AGRARIAN

FARMING ON THE EDGE

| OPEN CALL 2
Applicants' Guide

Disclaimer

Participant	Participant Organization Name	Short Name	Country
1	NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	NCSRD	EL
2	DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV	DLR	DE
3	LDO - SOCIETA PER AZIONI	LDO	IT
4	SOFTWARE IMAGINATION & VISION SRL	SIM	RO
5	UBOTICA TECHNOLOGIES LIMITED	UBO	IE
6	ADRESTIA EREVNITIKI IDIOTIKI KEFALAIOUXIKI ETAIREIA	ADRE	EL
7	ASOCIATIA PRODUCATORILOR DE PORUMB DIN ROMANIA	APPR	RO
8	AVIPE-ASSOCIACAO DE VITICULTORES DO CONCELHO DE PALMELA	AVIPE	PT
9	PRACTIN IKE	PRACTIN	EL
10	EPSILON MALTA LIMITED	EPSILON	MT
11	MEDITERRANEAN AGRONOMIC INSTITUTE OF CHANIA	MAICH	EL
12	TERRAVIEW GmbH	TERRA	CH
13	SATELIO IOT SERVICES, SL	SATEL	ES

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1. Introduction

AGRARIAN will rely on an agile and secure Hybrid Communication Emulated infrastructure (TRL 4-5), incorporating satellite/terrestrial communications technologies (5G, LTE, etc.), IoT infrastructure, device-edge-cloud computing, and large-scale data processing with AI/ML capabilities. This environment will enable the development of tools and apps for agriculture, improving operational effectiveness through real-time data processing and offering a dynamic programming environment for programmers and stakeholders, creating a holistic Agricultural Decision Support System (ADSS) for last-mile connectivity and edge solutions.

AGRARIAN platform aims to offer: **Smart connectivity for secure access to any** of the relevant network infrastructure options; **Ability to dynamically meet latency, configuration** and other requirements of each of the different network technologies; **Integration of edge and cloud for a transparent infrastructure** to organize and deploy software components on demand; **Uniform management of distributed digital infrastructure** for different edge types, cloud components and services; **Dynamic deployment and provisioning of services and applications** that are time- and location-dependent; **Management of data to maintain data security** and optimize data processing; O**ptimisation of operations in terms of energy consumption** by enabling new tools and apps for field operations and resource use; **A strong ADSS (Agricultural Decision Support System)** tool that will take into consideration all specificities of farmers in rural communities and will propose the appropriate technology for the last mile and the corresponding business model to maximize benefit for all actors. AGRARIAN ADSS will be data, communication and knowledge driven allowing the development of apps and tools as per user's needs. ADSS will rely on a simple GUI, re-planning components and prediction abilities so adopt to dynamic situations.

1.1 About AGRARIAN

AGRARIAN aims to develop an **open and dynamic environment** by realizing an ecosystem where distributed resources and services will be programmatically aggregated on demand to **support IoT / edge data driven application workflows.** AGRARIAN will develop a new programming environment and tools for the automated refactoring of existing applications and data management frameworks so they can operate in edge-based deployments as well as new edge-native programming abstractions and middleware. Based on widely accepted **open source technologies and adoption of container-based technologies** and orchestrators AGRARIAN will provide Seamless **IoT Device-Edge-Cloud layered environment** able to support dynamic computing at the

continuum and will utilize state-of-the-art Cloud Native Technologies that will support and extend its capabilities towards designated ML-related applications as well as edge proxies, service orchestration and management tools. Such technologies include the use of Kubernetes, tailored to accommodate specific requirements of the constrained environments of CubeSats (e.g., KubeEdge, k3s). AGRARIAN edge **AI ecosystem based on the Hybrid Network architecture** will rely on an **emulated network of CubeSats r**unning portable edge-AI applications and forming a swarm of intelligent decentralized nodes. Figure 1 depicts the AGRARIAN Ecosystem and main Research Pillars.
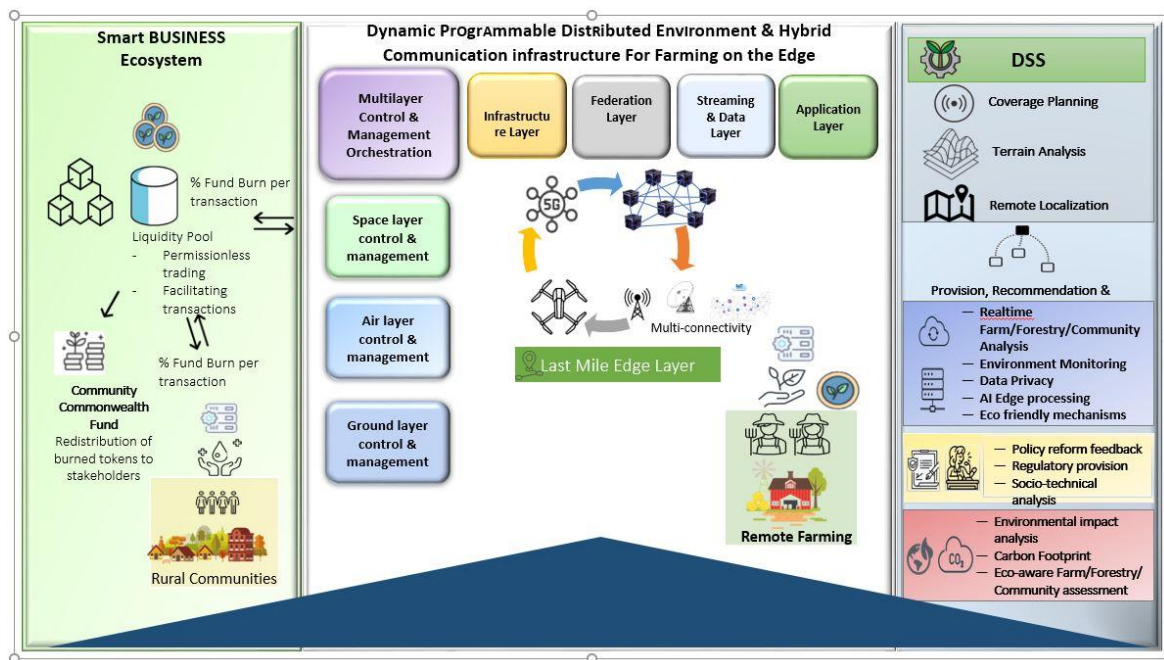
Figure 1: AGRARIAN Vision

The realisation of the AGRARIAN distributed intelligence and edge computing will provide a scalable and flexible platform to support diversified edge AI applications with heterogeneous service requirements. AGRARIAN foresees:

1. On surveying the **convergence of satellite and terrestrial networks to determine the appropriate AGRARIAN network architecture.** This includes analyzing existing literature, standardization efforts, projects, and key application areas to support varied services and seamless coverage. The approach involves developing a novel architecture based on SDN and NFV technologies, with a focus on network scalability, IoST-as-a-Service, ubiquitous connectivity, and network security. The proposed layered architecture includes an Infrastructure Layer, Control and Management Layer (CML), and Policy Layer to orchestrate network operations and management while ensuring security and privacy.

