



This project has received funding from the European Union's Horizon 2022 Research & Innovation program Project. 101086355 – HORIZON-CL6-2022-GOVERNANCE-01



PROJECT, GDPR, GENDER BALANCE, LEGAL AND ETHICAL ISSUES MANAGEMENT PLAN

3 February 2023



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Revision records			
Version	Date	Changes	Authors
1.0	31/01/2023	Original document	VITO

Acronyms and Abbreviations

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AGINS	AgroInsurance International
AI	Artificial Intelligence
ATB	Institut für angewandte Systemtechnik Bremen GmbH
AUTH	Aristotle University of Thessaloniki
CA	Consortium Agreement
DES	Deimos Spain
DME	DEIMOS ENGENHARIA SA
DMK	DMK Deutsches Milchkontor GmbH
EC	European Commission
EEAB	External Expert Advisory Board
EGM	Easy Global Market SAS
EO	Earth Observation
EURAC	Accademia Europea di Bolzano (Eurac Research)
EV ILVO	Eigen Vermogen van het Instituut voor Landbouw en Visserij Onderzoek
ExBo	Executive Board
FEU	Farm Europe
ICCS	Institute of Communication and Computer Systems
GA	General Assembly
GDPR	General Data Protection Regulation
HE	Homomorphic Encryption
HPC	High Performance Computing
IFAPA	Instituto Andaluz de Investigación y Formación Agraria, Pesquera y Alimentaria
IPR	Intellectual Property Rights
KUVA	Kuva Space Oy
LUKE	Natural Resources Institute Finland
MIGAL	MIGAL Galilee Research Institute
ML	Machine Learning
MPC	Multi-Party Computation
MST	Management Support Team
NP	Neuropublic SA
OHB DS	OHB Digital Services GmbH, Bremen, Germany
PET	Privacy Enhancing Technologies
PO	Project Officer
PSNC	Instytut Chemii Bioorganicznej Polskiej Akademii Nauk

R&D	Research and Development
RIL	Research and Innovation Lab
SME	Small and Mid-size Enterprise
UGent	Universiteit Gent
VITO	Vlaamse Instelling voor Technologische Onderzoek
VRI IES	Foundation "Institute for Environmental Solutions"
VTT	Technical Research Centre of Finland Ltd.
WODR	Wielkopolski Osrodek Doradztwa Rolniczego w Poznaniu
WP	Work Package

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1. Introduction

1.1. Project overview

ScaleAgData is a response to the call HORIZON-CL6-2022-GOVERNANCE-01-11 Upscaling (real-time) sensor data for EU-wide monitoring of production and agri-environmental conditions. The ScaleAgData project will run from January 2023 till December 2026 and consists of a consortium of twenty-six partners from fourteen countries. The vision of ScaleAgData is two-fold. On one hand, it wants to obtain insights in how the complex data streams should be governed and organized (governance call). On the other hand, it aims to develop the data technology needed to scale data collected at the farm level to regional datasets, agri-environmental monitoring, and the management of agricultural production.

To do so, ScaleAgData has five objectives:

- Developing innovative approaches for collecting in-situ data and applying data technologies.
- Enabling and promoting data sharing along the entire data value chain.
- Demonstrating how the sensor data can be scaled to agri-environmental data products at the national, regional or European level.
- Demonstrating the benefit of the improved monitoring capacities in a precision farming context.
- Demonstrating the benefit of upscaled regional datasets for the agricultural sector in general.

During its lifecycle, the project will explore seven innovation areas: innovative sensor technology, edge processing, data sharing architecture and data governance, satellite data augmentation, from data assimilation to service development, privacy-preserving technology, and data integration methodologies.

Six Research and Innovation Labs (RIL) have been identified within the project, across various bio-geographical regions of Europe, where different data upscaling and integration models or approaches will be evaluated and demonstrated. The six RILs are: water productivity, crop management, yield monitoring, soil health, grasslands and sustain dairy.

Recommendations will be formulated on how such integrated datasets can be capitalized to help national and regional policy making to strengthen both the competitiveness and sustainability of European agriculture.

1.2. Scope of the document

This document describes the project management, GDPR, gender balance, legal and ethical issues management plan for the ScaleAgData project.

The document will be updated if necessary due to changed circumstances that require alterations to the approaches presented herein.

1.3. Document structure

This document is structured as follows:

- Section 1 provides an overview of the project.
- Section 2 gives an overview of the management structure, its decision-making bodies as well as the work package structure, deliverables, milestones, and the project meeting plan.

- Section 3 covers GDPR, including data protection, archiving, storage and privacy preserving technologies.
- Section 4 focusses on gender balance.
- Section 5 covers the legal and ethical issues in relation to the project.

2. Project management

2.1. Management structure

2.1.1. Coordinator

The coordinator is the legal entity acting as the intermediary between the parties and the granting authority. The coordinator shall, in addition to its responsibilities as a party, perform the tasks assigned to it as described in the Grant Agreement and the Consortium Agreement, including:

- set-up a project management structure
- coordinate partners' activities, milestones and deliverables as well as organize meetings
- ensure the adoption of the consortium agreement and IPR rules
- keeping the address list of members and other contact persons updated and available
- coordinate the periodic activity report for each milestone, coordination of the final report, participation to meetings requested by the EC.
- monitoring compliance by the parties with their obligations under this Consortium Agreement and the Grant Agreement
- perform administrative and financial management [with support of Ann Tubbeckx @ ann.tubbeckx@vito.be]
- perform quality assurance and risk management
- ensuring that the development process and the rolling plan activities are properly organized
- check the conformity and quality of all partners' deliverables with their specifications.
- set-up and maintain a secure, virtual workspace for sharing project documents between the members, allowing all partners to interact and exchange information enabling effective cooperation and communication among consortium members
- transmitting documents and information connected with the project to any other parties concerned
- providing, upon request, the parties with official copies or originals of documents that are in the sole possession of the coordinator when such copies or originals are necessary for the parties to present claims.

VITOs Koen Van Rossum (koen.vanrossum@vito.be) will take up the coordinator role from Isabelle Piccard (who was listed as coordinator in the DoA). Within VITO, he will be supported by a Management Support Team (MST), whose purpose is to support the project coordinator and executive board in their day-to-day management, financial, contractual and quality assurance activities. Finance support will be provided by Ann Tubbeckx (ann.tubbeckx@vito.be), administrative support by Eric Gontier (eric.gontier@vito.be), while Laurent Tits (Laurent.tits@vito.be) will be the research coordinator, supported by Isabelle Piccard (Isabelle.piccard@vito.be), overseeing the coordination of research activities according to the rolling plan, interfacing with the project's R&D tasks and chairing the EEAB meetings. A generic e-mail has been set up for this VITO MST: scaleagdata@vito.be.

