D7.1: Dissemination and Communication (DC) Plan

March/2020

Author(s)/Organisation(s)	Vladimir Mrkajić, Dijana Stefanović, Nemanja Nićin (INOSENS)
Contributor(s)	Valantis Tsiakos, Nikoletta Karitsioti (ICCS)
Work Package	WP7 Dissemination, Exploitation and Communication of DIONE
Delivery Date (DoA)	31/03/2020
Actual Delivery Date	31/03/2020
Abstract:	The DIONE Dissemination and Communication Plan provides guidance and direction for all DIONE communication activities with external actors. It ensures a unified approach across the entire DIONE consortium, covering WP7 activities and has a strong link to the future exploitation strategy. It explains the DIONE dissemination and communication activities, and provides detail overview of the DIONE targeted stakeholders, communication tools as well as measures to evaluate and monitor the impact.

Document Revision History			
Date	Version	Author/Contributor/ Reviewer	Summary of main changes
21/02/2020	V0.1	INOSENS	Initial ToC
13/03/2020	V0.4	INOSENS	Submitted for internal review
18/03/2020	V0.5	CORE	Review of the deliverable and provision of comments
25/03/2020	V0.7	ICCS	Review of the deliverable and provision of comments
27/03/2020	V0.9	INOSENS	Small modifications according to feedback received from CORE, ICCS
31/03/2020	V1.0	ICCS	Approved, final version submitted

Dissemination Level		
PU	Public	X
CO	Confidential, only for members of the consortium (including the EC)	

DIONE Consortium			
Participant Number	Participant organisation name	Short name	Country
1	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS	ICCS	EL
2	DIABALKANIKO KENTRO PERIBALLONTOS	i-BEC	EL
3	SINERGISE LABORATORIJ ZA GEOGRAFSKE INFORMACIJSKE SISTEME DOO	SINERGISE	SI
4	CORE INNOVATION AND TECHNOLOGY OE	CORE	EL
5	NATIONAL PAYING AGENCY	NMA	LT
6	INOSENS DOO NOVI SAD	INO	RS
7	GILAB doo Beograd-Palilula	GILAB	RS
8	Cyprus Agricultural Payments Organisation (CAPO)	CAPO	EL

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WP	Work Package
DC	Dissemination and Communication
CAP	Common Agricultural Policy
EO	Earth Observation
EC	European Commission
EU	European Union

Executive Summary

DIONE is a H2020 project that brings a unique fusion of innovative technologies to improve the workflow of agricultural monitoring and compliance checks for area-based direct Common Agricultural Policy (CAP) payments as well as to reduce related operational costs. The DIONE project develops a Machine-Learning (ML) enabled toolbox, aiming to improve the resolution of free and open Snetinel data while facilitating the consideration of the so far neglacted Ecological Focus Areas (EFA) types through the use of data fusion and super resolution techniques that will allow the combination of various data sources. At the same time, DIONE's image based analysis is complemented by a ground-based component that includes a geo-tagged photos system to be used by farmers as well as a low-cost system based on spectral sensors that will evaluate soil quality and land degradation. Results of the toolbox components shall be integrted into a compliance monitoring tool that will monitor farmers' compliance to the green direct payment scheme conditions. In addition, valuable insights and actionable information on the tangible environmental impacts of the direct payments scheme will be provided through an ML-based inferencing system that will be deployed on a larger scale.

DIONE's Dissemination and Communication (DC) Plan aims to provide guidance and direction for all DIONE dissemination and communication activities with external actors. It ensures a unified approach across the entire DIONE consortium, covering WP7 activities and has a strong link to the future exploitation strategy. The main goal of the DC activities is to increase the visibility of the DIONE project and uptake of its results among targeted stakeholder groups - from local to European and international levels. All partners of the consortium will be actively involved in realisation of the DC activities, according to their foreseen roles and efforts and using all available tools and channels.

This deliverable summarize the following key elements of the DIONE DC plan: objectives, target audience, timing, tools and channels, rules for performing the DC activities, envisioned DC actions and activities and the way to evaluate and assess the impact of the dissemination activities. Finally, it presents the activities that have already been carried out (e.g. DIONE visual identity, dissemination material, website and social networks).

1. Introduction

1.1   The DIONE project

The DIONE project aims to offer an unique fusion of innovative technologies to improve the workflow of agricultural monitoring and compliance checks for area-based direct CAP payments and to reduce drastically related operational costs. As such, the DIONE toolbox directly addresses the new regulations inserted by the Modernised CAP 2021-2027 regarding the use of automated technologies for a gradual substitution of on-the-spot-checks and at the same time assists the paying agencies to quantify and tangibly demonstrate the relevant environmental impact of their payments.

The DIONE toolbox comprises of the five sub-components: (1) a component that extracts Sentinel Hub information/images based on DIAS and produces enhanced crop-type maps and non-productive EFAs maps; (2) LC/LU image datasets from aerial sources (UAV/drones targeted flights); (3) DIONE farmer's geo-tagged photos framework; (4) DIONE farmer's geo-tagged photos framework; (5) DIONE Green Accountability toolbox that comprises (i) a farmers' compliance monitoring tool, which decides on individual farmers' compliancy and is integrated with the existing tools of paying agencies and (ii) an AI-enabled DIONE environmental performance tool, that provides feedback to professionals of paying agencies and the EC about land condition and land use.