2. To create a **dynamic and programmable distributed ecosystem** to accommodate diverse application scenarios. AGRARIAN plans to develop a software framework that seamlessly integrates resources and services across Cloud datacenters, Edge devices, and in-transit data paths. This involves modeling heterogeneity, evaluating performance metrics, and optimizing resource utilization through programming models, distributed services, and efficient workflow management. The objective is to enable the development of applications that can leverage resources at the Edge, core, and along the data path efficiently.

3. On building **Distributed Intelligence through Edge AI and Governance.** AGRARIAN plans to enhance connected systems and devices by implementing edge intelligence practices such as caching, training, inference, and offloading. This involves deploying AI applications on CubeSats and creating a network of intelligent decentralized nodes to maximize resource allocation and computational efficiency. The methodology includes conceptualizing edge intelligence, developing communication-efficient systems, and establishing a unified framework for resource allocation in edge AI systems.

4. Introduces th**e Agriculture Decision Support System (ADSS)** for last-mile connectivity and edge solutions supporting farms and rural development. AGRARIAN aims to develop a holistic decision support tool that integrates different disciplinary sectors and enables automatic decision-making processes for farming applications. The ADSS is designed based on multi-stakeholder inputs, emphasizing the involvement of farmers and local communities in the design and implementation process. The components of the ADSS include multi-stakeholder data collection, coverage planning, terrain analysis, remote localization, and edge processing to provide innovative solutions that address connectivity challenges and environmental impact analysis in rural areas.

AGRARIAN project performs 3 pilots for validating the developed technologies:

Pilot 1 - Livestock Monitoring and Management in Greece: This pilot project focuses on utilizing drones for monitoring and managing livestock spread across mountainous terrains in Crete. The goal is to enhance livestock tracking and health monitoring for breeders in the region. By employing UAVs equipped with hyperspectral cameras, breeders can monitor the whereabouts and health of their animals and detect any anomalies or sick animals. The ambition of the project includes advancing the technology, adapting it to the AGRARIAN framework, providing targeted services to small and medium-sized farmers, and validating the technologies for long-term sustainability.

Pilot 2 - Field Crops Monitoring in Romania: In this pilot project, edge computing is used to process agriculture data near its source to overcome limitations of cost, timeliness, and privacy associated with cloud-based processing. The pilot in rural Southern Romania aims to assist farmers in reducing production costs by providing data on crop uniformity, water levels, and weather-related damages. The key performance indicators (KPIs) include reduction in latency, automation, uniform management of infrastructure, energy optimization, data security, and the development of a decision support system tailored to farmers in rural communities.

Pilot 3 - Vineyards Management in Portugal: Terraview GmbH, a Swiss climate SaaS startup, collaborates with Ubotica Technologies to enhance vineyard management using satellite data, weather information, IoT sensors, and AI models. The goal is to provide vineyard managers with data-driven insights for optimal decision-making. The pilot involves developing AI models for detecting critical information like frost, disease, and irrigation management directly on satellites to enable near-real-time delivery of insights to farm managers. The focus is on deploying edge computing solutions to improve data processing speed and efficiency for time-sensitive agricultural applications.

1.2 AGRARIAN Open Calls

The program will run two open calls that will allow the selected Startups/SMEs/RTOs and technology providers to obtain optimised solutions to enhance currently remote and underequipped business and communities in the farming and livestock sector. This way Europe's leadership will be empowered in the global agriculture economy, as cloud, edge and mixed technologies are a vital enabler for the strengthening of remote agriculture and livestock communities. AGRARIAN aims to attract more than 60 applications within the two open calls. As a result of these use cases, they will help test and validate the implemented framework in a large scale of scenarios and test cases.

The general concept of the project aligned with the calls is summarised below:
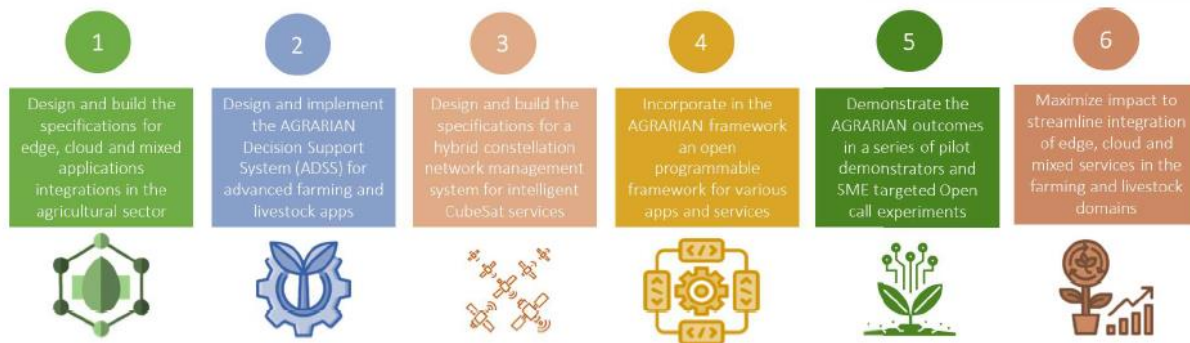
Figure 2: AGRARIAN General Concept

The maximum amount of financial support to third parties will be EUR 800k, which will be distributed between the two open calls. The number of selected projects and the budget available for each open call are shown below:

Table 1: Open Call in Numbers

OPEN CALL	FUNDING/PROJECT	PROJECTS	SUBTOTAL
Open Call #1	EUR 50,000	8	EUR 400,000
Open Call #2	EUR 50,000	8	EUR 400,000
		TOTAL	EUR 800,000

