotics is particularly noteworthy. AI is believed by some to be on its way to producing intelligent machines that will be far more capable than human beings, leading to a potential loss of control [2]. Particularly in the agrifood industry, it has long been observed [3] that traditional farming methods may fall short of meeting escalating needs of people to feed, necessitating farming and food production to become more efficient. Furthermore, agriculture is very sensitive to weather and climate. It also relies heavily on land, water, and other natural resources that climate affects. AI is emerging as part of the solution and a trailblazer in the agricultural industry's technological evolution. AI's applications in agriculture are already widespread, covering all AgrifoodTEF's sectors such as arable farming, food processing, greenhouse, horticulture, livestock farming, tree crops and viticulture.

Using AI technology will inevitably create new risks whose consequences are unforeseeable. This naturally leads to recent and evolving regulations and the need to offer consistent conformity assessments services.

ISO/IEC 17000:2004, *Conformity assessment - Vocabulary and general principles* [1], defines conformity assessment as **“demonstration that specified requirements relating to a product, process, system, person or body are fulfilled.”** Conformity assessment includes sampling and testing, inspection, supplier's declaration of conformity, certification, and management system assessment and registration. It also includes accreditation of the competence of those activities by a third party and recognition (usually a government agency e.g. a national safety authority) of an accreditation.

AgrifoodTEF considers that a “standard” includes any kind of reference technical document, providing guidelines or requirements that is external to the solution provider (TEF client). Thus, conformity assessment could be done regarding the requirements described in several types of standards: legislative or voluntary norms, certifications, specifications such as a technical guide, labels or best practices. We do not consider marketing labels or non-technical specifications in AgrifoodTEF.

As the global AI and Robotics marketplace continues to evolve, buyers, regulators and suppliers will depend increasingly on standards and conformity assessment to ensure that products fulfil specified requirements. Understanding these conformity assessment principles will aid stakeholders in their decision-making with regard to conformity assessment usage. In addition, such understanding will encourage stakeholders in conformity assessment to work towards harmonization of requirements and the global acceptance of all competently performed conformity assessments.

Traditionally, the notion of conformity refers more specifically to regulatory compliance (safety, quality...). Deliberately, and to be comprehensive, the concept is considered in a broad sense within AgrifoodTEF, thus encompassing compliance with any form of requirement, whether it be regulatory, technical, or related to the constraints of the operational environment of the AI/robotic product.

AgrifoodTEF's WP 3 aims to develop and offer conformity assessment services related to AI and Robotics in the agrifood sector. The work carried out in the context of the task T3.1 aims to identify and categorize the different types of standards applicable to the products of the customers and establish a clear overview of the standards used and developed by TEF partners. This work also includes identification of the standards that may still be lacking within the community to meet the needs of the industry. The results of these studies will guide the development of new evaluation methods for the partners during the project, as well as influence European and international





standardization roadmaps to provide an appropriate response to the conformity assessment needs in the agrifood sector.

Section 1: Regulatory framework and context

This section aims to provide a comprehensive overview of the key regulations applicable in the agrifood sector on the following aspects: ethical, legal, societal, lifecycle and cybersecurity. By mapping the regulatory framework, this document seeks to highlight standards that could be followed as specification of requirements for conformity assessment.

This document does not claim to cover the entirety of products that may be proposed by TEF clients, as it is difficult to anticipate the full variety of physical devices, robots, equipment, and software that may arise from innovation. However, the deliverable is based on an analysis of reasonable scenarios that the consortium may encounter, developed in close collaboration with the studies conducted as part of D1.1.

Section 2: Catalogue of conformity assessment standards covered by AgrifoodTEF

Among all existing standards, this section lists exhaustively and describes all applicable standards that are currently used in the AgrifoodTEF catalogue of services. These standards consist of methods that establish the procedure and/or the nature of the control points to be applied for the test. These frameworks may include standards (in the sense of "produced by a standardization committee") or technical documents established in other contexts and deemed as references by TEF partners.

This catalogue specifies the nature and brief technical content of the standard to identify those that present testing and experimentation methods potentially usable by AgrifoodTEF partners in the context of their services.

Conclusion section provides a synthetic overview of the standards identified, and a shortlist of standards of specific interest in the context of AgrifoodTEF.



1. Regulatory Framework and Context

1.1. Need of conformity assessment for a TEF customer

The evolution of the global marketplace has made buyers and regulators increasingly dependent not only on standards but also on the methods used to ensure that products comply with the requirements of those standards. Conformity assessment activities therefore form a vital link between standards (which define the necessary characteristics or requirements) and the products themselves. Conformity assessment can verify that a particular product meets specific properties, such as quality or safety. It can provide explicit or implicit information about the product's characteristics, the consistency of those characteristics and/or the performance of the product. Conformity assessment can also increase a buyer's confidence in a product, furnish useful information to a buyer and help to substantiate advertising and labelling claims. Information on conformance (or non-conformance) to a particular standard can provide an efficient method of conveying information needed by regulators or buyers on the product's safety and suitability.

Benefits of ensuring compliance with standards is synthetized in the following Figure 1.

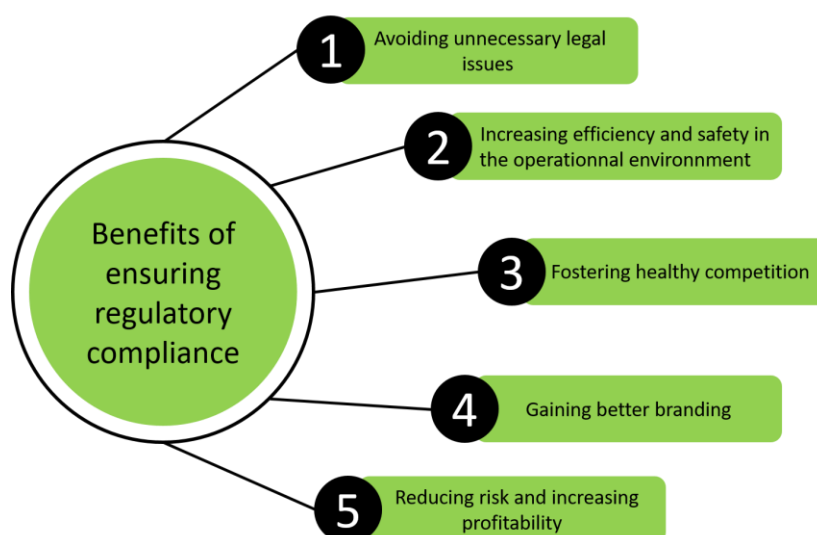


Figure 1. Benefits of ensuring compliance with standards

Non-compliance issues arise when the business fails to comply with applicable legislative obligations. An increasing number of organizations are prioritizing regulatory compliance as a key strategic requirement. Lapses in regulatory compliance can lead to several adverse consequences, such as: monetary penalties, disruption of organization's operations, loss of reputation or losses in revenues.

For all these reasons, all types of organizations intend to focus on enhancing regulatory and internal compliance assessments and would be interested in TEF conformity assessment services if TEF services meet their needs.

1.2. Definitions

This section introduces and defines two concepts to facilitate the understanding of the rest of the document: standards produced by standardization bodies, and conformity assessment.





1.2.1. Standards emitted by standardization bodies

Standardization bodies

The development of a standard is the set of processes governing development of a document from project initiation, through development, formal review, approval, publication, and maintenance. It is usually led by normative standardization bodies, such as in Table 1.

Table 1. Non exhaustive list of standardization bodies of the domain

Abbreviation	Signification	Scope
CEN	Comité Européen de Normalisation	European
CENELEC	Comité Européen de Normalisation Électrotechnique	European
ETSI	European Telecommunication Standards Institute	European
IEEE	Institute of Electrical and Electronics Engineers	International
IEC	International Electrotechnical Commission	International
ISO	International Organization for Standardization	International

The definition of “standard” may vary slightly from one standardization body to another, but is generally based on the same set of principles. For example, CEN-CENELEC defines a standard as: *“a technical document designed to be used as a rule, guideline or definition. It is a consensus-built, repeatable way of doing something. Standards are created by bringing together all interested parties such as manufacturers, consumers and regulators of a particular material, product, process or service. All parties benefit from standardization through increased product safety and quality as well as lower transaction costs and prices.”*¹

Types of requirements

Most standards contain two classes of content:

- Normative content: mandatory requirements that must be followed to claim compliance with the standard. Some requirements may be optional.
- Informative contents: the information is provided as explanation, guidance or examples. It does not form part of the standard for the purposes of conformance. In the event of contradictions between normative and informative content, the normative information is always definitive.

Normative information describes the requirements to implement the standard and is therefore officially part of the standard. Informative information is non-binding and not part of the standard.

Harmonised standards

A harmonised standard is a European standard developed by a recognised European Standards Organisation: CEN, CENELEC, or ETSI. It is created following a request from the European Commission to one of these organisations. Manufacturers, other economic operators, or conformity assessment bodies can use harmonised standards to demonstrate that products, services, or processes comply with relevant EU legislation. The references of harmonised standards must be published in the Official Journal of the European Union (OJEU). The use of these standards remains

¹ <https://www.cencenelec.eu/european-standardization/european-standards/>





voluntary. All European Union harmonised standards texts are available in their website: <https://eur-lex.europa.eu/homepage.html?locale=en>.

Other types of standards

Standardization bodies may produce different types of documents, not all of them presenting necessarily normative requirements. Table 2 presents an extract of frequently encountered types of standards, along with comments on their normative power: for example, a “best practice” or a “guidance” may likely not be the most adequate standard for regulatory compliance, unless in the absence of more stringent and controlled standards.

Table 2. Frequently encountered standard types and their development bodies (non-exhaustive)

Standard Type	Developed by	Description and normative power
EN (European Norms)	CEN, CENELEC, ETSI	European standards ensuring uniformity in technical specifications across Europe.
IWA (ISO Workshop Agreements)	ISO	Documents developed through workshops to address emerging needs quickly; less formal than full ISO standards.
CWA (CEN Workshop Agreements)	CEN	Rapidly developed agreements to address specific needs, often preceding formal standards.
TS (Technical Specifications)	CEN, ISO, IEC, ETSI	Preliminary standards issued when a full standard cannot yet be developed, used to test new approaches.
TR (Technical Reports)	ISO, IEC, CEN	Informative documents providing technical explanations, data, or recommendations without mandatory requirements.
PAS (Publicly Available Specifications)	ISO, IEC	Specifications developed to meet market needs quickly; often a precursor to a full standard.
IEEE Recommended Practices	IEEE	Guidance documents suggesting optimal practices for specific industries or technologies.
IEEE Guides	IEEE	Documents offering advice or explanations on technical topics, often used alongside standards.

