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DIVINE -
Demonstrat**I**ng the **V**alue of
agri data shar**I**ng for boosti**N**g
data **E**conomy in agriculture

DIVINE

Deliverable D7.4
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Abstract: With the following Deliverable DIVINE aims at establishing a clear overview of the potential participants to involve in project. In order to promote a fully functional MAA, the next pages mapped the identified Stakeholders – allowing for a subdivision of each one's interests – and established a dissemination Action Plan which will be used by Partners during the dissemination phases.

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Glossary - Acronyms

BASF	Badische Anilin- und Sodafabrik
CREA	Consiglio per la Ricerca in agricoltura e l'analisi dell'Economia Agraria
D	Deliverable
DG	Directorate General
ECHA	European Chemicals Agency
EEA	European Environment Agency
EFSA	European Food Safety Authority
EIP - AGRI	Agricultural European Innovation Partnership
ENG	Engineering
FAO	Food and Agriculture Organization
FE	Farm Europe
GA	Grant Agreement
IDSA	International Data Spaces Association
IT	Information technology
MAA	Multi Actor Approach
ToC	Table of Content
WFO	World Farmers' Organization
WP	Work Package
WPL	Work Package Leader

Executive Summary

The Deliverable D7.4, representing 'MAA activity planning, roadmap, and initial results,' is rooted in Task 7.4: "Governance of Multi-Actor Approach (MAA) activities & stakeholder mobilization".

The task entails expanding and elucidating internal processes established within the DIVINE project to execute an efficient Multi-Actor Approach. This involves engaging not only Consortium members but also fostering information exchange with all interested stakeholders for potential synergies.

DIVINE's objective is to identify and connect with stakeholders possessing relevant skills, technologies, and knowledge that may help in the development of the project. Through the establishment of a Multi-Actor Approach Network, DIVINE aims to provide the contacts information and classify diverse stakeholders and end users, ensuring collaboration at both technical and business levels within the data ecosystem, in order to encourage the uptake of the key project results and facilitate network exchanges.

1. Introduction

1.1   Multi-Actor Approach (MAA) Overview

As per EIP-AGRI[1], implementing the 'multi-actor approach' (MAA) involves collaborative efforts among partners with diverse knowledge types throughout a project's lifecycle. This approach, in contrast to traditional top-down knowledge transfer, fosters a demand-driven and innovative project trajectory. Stakeholder engagement in DIVINE facilitates relationship-building, amplifies project visibility, and enhances the uptake of project results by end-users. DIVINE seeks to create a participative model that combines insights and experiences of various stakeholders, enabling the integration of diverse knowledge domains[2].

1.2   Multi-Actor Approach (MAA) in DIVINE

Aligned with Objective 6 of the Grant Agreement, DIVINE aims to establish a specific MAA to engage farmers and domain experts in co-created research design, deployment, and validation. Task 7.4 outlines the creation of a stakeholder network to manage participation in standards development and promote the adoption of the project's toolset. According to the Grant Agreement, partners have the task of identifying user motivations, map community segments, and facilitate knowledge exchange among different organizations and companies in both public and private sector. The task, contributing to D7.4 and D7.6, aligns with the overarching goal of better understanding and demonstrating the data economy in agriculture.

The MAA's success is crucial for responding to the needs of both DIVINE partners and stakeholders. It involves a continuous flow of information between researchers and stakeholders, promoting stakeholder involvement and feedback. The feedback loop ensures that stakeholders contribute relevant expertise and insights to the progress of DIVINE.


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[1] *https://ec.europa.eu/eip/agriculture/en/node.html*
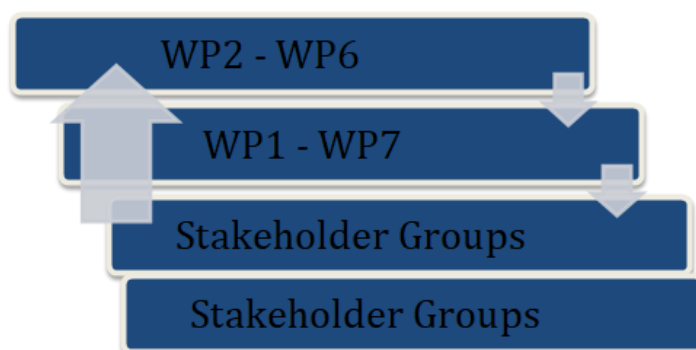
[2] *https://eu-cap-network.ec.europa.eu/multi-actor-projects-research-and-practice-co-creating-solutions_en*

The multi-actor approach (MAA) ensures that projects, like DIVINE, focus on real needs and problems that an end-user is facing. As we are building innovative solutions that address specific needs or problems, while involving the end-user in the process, the resulting product is highly adopted.