2.1.2. Partners

The ScaleAgData consortium consists of twenty-six partners, representing universities, research institutes, technology and AgTech providers, software developers, farmers' advisors, agro-insurance consultants, and policy influencers. The consortium composition is essential to achieve the objectives, together with the network they can provide to engage relevant stakeholders.

A list of all consortium members and their contact details is available in the ScaleAgData Teams folder under the "General\Communication_dissemination\Contacts\all consortium" and will be

continuously updated. Below is an overview of the ScaleAgData consortium partners and their expertise:

- Twelve European research institutes and universities (VITO, EV ILVO, ICCS, VTT, LUKE, IFAPA, EURAC, PSNC, ATB, VRI IES, AUTH, UGENT) with significant research capacity in Agri-environmental monitoring, smart farming, sensors, edge computing, IoT, EO, analytics, AI, interoperability, governance and more;
- Eighteen infrastructure providers (PSNC, VITO, NP, OHB DS, ATB, EV ILVO, DME/DES, VTT, KUVA, WODR, LUKE, ICCS, HORTA SRL, DMK, MIGAL, VRI IES, EGM, AUTH) which will offer significant infrastructure in terms of HPC, cloud computing, machinery as well as networks of agri-environmental IoT stations;
- Thirteen technology/AgriTech SMEs and companies (NP, HORTA SRL, DHI, AGINS, DME/DES, KUVA, ATB, OHB DS, DMK, MIGAL, EGM, CNH, AVR BVBA), highly experienced in developing high-tech data-powered services for the agri-food sector;
- Two organizations representing agri-food professionals (WODR, NP (through its partner company GAIA)), engaging end-users in co-designing and testing project outcomes.
- One “policy influencer” (FarmEurope) with experience in conducting analysis and introducing spearhead proposals for decision-makers.

2.1.3. Consortium bodies

The organizational structure of the consortium comprises of the following consortium bodies:

- The General Assembly (GA) as the ultimate decision-making body of the consortium.
- The Executive Board (ExBo) as the supervisory body for the execution of the project which shall report to and be accountable to the General Assembly.

Any party which is a member of a Consortium Body (hereinafter referred to as "member"):

- Should be present or represented at any meeting,
- May appoint a substitute or a proxy to attend and vote at any meeting, and
- Shall participate in a cooperative manner in the meetings.

2.1.3.1. General Assembly (GA)

The General Assembly is the highest project authority. It will always be able to meet and, in case of irresolvable conflict, overrule any particular decisions taken by any of the project’s members. In the case that a critical partner would leave at a crucial point of the project or if a partner would fail in the execution of its tasks and would be forced to leave the consortium, the GA will decide whether the uncovered project activities can be carried-out by other partners. If not, then another partner will be recruited. If the coordinator fails in its coordination tasks, the General Assembly may propose to the funding authority to change the coordinator.

As the main decision-making body of the project, the GA will guide overall activities, project progress, and reporting, and will initiate and supervise the collaboration, dissemination, and exploitation activities. It will also provide input for the preparation of progress reports for the EC and will be responsible for tackling problems that may emerge.

The General Assembly can take decisions regarding content, finances and intellectual property rights, evolution of the consortium and appointments.

Content, finances and intellectual property rights include:

- Proposals for changes to annexes of the Grant Agreement to be agreed by the Granting Authority

- Changes to the consortium plan
- Modifications to attachment 1 (background Included)
- Additions to attachment 3 (List of third parties for simplified transfer according to section 8.3.2)

Decisions related to the evolution of the consortium include:

- Entry of a new party to the consortium and approval of the settlement on the conditions of the accession of such a new party
- Withdrawal of a party from the consortium and the approval of the settlement on the conditions of the withdrawal
- Identification of a breach by a party of its obligations under this Consortium Agreement or the Grant Agreement
- Declaration of a party to be a defaulting party
- Remedies to be performed by a defaulting party
- Termination of a defaulting party’s participation in the consortium and measures relating thereto
- Proposal to the Granting Authority for a change of the coordinator
- Proposal to the Granting Authority for suspension of all or part of the project
- Proposal to the Granting Authority for termination of the Project and the Consortium Agreement

Based on the Grant Agreement, the General Assembly can also make appointment, if necessary, of the ExBo members

The General Assembly will take place at least once a year in the form of an ordinary meeting, but can also take the shape of an extraordinary meeting at any time upon written request of the Executive Board or 1/3 of the members of the General Assembly. The five scheduled full consortium meetings during the project lifecycle are:

1. Kick off: in person meeting
2. Month 13 (Jan. 2024): virtual meeting
3. Month 24 (Dec. 2024): in person meeting
4. Month 36 (Dec. 2025): virtual meeting
5. Month 48 (Dec. 2026): final in person meeting

All partners have nominated a General Assembly member at the kick-off meeting (see Table 1). Each representative will have one vote. Decisions in the General Assembly will be put to a vote if minimum two-thirds (2/3) of members are presented or represented (quorum). Decisions will be adopted if a qualified majority of those attending supports it. If the quorum is not reached, the chairperson of the GA shall convene another ordinary meeting within fifteen calendar days. If in this meeting the quorum is not reached once more, the chairperson shall convene an extraordinary meeting which shall be entitled to decide even if less than the quorum of members is present or represented.

Table 1: Overview of General Assembly members

Organization	Nominated GA member	e-mail
VITO	Koen Van Rossum (chairperson)	Koen.vanrossum@vito.be
VITO	Laurent Tits	Laurent.tits@vito.be
ILVO	Panos Ilias	Panos.Ilias@ilvo.vlaanderen.be
Deimos	Nuno Grosso	nuno.grosso@deimos.com.pt
NP	Vasilis Pyrgiotis	v_pyrgiotis@neuropublic.gr
ICCS	Valantis Tsiakos	valantis.tsiakos@iccs.gr
VTT	Heikki Astola	heikki.astola@vtt.fi
LUKE	Hanna Huitu	hanna.huitu@luke.fi