1.2.2. Conformity assessment (focus on EU AI Act)

Objectives of conformity assessment

European marketed products undergo ex ante conformity assessments, meaning that the verification should be performed before it is placed on the market. It needs to demonstrate that it meets all legislative requirements of applicable regulation, which may include activities of testing, inspection and certification. The applicable product legislation specifies the procedure for each product.

In practice, product legislation describes the conformity assessment procedures for each product. Manufacturers may choose between different conformity assessment procedures, if applicable. The manufacturer carries out the assessment.

One may note that the deliverable will not dwell on the specificities of ex ante and ex post (after being placed on the market) inspection. In the context of the project, the products concerned are “near product development,” which would imply that, by default, verifications should only apply to products that have not yet been placed on the market. However, it is evident that many products are deployed even though their characteristics are not entirely governed by a regulatory and normative framework—the most obvious example being AI solutions. The project will therefore not





pass judgment on whether a product is considered "placed on the market" or "deployed", nor will it draw a strict distinction between services falling under ex ante or ex post approaches.

Types of conformity assessment to comply with the AI Act

The conformity assessment process involves a conformity assessment body if required by the applicable legislation (such as Notified Bodies).

A notified body is an organisation designated by an EU country to assess the conformity of certain products before being placed on the market. These bodies carry out tasks related to conformity assessment procedures set out in the applicable legislation. The European Commission publishes a list of such notified bodies.

First-party conformity assessment (CA) - self-declaration: lowest level of trustworthiness

As part of the conformity assessment procedure based on internal control, the provider is required to do this self-assessment to:

- Verify that the established Quality Management System for the High-Risk AI System (HRAIS) is in compliance with the requirements of Article 17 of the EU AI Act. These requirements include regulatory compliance, technical specifications, quality controls and testing, data management, risk management, monitoring, reporting, etc. ;
- Examine the information contained in the technical documentation in order to assess the compliance of the AI system with the relevant essential requirements for high-risk AI systems (Chapter III, Section 2 of the AI Act);
- Verify that the AI system's design and development process and post-market monitoring, as referred to in Article 72, are consistent with the technical documentation.

Upon completion of the above, the entity is required to draft a written EU Declaration of Conformity for each relevant system, which should be maintained for a period of ten years after the system has been placed on the market or put into service. Additionally, the entity must affix a physical/digital Conformité Européenne (CE) Mark on the product, indicating their ability to move freely within the European internal market (Article 48).

Third-party conformity assessment (CA): high level of trustworthiness

Although internal conformity assessments are generally favoured under the EU AI Act, there is an exception for HRAIS (Article 43). In particular, biometric systems must undergo third-party assessment, along with certain AI systems considered as products covered by the Union harmonisation legislation listed in Section A of Annex I of the AI Act (machinery, toys, protective systems, etc.). In the latter case, if the associated regulation requires a third-party assessment, the AI Act considers them as HRAIS and the product must comply with both the HRAIS requirements and the requirements of the product's regulation.

Third-party assessment must be conducted with the involvement of a notified body, designated by national notifying authorities. In the context of the products listed in Annex I, the bodies notified under the associated product regulation should also conduct third-party assessment on AI aspects, in compliance with HRAIS requirements of the AI Act. In the context of biometrics, notified body should be appointed.

After developers and providers of HRAIS choose the notified third-party, the assessing entity must assure conformity of the AI's technical documentation and quality management system under the procedure outlined under Annex VII.





Upon the successful completion of the conformity assessment, the notified entity is required to issue an EU Technical Documentation Certificate (Article 44). This certificate is valid for a period of four years and may be subsequently renewed for a maximum period of four years, based on re-assessments. However, if the notified entity finds that the AI system in question no longer satisfies the requirements for HRAIS, it is required to suspend or withdraw this certificate unless corrective actions to re-ensure compliance are taken by the provider within an appropriate timeline established by the notified body. Following this, the provider has to draft the EU Declaration of Conformity and affix a physical or digital CE mark.

Should the notified entity discover that the HRAIS does not meet the conformity requirements, it must offer a detailed explanation of the non-compliance to the provider. The provider then must undertake relevant corrective measures to ensure compliance – failing which, it must withdraw the system from the market. The EU AI Act provides a remediation mechanism in this instance, where, under Article 44, the provider is empowered to appeal against the notified body's determination.

Deviation from the conformity assessment procedure

The EU AI Act outlines specific scenarios where deviation from the normal conformity assessment procedure is permissible, and a high-risk AI system may be introduced to the market or put into operation even before the assessment process is completed. This exemption applies solely to cases involving public security, safeguarding life and health, environmental conservation, and protecting critical industrial and infrastructural assets.

When should an AI manufacturer do a conformity assessment?

Conformity assessment is required at different stages of placing the product on the market:

- Ex ante (pre-market): The assessment has to be conducted before the AI system gets placed on the EU market – meaning before making it available for public use;
- Ex post (post-market): After a high-risk system has been placed on the market, a new assessment is required when/if the system undergoes substantial modifications. It's worth noting that this does not concern models that continue to learn after being placed on the market; rather, it refers to any changes in the specifications that would significantly affect the system's compliance with the requirements.

Delegated Acts

In accordance with Article 97 of the EU AI Act, the Commission is empowered to adopt delegated legislations to make changes to conformity assessment provisions considering technical progress, as well as update Annexes VI and VII. In doing so, the Commission will be required to consult the proposed AI Office and relevant stakeholders affected.

1.3. Roles and Responsibilities of Stakeholders

All stakeholders expect that conformity assessment bodies are accredited to deliver transparency and confidence in the competence and integrity of the conformity assessment infrastructure and the conformity assessment results. In addition to its important role in facilitating trade and business in Europe, accreditation has a specific role in support of regulation and should provide a single source of assessment (conformity assessment bodies) with regard to the safeguard of public protection issues, such as product safety, legal metrology and environmental integrity.



For AgrifoodTEF's conformity assessments, stakeholders (see Figure 2) are the TEF users, e.g. AI product manufacturers, the TEF partners and the service providers. Service providers may be a notified body, or simply an organization providing conformity assessment or assessment facility.

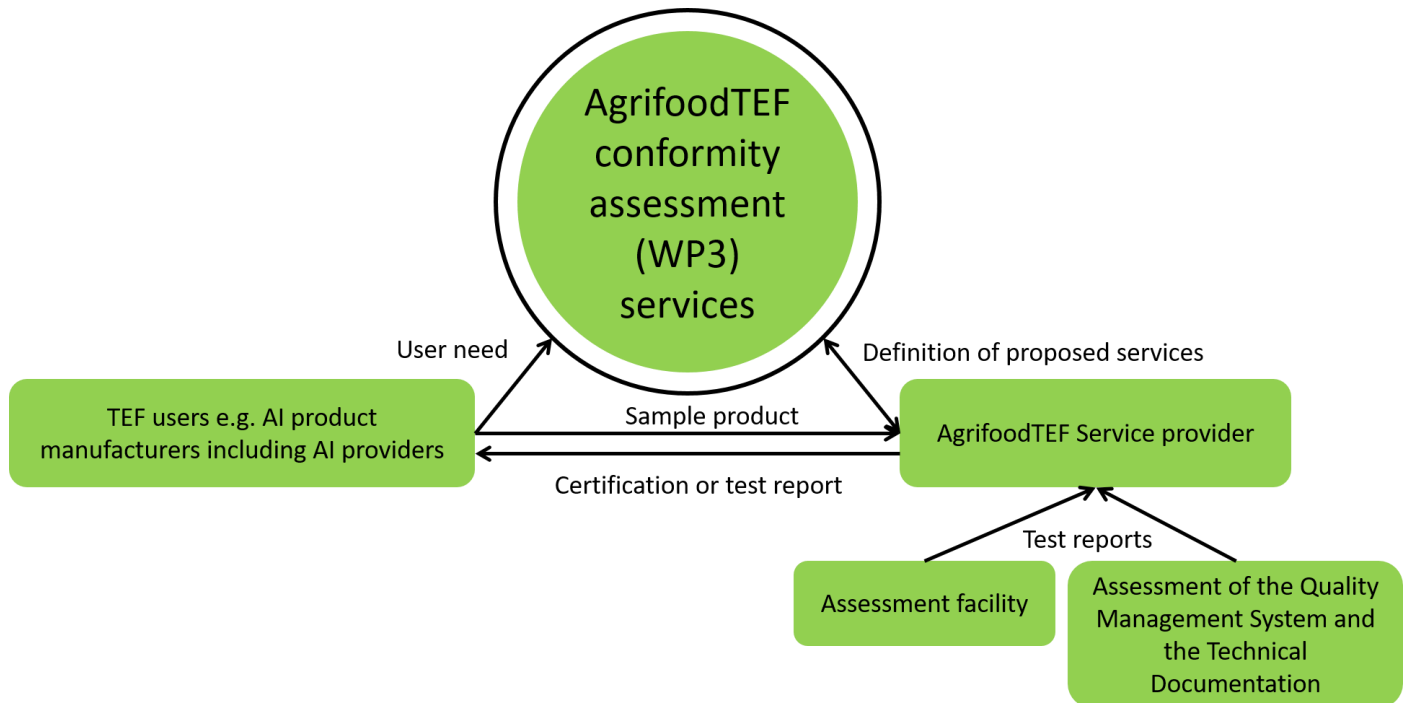


Figure 2. Relations between TEF users and WP 3 TEF service providers

1.4. Regulatory framework

This section introduces and describes the most prevalent regulations for the products (software, devices) presented by AgrifoodTEF customers. This selection is based on the listing of already completed services (WP4), the list of devices and use cases analysed by WP 1 (deliverable D1.1), and from a consultation among regulatory experts of WP 3. Annex 1 present a more exhaustive list of regulations and standards that are linked to the agrifood domain, but which are either too specific to a sector or type of application, or not at all related with AI-based systems and robotics, or at a too early stage.