The multi-actor approach is used to ensure that newly developed technical solutions meet real life needs. Only a clear understanding of the problem and the expectations of all relevant stakeholders leads to a solution that addresses the real needs, and is really useful. In order to ensure the acceptance of the technical solution and thus its long-term use, usability is also crucial.
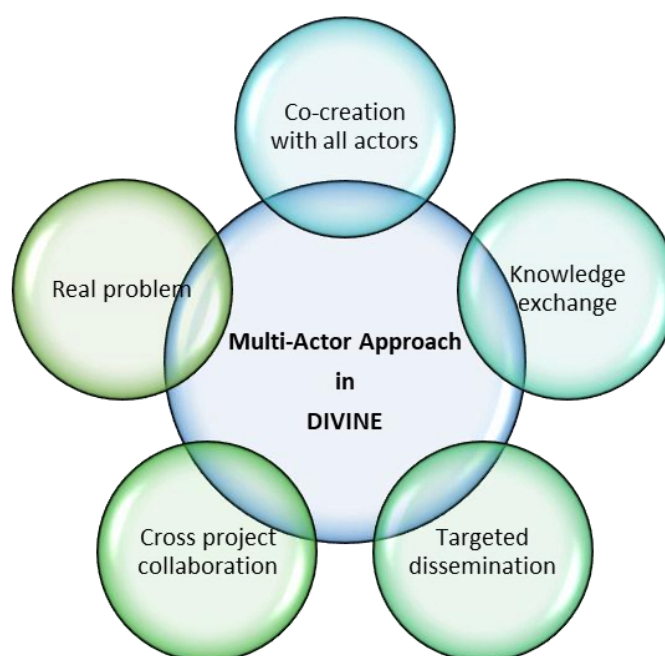
Figure 2. Main goals of MAA in DIVINE back.

The MAA in DIVINE is primarily built on our 4 pilots that are active in several European countries and in different agro-domains. The pilots represent our key users and also bring their domain knowledge and experience to the iterative development, thus being an active part of the co-creation of the technical solution.

- With the support of our pilots, DIVINE relevant stakeholders and their needs, interests and goals - requested through interviews, workshops and surveys - are regularly analyzed. This input is incorporated into the technical development, which is also done in close cooperation with the pilots, i.e., the users. It requires a sufficiently regular flow of information from the research WPs (WP2 – 6) to WP1 & WP7 to be transformed and transmitted for stakeholders to feel involved (tasks where stakeholders potentially contribute and participate: T2.2, T2.3, T2.5, T4.4, 5.1, T5.2, 5.3, 5.4, T5.5, 7.2, 7.4). In detail the means for the participation of

stakeholders in DIVINE is defined as following activities and the mapping of the "specific stakeholder engagement and liaising activities" is presented in Figure 2.

- Participation in pilots
- Participation in the advisory board
- Specific Stakeholder engagement and liaising activities

Mapping of key stakeholders & target groups

- Farm/business advisory services
- ICT and other technology providers
- Manufacturers (hardware/software of sensors, IoT, devices, machinery)
- Agri data (space) providers (including data brokers, mediators, …)
- Policy makers / regulators / standardisation bodies / government / ministries

Figure 3. Stakeholders and target Groups.

1.3   Document Organisation

The Deliverable D7.4 is produced by the collaboration of five different partners: FE, ENG, CREA, WFO and IDSA.

The following report contains the description and explanation of the stakeholder's network that was built during the past months in order to improve DIVINE's dataspace Take up and promotion.

The report will start by giving an overview of the timeline and tasks completed in the past months and will then continue with a description of the stakeholders identified and their motivations' mapping.

2. Stakeholders' analysis

2.1   Stakeholders' Identification

Overall, the work and goals of WP7 Task 7.4 have been defined internally through meetings and were specified in Internal Deliverables. During the initial 6 months of the project, a ToC as well as multiple action steps were defined.

In order to analyze the different needs in the development of DIVINE, all WP leaders and task 7.4 Partners were required to complete and fill a short Excel Spreadsheet, explaining in which areas – according to them – the importance of external support was crucial.

The file requested the following information:

1. *Which are the tasks where stakeholders potentially contribute and participate?*
2. *How could the stakeholders participate?*
3. *What is needed from the stakeholders?*
4. *What can the stakeholders get out of their participation?*
5. *Identify relevant stakeholder*
6. *Identify responsible in your organization (for Task 7.4 Partners)*

2.2   MAA Benefits

The forthcoming section will conduct an in-depth analysis of the potential benefits that could be realized through exchanges between DIVINE and various stakeholders. This examination will explore the mutual gains and advantages that such interactions could yield for both DIVINE and the stakeholders involved. By exploring these potential benefits, we will pave the way for more informed decision-making and better strategic collaboration.

The definition and establishment of a proper multi-actor approach is based on two fundamental assumptions:

1. The process must be open-ended, thus facilitating continuous, iterative improvements to the project actions.
2. The process must be context-dependent, recognising the diverse nature of the pilots and different agri sectors and geographical specificities.

A mix of concrete methods of trust building among actors, on the other hand, shall be tailored to fit local conditions in each particular area. The level of detail and focus on specific themes varies across the individual pilot areas. In DIVINE the stakeholder engagement process involved building the community step by step, starting with a limited number of interviewees/people involved, and then gradually

expanding it. The way this process works is to ask the first stakeholders to nominate another person with the same characteristic. The project team then communicates with the designated people and continues in the same way until a sufficient community size is achieved.
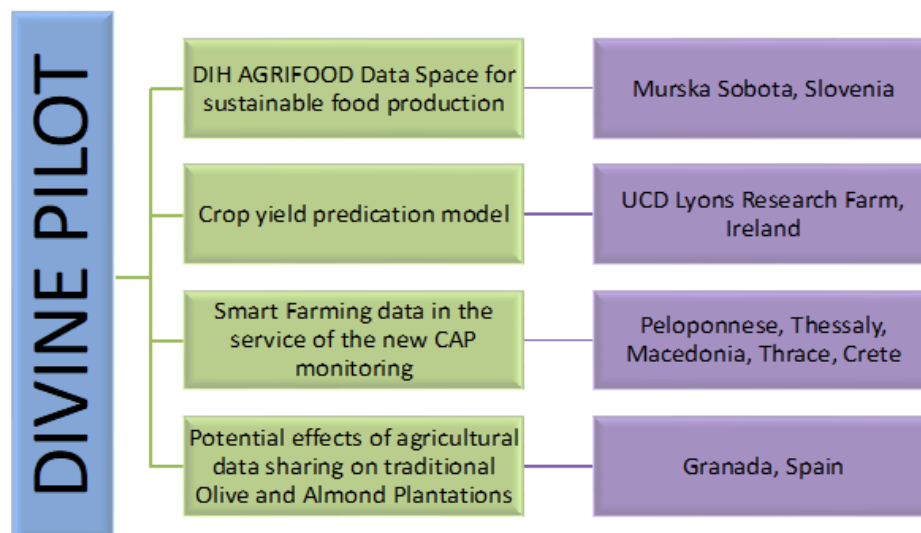