The three main domains of the innovation that the DIONE toolbox offers are: (1) super resolution applied on open Sentinel data sources; (2) trusted, tamper-proof geotagged photos obtained by the farmers and (3) Green Compliance Toolbox (that will for the first time provide quantified information regarding the environmental performance of greening in a regional and/or national scale of the paying agencies' jurisdiction).

1.2.   The DIONE project objectives

The main objective of the DIONE project is to design and implement an integrated direct payment monitoring toolbox at the TRL7, which will be demonstrated in two pilots – in Cyprus and Lithuania.

The DIONE toolbox is primarily intended for Paying Agencies (PAs) – as they recognize the DIONE toolbox eliminates or reduces greatly on-site inspection needs. Moreover, the exploitation of open EO data sources relieves the need for Paying Agencies reliance on costly data (such as VHR data), resulting in additional costs reduction. Besides these stakeholders, Control and certification Bodies and the EO industry (ICT start-ups, SMEs, research institutions, etc.) are identified as potential DIONE user groups which could attach their own services and products on the top of the DIONE modularity offerings through collaborative digital business models.

The DIONE aims to achieve the following high-level objectives through an iterative development and validation process with the paying agencies that participate in the pilot activities:

Table 1. DIONE Project Objectives

OBJECTIVES	DESCRIPTION
O1: „Demonstrate to a TRL7 the capabilities of Copernicus DIAS cloud platform."	DIONE will exploit DIAS's storage of Copernicus data as its main dataset in the core of the DIONE toolbox. It will make use of not just the data but also DIAS provided services such as Data Catalogue as well as Sentinel Hub, which is operational on 3 out of 4 DIAS-es.
O2: „Improve resolution of free and open Sentinel data and combine it with high resolution drone and commercial data so that EFA types of increased environmental impact are considered."	The DIONE automated tool for EFA recognition and calculation will consider EFA types (that are of increased environmental and biodiversity impact) of fewer than 200-300 m^2 which is the current limitation of Sentinel 2 (and 1) data. In addition, DIONE will capitalise on scientifically sound methods, already demonstrated in the service of Sentinel 2 data, to produce cloud-free composites and thus ensuring proper monitoring of the observed areas.
O3: „Develop and demonstrate a complementary to the EO data-system of ground-based geo-tagged photos."	DIONE aims to maximise geotag trustworthiness of the farmers' generated photos by introducing some technical innovations in the smart phone/user device application as well as relying on a user-friendly training mechanism to ensure the farmer easily grasps capture requirements. To facilitate the farmers with the data collection, the use of AR (Augmented Reality) features will be exploited so that the land parcel border is superimposed to the image and the device positioning and picture frame are properly configured.
O4: „Implement a low-cost system based on spectral sensors that are able to measure and assess soil quality, quantifying the current level of land degradation in the referenced land parcel."	The DIONE will utilize citizen observatories solutions in conjunction with smart sensors to enable the cost-effective establishment of an additional data layer in order to complement, validate and enhance critical agro-environmental –related parameters. In this regard, the DIONE will use a low-cost, portable and handheld spectrometers operating in the visible and near-infrared (VNIR) range and microelectromechanical systems (MEMs) to enable the rapid and non-destructive measurement of a soil's reflectance spectrum. The VNIR spectra and the associated metadata will be securely transmitted over the air (OTA) using TLS (Transport Layer Security) technologies to a central database, which will confirm their integrity by employing data techniques guarding against corruption. The integration of VNIR spectra with Sentinel and/or other EO data via transfer learning techniques, will then enable the large-scale mapping of soil properties and levels of erosion, moving from the in-situ level to a regional and national scale.
O5: „Exploit (i) Sen4CAP seminal project results regarding freely available produced crop-type maps, (ii) improved resolution maps identifying non-productive EFAs (O2) and (iii)	To support the efficient monitoring of farmers' compliance to the green direct payment scheme conditions by the paying agencies, the DIONE tool for automated compliance checking will be developed based on: a) LPIS (Land Parcel Identification System) data, b) Sen4CAP crop-type maps, c) improved resolution EFAs maps and d) geotagged photos from fields. An algorithm will be developed to process, combine and analyse the input data

complementary information sources (O3) and integrate the results into DIONE compliance monitoring tool."	layers with respect to the defined greening rules. The tool will provide a report per farm with the information on the compliance (compliant/not compliant) to each of the rules and need for a subsequent check with additional data (e.g. geotagged photos).
O6: „Design and implement an Environmental Performance tool, completely integrated with the paying agencies' aforementioned monitoring tools through an ML-based inferencing system deployed on regional and/or national scales."	This will make use of information from gathered EO time series and in-situ data and implement an ML-based inferencing system that will be on deployed on a larger scale (e.g. regional, national) to identify and quantify the levels of some of the monitored parameters and consequently extract tangible environmental impact KPIs (Key Performance indicators) for an entire region. The system will be based on ML (ensembles and deep learning regressors) and use a multitude of information as inputs: Sentinel data gathered at frequent intervals (to capture the temporal variations and LC/LU changes) along with the multispectral information, any available drone-captured data, crop types along with data such as fertilizer composition, meteorological data of the region and various other types of data that capture the dimensionality of the observed area.