1.3 Open Calls Timeline
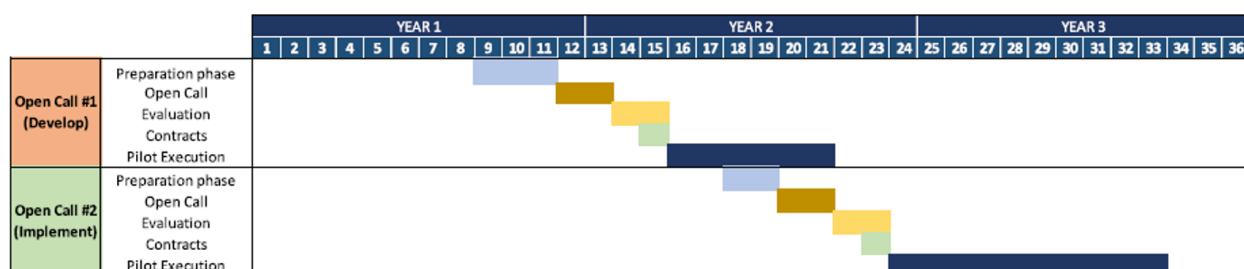
Figure 3: Open Call Timeline

Preparation Phase + Announcement – Activities aimed at defining the sub-topics that will drive the open calls. Depending on the call, this will last from 2 to 3 months. During this period, communication materials will be created and a separate page on the AGRARIAN website devoted to the open call.

Open Call – Period of time in which the open call is open to receive applications. The average duration will take two months as it is established in the EC rules for managing FSTP funds. Based on our experience, this is the perfect time to engage with potential applicants. During this period, promotional events and awareness-raising campaigns will be done to engage and attract applicants.

Evaluation – The evaluation will take place at a maximum of two months. We will have a list of potential evaluators before the open call closure, to be ready to confirm the appointment of the experts after the close of call. This way, we know how many applicants we have, and we can better select experts and avoid the risk of conflict of interest.

Contracts – After the proposal has been accepted, the beneficiaries will start the onboarding process. Two processes need to be carried out in parallel: sub-grant agreement preparation and establishment of the work plan and milestones to be achieved during the execution of the third-party mini-projects.

Monitoring of the projects' Execution – This period is focused on the execution and running of the accepted open call mini-projects in the framework of the project. It will address the access to critical infrastructure, the troubleshooting of various implementation issues that may arise and the management of the different projects that will be realised in the frame of AGRARIAN.

The Open Call formal procedure adopts the principles of EU Open Calls, emphasising transparency, equal treatment, confidentiality and wide reach.

2. Open Call 2

2.1 General Information

The objective of AGRARIAN Open Call 2 is to expand the scope and technological impact of the AGRARIAN project by inviting European SMEs, start-ups, universities, research centres, NGOs and foundations to submit proposals that introduce new agricultural use cases and edge or hybrid AI/IoT technologies.

Selected proposals should address real challenges in agriculture, particularly in livestock, field crops or other related farming activities, with a focus on AI and IoT driven innovation. The goal is to develop solutions that can be tested and validated using real-world data within the AGRARIAN framework, contributing to more efficient, sustainable and environmentally friendly farming.

Proposals should:

- Introduce new use cases aligned with AGRARIAN's vision and research topics
- Include innovative methodologies for agricultural data collection and analysis
- Leverage edge or fog computing to process data locally, closer to where it is generated
- Be strictly focused on the agricultural domain
- Be able to be tested and evaluated on one of the provided AGRARIAN testbeds (see below)
- Bring real-field data
- Store selected processed data to AGRARIAN data storage for data visualization and any further exploitation through the ADSS (see below)
- Provide a finalized application ready to be stored in AGRARIAN applications repository (see below)
- Address real-world agricultural problems
- Have high agricultural and social impact

What we offer:

- **Three testbeds**
  - **Testbed 1- Geosynchronous Satellite Communications with EDGE capabilities**: Satellite emulation testbed with edge capabilities for GEO telecommunication satellites, based on OpenSand platform. Edge may be on board the satellite or at the ground gateway, provided by NCSRD.
  - **Testbed 2- Non-Geosynchronous Orbit (NGSO) Satellite Communications with EDGE capabilities:** Emulation testbed for small LEO constellation with on board edge computing capabilities supporting IoT scenarios. Edge computing part is based on service modeling, while satellite

component reproduces realistic dynamics, provided by DLR.

- o **Testbed 3- LEO-Based NB-IoT Testbed for Onboard Edge AI Data Processing:** This lab-based testbed simulates the infrastructure for non-terrestrial NB-IoT communications via a LEO satellite constellation. It supports narrowband use cases with low data rates (up to 250 kbps) and enables efficient onboard edge deep learning inference capabilities. The system emulates a dual-mission payload by storing and processing both Earth Observation imagery and IoT sensor data onboard the satellite. The goal of the testbed is to validate applications that leverage IoT data for onboard inference.

- ▪ **Data Storage:** Selected processed data generated by the applications will be stored in the AGRARIAN data infrastructure for future visualization, analysis and exploitation. The system uses a PostgreSQL database to manage structured information, including users, sensors metadata, inference results and other relevant information. This storage enables integration with AGRARIAN Agricultural Decision Support System (ADSS) and supports policy-level insights.

- ▪ **Applications Repository:** All applications developed within the AGRARIAN Open Call will be stored in a dedicated container registry provided by the project. To ensure compatibility with the AGRARIAN platform, applications must be delivered in a containerized format (e.g., Docker). The container images will remain accessible to project partners and stakeholders for the duration of the AGRARIAN project. Open Call developers will retain full ownership of the intellectual property and copyrights of their submitted applications. However, each application must include an appropriate usage license (e.g., open-source, commercial or custom license) clearly defining how it can be accessed, used and shared within the AGRARIAN framework. Developers are responsible for embedding and maintaining this license in their application code and documentation.

- ▪ **Access to the AGRARIAN testbeds:** A VPN connection will be offered for accessing the AGRARIAN infrastructure.

2.2 Topics

Project proposals should be in line with the Governance Vision and the AGRARIAN research topics (see below). Proposals should determine the degree to which the use of AGRARIAN platform is beneficial for their services/products. In this respect they should include KPIs to measure the technical and economic benefits of the proposed services/solutions/technologies/IoTs in terms of optimization of operations, energy consumption, response time, accuracy, data security etc.