Figure 4. Divine Pilots – Study Areas.

The tool used in DIVINE (Informal talk, semi-structural interview, focus group, round table discussion) to engage the stakeholder aim to select the elements that best fit into the specific pilot area context at any given time in the process. From the stakeholder engagement, various needs will emerge that can be traced back to the Divine project.

The application of the MAA will bring numerous benefits for DIVINE through:

• Providing feedback and other work inputs emerging from the various tasks and deliverables of the project.

• Helping in identifying challenges in data space implementation in agriculture domain and to offer technologies and/or solutions to tackle those challenges. The first year of the project was, for the most part, dedicated to developing a common project vision and getting a deep understanding of the end-users of the DIVINE data space: farmers, advisors and technology providers.
As an example, the DIVINE UX micro boards and user personas that were created in T4.4 and documented in D4.1 have accounted for multiple end users survey's results, among which the WFO survey (See Section 4). These materials are solid proof of the effort put into understanding what farmers, advisors, and tech providers really need from the DIVINE data space.

• Helping in the development of new, tailored tools, through expressing their needs, (as the stakeholders include experts like agrarian economists, specialists for livestock production,

specialists for IT solutions). They may contribute in testing and validating the tools (e.g. farmers to actively participate in workshops, to prepare all data needed; advisors from other advisory services to attend training on the use of tools and training for facilitators of farmers' workshops, also to engage farmers, perform the workshops for farmers and collect their feedback), and in improving these tools. This takes place once the initial research and findings have been formulated. Co-creation workshops are used to create potential solutions with the stakeholders. All ideas are encouraged for all stakeholders to encourage the multidirectional flow of knowledge and information.

At the same time stakeholders can benefit from the participatory approach implemented in DIVINE through:

- Early access to new technology and opportunity to build in what they might need in innovative technology. Improving decision making process, good practices and developing collaboration. Articulation of the context is as important for multi-actor approach building as description of the technology itself. Contextualization of technology in fact means fitting it to local culture and attributing it with local values, all those being factors necessary for building a trust.

- Overview of existing technologies and becoming part of a pioneer community (first adopters) In order to make sure that the developed technology will be useful for potential users, use cases had to be built. We need to get a deeper understanding about the problems that DIVINE stakeholder groups brought to the project face, in order to improve their farming practices.

- Increase visibility for their projects. Using a multi-actor approach aims to bring together the right people throughout a project.

- Empowering farmers to move towards more sustainable and profitable agricultural practices by developing cutting-edge tools and technologies that enable farmers to optimise their production practices and reduce their environmental impact, and by developing new business models, such as digital platforms and e-commerce, to improve farmers' access to new markets, increase their profitability, connect directly with consumers and develop new ways of collaborating with other stakeholders in the food value chain. This will contribute to developing dialogue and fostering links between the scientific community, policy makers, managers, end-users and the general public within the project to ensure effective development and uptake of the project results.

- Improved decision making, improved livestock production (technological and economic performance), new skills, new knowledge, insight in good practices, collaboration with others. Using a multi-actor approach aims to bring together the right people throughout a project. This includes people from varying backgrounds: farmers, advisors, software and hardware developers and researchers. This provides a multi-directional flow of knowledge that provides a better understanding of challenges faced by users and a clear picture of the problems that need to be addressed.

On the other hand, DIVINE needs to make sure to involve all the stakeholders in this process, and listen to their feedback and requests.

When it comes to farmers, to effectively contribute to shaping the use of data in the agricultural sector, farmers should be properly empowered and involved in the decision-making processes that affect them, expressing their needs and offering possible solutions.

3. Stakeholders Mapping

The DIVINE project anticipates stakeholder involvement through participation in pilots, on line surveys, the advisory board, and specific engagement and liaising activities. While not every individual contribution may be feasible, DIVINE reserves the right to consider contributions that add significant value to research activities and align with project objectives. The project aims to engage front-line stakeholders from various communities, and key partners involved in Task 7.4 include FE, ENG, CREA, IDSA, and WFO.

First of all, all Task 7.4 partners were required to fill out an [Excel Spreadsheet](#) indicating the different stakeholder's group they thought might be relevant to contact in DIVINE development. To do so, a first question asking, "*In which DIVINE Tasks could Stakeholders help and participate?*" was asked. Overall, different types of stakeholders were associated to different "potential" tasks. As an example, Farmers Groups and Organization have been highlighted as most helpful in task that are overall pilot related (WP5), while Governance and Regulation bodies seem to deliver the greatest help in Task 6.1 - Data Governance. Data Space pioneers and companies delivering IoT tools to farmers may contribute to WP2 and WP3, while WP7 could benefit from exchanges with scientific Organizations and innovation bodies.