2. Dissemination and Communication Plan

Dissemination and communication of the project results are one of the key activities to maximise the DIONE project impacts. **The DIONE's dissemination activities** imply the public disclosure of the project results with the objective to transfer knowledge and results – which should enable targeted stakeholders to utilize the results. **The DIONE's communication activities** imply strategic and targeted measures to inform and promote the project activities and actions as well as its results to a multitude of audiences in order to show the impact and benefits of the EU-funded project.

The dissemination and communication activities are different activities which complement each other, but also, they very often may be alike as there, for example, may be overlapping in audience (Figure 1) and communication channels (Table 3). Acknowledging this fact, the DIONE's DC plan comes as a single document, yet it addresses Dissemination and Communication Strategies separately. As such, the overall objective of the DIONE's DC plan and related activities is to widely promote and gain high visibility the project activities and to publicly disclosure outcomes within Europe and internationally. Moreover, the DC plan is seen as one of the main cornerstones to generate deep impact of the DIONE project in terms of attracting the interest of the main stakeholders and their uptake of the DIONE toolbox. To that end, the DC plan will serve to leverage activities and networks from all WPs and the project partners for maximum stakeholder engagement. Therefore, the consortium partners will capitalize on existing communication channels of and their own reputation to raise awareness, and thereby stimulate new and perhaps unexpected contacts with potential end users.

The basic principles underlying DIONE's DC plan are **simplicity and consistency of interactions tailored to the right person – at the right time – in the right environment**. A clear understanding of user requirements and typical characteristics of the target stakeholders is an essential component of both Dissemination and Communication strategies, which ensure that DC channels are appropriate for the targeted users and the types of messages being sent (Table 3).

The DC plan pays a special attention to adequately address gender issues and language accessibility, as it follows the best practices on gender and generation inclusivity. For example, the language used in DIONE's dissemination and communication material and activities avoids gender stereotypes by being proactive and gender inclusive when choosing imagery to use across the project website and other dissemination and communication channels (including women in active roles). Also, the DIONE's DC team is avoiding technical language and terminology and therefore making DIONE results available to a larger audience.

2.1　　The DIONE Ecosystem of Stakeholders
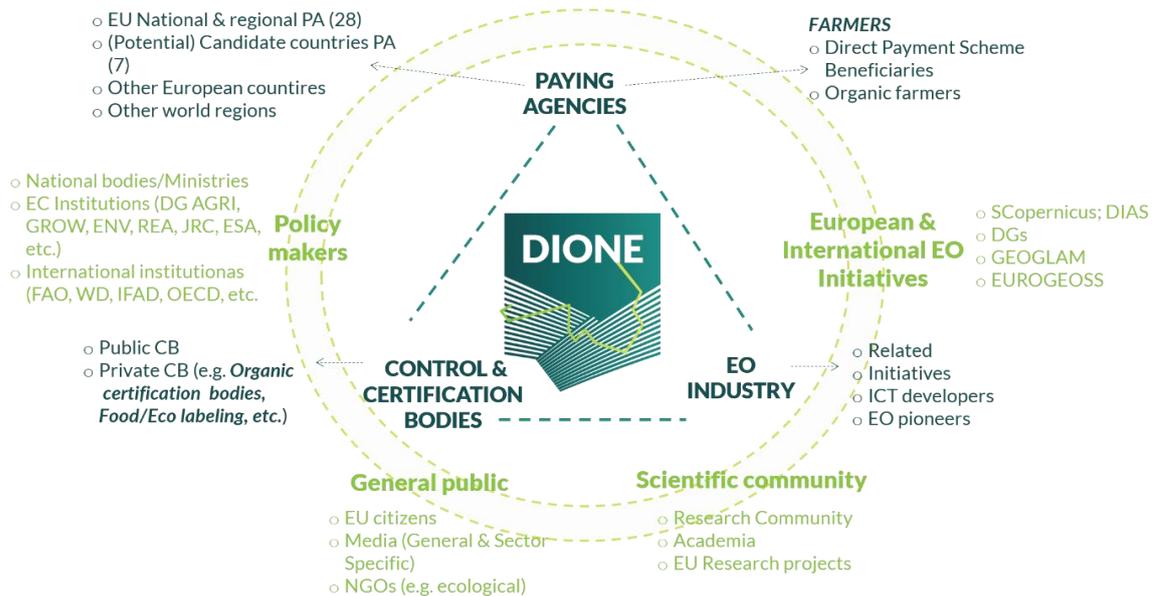
Figure 1. The DIONE Ecosystem of Stakeholders

The identification of target audiences and their needs and characteristics is crucial part of an effective and efficient dissemination strategy. DIONE distinguishes two key segments of audiences:

a)　　Primary target group:

- **Paying Agencies (PAs)** - accredited national or regional public organisations that cover (i) all direct payment support schemes together with some of rural development measures, and (ii) monitoring process which has to ensure that the requirements and standards under the cross-compliance provisions are respected. PAs recognize the enhancement of existing monitoring tools and processes – which includes field visits and visual assessment of farmer parcels – as a key area of interest to simplify and lower their monitoring and administrative costs and, but also to perform more accurate, frequent, and wider-sample compliance checks. Here, the PAs showed interest to use both – comprehensive as well as modular digital solutions to enhance their monitoring activities.