Proposals falling into the following research topics (but not limited to) are expected to be funded:

- Innovative Agricultural Tools: Introducing cutting-edge technologies such as precision farming, unmanned ground/aerial vehicles, livestock, soil and crop AI monitoring systems, sensors and IoT devices/applications, these tools should aim to increase farming efficiency, minimize costs and reduce environmental impact.
- Sustainable Farming Solutions: Focusing on sustainable and regenerative agriculture practices, promoting biodiversity, soil health, and water conservation, these technology solutions should contribute to carbon footprint reduction and ecosystem resilience enhancement.
- Climate Resilience and Adaptation: Introducing solutions for climate-resilient crops, innovative irrigation systems, and weather prediction tools.
- Digital Solutions and Smart Farming: Developing digital platforms, mobile applications, and data analytics tools to support farmers in decision-making, good practices and resource management, enhancing productivity and profitability.

Examples of applications eligible for funding:

- Smart Livestock Health Monitoring System: An AI system that collects input from sensors (e.g. aerial cameras, animals' body sensors etc.) and performs early detection of sick animals, generating alarms and suggestions for the herd. The AI model analyzes visual cues (such as changes in gait, posture, or physical appearance) and sensor data (such as temperature, heart rate, and movement patterns) to detect anomalies that may indicate sickness.
- Smart AgriDrone Monitoring System: Unmanned Aerial Vehicles (UAVs) utilizing onboard devices (e.g. multispectral cameras) and AI algorithms, provide comprehensive monitoring and analysis of the field, early problem identification and efficient vineyards management.
- Smart Tractor: Vineyards produce a dense canopy that often hides grapes from aerial visualization. With a monitor solution installed on a tractor, it will be possible to detect pests and diseases, productivity and nutritional problems. The data acquisition could be challenging due to bumpy movement of the tractor and the leaves hiding the grapes. Collected data are fed to a DSS (Decision Support System) platform producing suggestions to the farmers.
- Crop Field Decision Support System: A decision system that receives data from heterogeneous sources (e.g. satellite images, drone footage, soil sensors and weather stations) to provide crop field situation awareness and good practices suggestions. Running on the edge of the satellite network, the system processes data in real-time, applying AI algorithms to analyze patterns and predict crop health issues such as nutrient deficiencies and water stress. The system generates actions recommendations, which are delivered to farmers through a developed mobile application.

2.3 Submission Procedure

The access for the proposals submission is obtained through the official AGRARIAN website for the open calls: https://agrarian-project.eu/open-call-2/

Submissions received through any other channel will be automatically discarded.

Documents required in subsequent phases will be submitted via dedicated channels, which will be indicated by the AGRARIAN consortium in the contracting phase.

2.4 Language

English is the official language for AGRARIAN Open Call 2. Applications submitted in any other language will not be evaluated. English is also the only official language throughout the whole execution of the AGRARIAN project. This means all requested contributions must be submitted in English to be eligible.

2.5 Documentation Format

Any document requested in any of the phases must be submitted electronically in PDF format without restrictions for printing. When filling in the proposal template, make sure to keep the provided set formatting of the document, including margins, font size and do not exceed the defined maximum of 12 pages for sections 2-5, as given in the proposal template.

2.6 Financial Support

The funds provided through the Open Call 2 come directly from the funds of the Horizon Europe Project AGRARIAN, which is funded by the European Commission under Grant Agreement Number 101134128.

In order to receive funding, any selected beneficiary will sign a dedicated Sub-Grant Agreement with the AGRARIAN consortium.

The grant is disbursed over the course of the Open Call Project implementation, following a lump sum approach. This means that the funding will be distributed gradually with the progress of the project, and it will be based on the submission of deliverables and fulfillment of the corresponding KPIs, rather than administrative justifications of time and/or expenses.

3. PROPOSAL SUBMISSION AND SELECTION

3.1 Proposal

AGRARIAN Open Call 2 will be published on the AGRARIAN website, https://agrarian-project.eu/ on August 1st 2025 and will end on September 30st 2025 17:00 CET time (Brussels time). The publication will be supported by the following documents:

1. Open Call 2 Related Information, which provides basic info of the open call.

2. Applicants' Guide, this document.

3. Proposal template, word document to be submitted as a PDF in the application phase.

4. SME Declaration.

5. AGRARIAN Technical Annex.

3.2 Eligibility Criteria

Organizations that were funded under Open Call 1 or by our sister project "OpenAgri", are not eligible to receive funding under AGRARIAN Open Call 2. This policy aims to ensure broader participation and give to new organizations the opportunity to contribute. AGRARIAN Open Call 2 specifically aims to attract different and broader use cases than those supported in Open Call 1 (which are available on our website). We are particularly looking for use cases that bring real data from the field, addressing practical challenges and demonstrating clear impact.

The rest of the eligibility criteria for the AGRARIAN Open Call 2 are:

- Applicants need to be Start-up/SME/University/Research Center/NGO/foundation
- The applicant must have a valid VAT number.
- Existing consortium members of AGRARIAN project and their affiliated entities are not eligible.
- Applicants must not have been funded under other Open Calls by AGRARIAN or OpenAgri projects.
- The proposal must be delivered before the defined deadline, applying the requested submission procedure.
- Proposals shall only ask for funding for that part of the work that is not yet accomplished and will be carried out after having been selected for funding.

Note: AGRARIAN consortium reserves the right to ask for additional explanations from the applicants during the eligibility check.

3.2.1 Eligible Entities

- **SMEs**

An SME is considered as such if it complies with the European Commission Recommendation 2003/361/EC1, and the SME user guide. As a summary, the criteria which define an SME are the following:

• Independent, partner or linked enterprises, with financial and staff figures calculated in accordance with instructions given by Recommendation 2003/361/EC3.

• It is a legal entity established and based in one of the EU Member States or an HE Associated country as defined in HE rules for participation (see section 3.2.3).

• Headcount in Annual Work Unit (AWU) less than 500.

• Annual turnover less or equal to €100 million.

If applicants are not sure whether they comply with the SME criteria, an online SME self-assessment questionnaire is provided by the EC, for these purposes, on this link: SME self-assessment questionnaire.

- **Universities and Research Centers**

One application is accepted per research group. It's important to note that within a department, multiple research groups exist, and while different groups from the same department can apply, it's crucial that individuals are not concurrently members of multiple research groups to ensure equitable allocation of resources and dedication to their respective research pursuits.

- **NGOs and foundations**

Non-profit organizations and foundations with experience in agriculture applications, technologies and business aspects.

3.2.2 Eligible Countries

Only applicants legally established/resident in any of the following countries (hereafter collectively identified as the "Eligible Countries") are eligible for funding:

• The Member States (MS) of the European Union (EU), including their outermost regions.

• Horizon Europe associated countries: according to the updated list published by the EC on the submission date of the proposal.