The second question asked was "*How could the Stakeholders Participate (in DIVINE)?*" The main communication channels identified were:

- Emails;
- Telcos;
- Interviews;
- Surveys (especially regarding farmers and national farmers 'associations);
- Newsletters;
- Social Media.

As a proper MAA requires exchanges between the two parts engaged and feedback, the privileged communication ways will be Emails, in which eventual material such as Newsletters or Research findings will be sent out and spread among interested groups, as well as Telcos and Interviews – whenever needed.

Regarding the third point, the Partners were asked to identify which potential benefits DIVINE could gain through such a collaboration and exchange with external groups.

Stakeholders play a crucial role in shaping and refining the work undertaken within the agricultural domain. Their feedback and input are invaluable in guiding the development and implementation of emerging tasks and deliverables. Specifically, stakeholders are instrumental in providing insights on the most effective ways to integrate technologies into agricultural practices to ensure their utility for farmers. They may also contribute by identifying challenges in data space implementation within the agricultural sector and proposing relevant technologies or solutions to address these challenges. Moreover, stakeholders, and specifically farmers, are encouraged to participate in workshops and to express their

needs (as was done through the WFO[3] DIVINE Survey conducted in February 2023), share their experiences and actively participate in decision-making processes that directly impact them. Furthermore, experts from various fields, such as agrarian economists and IT specialists, may contribute to the design and development of new tools. Additionally, advisory services may propose to attend training sessions to facilitate the use of tools and engage farmers effectively.

This collaborative approach ensures that stakeholders are engaged at every stage, from design to improvement, thereby fostering the development of solutions that truly meet the needs of the agricultural community.

On the other hand, we are aware that a proper MAA needs to represent a win-win solution, for both DIVINE and the Stakeholders. For this reason, the last question asked was "*What can the Stakeholders get out of the participation?*"

Stakeholders engaging in this initiative can gain:

- Early access to emerging technologies, influencing their development to suit specific needs, and join a pioneering community as early adopters, increasing visibility for their project.
- They can integrate precise farming technologies into their own models, enhancing operational efficiency.
- Participation offers improvements in decision-making processes, development of best practices, and enhanced collaboration opportunities. Governance and regulation entities benefit from refined policymaking processes.
- Farmers' organizations receive products better suited to their needs, leading to empowerment through the adoption of sustainable and profitable agricultural practices facilitated by cutting-edge tools and technologies.
- Scientific networks access valuable information to deepen their studies on agricultural topics.
- Introduction of new business models, such as digital platforms and e-commerce, enables farmers to access new markets and increase profitability while fostering collaboration within the food value chain.

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[3] *https://www.wfo-oma.org/*

DemonstratIng Value of agri data sharIng for boostiNg data Economy in agriculture

Table 1. Table of Stakeholders Interest and benefits for DIVINE.

PARTNER	Tasks where stakeholders potentially contribute and participate	How could the stakeholders participate	What is needed from the stakeholders	What can the stakeholders get out of the participation	Identify relevant stakeholder
WIT	T2.2, T2.3, T2.5, T4.4, T5.2	email and telcos	feedback and other input on the work emerging from the various tasks	early access to new technology; opportunity to build in what they might need in new technology	agri-data owners such as private companies servicing the agri sector, national ministries, research projects, farm advisors, farmer groups, etc.
ENG	WP2, WP3	email, telcos	Information on best way to implement technologies in a way that they will be useful to farmers	Usage and exploitation of precise farming technologies - integration of similar functionalities in their models.	Companies producing apps and tools used by farmers
CREA	T5.5	email, telcos, interview	feedback and input emerging from the tasks an deliverables that aims engaged stakeholders	Improving decision making process, good practices and develop collaboration	farmers group, expert like agricultural economist, regional agricultural development agency
FE	T5.1, T5.3, T5.4, but also T6.1 and T7.3	email, telcos, interview, surveys	feedback and other input on the work emerging from the various tasks	- Governance and Regulation: Improved policy making processes, more tailored and appropriated; - Industry: Improved tools, new and innovative products; - Farmers Organization: products adapted to their	- Governance - Industry - Farmers organizations - Regulation makers - Scientific and innovation networks

				needs; updates on new tools that could have applications for them; - Scientific Networks: information to deepen studies on different agricultural topics.	
IDSA	Interoperabil ity Task Force (T2.2)	- by joining the task force - by attending meetings	- to help identifying challenges in data space implementation in agriculture domain - to offer technologies and/or solutions to tackle those challenges	- have an overview of existing technologies - become part of a pioneer community (first adopters) - get more visibility for their projects	data space pioneers (implementers) in agriculture, that are working with IDS standard
WFO	T7.2, T7.3, T7.4, T5.4, T5.1	Global dissemination through internal (to WFO members) newsletter, dedicated page on the WFO website, news section on the WFO website (updates, events, outcomes promotion),social media accounts (Facebook, Instagram, X and LinkedIn), interviews and Op-Eds with several international media, e-mails and surveys - Internal events with the participation of National Farmers Organisations and	- to express their needs and share their experiences - to inform the decisions that affect themselves	- cutting-edge tools and technologies can enable farmers to optimize their production practices and reduce their environmental impact - new business models, such as digital platforms and e-commerce, can improve farmers access to new markets and increase their profitability, connect directly with consumers and develop new ways of collaborating with other	81 National farmers Organizations worldwide (WFO members and affiliates)