1.4.1. Overview of European Union (EU) AI Regulation

The AI Act [4] put forward by the European Commission and adopted in March 2024, is the first initiative towards a comprehensive legal framework on AI in the world. It aims to set rules on specific AI applications in certain contexts. According to its Preamble, it is a legal instrument primarily targeted at ensuring a well-functioning internal market in the EU that respects and upholds fundamental rights.

As AI is a fast-evolving technology, the AI Act has a future-proof approach, allowing rules to adapt to technological change. AI applications should remain trustworthy even after they have been placed on the market. This requires ongoing quality and risk management by providers. Add to this the fact that many AI systems will be considered high-risk AI (HRAIS) justifies the necessity of development and long-term sustainability of conformity assessment tests for agrifood technologies.





Article 3 of the AI Act defines conformity assessments as the process of verifying and/or demonstrating that a high-risk system complies with certain requirements laid out in the Act. These requirements are divided into 7 fields of application:

- Risk management system (Recital 65, Article 9)
- Data governance: quality of data sets that have to be relevant, representative, free of errors and complete (Recitals 44 and 45, and Article 10)
- Technical documentation (Recital 46, Article 11, and Annex IV)
- Record keeping in the form of automatic recording of events (Article 12)
- Transparency and provision of information to users (Recital 47 and Article 13)
- Human oversight (Recital 48 and Article 14)
- Accuracy, robustness, and cybersecurity (Recital 49 to 51, and Article 15).

Suppliers of high-risk AI systems have to meet the requirements before their system can be put on the market, protecting individuals from the potential harms a high-risk system poses. Unless specified otherwise, all these requirements should be met before the AI system is put into use or enters the market. Once the system is on the market, the provider must also ensure continuous compliance throughout the system's lifecycle.

Current AI-specific standards lack the concrete requirements found in other fields. A study conducted by the European Commission's Joint Research Centre [7] [5] evaluated eight promising AI standards and found that all exhibited only moderate or low "maturity and level of detail," making compliance assessment challenging for nearly all of them. Similarly, the EU Agency for Fundamental Rights [8] [6] highlights that while discussions about AI often stress the importance of "high-quality data," they rarely provide clear definitions or guidelines. This lack of clarity, the report explains, stems from the absence of a standardized framework for describing datasets in the AI domain.

Link : <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1689>

1.4.2. EU Machinery Regulation 2023/1230

Conformity assessment for robots falls under the scope of the EU Machinery Regulation (MR) 2023/1230 [9], which replaces the Machinery Directive 2006/42/EC. The MR aims to address emerging technologies such as autonomous mobile machinery (robots), the Internet of Things with connected devices, and Artificial Intelligence (AI), particularly when AI modules with learning capabilities are used to ensure safety functions. While the AI Act focuses on managing the safety risks of AI systems, the MR emphasizes their safe integration into machines. Consequently, robots incorporating AI systems that qualify as "machines" must comply with the MR's essential health and safety requirements and undergo the corresponding conformity assessment procedures.

Key updates introduced by the Machinery Regulation include:

- **Legal Status:** As a regulation, the MR ensures greater harmonization and direct application across the EU, eliminating the need for national transposition that could impose varying requirements.
- **New Legislative Framework:** The MR adheres to principles of the New Legislative Framework, which governs accreditation rules for conformity assessment bodies and the market surveillance system.
- **Digital Documentation:** Manufacturers can provide instructions digitally. For non-professional users, a printed document with key safety information must accompany the machine.





- **Common Specifications:** The MR establishes guidelines for developing common specifications when harmonized standards cannot be agreed upon for specific machines.
- **Substantial Modification:** A new concept of “substantial modification” targets significant hazard changes caused by end-user alterations or upgrades to machines.
- **Conformity Assessment:** While self-compliance remains the general rule, certain machines or components now require validation by notified bodies (external accredited entities). The MR also removes the option for self-compliance in cases where harmonized standards fully cover relevant hazards for specific machinery or components.
- **Machine Learning Systems:** Machinery incorporating “fully or partially self-evolving behavior” using machine learning must now undergo validation by notified bodies. The forthcoming AI Regulation will classify these systems as high-risk AI and impose additional requirements.
- **Partly Completed Machinery:** Machines assembled from incomplete components must meet the MR’s requirements before integration into the final product.

Link: <https://eur-lex.europa.eu/eli/reg/2023/1230/oj>

1.4.3. EU Cybersecurity Act 2019/881 and EU Cybersecurity Certification Scheme on Common Criteria (EUCC 2024/482)

The AI Act and the Machinery Regulation (MR) both address risks associated with cyberattacks and malware, particularly those that could compromise machine safety due to faults or intentional external attacks. Manufacturers are required to implement measures ensuring that safety-related control circuits are designed to prevent malicious interference that could lead to hazardous machine behavior.

To safeguard computer systems from corruption, the regulations mandate that machines be designed and built so that their connection to external devices does not create dangerous situations. Hardware components critical to connectivity or software access must be adequately protected against accidental or intentional system corruption. The AI Act places particular emphasis on cybersecurity risks linked to training data, training models, and model vulnerabilities, requiring AI system providers to adopt appropriate safeguards considering the underlying information and communications technology infrastructure.

The MR and AI Act align with EU cybersecurity policies, integrating the Cybersecurity Regulation (EU) 2019/881 [5] into their compliance frameworks. Certifications and conformity declarations under the EU cybersecurity certification system can extend to meet the MR’s essential health and safety requirements (Annex III, sections 1.1.9 and 1.2.1, addressing protection against corruption and the security of control systems) and the cybersecurity requirements in Article 15 of the AI Act.

The European Commission has also announced the adoption of a **Delegated Act 2022/30** to the Radio Equipment Directive (RED 2014/53/EU), which establishes different cybersecurity requirements that manufacturers, importers and distributors must meet to market their wireless devices and products in the European Union. This CE RED Delegated Act will enter into force in August, 2025 and will also apply to electronic agrifood equipment connected to the Internet using radio modules (e.g. GSM, LTE, Wi-Fi, Bluetooth, etc.). "Network protection", "Personal data and privacy" and "Anti-fraud measures" as new essential requirements of RED 2014/53/EU are being introduced to the Radio Equipment Directive (RED 2014/53/EU) by this cybersecurity CE RED Delegated Act.

Link: <https://eur-lex.europa.eu/eli/reg/2019/881/oj>





1.4.4. Proposal of EU AI Liability Directive (AILD)

Safety and liability frameworks aim to ensure that all products, including those utilizing advanced digital technologies, operate reliably, consistently, and without causing harm, while also providing clear remedies for any damages. However, these frameworks face new challenges when addressing the liability of economic operators—such as manufacturers, authorized representatives, importers, and distributors—in cases where robots or machines powered by AI systems cause harm. For instance, AI-driven machinery like tractors or robots may inadvertently damage crops, livestock, or even injure farmworkers.

This raises a pressing question: who should be held accountable for harm caused by AI-driven actions? Should responsibility fall on the manufacturer, the programmer, or the user? Proving a direct causal link between an AI system's actions and the resulting harm can be particularly difficult due to the complexity and ever-evolving nature of such systems. Recognizing these issues, the European Union has taken steps to address AI-related liability through initiatives like the AI Act and the **AI Liability Directive (AILD)**.

To manage these complexities, liability can be addressed through contractual agreements between farmers and AI solution providers, particularly for AgriTech applications. This approach is especially crucial in jurisdictions lacking specific laws on AI liability. Such contracts often include provisions that limit the service provider's liability while requiring farmers to supply high-quality, sufficient data. Additionally, they typically outline compensation mechanisms to address any damages resulting from the use of AI technologies.

Link: https://commission.europa.eu/business-economy-euro/doing-business-eu/contract-rules/digital-contracts/liability-rules-artificial-intelligence_en

1.4.5. EU General Product Safety Regulation 2023/988

The General Product Safety Regulation (GPSR), which came into force in December 2022 and replaced the General Product Safety Directive (GPSD), strengthens the EU's framework for product safety across sectors, including the agrifood sector. While the agrifood industry is already heavily regulated, primarily under EU food safety laws such as the General Food Law Regulation (Regulation (EC) No 178/2002) and sector-specific regulations for food, the GPSR introduces several implications for the sector. Here's how it might impact the agrifood industry:

- Enhanced Responsibilities for Food Packaging and Non-food Items
- Product Traceability Requirements
- Enhanced Recall and Withdrawal Obligations
- Consumer Rights and Transparency
- Obligations for Importers and Distributors
- Increased Liability and Penalties
- Alignment with Sustainability Goals

While the EU's General Product Safety Regulation primarily impacts non-food products, agrifood businesses must still take careful note of its provisions. Food packaging materials, kitchen utensils, food-related machinery, and equipment used in food processing and handling are subject to stricter rules around product safety, traceability, and market surveillance. As such, agrifood businesses need to update their compliance strategies, improve their product safety assessments, and ensure they can meet these more stringent regulatory requirements.





This will also have implications for importers and distributors in the agrifood supply chain, who will face increased scrutiny to ensure compliance with the GPSR when selling non-food products that interact with food.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R0988&qid=1727107789769>

1.4.6. EU General Data Protection Regulation 2016/679

AI systems are highly dependent on data, and in the agri-tech sector, this frequently includes sensitive details about farming practices, land utilization, and crop production. To uphold ethical standards, it is crucial to implement strong data privacy protections that safeguard farmers' rights. Establishing clear policies regarding data ownership, obtaining informed consent, and ensuring secure data storage is essential to prevent misuse and empower farmers with control over their information.

The EU holds that, as a general principle, data generated by an agri-chain operator (people and activities that operates in an agrifood value chain) through their activities or commissioned by them is attributed to that operator as the data originator. This operator retains the right to decide who can access and utilize the data. However, this principle does not extend to information derived from the processing or aggregation of data from multiple sources. The use of data for such purposes should be governed by a formal agreement. For example, data generated on a farm or during farming activities is considered to belong to the farmer, granting them extensive rights to use it as they see fit.