- **Control and Certification bodies (CCBs)** – public or private organisations in charge of the control system for specific food production (e.g. organic food production). Their activities include regular and frequent monitoring of a farmer compliances to strict rules as well as obligatory on-site farm inspection. DIONE toolbox has clear value to significantly lower inspection cost and improve overall monitoring of farmers.

- **EO Industry** – a fast growing community of ICT start-ups, SMEs and research institutions which represent valuable ecosystem of stakeholders who could support uptake of the DIONE toolbox and project results. Through collaborative digital business models this customer group could attach their own services and products on the top of the DIONE modularity offerings. As such,

this targeted stakeholder is especially important for the post-project exploitation of the DIONE toolbox.

b)   Secondary target group:

- **Policy makers** – representatives of national bodies/ministries, EC and international Institutions. The DIONE project brings a clear value to these stakeholders in a sense that it demonstrates the potential of EO based technologies in delivering sound environmental and agriculture policies – which might be applied in other sectors as well.
- **European and International EO Initiatives & Scientific community** – organisations whose core activities are focused on exploitation of big EO data streams and technologies. The DIONE project brings a fusion of innovative technology to the EO sector, especially in respect to improvement of overall resolution of Sentinel data and delivering a tool that will allow farmers to make trusted, tamper-proof geotagged photos.
- **General public** – audience such as EU citizens, Media and NGOs – that have general interest in agricultural, environmental and EO technology topics. The DIONE project will clearly demonstrate benefits of EU funding in respect to production of safe and healthy food as well as environmental protection in agricultural sector.

2.2.   The Dissemination and Communication Plan timeline

The general **timeframe of the DIONE's DC Plan** in relation to the project objectives, impacts as well as implementation and exploitation activities are presented by Figure 2. As it could be seen, the dissemination activities are envisioned as an ongoing dialogue with the potential DIONE's result users during the both the project and the period after the project finished. Logically, the dissemination activities are more weighted towards the second half of the project as the first outcome of the DIONE toolbox are being developed and tested. On the other hand communication activities follow the timeframe of the project – from the M1 to M30.
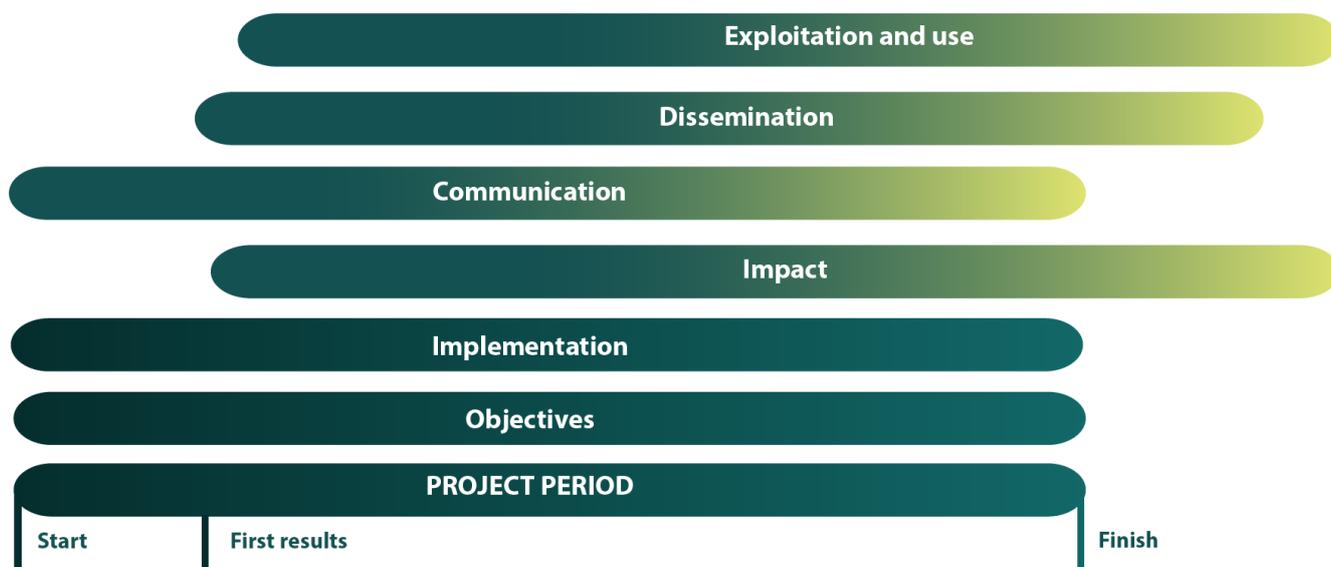
Figure 2. Timeframe of the DIONE's dissemination and communication activities

3. The DIONE Dissemination strategy

The DIONE's Dissemination strategy follows the EU Guidelines for successful dissemination of the EU H2020 project results. The overall objectives of the DIONE's dissemination related activities are four-fold:

- To openly demonstrate clear economic, social, and environmental benefits of utilizing/adopting DIONE's solution with the targeted users;
- To build a sustainable customer base for future expansion;
- To demonstrate the significance and business opportunities deriving from utilizing EO derived data in new products and services within new sectors/markets;
- To disseminate the respective project activities to the wider community.