		international stakeholders (WFO Annual Meeting) - External international events and processes		stakeholders in the food value chain	
KGZS – ZAVOD MS	T5.1, T5.3, T5.4	replying to the survey and interviews, expressing their needs, contributing in the phase of benchmark tool development and testing (with their expertise, knowledge or through the user feedback), sharing good practices and experience, helping in dissemination and other stakeholders engagement	to express their needs, to contribute in the design and development of new tools (experts like agrarian economists, specialists for livestock production, specialists for IT solutions), to contribute in testing and validation of the tools (e.g. farmers to actively participate in workshops, to prepare all data needed; advisors from other advisory services to attend training on the use of tools and training for facilitators of farmers' workshops, also to engage farmers, perform the workshops for farmers and collect their feedback), to contribute in stage of improvement (all)	improved decision making, improved livestock production (technological and economic performance), new skills, new knowledge, insight in good practices, collaboration with others	- farmers - agricultural advisors form other institutes of Chamber of Agriculture and Forestry of Slovenia (CAFS) - experts, like agricultural economists, specialists for livestock production, for IT solutions (from other advisory services, from research institutes, faculties; Chamber of Agriculture and Forestry of Slovenia (CAFS), Agricultural Institute of Slovenia, University of Ljubljana) - government representatives and decision makers (Ministry of Agriculture, Forestry and Food)

Figure 5 shows the second page of the Excel Spreadsheet, in which specific Stakeholders (Company Name, contact information, Categorization) have been inserted. This table will help the development of Task 7.4, as it will allow us to contact, monitor and follow up the different stakeholders' requests and feedback. Moreover, it highlights the different stakeholder's categorization and mapping, as required by the GA.

The main identified Stakeholders groups are the following:

1. *Governance*
2. *Industry*
3. *Farmers organizations*
4. *Farmers' Cooperatives*
5. *Regulation*
6. *Scientific and innovation networks*

3.1   Governance Stakeholders

The list includes Members of different EU institutions (DG ENVI[4], DG AGRI[5], DG SANTE[6]) as well as contacts of different international organization (eg. FAO[7]). Governance stakeholders serve as key actors in promoting good governance principles and fostering the public interest within their respective domains, and are all those individuals, organizations, or entities that have interests or involvements in the formulation, implementation, and oversight of policies, regulations, and decision-making processes within a particular domain. Their contributions may involve providing input on policy development, monitoring compliance with regulations, advocating for specific interests or issues, and participating in decision-making forums or governance structures. They have been identified as helpful in WP6.

What interests them?

Due to their specific role, the stakeholders falling under the Governance Stakeholders category are on a general level more interested in the benefits and results of a project. In DIVINE's case, whenever the project will be able to provide proof of clear and concrete advantages for farmers taking up the technology proposed, Governance Stakeholders' interests will be tackled.

When in DIVINE dissemination phase, it will be important to share with these stakeholders detailed and solid pilots' results, showing if and how the agri-data-sharing platform increased the farmers' welfare and productivity, as well as the path constructed by DIVINE to obtain these results (which specific technologies

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[4] *https://knowledge4policy.ec.europa.eu/organisation/dg-env-dg-environment_en*

[5] *https://agriculture.ec.europa.eu/index_en*

[6] *https://health.ec.europa.eu/index_en*

[7] *https://www.fao.org/home/en*

are used, what governance model has been applied...). Results have to be concrete and easily understandable, while the explanation of the measures applied has to be precise and detailed.

3.2 Industry Stakeholders

In this section, different industries and associations have been identified. They all have interests in Agriculture – in different ways. Some, such as BASF[8], are interested in chemicals and fertilizers, while others, such as KM Agri[9], are interested in promoting and producing farming tools and machines. These companies may offer insightful suggestions on the development of useful technologies and indicate the best practices in adapting a specific tool to the market.

What interests them?

The Industry Stakeholders category includes multiple types of industries. Due to the large heterogeneity, it is hard to define what each firm may have a specific interest in. However, due to their rather technical and pragmatic interests, the document that will be shared with these stakeholders should include extremely technical detailed on newly developed technology, accompanied by a Cost – Benefit analysis to promote the take up of the tools.

3.3 Farmer organizations and Farmer cooperatives

Together with the Farmer's Cooperatives, the Farmers' organizations category represents the largest group of stakeholders identified. These Organizations are collective entities formed by farmers to represent their interests, advocate for their rights, and address their common concerns. They play a crucial role in empowering farmers, providing them with a unified voice in discussions and negotiations related to agricultural policies, regulations, and market dynamics.

Farmers' organizations typically work towards enhancing the socio-economic well-being of their members by facilitating access to resources, information, and support services. They may offer training programs, technical assistance, and networking opportunities to help farmers improve their agricultural practices, enhance productivity, and adapt to changing market conditions.

Examples of farmers' organizations include Coldiretti[10], which is one of the largest agricultural organizations in Italy, representing the interests of farmers across various sectors. ZSCR[11] is a farmers' organization based in Czech Republic, working to promote sustainable agriculture and rural development.

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[8] *https://www.basf.com/be/en.html*

[9] *https://www.kmagri.fr/*

[10] *https://www.coldiretti.it/*

[11] *https://www.zscr.cz/*

At EU level, the Copa-Cogeca Organization[12] is a European organization representing agricultural cooperatives and farmer associations at the EU level, advocating for the interests of European farmers on various policy issues.

At global level, the WFO stands out as a member-based Organization that brings together 81 national farmers' organizations and agricultural cooperatives from 55 countries (representing 6 constituencies in Europe, Asia, Oceania, Africa, Latin America and North America). The WFO is the reference organisation representing the interests of the global farming community in all relevant international processes that affect the lives of farmers, including those led by the United Nations, such as the 2030 Agenda for Sustainable Development and the COP negotiations on climate change, to name but a few.