Kuva	Michal Shimoni	michal.shimoni@kuvaspace.com
WODR	Maciej Zacharczuk	maciej.zacharczuk@wodr.poznan.pl
PSNC	Raul Palma	rpalma@man.poznan.pl
HORTA	Valentina Manstretta	v.manstretta@horta-srl.com
IFAPA	María Pat. González	mariap.gonzalez.d@juntadeandalucia.es
ATB	Harald Sundmaeker	sundmaeker@atb-bremen.de
OHB	Brenner Silva	brenner.silva@ohb-ds.de
DMK	David Reinhardt	david.reinhardt@dmk.de
MIGAL	Uri Marchaim	Uri@migal.org.il
VRI IES	Ieva Vitola	ieva.vitola@vri.lv
EGM	Franck Le Gall	Franck.le-gall@egm.io
CNH	Paul Snauwaert	paul.snauwaert@cnhind.com
AVR	Stefan Top	stefantop@avr.be
AUTH	Eleni Kalopesa	kalopesa@auth.gr
EURAC	Mariapina Castelli	mariapina.castelli@eurac.edu
AGINS	Ian Shynkarenko	yshynkarenko@agroinsurance.com
Ugent	Geert Haesaert	Geert.Haesaert@ugent.be
DHI	Radoslaw Guzinski	rmgu@dhigroup.com
Farm Europe	Yves Madre	info@farm-europe.eu

The chairperson of the General Assembly shall give notice in writing of a meeting to each member of the GA as soon as possible and no later than minimum forty-five calendar days for ordinary meetings and fifteen calendar days for extraordinary meetings. A calendar will be shared no later than twenty-one calendar days prior to ordinary meetings taking place and ten calendar days prior to extraordinary meetings.

2.1.3.2. Executive Board (ExBo)

Each WP leader and RIL leader is also member of the Executive Board and as such will be the contact person for the day-to-day activities in their respective WP or RIL. The executive board members will meet monthly (or more frequently if required) on a fixed day in the month via video-conference, but they can also be called upon at any time upon written request of any member of the ExBo.

The ExBo will be responsible for ensuring the execution of the rolling plan activities and the quality and timeliness of deliverables from their respective WP or RIL, and for ensuring that the decisions from the General Assembly are correctly carried out by the WP / RIL participants and the MST. The ExBo will carry out the following tasks:

- Support the coordinator in preparing meetings with the Granting Authority and in preparing related data and deliverables.
- Prepare the content and timing of press releases and joint publications by the consortium or proposed by the Granting Authority in respect of the procedures of the Grant Agreement article 17 and annex 5 section “Communication, Dissemination, Open Science and Visibility” and of section 8 of this Consortium Agreement.
- Take responsibility for ensuring the quality and timeliness of deliverables from their respective organization, and for ensuring that the decisions from the General Assembly are correctly carried out by the WP participants and the MST.
- Advise the General Assembly on ways to rearrange tasks and budgets of the parties concerned, in case of abolished tasks as a result of a decision of the General Assembly.

ExBo meetings will be organized by the chairperson and attended by each WP Leader and RIL leader, while the decision-making will follow the same principles as the GA meetings in terms of quorum and

majority voting. ExBo members can also be called for review meetings in sequence with the periodic reports.

The project coordinator is also the chairperson of the ExBo. The chairperson shall give notice in writing of a meeting to each member of the ExBo as soon as possible and no later than minimum ten calendar days for regular meetings, and seven calendar days for extraordinary meetings. A calendar will be shared no later than seven calendar days prior to the meeting taking place.

The nominated ExBo members are presented in Table 2.

Table 2: Nominated Executive Board members (ExBo)

Organization	Nominated ExBo member	e-mail	Capacity
VITO	Koen Van Rossum	Koen.vanrossum@vito.be	Chair & WP1 lead
VITO	Laurent Tits	laurent.tits@vito.be	WP4 lead
VITO	Isabelle Piccard	isabelle.piccard@vito.be	RIL3 lead
ILVO	Panos Ilias	Panos.Ilias@ilvo.vlaanderen.be	WP2 lead
ILVO	Tuna Coppens	Tuna.Coppens@ilvo.vlaanderen.be	RIL4 lead
Deimos	Nuno Grosso	nuno.grosso@deimos.com.pt	WP6 lead
NP	Vassilis Pyrgiotis	v_pyrgiotis@neuropublic.gr	WP5 lead
NP	Vassilis Pyrgiotis	v_pyrgiotis@neuropublic.gr	RIL2 lead
ICCS	Valantis Tsiakos	valantis.tsiakos@iccs.gr	WP3 lead
IFAPA	Maria P. Gonzalez-Dugo	mariap.gonzalez.d@juntadeandalucia.es	RIL5 lead
ATB	Harald Sundmaeker	sundmaeker@atb-bremen.de	RIL6 lead
VRI IES	Dainis Jakovels	dainis.jakovels@vri.lv	RIL1 lead

2.1.3.3. External Expert Advisory Board (EEAB)

This body will provide external inputs and feedback related to the most critical areas for the project and to its evolution. The EEAB Meetings will provide flexibility to join either in person or remotely to optimize the number of travels. The management of the EEAB will be the responsibility of WP1 under task 1.1. The Advisory Board Meetings will take place yearly, starting at the kick-off, and will be aligned with the consortium meetings to minimize travel effort and costs and maximize interactions between project team and Advisory Board. The coordination of these meetings will be the responsibility of the coordinator and the local organizer and in collaboration with the European Commission. EEAB members shall be allowed to participate in General Assembly meetings upon invitation but don't have any voting rights.

The nominated EEAB members are listed in Table 3.

Table 3: External Expert Advisory Board (EEAB) members

Organization	Nominated EEAB member name	e-mail
JRC MARS	Raphael Dandrimont	raphael.dandrimont@ec.europa.eu
EEA	Eva Ivits	Eva.Ivits-Wasser@eea.europa.eu
OGC	Marie-Francoise Voidrot	mvoidrot@ogc.org
FNSEA	Melchior Bizot Espiard	melchior.bizot.espiard@reseaufnsea.fr

WP leads as well as RIL leads may also participate in the EEAB meetings as well as the PO from the EC side. Laurent Tits (laurent.tits@vito.be) is the chairperson of the EEAB meetings.

2.2. Work packages and deliverables

The ScaleAgData concept is based on an agile and iterative approach that brings together the various actors to identify and align the different needs and concerns, co-create methodological frameworks and solutions, and demonstrate and evaluate the usability and relevance of the outcomes.