3.2.3 Additional Criteria for Applicants to be Eligible

In addition, the following conditions apply:

- The organizations applying should not have convictions for fraudulent behavior, other financial irregularities, and unethical or illegal business practices.
- The participating organizations should not have been declared bankrupt or have initiated bankruptcy procedures.
- AGRARIAN mini-project beneficiaries must have the appropriate resources to implement the full set of tasks needed within the project. This means it is not allowed to subcontract key parts of the project. Examples (not restricted to) of subcontracting not desired are, paying an external developer not in the company, paying a research center or foundation to execute technical tasks, etc. Employees of a company are never considered subcontractors but part of the company itself.

3.3 Application Process

3.3.1 Proposal Reception

All proposals will be submitted electronically via an Open Call 2 management tool, developed by AGRARIAN. The tool guarantees confidentiality, tracing of events, messaging and security and privacy to the process for evaluators, observers and Consortium members.

Applications should be written in English, readable, accessible and printable.

Applications will include a plan for the exploitation and dissemination of results.

The page limits, and sections subject to limits, will be clearly shown in the application templates in the AGRARIAN electronic submission Portal. The limit of each proposal covering Sections 2-5 should not exceed 12 pages. After the call deadline, excess pages will not be taken into consideration by the evaluators.

Additional to the 12 pages description of the proposal, the application form should also include: a) Front page (ToC) and section 1 (Applicants' information) b) Annex: Declaration of Honor and Privacy Policy.

In case that the application organization is an SME with no PIC number, it should upload an SME Declaration (in pdf format).

3.3.2 Eligibility Self-Declaration

The application platform includes an eligibility self-declaration field which requires answers to the following questions:

- ✓ Are the consortium entities legally established?
- ✓ Are the consortium entities an SME/Startup/University/Research Center/NGO?
- ✓ Is this proposal submitted by a consortium of 1 to 3 partners?
- ✓ Is this proposal the only one submitted by the consortium and the partners?
- ✓ Has any partner of the consortium been funded under an open call by AGRARIAN or OpenAgri project?
- ✓ Is any partner of the consortium directly affiliated with an AGRARIAN partner?

3.3.3 Evaluation Stage

The evaluation of proposals is critical for the success of AGRARIAN. The process for evaluation is based on a four-step approach:

1. Eligibility check

2. Alignment evaluation

3. Experts' remote evaluation

4. Normalization of results

Eligibility Check

Eligibility criteria check will verify:

a) All the required fields in the online application form and all documents uploaded are properly completed.
b) The existence of a legal entity (PIC verification or SME declaration).
c) Legal entities allowed:
   - Start-ups and SMEs,
   - Universities or Research centers
   - NGOs or foundations
d) Each organization is legally registered in one of the eligible countries' list.
   - The Member States (MS) of the European Union (EU), including their outermost regions.
   - Horizon Europe associated countries: according to the updated list published by the EC on the submission date of the proposal.

e) Application sent by a consortium of 1-3 partners.
f) Single participation: only one application per consortium and one application per partner is accepted. Multiparticipation per entity is not permitted:
    - A consortium sending several proposals will be automatically discarded.
    - In case of larger organizations like Universities or Research institutes only one proposal per research group will be allowed. Sharing personnel between different groups for multi-proposal submission will not be allowed.
g) Uniqueness of the proposal: the proposal is not partially or completely funded by another project to avoid double funding.
h) Your organization is not directly affiliated with an AGRARIAN partner.
i) No partner of the consortium has been funded under an open call by AGRARIAN or OpenAgri project.

Alignment evaluation

The proposals that pass the eligibility check will move to the alignment evaluation. At this stage the technical partners of AGRARIAN will evaluate the feasibility of implementing the proposals for their selected testbed.

Applicants must ensure their proposals align with the objectives and requirements of the chosen testbed. Subsequently, the suitable proposals will advance to the evaluation stage, where two evaluators will proceed with the review.

Experts' remote evaluation

At this stage an evaluation board with experience in farming applications, satellite, edge, cloud technologies, R&D, technology and business development will review each proposal, scoring them based on different evaluation criteria:

- Technical Excellence: projects must demonstrate high quality, and a clear set of objectives aligned with the AGRARIAN vision and with the general objectives of the project as well as with the topics of the specific call. The Excellence is evaluated according to the following criteria:

- Clarity and pertinence of the objectives.
- Soundness of the proposed methodology with special emphasis on interdisciplinary approaches.
- Appropriate consideration of the gender dimension in research and innovation content.
- Quality in open science practices.

- Clarity regarding the participation of citizens, civil society and end users when appropriate.

- Impact: Proposals must demonstrate the impact on the AGRARIAN technologies advancement and its contribution to meeting the overall project objectives. Additionally, proposals should contribute to meeting the objectives of the respective Use case and Testbed they will select.

The impact is evaluated according to the following criteria:

- Strengthening the competitiveness and the digitalization of Europe in edge-based agriculture applications.
- Credibility in the methods used to achieve the expected results and impacts.
- Increased software, hardware and supply chain performance using the executed solutions.
- Reinforced awareness and a common agriculture and livestock management and culture
- Effectiveness of the proposed experiments to exploit and disseminate the project results and to communicate the project.

- Implementation: Proposals must demonstrate quality and effectiveness in terms of their implementation, which will be evaluated according to the following criteria:

- Expertise and Collaborative Potential: The capability of the team to execute the project should be demonstrated, including relevant experience and past achievements in agricultural applications and services. The potential for collaboration with other experts and institutions to enhance the project outcomes should also be highlighted.
- Clear and detailed plan of proposed activities, ensuring that the activities are aligned with the project objectives and developed within realistic timeframes.
- The plan should highlight the suitability of resources, both in terms of human and technological resources, emphasizing the team's commitment and ability to execute the project.
- The proposed activities must be carried out within realistic timeframes, demonstrating a practical understanding of the project's scope and complexity. This ensures that the experiment progresses as planned and contributes effectively to the overall success of AGRARIAN.
- Risk Assessment – Identified risks that could happen during the implementation of the Open Call Project including mitigation measures for addressing or avoiding those risks.
- KPIs – A list of Key performance indicators, which include a balanced mix of operational, Exploitation Communication and Dissemination KPIs. Exploitation, Communication and Dissemination KPIs should account for at least 25% of the

KPIs while the operational ones the remaining 75%. A set of KPIs and the corresponding milestones must be defined, which will be associated to the payment at the end of each phase.

- Applicants must define a clear set of technical deliverables aligned with the objectives of their solution and the specified KPIs.