As good practice, data users could appoint a data protection officer, who could play an important role in assuring that data originators' rights are respected, as stated in the EU General Data Protection Regulation (GDPR). Its core principles include ensuring data protection, transparency, privacy, security, liability and intellectual property rights. The GDPR supersedes the Data Protection Directive 95/46/EC and has global influence, inspiring similar laws worldwide.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679>

1.4.7. Proposal for EU Data Governance Act

The **Data Governance Act (DGA)** is a comprehensive framework designed to govern the reuse of protected data held by public authorities. By regulating innovative data intermediaries and promoting data sharing for altruistic purposes, the DGA is pivotal in advancing Europe's digital transformation. It aims to build trust, ensure neutrality in data access, and enhance data portability and interoperability. As a cornerstone of the European data strategy, the DGA seeks to strengthen the data economy while ensuring that its advantages are accessible to all EU citizens.

Effective data management and sharing are key drivers of innovation, enabling industries to create cutting-edge products and services while enhancing the efficiency and sustainability of various economic sectors. These practices are also critical for training AI systems.

Expanding data availability can empower the public sector to craft more informed policies, resulting in greater transparency and improved public services.

Data-driven advancements benefit both businesses and individuals by increasing efficiency in our daily lives and work, particularly through:

- Environmental data: Supporting efforts to combat climate change, lower CO₂ emissions, and respond to emergencies like floods and wildfires.





- Agricultural data: Facilitating precision farming, introducing innovative products in the agrifood industry, and providing new services to rural communities.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52020PC0767>

1.4.8. EU Data Act 2023/2854

The **Data Act** is a comprehensive EU regulation that enhances the data economy and fosters a competitive data market. Its primary objective is to make data, particularly industrial data, more accessible, usable, and available. By encouraging data-driven innovation and increasing data availability, the Data Act aims to position Europe as a leader in the digital economy. Key provisions include ensuring fairness in the allocation of data value among actors in the data economy, clarifying data usage rights, and empowering users of connected products (such as IoT devices). The Act also establishes general conditions for data sharing between businesses, enhances fairness and competition in the European cloud market, and protects companies from unfair contractual terms related to data sharing. Additionally, it introduces mechanisms for public sector bodies to request data in exceptional situations (e.g., emergencies) and safeguards against third-country government access to non-personal data. The Data Act defines essential requirements for interoperability, facilitating seamless data flow across sectors and Member States. Published in the Official Journal of the EU in December 2023, the Data Act will become applicable on September 12, 2025, complementing the Data Governance Act in shaping Europe's data landscape.

Link: <https://eur-lex.europa.eu/eli/reg/2023/2854>

1.4.9. Interoperable Europe Act

The **EU Interoperability Act**, proposed in 2022, primarily focuses on enhancing the digital ecosystem by ensuring better interoperability between digital services and platforms across different sectors. Although the Act is not specifically aimed at the food and agricultural sector, its implications are still significant, as the digitalization of agriculture (commonly referred to as Agriculture 4.0) is a growing trend. The Act could accelerate the adoption and integration of new technologies in the agrifood sector, while also addressing challenges related to data sharing, efficiency, and competition.

Here are the key implications of the EU Interoperability Act on the food and agricultural sector:

- Facilitating Smart Agriculture by encouraging standardization and interoperability of data between various platforms and systems, and Precision Farming with better operability to allow smooth integration of precision agriculture tools.
- Enhanced Supply Chain Transparency with easier and more secure data sharing across the entire food supply chain from producers to distributors to retailers by enhancing traceability of food products, by helping ensure compliance with safety and sustainability standards, and by allowing real-time tracking of goods (with an indirect encouragement of the adoption of technologies like blockchain).
- Supporting Sustainable Farming and Climate Goals by enabling better sharing and integration of climate and environmental data into farming systems.
- Boosting Agri-Tech innovation by lowering barriers for new digital services to enter the market and by fostering cross-sector collaborations including agriculture, technology and logistics.
- Simplifying Compliance and Regulatory Reporting by establishing interoperable platforms across the EU/
- Improving access to Digital Markets





- Strengthening cybersecurity and data protection

The EU Interoperability Act will have a transformative impact on the food and agricultural sector by accelerating the digitalization of farming practices, improving supply chain transparency, and supporting sustainability goals. The Act enables better integration of data and technologies, allowing the agrifood sector to leverage advanced tools like precision farming, AI-driven decision-making, and real-time monitoring to boost productivity, sustainability, and competitiveness. However, adaptation costs and technical complexity could present challenges, particularly for small-scale farmers and businesses with limited resources.

Link: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/745711/EPRS_BRI\(2023\)745711_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/745711/EPRS_BRI(2023)745711_EN.pdf)

1.4.10. EU Digital Services Act 2022/2065

The **EU Digital Services Act (DSA)**, which came into force in November 2022, primarily aims to create a safer and more transparent online environment for users and businesses. While the DSA is largely focused on digital platforms, online services, and the tech sector, it has important implications for the food and agricultural sector, particularly due to the increasing digitalization of agriculture and the growing use of online platforms for sales, marketing, and supply chain management. Here are the main ways the DSA impacts the food and agriculture industry:

- Impact on E-commerce and online sales of food products
- Enhanced traceability and accountability in online sales
- Impact on digital advertising and marketing in the agrifood sector
- Combating disinformation in the food sector
- Safer online platforms for agrifood supply chain solutions
- Protection for consumers and small agrifood businesses
- Cross-border sales and market access
- Data governance and cybersecurity

The EU Digital Services Act introduces significant changes that will impact the food and agricultural sector as digital platforms become increasingly important for both consumer sales and business operations. Agrifood businesses will need to adapt to new rules on online transparency, seller accountability, and product safety, ensuring that their digital presence complies with the new standards. The DSA also promotes consumer protection and aims to level the playing field for small and medium-sized agrifood businesses in the digital marketplace, while enhancing supply chain transparency and cybersecurity.

By fostering a safer and more transparent digital environment, the DSA can help agrifood businesses expand their online operations while maintaining compliance with EU regulations, particularly around food safety, product claims, and advertising. However, it also brings new responsibilities, especially in managing online sales, digital marketing, and consumer interactions.

Link: <https://eur-lex.europa.eu/eli/reg/2022/2065/oj>

1.4.11. EU Regulation on electronic identification and trust services (eIDAS2) 910/2014

The **eIDAS Regulation (EU Regulation No 910/2014)**, which stands for **Electronic Identification, Authentication, and Trust Services**, is designed to create a framework for electronic identification (eID) and trust services across EU





member states. It aims to foster secure, seamless digital interactions for businesses, citizens, and public authorities across borders. Although the regulation is primarily focused on enabling cross-border electronic transactions, it has important implications for the food and agricultural sector, especially as the sector becomes increasingly digitalized and integrated with e-commerce, supply chain management, and agri-tech services.

Here are the main implications of the eIDAS Regulation for the food and agricultural sector:

- Streamlining cross-border trade and compliance
- Improving supply chain transparency and security
- Enhancing compliance with regulatory requirements
- Secure digital transactions for agribusinesses
- Supporting innovation in agri-tech
- Boosting trust in digital transactions
- Simplifying access to agricultural subsidies and financial services
- Support for sustainable farming and traceability initiatives

The eIDAS Regulation significantly impacts the food and agricultural sector by facilitating secure, efficient digital transactions and cross-border trade, improving supply chain transparency, and enhancing trust in certifications and e-commerce. Agribusinesses can benefit from streamlined regulatory compliance, contract management, and access to subsidies, while also gaining secure access to financial services and simplifying interactions with public authorities.

By leveraging trusted digital identities, electronic signatures, and qualified trust services, the eIDAS Regulation supports the digital transformation of agriculture and the broader agrifood sector, helping businesses adopt innovative technologies and meet the growing demands for sustainability and traceability in the EU market.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0910>

1.4.12. Others New Legislative Framework (NLF) directives and regulations

Adopted in 2008, the New Legislative Framework (NLF) aims to improve the internal market for goods and strengthen the conditions for placing a wide range of products on the EU market. It is a package of measures that aim to improve market surveillance and boost the quality of conformity assessments. It also clarifies the use of CE marking and creates a toolbox of measures for use in product legislation.

One of the aims of NLF is to better protect both consumers and professionals from unsafe products to be placed on the European internal market. These directives and regulations contain only "essential requirements" and the detailed requirements are defined in the so-called harmonized standards with these directives and regulations. Apart from MR and the AI Act, there are some others NLF directives and regulations under which products lying within the scope of our AgrifoodTEF project are subjected. They are often "smart devices" used in agrifood industry and include, for example, robots automating the spraying of garden plants, systems for measuring soil composition, control and gas content controls used in animal husbandry, intelligent hives for production of honey and others. They use sophisticated AI/IT algorithms and most often have their physical implementation in the form of electronic devices. The following acts are also consistent with the NLF:

- Electromagnetic Compatibility - Directive 2014/30/EU
- Radio equipment - Directive 2014/53/EU



- Low Voltage - Directive 2014/35/EU
- Drones - Commission Delegated Regulation (EU) 2019/945 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems
- Restriction of Hazardous Substances in Electrical and Electronic Equipment - Directive 2011/65/EU
- Pressure equipment - Directive 2014/68/EU
- Simple Pressure Vessels - Directive 2014/29/EU
- Non-automatic Weighing Instruments - Directive 2014/31/EU
- Measuring Instruments - Directive 2014/32/EU
- Eco-design requirements for sustainable products - Regulation (EU) 2024/1781

Link: https://single-market-economy.ec.europa.eu/single-market/goods/new-legislative-framework_en