The multistep agile development approach of the project is illustrated in Figure 1. It consists of two cycles of two years each, with each cycle having four steps:

- Phase 1: co-design the building blocks with the RIL (WP2)
- Phase 2: development of methodological frameworks and prototypes (WP3, WP4)
- Phase 3: technology implementation and validation in a testing environment (WP3, WP4)
- Phase 4: demonstration and evaluation in the RIL (WP5)

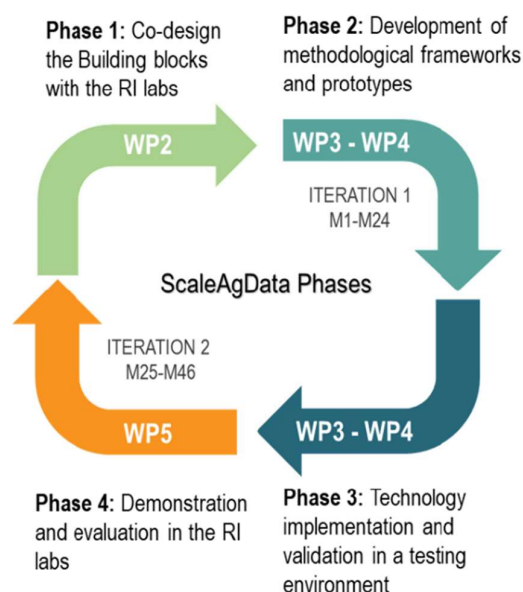


Figure 1: ScaleAgData's multistep agile development approach

2.2.1. Work packages

All the tasks and deliverables are organized within work packages (WP) and each WP has a designated focal point or task leader from the organization leading the work package. This WP lead is responsible for the effective and efficient execution of the tasks enumerated for the work package he or she leads. This includes the execution of the tasks specified in the WP description, considering updated or new stakeholder requirements, as well as the clustering of the activities within the WP with activities of related projects or initiatives identified by the coordinator or partners. A high degree of independence will be attributed to the WP leaders. It is expected however that they keep in continuous contact with the remaining project partners and communicate all major decisions to the project coordinator and the research coordinator, as well as the Executive Board members.

The ScaleAgData WP structure is shown in Figure 2.

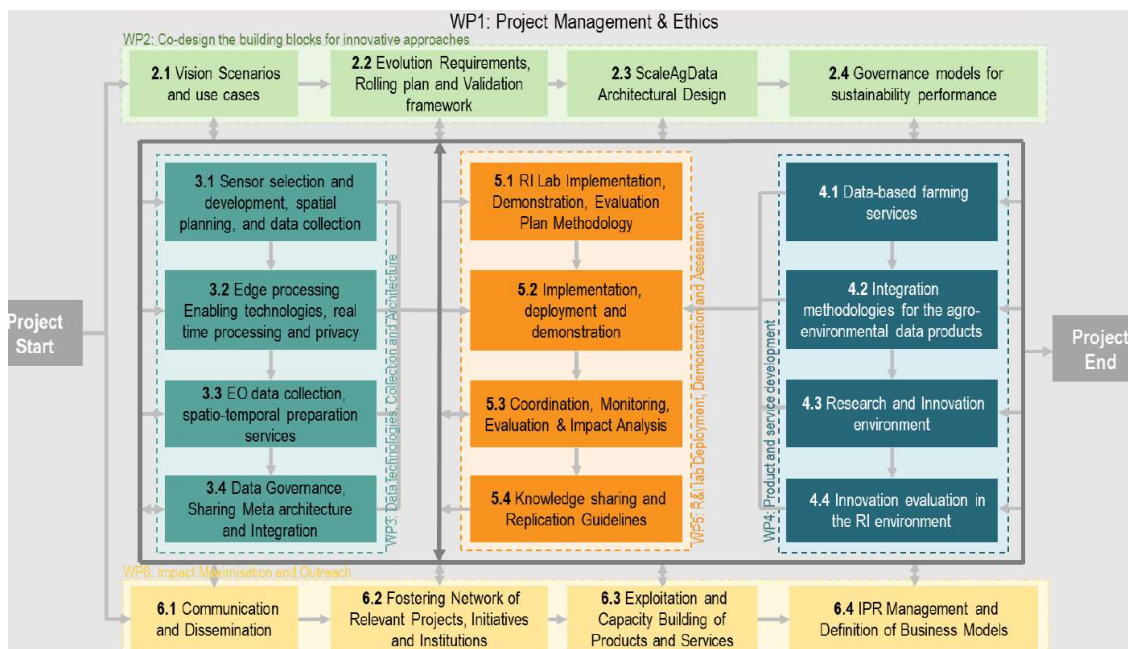


Figure 2: Work Package (WP) structure and interrelations to various work components

The WP task leaders are:

- WP1 Project management: koen.vanrossum@vito.be (VITO)
- WP2 Co-designing building blocks for innovative approaches: Panos.Ilias@ilvo.vlaanderen.be (ILVO)
- WP3 Data technologies, collection & architecture: valantis.tsiakos@iccs.gr (ICCS)
- WP4 Product and service development: laurent.tits@vito.be (VITO)
- WP5 RIL deployment, demonstration & evaluation: v_pyrgiotis@neuropublic.gr (NP)
- WP6 Impact maximization and outreach: nuno.grosso@deimos.com.pt (Deimos)

Within each WP, there will be designated task leaders who coordinate with their WP leader regarding the developments within their task and will coordinate their respective task teams.

Table 4 shows the consortium partners by WP.

Table 4: List of consortium partners by WP

WP1 partners			WP2 partners				WP3 partners			
Lead: VITO			Lead: ILVO				Lead: ICCS			
T1.1	T1.2	T1.3	T2.1	T2.2	T2.3	T2.4	T3.1	T3.2	T3.3	T3.4
VITO	VITO	VITO	ILVO	ILVO	ILVO	ILVO	VTT	EGM	VITO	ICCS
all	ILVO	all	all	all	ICCS	Deimos	Kuva	ICCS	Deimos	Deimos
	Deimos				Deimos	ICCS	ICCS	VTT	ICCS	NP
	NP				VITO	VITO	EGM	AUTH	Kuva	EGM
	ICCS				EGM		AUTH		OHB	ILVO
							NP			IES
							ILVO			VITO
										IFAPA
										ATB

WP4 partners				WP5 partners				WP6 partners			
Lead: VITO				Lead: NP				Lead: Deimos			
T4.1	T4.2	T4.3	T4.4	T5.1	T5.2	T5.3	T5.4	T6.1	T6.2	T6.3	T6.4
LUKE	VITO	VITO	VITO	NP	NP	ILVO	ATB	VITO	ILVO	Deim	Deim
IES	OHB	Deimos	all	all	all	all	all	all	Deimos	all	all
NP	ATB	ATB							ATB		
UGent	Deimos								NP		
	NP								VITO		
	EURAC								Farm Europe		
	IFAPA										
	DHI										
	Kuva										
	AUTH										
	ILVO										

Within the project, six RILs will be set up. Similarly, as with the WPs, each RIL also has a focal point/lead (see Table 5). The RIL lead will monitor the RIL's activities, organize regular meetings with the lab partners and will be the point of contact for coordinating the lab's activities across different WPs. The leads will have a high degree of independence but also with the expectation that they keep in continuous contact.