Proposals will be evaluated by 2 specialized evaluators. All evaluators will receive the evaluation guidelines, templates, and will be duly informed about the timing for an agile process and conflict of interest issues. The evaluation documents will be created based on the consortium internal expertise and following the European Commission good practices and templates that they might provide to assist the beneficiaries, if any.. Experts are required to adhere to confidentiality rules at all times before, during and after the evaluation. The experts will score each award criterion on a scale from 0 to 5, with granularity of 0.1:

Table 2: Experts Score Scale

Score	Definition
0	Proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.
1	Poor – criterion is inadequately addressed or there are serious inherent weaknesses.
2	Fair – proposal broadly addresses the criterion, but there are significant weaknesses.
3	Good – proposal addresses the criterion well, but a number of shortcomings are present.
4	Very good – proposal addresses the criterion very well, but a small number of shortcomings are present.
5	The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

The total score will be calculated as an average of the score of the 3 different criteria. The threshold for each criterion will be three (3), while the overall score threshold will be ten (10). That means if a proposal receives less than 3 in one criterion or less than 10

overall score, it will not be recommended for funding by the independent technical experts and will be automatically rejected.

Each evaluator will record his/her individual opinion of each proposal in an Individual Evaluation Report.

Normalization of results

Each evaluator will score a proposal without knowing the evaluation of their colleague, thus preventing one evaluator from influencing the other. Therefore, the same evaluation can receive very different scores.

The **normalization method** will be employed to address this. This method ensures a more balanced distribution of scores and reduces the possibility of biases and distortions. All proposals will be ranked based on their scores at the end of the evaluation process. This method will be applied by the AGRARIAN consortium.

The normalization process counts with a several steps approach:

- **External Evaluators Average** (EEA) and **Overall Average Score** (OAS): each evaluator has evaluated several proposals. We calculate the average score of all applicants and compare it with the average score of each evaluator.
- Each External Evaluator Average is compared to the Overall Average Score using a simple division (EEA / OAS). As a result, we know the percentage each evaluator represents of the OAS. This has a double meaning:
    - Evaluators under 100% have a negative pattern against the average. Their scores are then increased.
    - Evaluators above 100% have a positive pattern against the average. Their scores are then decreased.
- **Correction factor**: Based on this formula $1 + (1 - (EEA/OAS))$. This factor is unique for each evaluator.
- The following step is applying the Correction Factor to each criterion per evaluator. Technical excellence x Correction Factor | Implementation x Correction factor | Impact x Correction factor.

3.3.4 Ranking of Proposals with Equal Scores

The criteria for the ranking of the proposals will be following the rules below:

Rule 1: The proposals will be ranked based on their overall score.

Rule 2: In case following Rule 1 there are proposals in the same position, priority will be given to activities that are thematically or technically distinct from those funded under AGRARIAN Open Call 1.

Rule 3: In case following Rule 2 there are proposals in the same position, priority will be given to proposals that have higher score on the Excellence award criterion.

Rule 4: In case following Rule 3 there are proposals in the same position, priority will be given to proposals that have higher score on the Impact award criterion.

Rule 5: In case following Rule 4 there are proposals in the same position, priority will be given to proposals that have higher score on the Implementation award criterion.

Rule 6: In case following Rule 5 there are proposals in the same position, priority will be given to the number of women participating in the team.

At the end of this phase, all proposals will be ranked based on their scores. The first 8 proposals will be funded and the next 4 will be in the reserve list.

At the end of the evaluation process, the AGRARIAN consortium will then formally approve a list of maximum 8 proposals within the limits of the available funding.

Then, the applicants will receive via email: a letter informing them of the decision and the following steps (if applicable) and an Evaluation Summary Report (ESR).

Then, the selected Open Call Projects will be invited to sign the Sub-grantee agreement and start with their implementation.

3.3.5 Appealing Procedure

The AGRARIAN consortium has established a process that allows applicants to appeal the decision of the consortium in the event their proposal is not selected for funding. If an applicant believes that there has been a deficiency in how their proposal was assessed, which could potentially impact the final funding decision, or if they believe that the results of eligibility checks are incorrect and do not adhere to the Open Call rules, resulting in harm to their interests, the following appeal procedure is available:

- Complaints, including clear evidence of the alleged error (screenshots, video), must be submitted within five (calendar) days from the date of receiving the evaluation results.
- The AGRARIAN Team will thoroughly investigate complaints to determine if a re-evaluation of the proposal is justified. A decision will be communicated within no more than twenty days from the date of receiving the complaint, provided that all required information has been submitted by the complainant. If this timeline cannot be met, the complainant will be informed by email of the delay and given a new decision date.

- In instances where re-evaluation is deemed necessary, the outcome will directly replace the initial score without undergoing normalization or any other adjustment process. This clause is specifically designed to expedite the appeal resolution and prevent delays in the project's timeline.

To maintain the efficiency of the process, each proposal is allowed a single appeal. The decision reached at the end of the appeal process is final, concluding any further discussion regarding the proposal's evaluation.

The opinions of the reviewers are subjective and may not be the same as the applicant's. Our process ensures scores are normalized to reduce usual personal bias by the external experts and averaged to ensure consensus is met with the final score. Applicants may have different opinions about the outcome and opinions of the evaluators. AGRARIAN open call team will not provide an opinion over the evaluators' opinion and scores unless a factual error is detected.

3.3.6 Validation of the Legal Entity

Before validating the final list of accepted applicants, a thorough validation of the legal entities will be performed. This validation includes the submission of various documents to ensure compliance with the AGRARIAN project´s requirements. The elements for validation that will be requested are:

For entities that are already validated by the European Commission's Funding and Tenders Portal: the PIC Number and a screenshot of the Funding and Tenders portal in which it's evidenced the type of organization which has been selected as a beneficiary (University, NGO, foundation, SME…)

For those entities without a validated PIC number OR without a validated status (like self- declared SMEs):

- **Legal entity form**. The Legal Entity form for private companies, and public law bodies necessary for the awarding of EU funding. Company Register, Official Journal and so forth, showing the name of the organization, the legal address and registration number and
- **VAT Number registration** (if applicable), a copy of a document proving VAT registration (in case the VAT number does not show on the registration extract or its equivalent).

Only for SMEs

- **SME declaration form** based on the standard templates by the EC in which the consortium can verify the ownership structure and financial figures to verify the size of the company.
- **Balance accounts and P&L for the last two closed years**.
- In companies with **linked or associated entities**, additional information (accounts for mother companies, group trees, etc.) could be requested.
- A legal entity that does not provide the requested data and documents in due time will not be included in AGRARIAN project.