What interests them?

Farmers' Organizations are among the most important stakeholders – due not only to their number, but especially to their ability to take up and use the technology and the Agri data Space promoted by DIVINE. The more farmers use the tool, the higher the success of the project and the bigger the benefits across the farming sector.

When sharing information regarding the project with the Farming Organizations, we will need to keep in mind that what they are interested in:

- Benefits, such as strategic advantages and economic gains

- Easily understandable technologies

- Low(er) costs of materials

Thus, during the dissemination phase it will be crucial to provide proper concrete and down-to-hearth results, as well as easily understandable explanations of the tool, without an excessive technical explanation.

3.4   Regulatory Organisations

Among the stakeholders, three regulatory bodies were identified:

1. ECHA (European Chemicals Agency): ECHA is responsible for the implementation of the European Union's regulations concerning the registration, evaluation, authorization, and restriction of chemicals (REACH). It manages the registration and evaluation of chemicals to ensure their safe use and assesses the potential risks associated with their use. ECHA also

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[12] *https://copa-cogeca.eu/*

provides guidance and support to companies in complying with chemical regulations and works to promote the safe and sustainable use of chemicals[13].

2. EEA (European Environment Agency): The EEA provides reliable and independent information on the environment to support environmental policies and decision-making across Europe. It collects, analyzes, and disseminates data and information on various environmental issues, such as air and water quality, biodiversity, climate change, and resource use. The agency also assesses the effectiveness of environmental policies and measures, identifies emerging environmental challenges, and promotes sustainable development practices[14].

3. EFSA (European Food Safety Authority): EFSA is responsible for assessing and providing scientific advice on food safety risks in the European Union. It evaluates the safety of food additives, pesticides, contaminants, and genetically modified organisms (GMOs), among other substances. EFSA conducts risk assessments based on the latest scientific evidence to ensure the safety of the food chain and protect consumer health. The authority's assessments inform EU policymakers in making evidence-based decisions to safeguard public health and ensure the safety of food and feed products[15].

> *What interests them?*
>
> New findings which may impact different aspects of the EU's citizens' lives, both in positive and negative ways. In this case, what will have to be shared with them are the project scientific results.

3.5   Scientific and innovation networks

These stakeholders, entities like EIP (European Innovation Partnership), primarily consist of research centers, universities, or organizations renowned for their expertise and resources in various agricultural, technological and environmental fields. As DIVINE progresses into its dissemination phase, these stakeholders play integral roles in disseminating knowledge, insights, and innovations generated through the project. Their diverse capabilities in research, development, and educational endeavors, position them as key conduits for distributing DIVINE's findings and outcomes to wider audiences. Through their extensive networks, these stakeholders facilitate the exchange of information, best practices, and technological advancements within relevant communities and sectors.

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[13] *https://echa.europa.eu/*

[14] *https://www.eea.europa.eu/en*

[15] *https://www.efsa.europa.eu/en*

What interests them?

These networks are rather interested in specific and technical findings, as well as innovative discoveries that may stimulate further research. Overall, information on pilots' results and innovative technologies will be shared, to foster inter–sector cooperation in the EU agricultural environment.

Table 2. **Partial Table, List of identified Stakeholders**.

Group	Organization	Contactperson (s)	Email	Country	Add
Governance	EC DG-Env	Werner Bosmans	Werner.BOSMANS@ec.europa.eu	Belgium	Mu
	FAO	Rémi NonoWomdim	AGP-Director@fao.org	?	
	EC Waste Framework Directive	Mattia Pellegrini	Mattia.Pellegrini@ec.europa.eu	Belgium	Ne
	EC DG-Agri	?	?	Belgium	Ne
	EC DG SANTE	Anne Bucher	Anne.Bucher@ec.europa.eu	Belgium	Ne
	AVRIL	Benjamin Lammert	benjamin.lammert@orange.fr	France	
	Permanent Representative of Austria to the EU	Thomas Oberreiter	thomas.oberreiter@bmeia.gv.at		
	IPBES	?	?	?	Ne
Industry	BASF	Annika Batel	annika.batel@basf.com	Germany	
	European Bioplastics	Hasso von Pogrell	pogrell@european-bioplastics.org	Germany	Mu
	Agricultural Plastic Environment Europe	Xavier Ferry; Bernard Le Moine	b.lemoine@apeeurope.eu;	Belgium	Mu
	ISWA	Marc Tijhuis; Arne Ragossnig	mtijhuis@iswa.org; aragossnig@iswa.org	Austria	
	Repsol	María del Mar González	mm.gonzalez@repsol.com	Spain	
	PlasticsEurope	Michel Cassart	Michel.CASSART@plasticseurope.org		
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	CropLife				
	CREDIT AGRICOLE	Gaelle Regnard	gaelle.regnard@credit-agricole-sa.fr	France	
	KM Agri		km.agri@compagnet.be	France	
	Coldiretti	Mr. Paolo Di Stefano, Ms.	paolo.distefano@coldiretti.it,	Italy	
	German Farmers' Association		dbv-bruessel@bauernverband.net	Germany	
	CHAMBER OF AGRICULTURE OF THE CZECH REPUBLIC		dolezal@akcr.cz sekretariat@akcr.cz		

3.6 Stakeholders' exchanges

Overall, the stakeholders will be contacted through different means during the dissemination phase. Nonetheless, before initiating the exchange process, it will be necessary to:

1. Obtain a certain number of results from the deployment of pilots: this first step relates to WP5. Exchanges between WP7 and WP5 will be necessary after the end of the first pilot round to allow proper results collection.
2. Disseminating Material: This step relates to the work of WP7 task 7.3 and is supported by WFO which is in charge of disseminating the material within the global farmer constituency. For this reason, WFO is in charge of describing the outreach to farmers in the following paragraphs.