Table 6 shows the consortium partners by RIL.

Table 5: Overview of Research & Innovation Labs (RIL) and corresponding leads

RILab	Lab lead name	e-mail	organization
RIL1: Water productivity	Dainis Jakovels	dainis.jakovels@vri.lv	VRI IES
RIL2: Crop Management	Vassilis Pyrgiotis	v_pyrgiotis@neuropublic.gr	NP
RIL3: Yield Monitoring	Isabelle Piccard	isabelle.piccard@vito.be	VITO
RIL4: Soil Health	Tuna Coppens	Tuna.Coppens@ilvo.vlaanderen.be	ILVO
RIL5: Grasslands	Maria P. Gonzalez-Dugo	mariap.gonzalez.d@juntadeandalucia.es	IFAPA
RIL6: Sustainable Dairy	Harry Sundmaeker	sundmaeker@atb-bremen.de	ATB

Table 6: List of consortium partners involved in RIL

RIL 1 Water productivity	RIL 2 Crop mgt	RIL 3 Yield monitoring	RIL 4 Soil health	RIL 5 Grasslands	RIL 6 Sust. Dairy
VRI IES	NP	VITO	ILVO	IFAPA	ATB
MIGAL	WODR	CNH	AUTH	EURAC	OHB
	PSNC	AVR		Deimos	DMK
	HORTA	UGent			

2.2.2. Deliverables

Twenty-six deliverables have been organized across the various work packages and with different leads as listed in Table 7. Six deliverables are due in 2023, eight in 2024, seven in 2025 and five in 2026.

Table 7: Overview of deliverables

Deliverable #	Deliverable description	WP	Lead	Type	Dissemination	Due date (month)
D1.1	Project management, GDPR, Gender balance, Legal and Ethical issues management plan	1	VITO	R	PU	1
D1.2	Open Science and Data Management plan v.1	1	VITO	DMP	SEN	6
D1.3	Open Science and Data Management plan v.2	1	VITO	DMP	SEN	26
D2.1	Vision scenarios, requirements and innovative governance models v.1	2	ILVO	R	PU	9
D2.2	Vision scenarios, requirements and innovative governance models v.2	2	ILVO	R	PU	30
D3.1	Generic architecture and data governance, sharing meta architecture and integration of the RI labs v.1	3	ICCS	R	PU	12
D3.2	Sensor and edge processing selection, development, spatial planning and data collection, v.1	3	VTT	R	PU	13
D3.3	EO data collection, spatio temporal preparation services	3	VITO	DATA	PU	13
D3.4	Generic architecture and data governance, sharing meta architecture and integration of the RI labs v.2	3	ICCS	R	PU	33
D3.5	Sensor and edge processing selection, development, spatial planning and data collection, v.1	3	VTT	R	PU	33
D4.1	RI environment	4	DES	OTHER	PU	13
D4.2	Data-based farming services v.1	4	LUKE	R	PU	18
D4.3	Sensor integrated data products v.1	4	VITO	OTHER	PU	18
D4.4	Data-based farming services v.2	4	LUKE	R	PU	36
D4.5	Sensor integrated data products v.2	4	VITO	OTHER	PU	36
D5.1	Piloting plan & evaluation methodology v.1	5	NP	R	PU	12
D5.2	Deployment and evaluation report v.1	5	NP	R	PU	24
D5.3	Piloting plan & evaluation methodology v.2	5	NP	R	PU	24
D5.4	Deployment and evaluation report v.2	5	NP	R	PU	46
D5.5	Replication guidelines	5	ATB	R	PU	48
D6.1	Dissemination, exploitation and communication plan & package (incl. website)	6	VITO	R	PU	6
D6.2	Dissemination, engagement and capacity building report v.1	6	DES	R	PU	18
D6.3	Dissemination, engagement and capacity building report v.2	6	DES	R	PU	36

D6.4	Dissemination, engagement and capacity building report v.3	6	DES	R	PU	44
D6.5	IPR and Business Model Report	6	DME	R	PU	44
D6.6	Policy brief	6	DME	R	PU	44

Six milestones have been identified in line with the various phases and iterations:

- Milestone 1: project set-up (due by month 6)
- Milestone 2: end of 1st iteration of co-design & development phase (due by month 13)
- Milestone 3: end of 1st iteration of technology validation phase (due by month 18)
- Milestone 4: end of 1st iteration of demonstration & evaluation phase (due by month 24)
- Milestone 5: end of 2nd iteration of co-design phase, development & technology validation phase (due by month 36)
- Milestone 6: end of 2nd iteration of demonstration & evaluation phase (due by month 44)

Table 8 below shows an overview of the milestones, their means of verification and timings.

Table 8: Overview of milestones

Milestone	Milestone Description	Means of verification	Due Month
MS 1 (VITO)	Project set up: <ul style="list-style-type: none"> • Establishment of Internal Collaborative Tool and Management Plans; • Initialization of the co-design process and stakeholder engagement; • Dissemination, Exploitation & Communication plan & material ready 	<ul style="list-style-type: none"> • Internal Collaborative tool is running with access for all partners. Documents are uploaded. • RILab workshops held during the kick-off Meeting. • 1st meeting of the interactive stakeholder network., • Website launched and dissemination material available online. • D1.1 and D6.1 submitted 	6
MS 2 (ILVO)	End of 1st Iteration of Co-design & Development Phase	<ul style="list-style-type: none"> • Vision scenarios, requirements, governance models and validation framework for 1st iteration defined; • Generic and RI Lab architecture defined; • sensor and edge processing methods selected and developed and data collected; • EO data collected; • RI environment set up; • piloting plan and evaluation methodology for 1st iteration defined. • D2.1, D3.1, D3.2, D3.3, D4.1 and D5.1 submitted 	13
MS 3 (VITO)	End of 1st iteration of Technology Validation Phase	<ul style="list-style-type: none"> • Data based farming services and sensor-integrated data products of 1st iteration available. • Results disseminated, • capacity building started. D • 4.2, D4.3 and D6.2 submitted 	18