1.5. Relevant regulation considered by AgrifoodTEF

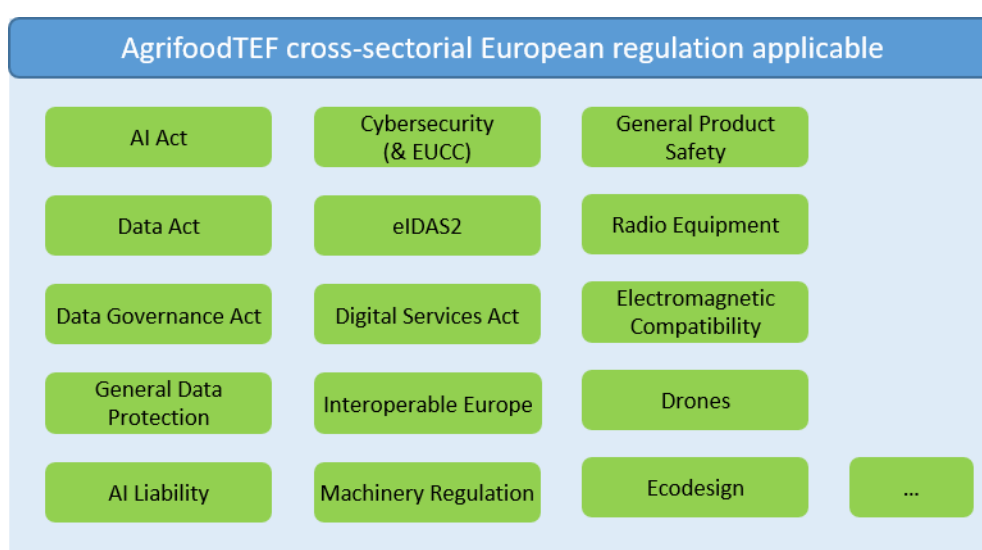


Figure 3. Overview of relevant European regulation for AgrifoodTEF project





2. Catalogue of conformity assessment standards covered by AgrifoodTEF

As stated before, the AI Act establishes a presumption of compliance with the requirements for high-risk AI systems, where a high-risk AI system is in conformity with relevant EU harmonised standards. In case harmonised standards do not exist or are insufficient, the European Commission may adopt common specifications, conformity with which also leads to such a presumption of compliance. Harmonised standards establish technical specifications which are considered suitable or sufficient in order to comply with the technical requirements given in EU legislations.

The harmonised rules set out in these standards should apply in all sectors and, in accordance with the new legislative framework, be without prejudice to existing Union law, in particular with regard to data protection, consumer protection, fundamental rights, employment and protection of workers, and product safety, complementary to this Regulation [4].

In addition to conformity to harmonised standards, compliance can be proven by referring to technical specifications such as national standards, non-harmonised European and international standards, or one's own technical specifications. In these cases, one would have to provide more details in the technical documentation explaining how the product comply with legal requirements.

Concerning the cybersecurity offer that is still under development and currently only includes few testing services, this section describes them even though they do not propose compliance to a standard.

This section details the conformity assessment standards covered by AgrifoodTEF at the end of 2024. This list will be updated regularly, along with the project progress.

2.1. Description of the catalogue

WP 3 conducted an analysis (see Table 3 below) of current services by categorizing them into WP 3 topics: ELSA, LCA, cybersecurity and then into conformity assessment services or other services (includes consultancy, training, technical tests ...). The table also traces down the number of services delivered as certification.

Annex 2 presents a list of standards of interest for the agrifood sector, but not used in an AgrifoodTEF service yet. Annex 3 presents standards of interest, under development in the standardization bodies. Annex 4 provides detailed information about the associated partners and service IDs of the table below.

Table 3. Categorization of WP 3 services

Node	ELSA	LCA	Cybersecurity	Other related to WP 3	Certification
IT	1	1	3		10
BE		1			
AT		1			
FR		2		8	2
PL	1	2		7	1
SE				6	
NL	2			3	
ES	2			4	7





2.2. Catalogue of standards covered by AgrifoodTEF services

The catalogue of standards covered by AgrifoodTEF in this section is sorted according to the type of standard against which the assessment is performed: standards produced by standardization bodies (called for this context “normative standards”), and standards under the form of technical references.

The following catalogue of standards is based on catalogue of services as declared by each AgrifoodTEF partner in the version 1_11, dating from November 2024.

2.2.1. Conformity assessment against normative standards

2.2.1.1. ISO 42001 certification (AI Management System)

Name	ISO/IEC 42001:2023 Information technology — Artificial intelligence — Management system
Region of application	International
Editor/publisher	ISO/IEC
Harmonized standard/not	Not harmonized
Applicability	AI solution
Sector	AI Management System (AIMS)
Description of the content	<p>The ISO/IEC 42001 is a global standard that provides a robust framework and structure within which AI systems can be developed, deployed and used responsibly. It sets out requirements and recommendations for establishing, implementing, maintaining and continuously improving an AI management system within the context of an organization. Key controls included in the standard are risk management, AI impact assessment, system lifecycle management, performance optimization, supplier management.</p> <p>Its aim is to help organizations:</p> <ul style="list-style-type: none"> • Develop or use AI responsibly, • Meet applicable regulatory requirements, • Meet stakeholders' obligations and expectations. <p>In this way, it provides concrete support to companies in optimizing the use of AI, by guaranteeing a level of control and confidence in the systems developed.</p>
Nature of the standard	Technical guidance for management system and AI development
Related service in AgrifoodTEF catalogue	S00292

2.2.1.2. ISO/IEC 25010:2023

Name	ISO/IEC 25010:2023 Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Product quality model
Region of application	International





Editor/publisher	ISO/IEC
Harmonized standard/not	Not harmonized
Applicability	AI software
Sector	All AgrifoodTEF sectors
Description of the content	<p>This standard defines a product quality model, which is applicable to ICT (information and communication technology) products and software products. The product quality model is composed of nine characteristics (which are further subdivided into sub-characteristics) that relate to quality properties of the products. The characteristics and sub-characteristics provide a reference model for the quality of the products to be specified, measured and evaluated.</p> <p>This model can be used for requirements specification and evaluation of the target products' quality throughout their lifecycle by several stakeholders, including developers, acquirers, quality assurance and control staff and independent evaluators. Activities in the product lifecycle that can benefit from the use of this model include:</p> <ul style="list-style-type: none"> • Eliciting and defining product and information system requirements; • Validating the comprehensiveness of requirements definition; • Identifying product and information system design objectives, and design necessary process for achieving quality; • Identifying product and information system testing objectives; • Identifying quality control criteria as the part of quality assurance; • Identifying acceptance criteria for a product and/or an information system; • Establishing measures of product quality characteristics in support of these activities.
Nature of the standard	Technical software assessment
Related service in AgrifoodTEF catalogue	S00245

2.2.1.3. ISO 12100:2010

Name	ISO 12100:2010 Safety of machinery — General principles for design — Risk assessment and risk reduction
Region of application	International
Editor/publisher	ISO/IEC
Harmonized standard/not	Harmonized with the Machine Directive
Applicability	AI software
Sector	All AgrifoodTEF sectors
Description of the content	ISO 12100:2010 specifies basic terminology, principles and a methodology for achieving safety in the design of machinery. It specifies principles of risk assessment and risk reduction to help designers in achieving this objective. These principles are based on knowledge and experience of the design, use, incidents, accidents and risks associated with machinery. Procedures are described for identifying hazards and estimating and





	<p>evaluating risks during relevant phases of the machine life cycle, and for the elimination of hazards or sufficient risk reduction. Guidance is given on the documentation and verification of the risk assessment and risk reduction process.</p> <p>ISO 12100:2010 is also intended to be used as a basis for the preparation of type-B or type-C safety standards.</p> <p>It does not deal with risk and/or damage to domestic animals, property or the environment.</p>
Nature of the standard	Design and risk analysis
Related service in AgrifoodTEF catalogue	S00214

2.2.1.4. ISO 18497:2024 (Part I, II, III, IV)

Name	ISO 18497:2024 Agricultural machinery and tractors — Safety of partially automated, semi-autonomous and autonomous machinery
Region of application	International
Editor/publisher	ISO
Harmonized standard/not	Not harmonized
Applicability	Machines ; Robots
Sector	All AgrifoodTEF sectors
Description of the content	<p>ISO 18497:2018 (“Agricultural tractors and machinery - Safety of highly automated machines - Design principles”), published by ISO/TC 23/SC 19 - Electronics in agriculture, has just received a major update in 2024, which breaks it down into four sections and proposes requirements for the safety of automated robots and tractors for agriculture, particularly from the point of view of obstacle detection and avoidance capabilities enabled by artificial intelligence.</p> <p>ISO 18497-2:2024 specifies the design principles for obstacle protection systems used for agricultural tractors and equipment with partially automated, semi-autonomous and autonomous functions. In addition, it provides recommendations on the type of information relating to safe operating practices, more specific safety requirements, means of verification, and information for use to ensure an appropriate level of safety, which the manufacturer is required to provide. ISO 18497-3:2024 describes design principles to prevent accidental excursions beyond the limit of the autonomous operating zone. Finally, ISO 18497-4:2024 specifies principles for verification methods and validation principles for tractors and agricultural equipment (physical properties of objects and persons, parameters of environmental influences, test objects to be used and examples of procedures to be used for the development of test and verification methods).</p>
Nature of the standard	Safety testing of machines
Related service in AgrifoodTEF catalogue	S00068 ; S00069 ; S00070 ; S00077 ; S00078 ; S00083 ; S00287





2.2.1.5. ISO 19206-2: 2018

Name	ISO 19206-2:2018 Road vehicles — Test devices for target vehicles, vulnerable road users and other objects, for assessment of active safety functions
Region of application	International
Editor/publisher	ISO
Harmonized standard/not	Not harmonized
Applicability	Machines ; Robots
Sector	All AgrifoodTEF sectors
Description of the content	<p>This document specifies performance requirements for surrogate targets used to assess the system detection and activation performance of active safety systems.</p> <p>This document specifies the properties of pedestrian targets that represent an adult or a child in terms of size, shape, reflection properties, etc. for testing purposes. The document addresses the detection requirements for a pedestrian target in terms of sensing technologies commonly in use at the time of publication of this document, and where possible, anticipated future sensing technologies. It also addresses methodologies to verify the target response properties to these sensors, as well as some performance requirements for the target carrier.</p> <p>This document does not address the test procedures in terms of speeds, positions, or timing of events. Performance criteria for the active safety system being evaluated are also not addressed.</p>
Nature of the standard	Test procedure for safety of machines
Related service in AgrifoodTEF catalogue	S00071

2.2.1.6. CB Scheme certification

Name	Certification Body Scheme on CYBR, EMC and ITAV
Region of application	International
Editor/publisher	IEC
Harmonized standard/not	Not harmonized
Applicability	Robot ; sensor
Sector	All AgrifoodTEF sectors
Description of the content	The CB Scheme certification validates a product's conformity to international standards for electrical and electronic products and equipment in 54 countries (including the USA, Canada, Japan, China, etc.). The CB Scheme can be used as proof of conformity for multiple international certification marks (CSA, UL, etc.) through a single testing campaign, which can significantly reduce associated costs.