The AGRARIAN consortium will then formally approve a list of maximum 8 proposals within the limits of the available funding.

Prior to contracting, the consortium will ask for the approval of the European Commission and the list of selected projects will be submitted to the European Commission for final screening. Once validated, the AGRARIAN project will communicate the results, and every applicant will receive via email: An Evaluation Summary Report (ESR) and a letter informing of rejection decision or invitation to negotiation and following steps.

3.3.7 Sub-Grantee Agreement Preparation

A written Sub-grantee agreement will be signed with successful applicants. All the legal issues are accurately covered by the planned contracts with the sub-granted beneficiaries. The sub-grant agreement will foresee, among other things, the special clauses derived from Horizon Europe in cascading granting, the payment schedule, and conditions (milestones), general legal text issues of rights and obligations by the AGRARIAN consortium and each sub-grantee, including IPR and audit procedures. It will also have a set of annexes such as the description of the project, bank account information form, guidelines of the call, status information and any other document required by AGRARIAN consortium to assure the correct execution of the sub-granted projects.

A legal entity that does not provide the requested data and documents in due time will not be included in AGRARIAN Programme. The sub-granted projects will also define a set of research, business and technical milestones linked to a set of KPIs, to which the project will associate the payment at the end of each phase.

4. Awarding Financial Support / Deliverables

Open Call#2 - Develop projects

The funding for each new consortium will be up to 50K€ and it is expected that at least 8 new consortia will join the AGRARIAN ecosystem via this open call. The selected consortia of Open Call #2 will be funded according to a lump sum approach, as follows:

Table 3: Open Call Funding Plan

Phase	Schedule	Funding	Justification
DESIGN	M1	25%	Clearly defined work plan and a list of KPIs
DEVELOP	M5	40%	Acceptance of progress deliverable: KPIs 50% completion
DEMONSTRATION	M10	35%	Acceptance of final deliverable: KPIs 100% completion, results and demonstration

The funding amount will be transferred exclusively to the coordinator of each selected consortium, who will then be responsible for distributing the allocated shares to the other consortium members in accordance with the internal agreement between partners.

Phase#1 (M1) - Open Call Projects with a clearly defined work plan in combination with a list of KPIs that they will present at the proposal stage will be **paid 25% of the requested funding**.

KPIs need to consist of a balanced mix of operational KPIs, and exploitation, communication and dissemination KPIs. Ensuring that exploitation, communication and dissemination KPIs make up at least 25% of the total, while the operational KPIs account for the remaining 75%.

Phase#2 (M5) - Mid-term review: report delivery + KPIs update

A 50% completion of the KPIs will launch a **payment of 40% of the requested funding**.

A lower completion of the tasks will launch the proportional payment. The rest is retained until the end of the implementation of the Open Call Project.

The report should include (but not limited to):

- **Executive Summary**: A brief overview of the project status, key achievements, and any significant changes since the initial proposal
- **Progress Against KPIs**: Detailed descriptions of progress made towards achieving each Key Performance Indicator (KPI) outlined in the initial work plan. Quantitative and qualitative measures of success for each KPI. Any deviations from the original plan and the reasons for these changes.
- **Tasks Completed:** A summary of the tasks completed during this sprint, technical details of the implementation, including methodologies, tools, and technologies used.
- **Impact and Analysis**: Preliminary assessment of the impact of the work done so far, any initial findings or insights gained from the tasks completed, Analysis of the results and their significance in the context of the chosen Use Case.
- **Revised Work Plan (if applicable)**: Any adjustments or updates to the initial work plan for the remaining period of the project, justifications for these changes.

Phase#3 (M10) - Final review: report delivery + KPIs update

Report containing the description of the Open Call Project, together with the impact analysis and/or feasibility study.

80-100% completion of the KPIs will unblock the **final payment (35%).**

The final report should include (but not limited to):

- **Executive Summary**: A concise summary of the project, including objectives, methodology, and final outcomes.
- **Completion of KPIs**: Detailed descriptions of the extent to which each KPI was achieved, Final quantitative and qualitative measures of success for each KPI, Comparison of initial goals versus actual outcomes.
- **Tasks Completed**: A detailed summary of all tasks completed throughout the project, technical details of the implementation, including any final adjustments or improvements made since the mid-term report.
- **Final Challenges and Resolutions**: Identification of any final challenges encountered, Strategies and actions taken to resolve these challenges.
- **Impact and Comprehensive Analysis**: Detailed assessment of the overall impact of the project, Comprehensive analysis of all results and their significance in the context of the selected Use Case, Discussion of the broader implications of the project findings for the field.
- **Feasibility Study**: Feasibility analysis of implementing the developed solutions on a larger scale, Recommendations for future research or development based on the project findings.

- **Conclusion and Recommendations**: Summary of the key takeaways from the project, Recommendations for future work or potential areas of exploration.

5. Applicant's Responsibility

The selected Subgrantees are indirect beneficiaries of European Commission funding. As such, they are responsible for the proper use of the funding and ensure that the beneficiaries comply with the obligations set out in HE specific requirements as described in HORIZON.2.6 - Food, Bioeconomy Natural Resources, Agriculture and Environment. The obligations that are applicable to the beneficiaries include (but are not limited to):

5.1 Conflict of Interest

The Subgrantee representative must take all measures to prevent any situation where the impartial and objective implementation of the subproject is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests'). At the same time, applicants cannot be affiliated with consortium partners, nor can they be employees of the consortium partners. All potential conflicts of interest will be assessed carefully. Please see more info HERE.

They must formally notify the AGRARIAN consortium without delay of any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation. The AGRARIAN consortium may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

If the Subgrantee representative breaches any of its obligations, the Sub-grant agreement may be automatically terminated. Moreover, if the Sub-grant Agreement is terminated due to a breach made by the Subgrantee, the AGRARIAN consortium reserves the right to suspend further payments to the Subgrantee and claim the Subgrantee the full refund of all payments made to the Subgrantee up to date.

5.2 Linked Applicants

In the case of applications submitted by linked applicants, all must clearly state the differences between them including but not limited to, technical aspects, market strategy and team composition, so that no doubt remains that there is no risk of double funding. In order to properly assess these concerns, AGRARIAN may assign all applications to the same set of evaluators and, should any doubt remain after the completion of evaluation process for eligible applications, exclude all applications.