MS 4 (NP)	End of 1st iteration of Demonstration & Evaluation Phase	<ul style="list-style-type: none"> • Deployment and evaluation results of 1st iteration available. • D5.2, D5.3 submitted 	24
MS 5 (VITO)	End of 2nd iteration of Co-design, Development & Technology Phase	<ul style="list-style-type: none"> • Vision scenarios, requirements, governance models and validation framework reviewed and updated for 2nd iteration; • Generic and RI Lab architecture reviewed; • sensor and edge processing methods reviewed and updated and data collected; • piloting plan and evaluation methodology for 2nd iteration reviewed and updated. • Data based farming services and sensor-integrated data products of 2nd iteration available. • Results disseminated, • capacity building activities organized. • D1.3, D2.2, D3.4, D3.5, D4.4, D4.5 and D6.3 submitted 	36
MS 6 (DME)	End of 2 nd iteration of Demonstration & Evaluation Phase	<ul style="list-style-type: none"> • Deployment and evaluation results of 2nd iteration and replication guidelines available. • Results disseminated, • capacity building activities organized. • IPR and business model report and policy brief available. • D5.4, D5.5, D6.3, D6.4, D6.5 and D6.6 submitted 	44

2.2.3. Timing tasks and deliverables

All the tasks, deliverables and milestones are organized in a rolling plan within WPs. At the end of each foreseen milestone, a milestone meeting will be organized to be attended by all partners involved in that milestone. During these milestone meetings, the progress and project deliverables of the past period will be presented and discussed as well as the plans for the coming period. In preparation of the meetings, on a 6-monthly basis, the partners will also be asked to report resource usage.

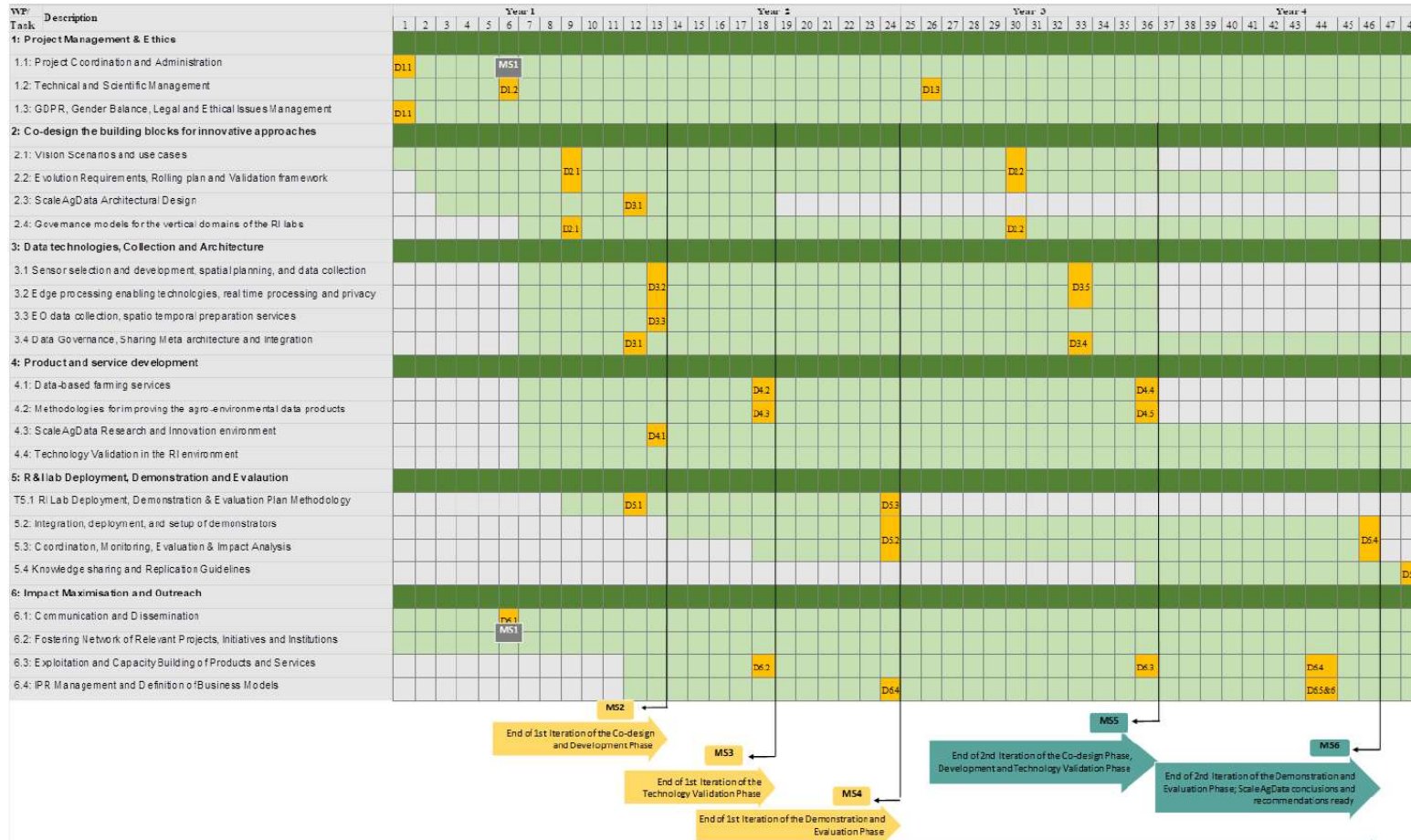


Figure 3: Workplan

2.3. Project meeting plan

An in-person kick-off workshop took place from January 25th-27th 2023 and included an all consortium members internal alignment part as well as an official launch part which also included the External Expert Advisory Board members. During the kick-off meeting both the GA members as well as the ExBo members were nominated.

The GA meetings will provide a forum for decision making and will take place minimum once a year as an ordinary meeting. They can also take the shape of an extraordinary meeting at any time upon written request of the Executive Board or one-third of the members of the GA. The five scheduled GA meetings are aligned with milestone completion periods and will take place at month 6 (June. 2023), month 13 (Jan. 2024), month 24 (Dec. 2024), month 36 (Dec. 2025) and month 48 (Dec. 2026). Only two more meetings are foreseen to be in person: month 24 and month 48.

ExBo meetings will take place every month to ensure proper execution of the rolling plan activities, as well as quality and timeliness of all deliverables. The in person ExBo meetings will be aligned with the in-person GA meetings. The first ExBo meeting took place on the 27th of January during the kick-off workshop.

Similarly, the AB meetings will also be aligned with the milestone completion dates with a total of 5 scheduled AB meetings, at kick-off, after 18 months, and yearly on months 24, 36 and 48.