	<p>It is intended for any manufacturer of electrical/electronic equipment wishing to export abroad and currently covers 23 categories of electrical/electronic equipment.</p> <p>The CB Scheme certification issued by LNE addresses the normative requirements for safety, electromagnetic compatibility, and cybersecurity for electrical and electronic products according to the following standards:</p> <ul style="list-style-type: none"> • Information technology and audio/video equipment (ITAV category) with the IEC 62368-X series of standards • Electromagnetic compatibility (EMC category) covering various IEC standards series • Cybersecurity (CYBR category) with the IEC 62443 series of standards
Nature of the standard	Technical and safety tests and certification
Related service in AgrifoodTEF catalogue	Service to be added in the catalogue.

2.2.1.7. Compliance tests for CE marking

Name	Device compliance tests for CE marking process (New Legislative Framework)
Regulations covered by L-PIT	RED Directive 2014/53/EU based on ETSI standards, EMC Directive 2014/30/EU
Regulations covered by LNE	RED Directive 2014/53/EU based on ETSI standards, MID Directive 2014/32/EU based on OIML standards, EMC Directive 2014/30/EU Outdoor Noise Directive 2000/14/EC UK Noise Regulations 2001 No. 1701
Region of application	European Union
Applicability	Robot ; sensor
Sector	All AgrifoodTEF sectors
Description of the content	As part of this service, we test and measure, among other things, mechanical, physical, acoustic, radio, electromagnetic compatibility and electrical parameters for the purpose of assessing the overall user safety of agricultural, horticultural, forestry and food machinery, equipment and components. Verification is based on the requirements of standards and directives declared by the manufacturer. We carry out an initial assessment based on the design documentation provided or/and on measurements taken on a prototype based on harmonised and non-harmonised standards with relevant EU and sectoral legislation. This is to ensure that for instance essential requirements coming from for instance New Legislative Framework directives and other EU law are fulfilled to better protect both consumers and professionals from unsafe products to be placed on the European internal market. One of the aims is to help manufacturers in legal placing agrifood products on EU single market and in CE-marking process. The results obtained can be used in the further process of product labelling, declaration of conformity to affix the CE mark to the device within the scope of EMC, LVD, RED, MD, MR on other NLF directives and regulations.
Nature of the service	Technical and safety tests ; certification





Related service in AgrifoodTEF catalogue	S00214 ; Services to be added in the catalogue.
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2.2.2. Conformity assessment against other technical references

The following services are compliance tests against other kind of standards that remain external to the TEF client such as technical specifications, guides, labels and so on.

2.2.2.1. AI Processes certification

Name	LNE certification of AI processes
Region of application	International
Editor/publisher	LNE
Harmonized standard/not	Not harmonized
Applicability	AI solution provider
Sector	All agrifood sectors
Description of the content	<p>In response to the growing number of AI solutions, LNE has created a certification that provides users with objective criteria for making their selection and enables developers to demonstrate that they have mastered all the stages of the AI life cycle and meet the performance, regulatory, confidentiality and ethical requirements of their customers.</p> <p>This standard aims to define common requirements for the design, development, evaluation and maintenance processes of all types of AI functionalities using machine learning.</p> <p>It therefore covers all business sectors in which AI is used, in order to ensure the application of best practices that promote confidence in AI. It is not intended to define requirements for AI functionalities and therefore specific to their uses.</p>
Nature of the standard	Technical requirements on AI processes
Related service in AgrifoodTEF catalogue	S00097

2.2.2.2. Ethical design guidelines (Value Sensitive Design)

Name	Value Sensitive Design support in AI-and Robotic developments
Region of application	International
Editor/publisher	WUR – ELSA Lab
Harmonized standard/not	Not harmonized
Applicability	AI solution provider and end-users
Sector	All AgrifoodTEF sectors
Description of the content	We explore ethical and societal values of potential end-users of new technology during its development. Based on this, we explore possibilities to attend to these values in the





	further development or design of the technology, or in the development of an implementation trajectory.
Nature of the standard	ELSA assessment based on scans, questionnaire and technical desk assessment
Related service in AgrifoodTEF catalogue	S00139

2.2.2.3. Ethical, Legal, Social aspects assessment

Name	Scan for Ethical, Legal and Social Aspects (ELSA)
Region of application	International
Editor/publisher	WUR – ELSA Lab
Harmonized standard/not	Not harmonized
Applicability	AI solution provider and end-users
Sector	All AgrifoodTEF sectors
Description of the content	<p>What are the ethical, legal and social aspects (ELSA) of AI driven technology in agrifood? Mitigation of potential risks and finding opportunities are easier by identifying ELSA aspects in early development stages, when the technology is still in the making. Examples of ELSA aspects are autonomy, transparency and bias, but also data privacy and other legal aspects. How does your AI technology deal with ELSA aspects? A combined survey and interview help AI developers to identify opportunities and issues with ELSA in the agrifood context from the perspective of end users and more broadly; for society. For example, to better align with the sustainability objectives of the AI-driven technology. The outcomes of the ELSA scan are a list of identified key ELSA aspects and high-level recommendations to further improve the AI technology.</p> <p>The ELSA lab develops, tests and applies a methodology for (re)designing AI for Sustainable Food Systems (SFS). The methodology involves (a) the systematic identification and exploration of ethical, legal, and social aspects of AI in specific domains in the food sector, and (b) the co-creation with quadruple helix stakeholders of responsible and human-centred AI for SFS. This R&D ecosystem for the Dutch food system where ELSA aspects become an integral part of AI (re)design in the knowledge chain of fundamental, applied and practice-oriented R&D involving representatives from all members of society: public authorities, industry, academia, and citizens.</p>
Nature of the standard	ELSA assessment based on scans, questionnaire and technical desk assessment
Related service in AgrifoodTEF catalogue	S00138

2.2.2.4. Cybersecurity testing

Name	Vulnerability scan of agrifood related AI or robotics software systems
Region of application	International
Harmonized standard/not	Not directly related to a standard





Applicability	AI solution
Sector	All agrifood sectors
Description of the content	Ensuring the safe, reliable, and secure operation of AI and robotic systems demands a testing that extends beyond basic functionality. This should incorporate tests for error handling, where the system gracefully deals with unexpected situations and recovers on its own. Then, continuous failure monitoring through sensor data, system logs, and performance metrics is crucial to identify potential problems before they escalate. Additionally, robust cybersecurity threat assessments involving simulated hacking attempts help expose weaknesses and enable the implementation of strong safety measures. Finally, software systems (like AI and robotics systems developed for agrifood environments) are usually developed using third-party libraries. Regular updates on both proprietary and third-party libraries are strongly recommended to address potential vulnerabilities in the code.
Related service in AgrifoodTEF catalogue	S00289; S00215; S00196

2.3. Cartography of covered standards

Currently, AgrifoodTEF services propose to assess compliance with some standards and referential documents that answer several of the EU regulations cited in Chapter 1.4. A summarized overview of the addressed standards and regulations is presented in Figure 4.



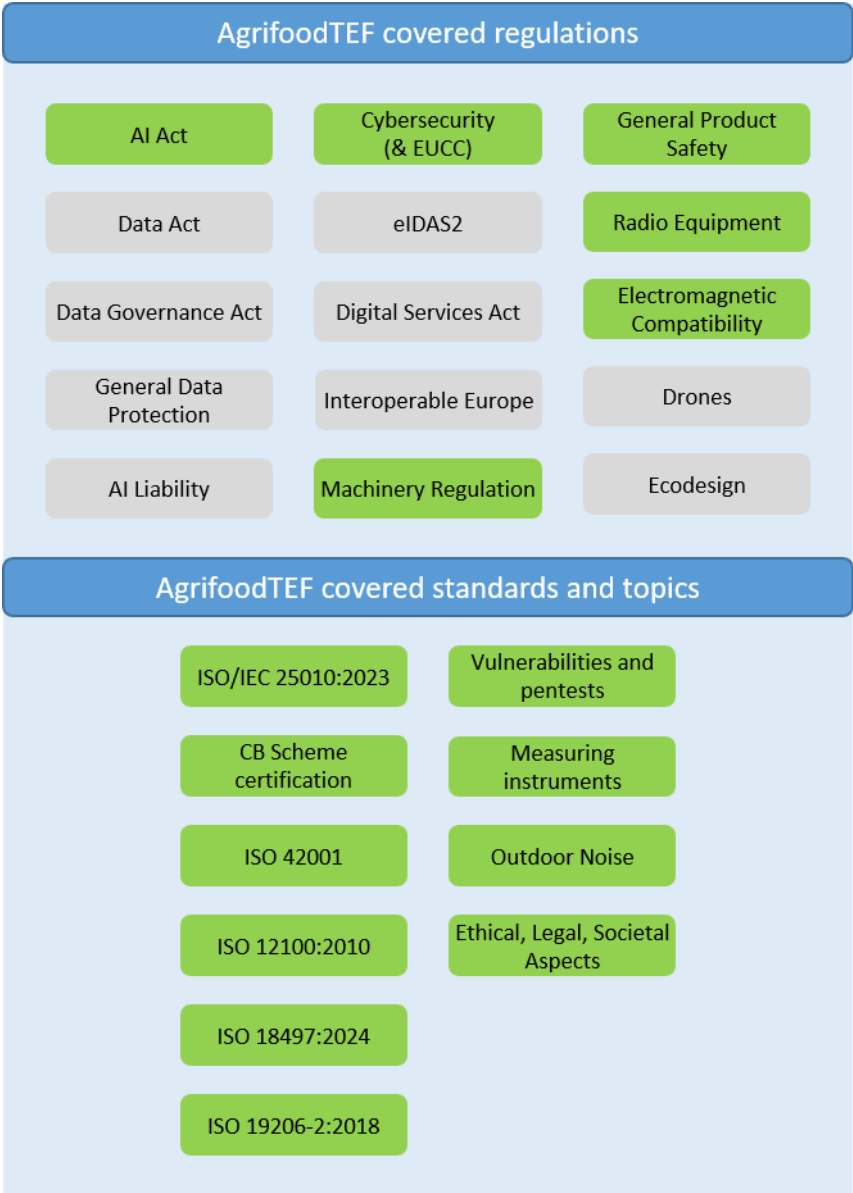


Figure 4. Regulations and standards covered in AgrifoodTEF. In gray: regulations identified in *Erreur ! Source du renvoi introuvable.* but not covered yet.