These specific dissemination objectives have been defined to influence behaviour, develop opinion and to raise awareness of specific target groups, following these steps: **Why** – purpose of the dissemination action; **What** – the message/content that will be disseminated; **To whom** – the target audience; **How** – the method of dissemination (see Table 2, below); **When** – the timing of the dissemination activities (See Table 2, below).

Considering the type of action and levels of activities envisioned by the DIONE Dissemination strategy, there are classified into following main groups:

- **Dissemination for understanding**, which targets stakeholders that may benefit from DIONE results but are not directly involved in the project such as research institutes and universities, earth observation companies, European & international EO initiatives as well as policy makers from (inter)national and regional organisation and institutions.

▪ **Dissemination for action** refers to a change of practice resulting from the adoption of the DIONE's technologies and methods. The stakeholders to be targeted by the activities have been clearly identified as paying agencies and control and certification bodies, but also stakeholders in a position to influence and bring about change within their organisations and/or relevant sectors and to advocate exploitation of the DIONE solutions.

Table 2. Dissemination Activities

Phase	Focus
DISSEMINATION ACTIVITIES	
Phase I (M01-M6)	Phase I (M01-M6) Approach-oriented content: Promotion of the project pilots and dissemination of existing knowledge related to the EO technologies in general and CAP monitoring in particular.
Phase II (M6-M30)	Result-oriented content: project intermediate and final results. Dissemination of the results and achievements of the pilots.
Post project period (M30-M45)	Result-oriented content: project final results. Dissemination of the results and achievements of the pilots, various analysis and assessment of the project results (mainly through scientific publications and conference).

3.1   The DIONE expected outputs to be disseminated

The dissemination activities will focus on the following outputs of the DIONE project:

Outputs related to improved crop-type maps and non-productive EFAs recognition

▪ DIONE's data as a service model, which makes exploitation of Copernicus data much less complex (and thus less expensive) to use for governmental stakeholders,
▪ DIONE's data-fusion technology which analyse different set of imagery sources, that exploits advantages of each of these in a combination with others,
▪ Novel approach in using of super-resolution technique (a combination of very precise yet infrequent drone imagery with medium resolution yet very frequent Sentinel data) to extract features of sizes currently invisible to Sentinel data.

Outputs related to the novel geo-tagged photos framework

▪ Improved geo-tagged photos framework in respect to the integrity of the photo and its location accuracy, while also including augmented reality features to improve user acceptance and facilitate the data collection process.

Outputs related to the soil quality and land degradation assessment using low-cost sensors

- Miniaturised VNIR spectrometers wirelessly connected to a mobile device enbaling the collection of soil spectra.
- Complete all-in-one DIONE's system operating at the cloud which will simultaneously predict many key soil properties from in-situ spectra.

Outputs related to Green Accountability toolbox

- DIONE's tool for automated checking farmer's compliance with green direct payment scheme rules.
- DIONE's novel approach towards EIA that will draw knowledge from heterogeneous data of various scales thus proposing data-oriented metrics for measuring the environmental performance of current CAP and respective green payments.

3.2.   Target groups and key messages

A clear understanding of needs and typical characteristics of the target audiences is an essential part of the DIONE's dissemination strategy, which will ensure that communication channels are appropriate for the types of messages being sent. The key messages to be communicated to different target groups are defined (Table 3) together with the timing of the necessary communications (Table 2) and defining the most effective communication channels (Table 3).

Table 3. Targeted DIONE's stakeholder profiles and key messages to be disseminated and/or communicated