An overview of the meetings is given in the table below. The major part of the meetings will be held virtually, to minimize travel efforts and costs, in line with the EU travel policy. A number of meetings will be in-person, with the flexibility to participate online.

Table 9: Project meeting plan

Year	Month	Milestone	ExBo meeting	GA meeting	AB meeting
2023	M1 (end Jan. '23)		In person		In person
	M2		Remote		
	M3		Remote		
	M4		Remote		
	M5		Remote		
	M6 (Jun. '23)	1: Project set-up	Remote	Remote	
	M7		Remote		
	M8		Remote		
	M9		Remote		
	M10		Remote		
	M11		Remote		
	M12		Remote		
2024	M13 (end Jan.'24)	2: Co-design 1 st iteration	Remote	Remote	
	M14		Remote		
	M15		Remote		
	M16		Remote		
	M17		Remote		
	M18 (Jun.'24)	3: Technology validation 1 st iteration	Remote		Remote
	M19		Remote		
	M20		Remote		
	M21		Remote		
	M22		Remote		
	M23		Remote		
	M24 (end Nov/early Dec.'24)	4: Demonstration & evaluation 1 st iteration	In person	In person	In person
2025	M25		Remote		
	M26		Remote		
	M27		Remote		
	M28		Remote		
	M29		Remote		
	M30		Remote		
	M31		Remote		
	M32		Remote		
	M33		Remote		
	M34		Remote		
	M35		Remote		
	M36 (end Nov/early Dec.'25)	5: co-design, development & technology validation 2 nd iteration	Remote	Remote	Remote

2026	M37		Remote		
	M38		Remote		
	M39		Remote		
	M40		Remote		
	M41		Remote		
	M42		Remote		
	M43		Remote		
	M44		Remote		
	M45		Remote		
	M46 (Oct.'26)	6: Demonstration & evaluation 2 nd iteration	Remote		
	M47		Remote		
	M48 (end Nov/early Dec.'26)		In person	In person	In person

3. GDPR

3.1. Data protection

All consortium members signed the consortium agreement which states that all parties shall cooperate in order to enable one another to fulfill legal obligations arising under applicable data protection laws (*the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and relevant national data protection law applicable to said Party*) within the scope of the performance and administration of the Project and of this Consortium Agreement. In particular, the parties shall, where necessary, conclude a separate data processing, data sharing and/or joint controller agreement before any data processing or data sharing takes place.

Personal data will be collected and processed only if, and to the extent, necessary. Prior to any interaction, respondents and participants of interviews will receive information on what will happen with their personal data, and what their rights are in this respect. If participants think that certain information should not be used, or if they consider some information incorrect, they can contact the designated data protection officers with their requests at the visibly marked contact e-mail address. If the participants consider that their personal information has not been handled in a correct way, they will also have the right to make a complaint.

3.2. Archiving and storage/preservation

Collected and generated data will be curated and preserved in secure data repositories that will follow up to date quality, security, privacy standards and relevant legislation of EU (i.e., GDPR). Also, a system for data security is going to be used as a reference model for curation and preservation. Moreover, all data that can encompass any personal data protection or privacy and IPR will be stored in the project repository, given the stakeholder's consent, and will not be publicly disclosed, unless otherwise agreed by the stakeholder.

3.3. Privacy-preserving technology

All data gathered from involved end-users during the co-design process and the demonstrations will be pseudo anonymized prior to processing, using privacy preserving techniques to ensure GDPR compliance.

In the context of Big Data EO analytics, privacy is increasingly becoming a concern. The advanced development of EO sensors and the proliferation of satellites in orbit today means there is a significantly large amount of recent imagery accessible today. Coupled with the rise of EO data (EOD) fusion with other information sources, allowing for the generation of new links between statistical or qualitative data and geographic information systems, concerns over data privacy and ethics arise. This combination of EOD with micro-data, which holds information collected on individual units such as people or households, has produced many useful maps of metrics such as population (e.g. WorldPop18). To try and facilitate this potential while mitigating privacy risks, there has been a drive in privacy-preserving techniques that can be used to ensure privacy when accessing data for a range of analytics, i.e. Privacy Enhancing Technologies (PETs). There are three main groups: a) model-based: aimed at ensuring privacy through the use of model handling or training techniques (federated learning, continuous learning and neural network encoding methods); b) data-based: techniques that, without hiding data, remove or change its features, such as differential privacy or differentially private

continual learning and; c) encryption-based: techniques that use encryption to achieve privacy, such as, Multi-Party Computation (MPC) or Homomorphic Encryption (HE).

ScaleAgData will gather data sharing privacy preserving user requirements in the co-design workshops to understand which techniques are more relevant to develop in this activity. One of the most promising of those methods is federated learning. It can be defined as a setting where several machines (clients) have data that cannot be shared and a central entity (a server) coordinates the updates of the models that are trained individually in each client and aggregated in a central server. In the opposite direction, this setup also allows the global model to be partly retrained for a specific region with local data. All of these steps are done with no sharing of data between the different clients or between clients and server. Based on the user requirement analysis, which will be continuously updated throughout the project, the project aims to develop a privacy preserving software library that would expose implementations of the different defined PET techniques and could be tested in the different RILs.

4. Gender balance

4.1. Gender analysis

ScaleAgData will overcome gender bias by disaggregating social and biological differences between man and woman as well as other gender identities. We will contribute to a more inclusive research and innovation by integrating related activities with the gendered innovations proposed by EC25 serving as inspiration. Project management activities control over engagement with gender issues in the project activities, and will include them in the reporting period's reports. ScaleAgData will build targeted objectives with respect to gender equality covering proportionality and balance in research activities, scientific and linguistic bias, equal projects' results and connections with established gender activities.

4.2. Proportionality and balance in research activities

The promotion of the equal participation of women and men at all project levels will be ensured. All partners are encouraged to increase women's participation in their activities including management, research, conceptualization, analysis, and networking; and to assure equal opportunities, recruitment and working arrangements. All partners provide equal opportunities on employment and participation in research multinational projects, with special care to contributing lessening the disparities being a result of COVID-19 pandemic (e.g., by offering flexible working schedules to parents of both genders).

In the terms of the ScaleAgData Research and Innovation lab coordination structure, 50% of the lab leads are female. Similarly, with regards to the External Expert Advisory Board where 50% are female as well.