Conclusion

Summary of key insights

In the context of the WP 3, this deliverable D3.1 puts on paper the conformity assessment services considered in the AgrifoodTEF project with respect to applicable European regulations. It is important to note that many recent EU Regulations like the AI Act does not provide harmonized standards yet.

The **first chapter** presents the regulatory mapping of regulations considered in EU that apply to AI and robotics solutions for all agrifood sectors. Each regulation and its implications in agrifood is described in a short paragraph with a Eur-Lex link directing to the complete text. AgrifoodTEF considers that WP 3 subjects of interest are around AI, Data, Cybersecurity, Machine, Liability, Product Safety, Interoperability, and Digital Services. We completed this state-of-the-art with the New Legislative Framework that considers a bunch of regulations around machines testing.

The **second chapter** specifies the catalogue of standards already provided as services by TEF partners. We studied the catalogue of services from November 2024 to produce summarized tables for each standard addressed by WP 3 services. We note that AgrifoodTEF services currently covers the following EU regulations: the AI Act, General Product Safety, Machinery Regulation, Cybersecurity and EU Common Criteria, and some directives of the New Legislative Framework. These services will be further investigated in future works. The overview of AgrifoodTEF services highlights that, if ELSA and LCA services are represented in almost all regions of the partners, cybersecurity is almost not represented (only one partner).

Next steps

As this deliverable only deals with describing the current state of conformity assessment services, next phases of WP 3 focus on improving the testing protocols of existing conformity assessment services and implement new services to cover more standards and regulations (for example, among the ones identified in Annex 2 and 3), but also ensure an appropriate regional coverage in terms of ELSA, LCA and cybersecurity services.

The deliverable D3.2 outlines the requirements of EU regulations related to AI, Data, Machine and Cybersecurity and the expression of interests of TEF partners willing to implement and develop new conformity assessment services.





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Annex 1: Agrifood Sector-Specific Regulation and Policy

This annex lists all agrifood regulations and policies that apply to end-products from farming or food processing systems. They do not apply directly to TEF clients which are more likely to be European SMEs that develop AI or Robotics systems. Hence, a copy of their online short description is added in annex and aims to provide information between AgrifoodTEF partners who may provide services that draws an agrifood regulation landscape and a compliance roadmap to TEF clients.

1. Agricultural and forestry tractors

The regulation (EU) No 167/2013 applies to EU type-approval of agricultural and forestry tractors, trailers and interchangeable towed equipment. However, manufacturers may choose to comply instead with national requirements in the case of track-laying, high-clearance or extra-wide tractors, as well as trailers and interchangeable towed equipment.

In the case of tractors, this regulation covers all relevant safety requirements, while for trailers, interchangeable towed equipment or any machinery installed on the tractors, Directive 2006/42/EC applies for those risks not covered by this regulation.

Manufacturers are responsible for vehicles and components complying with the regulation in terms of safety and minimising the impact on the environment, including, but not limited to structural integrity, protection and roll-over structures, operating space and access to the driving position, visibility and controls, including emergency stop, lighting, exterior design, tyres, brakes and accessories, external and internal noise, pollutant emissions.

Manufacturers should also provide dealers and repairers with easy access to repair and maintenance information websites, training material and working tools.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R0167>

2. Common Agricultural Policy (CAP)

Farming is unlike most other businesses, as the following special considerations apply:

- Despite the importance of food production, farmers' income is around 40% lower compared to non-agricultural income ;
- Agriculture depends more on the weather and the climate than many other sectors ;
- There is an inevitable time gap between consumer demand and farmers being able to supply – growing more wheat or producing more milk inevitably takes time.

While being cost-effective, farmers should work in a sustainable and environmentally friendly manner and maintain our soils and biodiversity.

Business uncertainties and the environmental impact of farming justify the significant role that the public sector plays for our farmers. The CAP takes action with the following measures:

- Income support through direct payments ensures income stability, and remunerates farmers for environmentally friendly farming and delivering public services not normally paid for by the markets, such as taking care of the countryside ;





- Market measures to deal with difficult market situations such as a sudden drop in demand due to a health scare, or a fall in prices as a result of a temporary oversupply on the market ;
- Rural development measures with national and regional programmes to address the specific needs and challenges facing rural areas.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R2115&qid=1727273071623>

3. Food Safety and Quality

An important need mentioned in the **EU General Food Law (GFL)** is to create a coherent and transparent set of food safety rules. With the publication of the GFL, the European Union has made a new legal framework laying down the principles to ensure a coherent approach and to fix the principles, obligations and definitions that apply in the field of food safety. It defines the common principles underlying food legislation and the establishment of a food safety policy as a primary objective of EU food law. This Regulation also provides the general frame for those areas not covered by specific harmonized rules but where the functioning of the Internal Market is ensured by mutual recognition. Under this principle, in the absence of Community harmonization, Member States may only restrict the placing on the market of products lawfully marketed in another Member State when and to the extent that this can be justified by a legitimate interest such as the protection of public health and only when the measures taken are proportionate.

The General Food Law consists of three parts. The first part lays down the general principles and requirements of food legislation, the second part defines the establishment of the European Food Safety Authority and the last part lays down procedures in matters of food safety.

A general principle of food law is that operators in the feed and food business have the primary responsibility for food safety. Competent authorities monitor, enforce and verify this responsibility through the operation of national surveillance and control systems at all stages of production, processing and distribution. Member States are also obliged to lay down rules on measures and penalties applicable to infringements of food and feed law. They shall be effective, proportionate and dissuasive. The Commission concentrates on evaluating the ability of competent authorities to deliver these systems through audits and inspections at the national level.

A successful food policy demands the traceability of feed and food and their ingredients. This is an important requirement of the GFL. It includes the obligation for feed and food businesses to ensure that adequate procedures are in place to recall products that might pose a possible health risk. Operators should also keep adequate records of suppliers of raw materials and ingredients so that the source of a problem can be identified.

Link: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32002R0178>

Regulation (EC) No 852/2004 on the hygiene of foodstuffs establishes a comprehensive framework for ensuring food safety throughout all stages of food production, processing, and distribution within the EU. It requires food businesses to implement hazard analysis and critical control points (HACCP) principles, focusing on identifying and controlling food safety risks. The regulation mandates that all food handlers maintain high standards of personal hygiene, cleanliness, and sanitation in food preparation environments. It also emphasizes the importance of proper temperature control, the safety of water used in food production, and the maintenance of clean facilities. This regulation aims to protect consumers by ensuring that food products are produced under safe and hygienic conditions across the EU.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32004R0852>





Regulation (EC) No 853/2004 sets specific hygiene rules for the production and handling of food of animal origin within the EU. It complements general food hygiene regulations, focusing on stricter controls for products like meat, fish, dairy, and eggs to prevent contamination and ensure food safety. The regulation requires that operators of animal-origin food businesses meet specific standards, such as approved facilities, traceability, and veterinary checks for certain products. It also outlines requirements for labelling, storage conditions, and the handling of by-products. Overall, the regulation ensures that food of animal origin is processed in a way that protects public health and complies with EU safety standards.

Link: <https://eur-lex.europa.eu/eli/reg/2004/853/oj>

4. Environmental standards

The **Nitrates Directive (91/676/EEC)** aims to protect water quality across the EU by preventing nitrate pollution from agricultural sources. It requires Member States to identify areas vulnerable to nitrate contamination, known as Nitrate Vulnerable Zones (NVZs), where specific measures must be applied to limit the use of nitrogen fertilizers and manage livestock manure. The directive mandates action programs in these zones, including restrictions on the timing and application rates of fertilizers to reduce nitrate leaching into water bodies. It also promotes the adoption of good agricultural practices to balance nutrient input and minimize environmental impact. Ultimately, the directive seeks to improve water quality by reducing the incidence of eutrophication and preserving aquatic ecosystems.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31991L0676>

The **Regulation (EC) No 1107/2009** governs the authorization, sale, and use of plant protection products (PPPs) within the EU, aiming to safeguard human health, the environment, and biodiversity. It sets strict criteria for the approval of active substances used in PPPs, ensuring that only those that pose minimal risk to people, animals, and the environment are permitted. The regulation also outlines procedures for assessing potential impacts, including long-term environmental effects, and mandates periodic reviews of approved substances. It encourages the development and use of safer alternatives, such as non-chemical and low-risk products, promoting sustainable agriculture. By ensuring high safety standards, the regulation aims to protect ecosystems while enabling effective pest management in farming.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32009R1107>

5. Quality labels (geographical, traditional)

Protected Designation of Origin (PDO) is an EU quality scheme that protects the names of agricultural products and foodstuffs that are produced, processed, and prepared within a specific geographical area, following strict traditional methods. Products with PDO status must have characteristics that are uniquely tied to their place of origin, such as local climate, soil, or know-how, ensuring authenticity and preserving regional heritage. To be granted PDO status, both raw materials and production techniques must originate from the designated region. This label helps protect producers from imitation and ensures consumers are buying genuine, high-quality products with a recognized origin.

Protected Geographical Indication (PGI) is a designation used within the European Union to protect the names of specific agricultural products and foodstuffs that possess qualities, reputation, or characteristics intrinsically linked to their geographical origin. To qualify for PGI status, a product must be produced, processed, and prepared in a specific





region, ensuring that the geographical area contributes to its unique attributes. This designation helps preserve traditional methods and promote regional economic development by safeguarding local products against imitation and misuse. PGI protection not only enhances consumer confidence by guaranteeing authenticity and quality but also supports rural communities by encouraging sustainable agricultural practices.