Type of action	Target Group (to whom)	Key Message (what)	Objective (Why)	Communication Channel (How)
DISSEMINATION	Paying Agencies	o Lower administrative and operational cost o More accurate and less expensive compliance checks o More frequent, wider sample and auditable proof of compliance checks	Make them aware of the potential that the DIONE toolbox brings and how it can improve their work related to monitoring of compliance checks and assessing respective environmental impact	o Conferences o Personal meetings o Project publications and technical papers o Brochures o Newsletter o Informal meetings
	Control and Certification Bodies			
	EO industry	o Enables formation of new products and services o Support development of commercial products by using Copernicus EO data	Make them aware of the the DIONE results and opportunities to develop new products and services on the top of the DIONE toolbox	o Conferences o Personal meetings o Scientific papers o Brochures o Newsletter o DIONE website o Social media
	EC institution and Policy Makers/ & Scientific community	o Tools for simplified and less expensive monitoring of area-based CAP payments o More accurate and reliable environmental impacts assessment of the CAP payments	Highlight and provide evidences related to the benefits of EO-based technology in monitoring of compliance checks and assessing respective environmental impact	o Conferences o Personal meetings o Scientific papers o Brochures o Newsletter
COMMUNICATION	Farmers	o Tool for less administrative compliance checks o Less farm visits o Less stressful process of compliance checks	Make them aware and supportive for all benefit that EO-based tehcnologis can bring to them, especially in respect to decreasing amount of administrative works and number of farm visits by PAs' and CCBs' representatives.	o Social media o DIONE website o Brochures o Newsletter
	European citizens	o A game-changing innovation that will provide real accountability to ensure that European taxpayers' money being spent on production of safe and healthy food in harmony with environment	Make them aware of the benefits that EU funds bring in respect to production of safe and healthy food as well as environment protection in sector of agriculture	o Social media o DIONE website o Brochures o Newsletter

3.3.   DIONE Engagement Strategy

Ensuring a dynamic interaction with the DIONE targeted audiences is of outmost importance so as to ensure a long-term impact and market-uptake of the project outcomes. Direct and indirect access through the partners networks (Table 4), which allow access to all the categories of audiences, ensure that the dissemination activities will be effective and successfully achieve high reach and impact KPI's (Table 6)

Table 4. The general dissemination role division among the partners in respect to the targeted groups

TARGETED GROUP	THE CONSORTIUM PARTNERS WHICH NETWORKS WILL BE UTILISED
Paying Agencies	NPA, CAPO, INO
Control and Certification Bodies	NPA, CAPO, INO
EO Industry	SIN, CORE, GILAB, ICCS, i-BEC, INO
European/International EO Initiatives	SIN, CORE, GILAB, ICCS, i-BEC, INO
Scientific community	ICCS, i-BEC, SIN, GILAB
EU Policy Makers	ICCS, SIN, NPA, CAPO
General Audience	INO

Paying Agencies NPA and CAPO (already involved in the project pilot activities), being the first users of DIONE toolbox, will actively participate in dissemination activities and establishing a further connection with other European paying agencies. Their active engagement will aim to generate positive perceptions of DIONE's economic, social, and operational benefits. This will not only work as an amplifier in the dissemination of the project outcomes, but it will also optimally enable the creation of DIONE's pool of potential future customers. Also, NPA and CAPO through their networks will assisst the DC team (INO) to reach out and disseminate the project results to Control and Ceritfication Bodies.

Engagement with other stakeholders potentially benefiting by the DIONE toolbox, services and outcomes, will also be established mainly by focusing on raising awareness and widely disseminating project advancements and results, thus creating interest and opportunities for further exploitation routes of DIONE's solutions and outcomes. Here project the DC team will be assisted from the consortium partners that are coming from EO research domain (SIN, CORE, GILAB, ICCS, i-BEC)

Promotion of the DIONE in key focus industry events that attract high numbers of targeted audience that could benefit from its solution will be the one of the main channels for disseminating the project

results. The table 5 provides an overview of forthcoming important events of interest organized throughout Europe. Here, the DIONE project consortium partners plan to present the major activities and (envisioned) outcomes of the project to relevant stakeholders with aim to expand the network of future DIONE customers base.

3.3.1.   Conferences & Events

DIONE partners will take part in international and local conferences/meetings outside the DIONE in order to disseminate the project and raise awareness around the DIONE activities and results. Envisoned forms of the DIONE results presentation include: oral presentation, organisation/moderation of panel sessions and participation in workshops. The type of presentation that will be utilized will corespond to the event type, audience as well as timeline of the project activties. The table 5 provides a list of indicative relevant events (exhibitions and conferences at local, regional, national or international level). The dissemination through these events will target primarily the scientific community, agricultural consultants and advisors, members of the public administration in the field of agriculture, as well as farmers/producers organizations.

Table 5. List of the key events for dissemination of the DIONE project results

EVENTS	THEMES
Conference of Directors of EU Paying Agencies 2020	Informal conference of the directors of EU paying agencies held twice per year under the rotating presidency of the Council of the European Union. Representatives of the European Court of Auditors, the European Commission and EU member states, and other relevant stakeholders participate at the conference.
26th MARS Conference	Annual Conference, with participants from European Commission, Joint Research that gather actors involved in Monitoring Agricultural Resources.
Panta Rhei Platform Conference	The conference primarily gathers all Paying Agencies from the European Union, which are responsible for the funding of agriculture lands and subsidising farmers in regard to their crop. These Paying Agencies belong to the European Network for Rural Development (ENRD), that acts as a hub for connecting rural Europe and serves as a platform for the sharing of ideas and experiences on how Rural Development Programmes are working in practice.
DG AGRI – Agricultural Outlook Conference	The EU Agricultural Outlook conference is a key annual opportunity for European stakeholders to engage and discuss the future of agriculture in Europe and the challenges that lie ahead. The event gathers relevant presenters, players and stakeholders from EU agricultural sector.
INSPIRE Conferences	The European INSPIRE conference is an annual event that provides a forum for stakeholders from government, academia and industry to hear about and discuss the latest developments related INSPIRE directive (which aims to make available geographic information that support policies and activities impacting the environment).
GEO Ministerial Summit	Premier forum that bring range of stakeholders from GEO' member countries in order to support activities that enable the use of Earth observation data, information and services for