4.3. Scientific and linguistic bias

Within ScaleAgData methodology, gender, age- and group-specific interests and effects will be systematically examined in each phase of the project development that follows co-design methods. Addressing in texts and material written in English should be done according to the guidelines for gender-neutral language. In all six RILs and co-design activities, local population and users will be differentiated based on (survey/expert-opinion derived) gender/class-dependent degrees of risk-aversion to gauge their sensitivity to perceived and actual threats and provide appropriate information and community engagement that respects the differing impacts to people of different gender, social and economic status.

4.4. Equal projects' results

Dissemination (quotations, visibility), communication in general public through releases and press, industry or agricultural stakeholders, policy recommendations and institutional regulations, business and project's results should be addressed to all genders equally and be adjusted according to their profile and needs.

4.5. Connection with established gender activities

ScaleAgData will seek connection with gender organizations and EU institutes, academic departments studying gender, national gender equality bodies etc. for information and knowledge acquisition and sharing, participation in activities and provision.

4.6 Gender equality plan

96% of consortium partners have submitted their gender equality plan in the System for Grant Management (SyGMa) and we are following up with the final remaining submission.

5. Legal and ethical issues

All consortium partners signed the Consortium Agreement (CA), whereby the rights and obligations of the parties concerning inter alia liability, access rights and dispute resolution are well laid out.

When preparing the proposal, an ethics self-assessment was also conducted, and an ethics issues table completed. The proposal consequently underwent and passed an ethics review.

5.1. Consortium agreement

5.1.1. Breach

The CA lays out that if the General Assembly identifies a breach by a party of its obligations under this CA or the Grant Agreement (e.g. improper implementation of the project), the coordinator or, if the coordinator is in breach of its obligations, the party appointed by the GA, will give formal notice to such party requiring that such breach will be remedied within thirty calendar days from the date of receipt of the written notice by the party. If such breach is substantial and is not remedied within that period or is not capable of remedy, the GA may decide to declare the party to be a defaulting party and to decide on the consequences thereof which may include termination of its participation.

5.1.2. Involvement of third parties

The signed CA stipulates that a party that enters into a subcontract/involves third parties (including but not limited to affiliated entities or other participants) in the project remains responsible for carrying out its relevant part of the project and for such third party's compliance with the provisions of the CA and Grant Agreement. Such party has to ensure that the involvement of third parties does not affect the rights and obligations of the other parties under this CA and the Grant Agreement.

5.1.3. Liability towards each other

In respect of any information or materials supplied by one party to another under the project, no warranty or representation of any kind is made, given or implied as to the sufficiency or fitness for purpose nor as to the absence of any infringement of any proprietary rights of third parties. Therefore, the recipient party shall in all cases be entirely and solely liable for the use to which it puts such information and materials, and no party granting access rights shall be liable in case of infringement of proprietary rights of a third party resulting from any other party (or its entities under the same control) exercising its access rights.

Furthermore, no party shall be responsible to any other party for any indirect or consequential loss or similar damage such as, but not limited to, loss of profit, loss of revenue or loss of contracts, except in case of breach of confidentiality. A party's aggregate liability towards the other parties collectively shall be limited to once the party's share of the total costs of the project as identified in annex 2 of the Grant Agreement. A party's liability shall not be limited under either of the two foregoing paragraphs to the extent such damage was caused by a willful act or gross negligence or to the extent that such limitation is not permitted by law.

Finally, the CA states that each party shall be solely liable for any loss, damage or injury to third parties resulting from the performance of the said party's obligations by it or on its behalf under this CA or from its use of results or background.

5.1.4. Force majeure

No party shall be in breach of the Consortium Agreement if it is prevented from fulfilling its obligations under the Consortium Agreement by force majeure. Each party will notify the GA of any force majeure without undue delay. If the consequences of force majeure for the project are not overcome within six weeks after such notice, the transfer of tasks - if any - shall be decided by the GA.

5.2. Human participation

ScaleAgData will engage stakeholders through co-design and evaluation workshops. The aim is to gain an understanding of requirements and user needs in order to steer the development work. Different user groups are envisioned to be included as external evaluators/input providers: Entrusted Entities, policymakers, and different types of end users. Participants will be fully informed about the project and their participation will be entirely voluntary. Research will be carried out across Europe, primarily in the partner countries. In addition to these research activities, the project will organize events and other meetings with the abovementioned stakeholder groups.

5.3. Personal data

The project will not collect personal data such as self-identified ethnicity, gender and age from the participants. The fundamental principles outlined in the Charter of European Fundamental Rights complemented by the GDPR, such as human dignity, the integrity of the person, the protection of personal data to ensure privacy, will be fully respected and promoted in the project. The project will not include any research on vulnerable populations.

5.4. Artificial Intelligence (AI)

Artificial Intelligence will be applied for integrating sensor data in the data products on agro-environmental conditions, as well as for innovative solutions to enhance the characteristics of the input data (EO and others). The algorithms will involve AI techniques, namely machine learning (ML), for data fusion of raw data, data fusion between EO and in situ data as well as the development of services for the RILs. In the past few years, ethical questions associated with the usage of ML have been the subject of academic and public scrutiny. The EC has recently published guidelines on "Requirements of Trustworthy AI". Based on these guidelines and the active experience of the consortium researchers and technologists in data technologies, remote sensing and decision-making R&D, no ethics concerns were identified in the deployment of AI within the ScaleAgData project.

The machine learning and artificial intelligence parts of the project will apply to remote sensing prototypes and will not apply to population monitoring. Our AI systems will not subordinate, coerce, deceive, or manipulate people, and will not create attachment or stimulate addiction. All datasets and processes associated with AI & machine learning decisions will be well communicated and appropriately documented. Best possible efforts will be made to avoid unfair bias and no possible risk or harm is anticipated.

5.5. Do no harm principle

ScaleAgData is fully compliant with the do no harm principle since its activities and the expected life cycle impact of the solutions to be introduced, substantially contribute in a positive way and/or do not significantly harm any of the six environmental objectives set out in Art. 9 and 17 of the EU Sustainable Finance Taxonomy Regulation. The project is expected to have substantial contribution to i) climate change mitigation and adaptation, contributing towards improved crop management and soil fertilization practices, enabling monitoring of key soil properties as well as of the quantification and assessment of agricultural sustainability performance for policy making purposes; ii) the transition to a circular economy by providing means to ensure optimal use of resources in the context of agricultural production activities; iii) the protection of biodiversity and ecosystems, since it promotes sustainable agricultural practices with particular emphasis on enhancing biodiversity and soil health and fertility and land degradation neutrality.

As this project doesn't have significant ethics dimensions, it was not deemed necessary to appoint an ethics advisor within the project.