4. Stakeholders' Outreach

WFO's mission is to be the voice of farmers and to advocate on their behalf in all relevant international processes that affect their present and future.

In line with its mission, WFO recognizes the importance of engaging in global dialogues on agriculture, food security and sustainability and is well placed to facilitate the dissemination of innovative solutions, such as those in the DIVINE project, to the global farmers' community it represents, made up of 81 national farmers' organizations worldwide, and its extended network of international stakeholders, including regional farmers' platforms, private sector representatives, United Nations agencies and international organisations.

Moreover, through targeted surveys, WFO is actively involving its members in gathering insights into farmers' needs and expectations, thereby contributing to the design and implementation of proposed innovations.

The main channels of global dissemination activities include internal (to WFO members) newsletter; external newsletter; dedicated page on the WFO website; social media; the WFO Annual Meeting (WFO General Assembly), which is a pivotal event bringing together hundreds of leaders from the global agricultural community and a wide range of stakeholders, fostering dialogue, collaboration and knowledge sharing; the WFO Gymnasium, a high level capacity building programme to train young farmers to become future leaders in the agricultural sector and the participation into international events and global policy processes which provide with opportunities for extended visibility (e.g., COP).

To facilitate wider dissemination, the WFO emphasizes the importance of transforming technical content into non-technical formats.

WFO - Data Analysis on the survey on Digital Innovation and Data Sharing

The survey was carried out in February 2023 and received responses from 23 Organizations out of the 78 members of the Organization at that time, from 21 Countries, representing 19.653.319 farmers. The respondent organizations were distributed as follows: 6 from Europe, 9 from Africa, 5 from Asia, 2 from Oceania, and 1 from North America.

The survey was aimed at gathering the farmers' perspective on the role of digital innovation in agriculture and which experience with digital innovation farmers have and at investigating which are the main challenges and opportunities for farmers in big data collection and sharing.

The most important determinant for improving farmers' access to and use of digital innovations is the presence of adequate physical infrastructure, which includes essential elements such as roads, transport networks and storage facilities. This was closely followed by education and skills as the second most frequently cited prerequisite. There were notable geographical differences in these responses, with 40%

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of respondents from Africa and Asia citing physical infrastructure as a top priority, while 50% of respondents from Europe emphasized the importance of education and skills development.

A significant majority, 78% of respondents, agreed or strongly agreed that farmers today need to engage with digital tools. It is also worth noting that 65% of organisations took a polarised stance on this issue, either strongly agreeing or disagreeing with the integration of digital tools into farming practice. In terms of us of technology, 15% of respondents signaled blockchain as the most problematic digital tool to implement.

When it comes to data sharing, the majority of farmers surveyed (87%) expressed a willingness to share their data. However, there is a consensus that transparency and tangible benefits must accompany any data sharing efforts. When asked about factors that could facilitate data sharing, 44% of respondents highlighted the importance of access to digital tools and networks. In addition, 34% highlighted the need for a binding code of conduct or guidelines to regulate the ownership, use and prevention of misuse of data. Conversely, only 8% of farmers felt that a voluntary code of conduct would encourage data sharing.

It is important to mention the fact that the survey's results represented an extremely useful resource to implement the core structure of DIVINE's data sharing platform. In fact, the farmer's responses were used to develop the UX micro boards and personas mentioned in Section 2.2.

5. MAA – Action Plan

As delineated in the Grant Agreement, the responsibility of Task 7.4 extends beyond merely identifying and mapping potential stakeholders of DIVINE. This task also takes care of the formulation of a comprehensive action plan tailored to facilitate the dissemination phase, aiding the Work Package (WP) in achieving its objectives.

Other Tasks in WP7, as outlined in the GA, will develop the project dissemination phase. Within the consortium, the World Farming Organisation (WFO) has been designated to share the dissemination efforts directed towards farming organizations within the European Union and across the globe. Moreover, other consortium partners will be tasked with reaching out to similar projects and engaging with stakeholders delineated in the present Deliverable.

This structured approach, as stipulated in the GA, ensures that each partner is allocated specific responsibilities within the dissemination framework. By focusing on their designated areas, the consortium aims to effectively disseminate DIVINE's outcomes and engage relevant stakeholders to maximize impact and achieve the WP's overarching goals.

5.1   Dissemination Phase – Working Steps

1. **Collect all the Dissemination Material:** This First Step will be done throughout the whole project development and deployment. Dissemination Material Include initial Flyers of the project, as well as more detailed and developed articles, videos, newsletters.
2. **Classify the Dissemination Material:** During this second step, to be also done throughout the deployment of DIVINE, all the potential material to share will need to be properly classified, according to multiple factors: complexity of the material, scope of the material, the message circulating, the specificity of the information included in the material. This phase is crucial, due to the fact that – as already mentioned multiple times in this deliverable – different stakeholders are interested in different aspects and information of the project. Sending farmers a detailed review explaining how DIVINE's data architecture was built may not capture the needed attention!
3. **Establish a Coherent Dissemination Timeline:** in order to promote efficient and effective exchanges among the MAA players, DIVINE and the Consortium Partners will need to produce an efficient timeline and specific deadlines to know at what point of the project it might be more relevant to share information with third parties. Overall, specific, clear and fixed dates are to be preferred, as Stakeholders may react differently to the information sent to them and may appreciate receiving a newsletter every 2 months – rather than on random dates. Similarly, when discussing about DIVINE's results, opting to disseminate data once tangible and practical results have been attained such as following the deployment of pilots or their subsequent evaluation - rather than dispersing sporadic information - ensures that

stakeholders receive substantive insights derived from meaningful milestones in the project's progression.