5.3 Ethics, Data Protection & Confidentiality

During implementation of the sub-project and for five years after the end of the sub-project, the parties must keep confidential any data, documents or other material (in any form) that is identified as confidential at subcontract signing time ('confidential information').

If a Subgrantee requests, the Commission and the AGRARIAN consortium may agree to keep such information confidential for an additional period beyond the initial five years. This will be explicitly stated in the Sub-grant Agreement. If information has been identified as confidential during the subproject execution or only orally, it will be considered confidential only if this is accepted by the AGRARIAN Coordinator and confirmed in writing within 15 days of the oral disclosure. Unless otherwise agreed between the parties, they may use confidential information only to implement the Agreement.

The Subgrantee representative(s) may disclose confidential information to the AGRARIAN consortium and to the selected reviewers, who will be bounded by a specific Non-Disclosure Agreement.

Applicants must confirm that all proposed services, including the means of their delivery and upkeep, have been reviewed to ensure compliance with all relevant legislation on data protection, privacy, and fundamental rights.

5.4 Promoting the Action and Giving Visibility to the EU Funding

The Subgrantees must promote the sub-project, the AGRARIAN project and its results, by providing the description of their project upon request from the AGRARIAN Consortium and highlight the financial support of the EC.

Unless the European Commission or the AGRARIAN coordinator requests or agrees otherwise or unless it is impossible, any communication activity related to the action (including in electronic form, via social media, etc.), any publicity, including at a conference or seminar or any type of information or promotional material (brochure, leaflet, poster, presentation etc.), and any infrastructure, equipment and major results funded by the grant must:

a. display the EU emblem,

b. display the AGRARIAN logo, and

c. include the following text:

For communication activities: *"This project has indirectly received funding from the European Union's Horizon Europe research and innovation programme under project AGRARIAN (grant agreement No 101134128)".*

When displayed in association with a logo, the European emblem should be given appropriate prominence. This obligation to use the European emblem in respect of projects to which the EC contributes implies no right of exclusive use. It is subject to general third-party use restrictions which do not permit the appropriation of the emblem, or of any similar trademark or logo, whether by registration or by any other means. Under these conditions, the Subgrantee is exempted from the obligation to obtain prior permission from the EC to use the emblem. Further detailed information on the EU emblem can be found on the Europa web page.

Any publicity made by the Subgrantee with respect to the project, in whatever form and on or by whatever medium, must specify that it reflects only the author's views and that the EC or AGRARIAN consortium are not liable for any use that may be made of the information contained therein.

The EC and the AGRARIAN consortium shall be authorized to publish, in whatever form and on or by whatever medium, the following information:

- The name of the Subgrantee,
- Contact address of the Subgrantee,
- The general purpose of the sub-project,
- The amount of the financial contribution foreseen for the subproject; after the final payment, and the amount of the financial contribution actually received,
- The geographic location of the activities carried out,
- The list of dissemination activities and/or of patent (applications) relating to foreground,
- The details/references and the abstracts of scientific publications relating to foreground and, if funded within the subproject, the published version or the final manuscript accepted for publication,
- The publishable reports submitted to AGRARIAN,
- Any picture or any audio-visual or web material provided to the EC and AGRARIAN in the framework of the sub-project.

The Subgrantee shall ensure that all necessary authorizations for such publication have been obtained and that the publication of the information by the EC and AGRARIAN does not infringe any rights of third parties.

Upon a duly substantiated request by the Subgrantee representative, the AGRARIAN consortium, if such permission is provided by the EC, may agree to forego such publicity

if disclosure of the information indicated above would risk compromising the beneficiary's security, academic or commercial interests.

5.5 Financial Audit and Controls

The European Commission (EC) will monitor compliance with the financial support conditions outlined in the AGRARIAN Grant Agreement by beneficiaries and third parties. The EC may conduct financial audits, which may be conducted by external auditors or by EC services, including the European Anti-Fraud Office (OLAF). Beneficiaries must make all detailed information and data available to the EC or any authorized representative for audit purposes. The beneficiary must keep all sub-project deliverables and documents for up to five years from the end of the project.

5.6 Sub-Project Communication

The Subgrantee representative should:

• Provide any notices in writing to the AGRARIAN consortium.

• Notify the AGRARIAN coordinator immediately of any change of persons or contact details.

5.7 Originality of the Sub-Granted Projects

It is required that applications submitted are based on original works by the applicants and that their foreseen developments are free from third party rights. AGRARIAN consortium is not obliged to verify the authenticity of the ownership of the foreseen products/services. Any issues delivered from third party claims that arise a result of the sub-granted projects are on the sole responsibility of the applicant.

5.8 IPR Ownership of the Sub-Granted Projects

Each Subgrantee that generates results owns the attached Intellectual Property Rights (IPRs) generated during the development process and will own results that are not IPRs. Each contractor is responsible for the management and protection of its IPRs and bears the costs associated with this.

The Subgrantees funded within AGRARIAN project will be the unique owners of the technologies created within the framework of their sub-granted projects. Parts of their works will be requested to be public for AGRARIAN dissemination purposes and be included in the AGRARIAN Applications repository. However, each application must include an appropriate usage license (e.g., open-source, commercial or custom license) clearly defining how it can be accessed, used and shared within the AGRARIAN framework.

5.9 Liability

AGRARIAN consortium and the European Commission cannot be held liable for any acts or omission of the applicant in relation to the selected sub-granted project implemented by the Subgrantee. The AGRARIAN consortium shall not be liable for any defaults of any products, processes or services created in the sub-granted project. Including, for instance, anomalies in the functioning or performance thereof.

In case any damage is caused to a third party by the Subgrantee, the Subgrantee will assume full responsibility for the damage caused. In no way will the AGRARIAN Consortium be responsible for any damages caused by the Subgrantee. Subgrantees shall bear sole responsibility for ensuring that their acts within the framework of their sub-granted projects do not infringe third parties right.

5.10 Do Not Significant Harm (DNSH)

Subgrantees must always respect the 'Do Not Significant Harm Principle". The Commission Communication on the European Green Deal introduced the green oath to 'do no harm'. The 'Do not Significant Harm' (DNSH) principle has been further specified in the EU Regulation on the establishment of a framework to facilitate sustainable investments (Regulation (EU) 2019/2088), commonly defined as the 'EU Taxonomy Regulation'. Six environmental objectives are listed in Article 23 of the EU Taxonomy and Article 17 specifies what can constitute a 'significant harm' for these objectives. Thus, the regulation provides that no measure should lead to significant harm to any of the six environmental objectives within the meaning of Article 17 of the Taxonomy Regulation.