	better decision making across a range of crucial development and environmental issues (e.g. including the UN 2030 Agenda for Sustainable Development, the Paris Agreement etc.)
The Living Planet Symposium 2022	Premier interdisciplinary forum that focuses on how Earth Observation contributes to science and society, and how disruptive technologies and actors are changing the traditional Earth Observation landscape, which is also creating new opportunities for public and private sector interactions. The Symposium is organised every 3 years and is regarded as one of the biggest EO events in the world.

Besides participation of the project partners at the conferences, different project events will be organised, each with different goals and target groups, but with the overall aim of presenting an overview of the activities and results, share experiences and lessons learned with stakeholders. Regional workshops will be organised for launching the pilot phase (WP6) in the participating countries. These regional workshops will aim at presenting the DIONE platform as it will be tested, along with the logistics of the pilots, allowing local pilot partners to better involve the pilot actors as well as get the interest from other national stakeholders.

A final DIONE dissemination event will be organised in connection to the final project meeting, ideally as a satellite to a larger event in the field of remote sensing, earth observation, rural development or CAP. All target groups will be addressed (payment agencies, farmers' groups, agricultural consultants, policy makers, environmental groups, etc.), especially aiming at umbrella organisations, associations, federations and representatives with a broad European presence that will allow for multiplying the impact of the event.

Relevant reports and photos from the events will be communicated via the DIONE website, social media and mass media. During the events, dissemination material will be distributed to the participants. The participation in such events will be led by the respective partner in each country. However, the general coordination will be performed by the WP7 leader - INOSENS. All partners are encouraged to inform the WP7 Leader about relevant European, national and local events where DIONE may be presented through Event report.

Figure 3. DIONE Event Report

3.3.2.   Publications in business journals

Business and scientific journals and magazines are important dissemination channels for sharing DIONE results to both industrial and academic communities, creating knowledge impact and enabling stakeholders to use the results in their own work. The channels will mainly be used by the academic target group in DIONE (technological dissemination).

Some relevant local and international agri-bussiness offline and online magazines are following: Farmers Weekly Magazine, Future Farming, Agriculture-internationale, Agrinnovation magazine (by EIP-AGRI network), Economic Engineering and Rural Development, etc. Some relevant local and internationalscientific journals are the following: International Journal of Applied Earth Observation and Geoinformation, Remote Sensing of Environment, International Journal of Remote Sensing, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, The International Journal of Agricultural Policy and Research, , Journal of Applied Remote Sensing, Environmental Modelling and Software, etc.

Making research data findable, accessible, interoperable and reusable (FAIR), aims to ease knowledge discovery and innovation as well as to allow data and knowledge integration and reuse. To this end, DIONE will ensure to: i) make the outcomes of the research and innovations of the project openly accessible and findable whenever possible, and ii) disseminate and communicate the findings of the research available not only through public deliverables as defined but also, with other means as promoted or collaborative events. The DIONE Data Management Plan (D1.4) provide in details the key considerations towards following the FAIR data policies that underpin the usage of the DIONE data.

4. The DIONE Communication Strategy

The DIONE communication strategy is adopting a funneled approach, similar to a marketing funnel, to assure a wide but also targeted communication within the DIONE ecosystem, enable active engagement and achieve efficient dissemination of the project outcomes. Such an approach primarily will focus on generating awareness by **conveying key aspects and benefits of the DIONE toolbox and services** to the DIONE target audiences and moreover really appeal the core end-users.
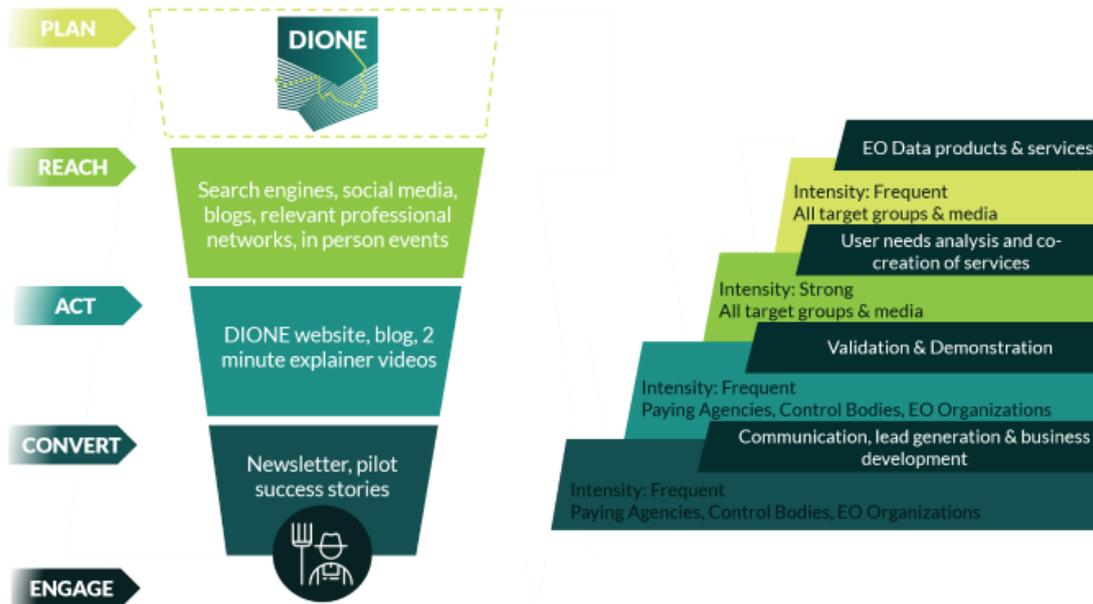
Figure 4. DIONE Dissemination and Communciation funnel