The **Traditional Speciality Guaranteed (TSG)** is a European Union designation that recognizes and protects traditional food products with specific qualities, characteristics, or production methods. Unlike Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI), TSG does not require the product to be linked to a specific geographical area, focusing instead on the traditional aspects of the product. To qualify for TSG status, food products must demonstrate a traditional composition or method of production that has been established for at least 30 years. This designation aims to promote and preserve regional food heritage while providing consumers with assurance of authenticity and quality. Products bearing the TSG label benefit from increased visibility and protection against imitation in the market.

Link: https://agriculture.ec.europa.eu/farming/geographical-indications-and-quality-schemes/geographical-indications-and-quality-schemes-explained_en

6. GMO regulations

Directive 2001/18/EC regulates the deliberate release of genetically modified organisms (GMOs) into the environment and their marketing in the EU. It establishes a framework for risk assessment and management, requiring thorough evaluations of the potential effects of GMOs on human health and the environment before any release. The directive emphasizes the importance of public consultation and transparency, ensuring that stakeholders and the public are informed and can participate in decision-making processes regarding GMOs. It also mandates labeling and traceability for GMOs and products derived from them, enabling consumers to make informed choices. Overall, the directive aims to ensure a high level of protection for human health and the environment while allowing for the safe use of biotechnology in agriculture.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32001L0018>

Regulation (EC) No 1829/2003 governs the authorization and labelling of genetically modified organisms (GMOs) and GM food and feed within the European Union. It establishes a comprehensive framework for the risk assessment of GM products to ensure they are safe for human and animal health, as well as the environment, before they can be marketed. The regulation mandates that all GM food and feed must be clearly labelled to inform consumers and enable them to make informed choices. Additionally, it requires traceability measures to track GMOs throughout the supply chain, from production to retail. Ultimately, Regulation (EC) No 1829/2003 aims to maintain high standards of safety while fostering transparency and consumer confidence regarding GM products in the EU.

Link: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32003R1829>

7. Animal welfare

Directive 98/58/EC establishes minimum standards for the protection of animals kept for farming purposes within the European Union. It sets out basic welfare requirements related to housing, feeding, and management practices to ensure the well-being of farm animals such as cattle, pigs, sheep, and poultry. The directive emphasizes the importance





of providing adequate space, appropriate environmental conditions, and the opportunity for natural behaviors. It also requires that animals are monitored regularly for signs of distress or illness and that any necessary veterinary care is provided promptly. Ultimately, the directive aims to promote humane treatment of farm animals and enhance their welfare throughout their lives.

Link: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31998L0058>

Regulation (EC) No 1/2005 establishes rules concerning the protection of animals during transport and related operations within the European Union. It aims to ensure the welfare of animals being transported, setting out specific requirements for transport conditions, including adequate space, ventilation, and access to food and water. The regulation mandates that transporters must be trained and certified to handle animals appropriately, ensuring compliance with welfare standards throughout the journey. It also emphasizes the importance of proper documentation to demonstrate compliance with animal welfare requirements and the need for risk assessments before transport. Ultimately, the regulation seeks to prevent unnecessary suffering and promote humane treatment of animals during transport across the EU.

Link: <https://eur-lex.europa.eu/eli/reg/2005/1/oj>

Directive 2008/120/EC establishes minimum standards for the protection of pigs within the European Union, focusing on their welfare during farming and production. It mandates that pigs have access to sufficient space, clean bedding, and an appropriate environment to allow for natural behaviors such as rooting and social interaction. The directive outlines specific requirements for housing, including the prohibition of confinement in stalls for sows during certain stages of their reproductive cycle. It also emphasizes the need for proper management practices, including feeding, health checks, and access to water to ensure the well-being of pigs. Overall, this directive aims to enhance the welfare of pigs raised for meat production and to promote more humane farming practices across the EU.

Link: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32008L0120>





Annex 2: Other relevant regulations and standards not covered by AgrifoodTEF

Regulation	Name
EU 2019/945	Commission Delegated Regulation (EU) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems

Standard	Name
ISO 9001:2015	Quality management systems — Requirements
ISO 26262:2018	Road vehicles — Functional safety
ISO 18497:2024	Agricultural machinery and tractors — Safety of partially automated, semi-autonomous and autonomous machinery
NF EN IEC 62046	Safety of machinery - Application of protective equipment to detect the presence of persons
ISO/TS 15066:2016	Robots and robotic devices — Collaborative robots
ISO 13849:2023	Safety of machinery — Safety-related parts of control systems
ISO 13850:2015	Safety of machinery — Emergency stop function — Principles for design
ISO 14118:2017	Safety of machinery — Prevention of unexpected start-up
IEC 62061:2021	Safety of machinery - Functional safety of safety-related control systems
NF EN 60204	Safety of machinery - Electrical equipment of machines
ISO 13851:2019	Safety of machinery — Two-hand control devices — Principles for design and selection
ISO 4254:2013	Agricultural machinery - Safety
ISO 25119:2018	Tractors and machinery for agriculture and forestry — Safety-related parts of control systems
PR NF U47-800	Analytical methods in animal health - Mass spectrometry (MALDI-TOF) in animal health
ISO 17989:2015	Tractors and machinery for agriculture and forestry — Sustainability
ISO 20966:2007	Automatic milking installations — Requirements and testing
ISO 4002:1979	Equipment for sowing and planting
ISO/IEC TR 29119-11:2020	Software and systems engineering — Software testing Part 11: Guidelines on the testing of AI-based systems
ISO 15926-13:2018	Industrial automation systems and integration — Integration of life-cycle data for process plants including oil and gas production facilities
CEN/CLC/TR 18115:2024	Data governance and quality for AI within the European context
EN ISO/IEC 23894:2024	Information technology - Artificial intelligence - Guidance on risk management (ISO/IEC 23894:2023)
CEN ISO/TR 22100:2020	Safety of machinery - Relationship with ISO 12100 – Part 4: Guidance to machinery manufacturers for consideration of related IT-security (cyber security) aspects Part 5: Implications of artificial intelligence machine learning
EN ISO 15641:2001	Milling cutters for high speed machining - Safety requirements
EN ISO 16119:2023	Agricultural and forestry machinery - Environmental requirements for sprayers
EN 16524:2020	Mechanical products - Methodology for reduction of environmental impacts in product design and development





Annex 3: Future relevant regulations and standards

Standard	Name
ISO/WD 24882	Tractors and agricultural equipment - Cybersecurity engineering
CEN/CLC/TR 17894:2024	Artificial Intelligence - Artificial Intelligence Conformity Assessment
FprCEN/CLC/TR 18145	Environmentally sustainable Artificial Intelligence
prEN ISO/IEC 5259-2	Artificial intelligence - Data quality for analytics and machine learning (ML) - Part 2: Data quality measures (ISO/IEC 5259-2:2024)
CEN/SS F05	Measuring Instruments
EN ISO 13855:2024	Safety of machinery - Positioning of safeguards with respect to the approach of the human body
ISO/PWI 18460	Powered lawn and garden equipment — Internal-combustion engine-powered Autonomous lawnmowers
ISO/FDIS 3991	Agricultural machinery — Robotic feed systems — Safety





Annex 4: Categorisation of WP 3 services

Issued from the catalogue of services version: 1_11				Conformity Assessment (CA)			Other services e.g. consultancy, training, etc.	Which ones include certification ?
Partner ID	Partner	Partner name	Country	ELSA	LCA	Cybersecurity		
Italian Node Coordinator: rgiaffreda@fbk.eu								
1	FBK	FONDAZIONE BRUNO KESSLER	IT	S00188				
7	POLIMI	POLITECNICO DI MILANO	IT		S00116			
11	FEM	FONDAZIONE EDMUND MACH	IT				S00119 S00120 S00121	
18	UNINA	UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II	IT					S00221 S00222 S00223 S00224 S00225 S00226 S00228 S00229 S00230 S00232
Belgian Satellite Coordinator: jurgen.vangeyte@ilvo.vlaanderen.be								
3	EV ILVO	EIGEN VERMOGEN VAN HET INSTITUUT VOOR LANDBOUW- EN VISSERIJONDERZOEK	BE		S00003			
Austrian Satellite Coordinator: heinrich.prankl@josephinum.at								
23	RGRD	Raumberg-Gumpenstein Research and Development	AT		S00034			
French Node Coordinator: ankur.mahtani@lne.fr								
6	INRAE	INSTITUT NATIONAL DE RECHERCHE POUR L'AGRICULTURE, L'ALIMENTATION ET L'ENVIRONNEMENT	FR				S00068 S00069 S00070 S00071 S00077 S00078	
16	LNE	LABORATOIRE NATIONAL DE METROLOGIE ET D'ESSAIS	FR		S00097 S00292		S00083 S00293	S00097 S00292
Polish Node Coordinator: Tomasz.jankowski@pit.lukasiewicz.gov.pl								
9	L-PIT	SIEC BADAWCZA LUKASIEWICZ - POZNANSKI INSTYTUT TECHNOLOGICZNY	PL	S00214	S00066 S00288		S00055 S00065 S00287 S00264 S00216 S00215	
10	PSNC	INSTYTUT CHEMII BIOORGANICZNEJ POLSKIEJ AKADEMII NAUK	PL				S00196	S00196
Swedish Satellite Coordinator: anna.rydberg@ri.se								
12	RISE	RISE RESEARCH INSTITUTES OF SWEDEN AB	SE				S00007 S00009 S00010 S00011 S00019 S00248	
Dutch Satellite Coordinator: kees.lokhorst@wur.nl								
15	WU	WAGENINGEN UNIVERSITY & RESEARCH	NL	S00138 S00139			S00137, S00140, S00141	
Spanish Satellite Coordinator: roberto.garcia@udl.cat								
26	UDL	UNIVERSIDAD DE LLEIDA	ES	S00310 S00245				
27	UCO	UNIVERSIDAD DE CORDOBA	ES				S00270 S00271 S00276	S00265 S00266 S00267 S00268 S00269 S00275
28	GRADIANT	FUNDACION CENTRO TECNOLOXICO DE TELECOMUNICACIONS DE GALICIA	ES				S00289	
30	CEP	CONSORCIO CENTRE D'ESTUDIS PORCINS	ES					S00246





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