4. **Initiate the approach:** Once all the previous points are cleared, a first approach with the identified Stakeholders might be initiated.

5. **Exchange and Involve Interested Stakeholders:** Once the Stakeholders start to show interest in the project and interact with DIVINE, it will be the moment to start involving them: Surveys might be proposed, as well as meetings or webinars might be organised (based on the different responses and needs).
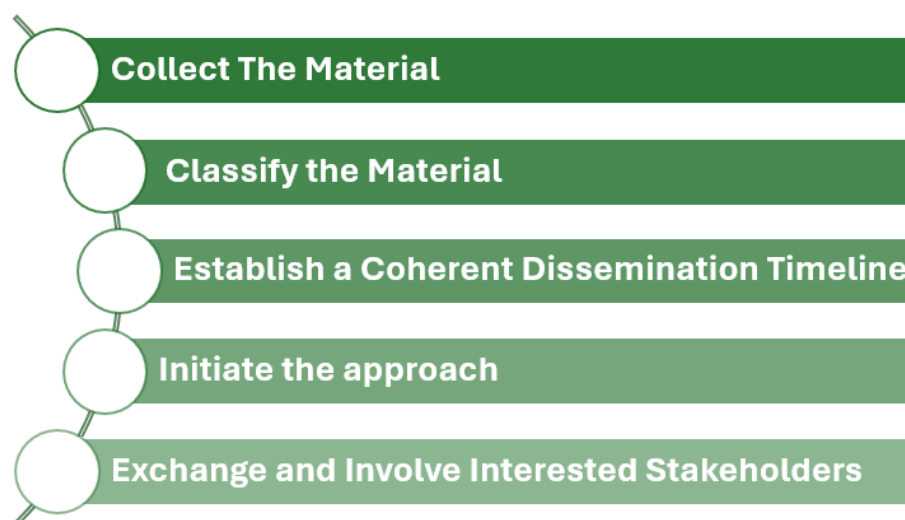

Figure 5. Steps to Prepare the MAA.

5.2   Timeline of application

Overall, the Timeline of application of the following Steps depends on WP7 (readiness of the material, established classification, and other) and, above all, on the whole project.

Overall, the main phases of dissemination can be defined as it follows:

Phase 1: Initial Phase, M0-19, in which Pilots have not been completed yet. During this initial phase, the project will be focused on advertising the general scope of DIVINE – as concrete results are not yet available.

Phase 2: Second Phase, M19-M22, in which the first pilots Results will be captured. During this phase the table completed on the SharePoint will be used to share appropriate material with different stakeholders' categories. It is an extremely relevant phase, as it will be able to deliver concrete results. During Pase 1 and Phase 2 the Stakeholders contact will be initiated.

Phase 3: M23-M28. During this Phase, Stakeholders will be weekly/monthly updated on DIVINE's developments and results. It is a phase during which the initial Phase2 results will be updated and reviewed. What will be extremely important during these months will be to capture Stakeholders attention. Moreover, this Phase will be extremely relevant to develop point 3 and 4 described in the section above– thus exchange and involve the stakeholders.

Phase 4: M28 – M36. The following represent the final Phase, in which final results will be distributed and speeded.

6. Conclusion

The Multi-Actor Approach in DIVINE is a strategic endeavor to foster collaboration, innovation, and knowledge exchange among diverse stakeholders, contributing to the overarching objectives of the project and aligning with EU guidelines on agricultural innovation partnerships.

The comprehensive identification and categorization of stakeholders within the DIVINE project, as illustrated in Figure 5 and elaborated upon in the provided documentation, underscores the critical role these entities play in the project's success. Stakeholders from diverse backgrounds such as governance, industry, farmers' organizations, cooperatives, regulation, and scientific networks have been meticulously mapped out, each with their distinct interests and contributions.

While transparency and clear evidence of advantages for farmers will be fundamental in engaging with *Governance stakeholders* effectively, *Industry stakeholders* will need to be provided detailed technical information accompanied by cost-benefit analysis.

Farmers' organizations and cooperatives represent a significant portion of stakeholders, given their direct connection to the agricultural community. Their interests revolve around strategic advantages, economic gains, and easily understandable technologies. Concrete, practical results demonstrating the project's impact on farmers' welfare and productivity will resonate most with them.

Regulatory Bodies' feedback will enhance the trust of the general public on the project, while *Innovation and Scientific Networks* will be extremely useful to spread around information on DIVINE, and further promote its take-up among the scientific community.

The outlined stakeholder outreach strategies, including dissemination through global platforms like the WFO, emphasize the importance of translating technical content into accessible formats for wider dissemination. Additionally, insights from surveys conducted by organizations like WFO provide valuable feedback from farmers themselves, highlighting key priorities and challenges in digital innovation and data sharing within agriculture.

Overall, effective engagement with stakeholders across various domains will be pivotal in advancing the DIVINE project's objectives, fostering collaboration, and ultimately realizing its potential to revolutionize agriculture through data-driven innovation.