Easy to understand visual material are used to make concepts and benefits instantly recognizable for a wide-audience. This aims at cultivating further interest to potential end-users whom will be directed to more detailed information and material about the tools and services. Customized content will be communicated towards specific target audiences, aiming at creating and maintaining an active stakeholders' ecosystem. Similarly, relevant information will be extracted from project deliverables; interviews with partners, paying agencies as well as other target audiences; pilot case studies; industry reports; and will be relayed through the DIONE communication channels to further support active user engagement, aimed at building DIONE clientele base (Figure 3.).

4.1.   Communication tools

DIONE will create and make use of main communication tools and channels, including **online, offline** as well as **interactive** (face-to-face), that will be implemented by the DIONE partners in order to achieve an efficient and effective interaction with the different stakeholders. Some of the tools are of general purpose, while other ones are oriented to specific target groups. Leveraging the experience and the dynamic interaction of DIONE partners with their audiences/engaged stakeholders and customers, DIONE will focus on using specific communications channels that project partners efficiently use for their day-to-day communications with different stakeholders.

4.1.1.   DIONE visual identity

An integrated and consistent visual identity underpins all communication products and tools and forms the basis for a commercial brand. The visual identity (logo and style) of the project will help external audience to easily identify DIONE and contribute to the project visibility by providing a clear identity from the very beginning of the project. All the dissemination and communication tools (project website, Twitter account, Facebook page, LinkedIn page), materials (presentations, posters,…) and deliverables will employ the visual identity developed for the project, guaranteeing a professional and consistent look.

Across all outputs of the DIONE project, and accompanying the logo, a text concerning the source of the project's funding and disclosing the Grant Agreement number will be provided along with the European flag.

This project has received funding from European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 870378

For more information regarding the EU emblem and EU visual identity please consult the latest version of the official online Manuals provided by the EU.

4.1.1.1.   DIONE Logo

The development of a visual identity and a project logo ensures project outputs are consistent and easily recognisable. The logo consitutes an abstract representation of land with lines (referring to agriculture), as well as an area boundary line connected with the word DIONE, creating a single optically closed shape. The colors refer to a natural landscape, consisting of variations of green. The project logo will be used in the following cases:

- All documents developed within the framework of the DIONE project and documents to be submitted to the EC (e.g. deliverables),

- PowerPoint presentations to be used for communication and dissemination activities to be carried out by each participant within the framework of the project,
- DIONE website and social media profiles and channels.

Figure 5. DIONE Logo

4.1.1.2.   DIONE Colour Palette

Apart from the logo, color is the most effective visual cue to communicate and represent DIONE's brand. Colors were selected to inspire growth, and convey trust, loyalty and determination of the DIONE ecosystem. They represent DIONE at the highest level and should be present in all communications to ensure our materials reflect a cohesive DIONE image or visual story. The palette is consisting of the following colors:

HEX #042e2d RGB (4,46,45) CMYK (91,0,2,82)	HEX #145152 RGB (20,81,82) CMYK (76,1,0,68)	HEX #a0c278 RGB (160,194,120) CMYK (18,0,38,24)	HEX #d7e164 RGB (215,225,100) CMYK (4,0,56,12)
	HEX #126867 RGB (18,104,103) CMYK (83,0,1,59)	HEX #8dc645 RGB (141,198,69) CMYK (29,0,65,22)	HEX #dee36f RGB (222,227,111) CMYK (2,0,51,11)
	HEX #1f8a84 RGB (31,138,132) CMYK (78,0,4,46)		

Figure 6. DIONE Colour Palette

4.1.1.3.   DIONE Templates

Based on the visual identity, templates were produced for text documents (Microsoft Word) and presentations (Microsoft PowerPoint). Templates were produced for the following types of documents:

- Deliverable documents,
- Deliverable document reviews,
- Press releases,
- Presentations.

Figure 7. DIONE Word Document template

4.1.1.4.   DIONE PowerPoint Presentation template

DIONE will be presented during different types of events, conferences, meetings as well as other occasions to disseminate project developments and results, enhancing the overall dissemination efforts. A presentation template (ppt) has been designed straight with DIONE graphic identity in order to elevate the perception of DIONE.
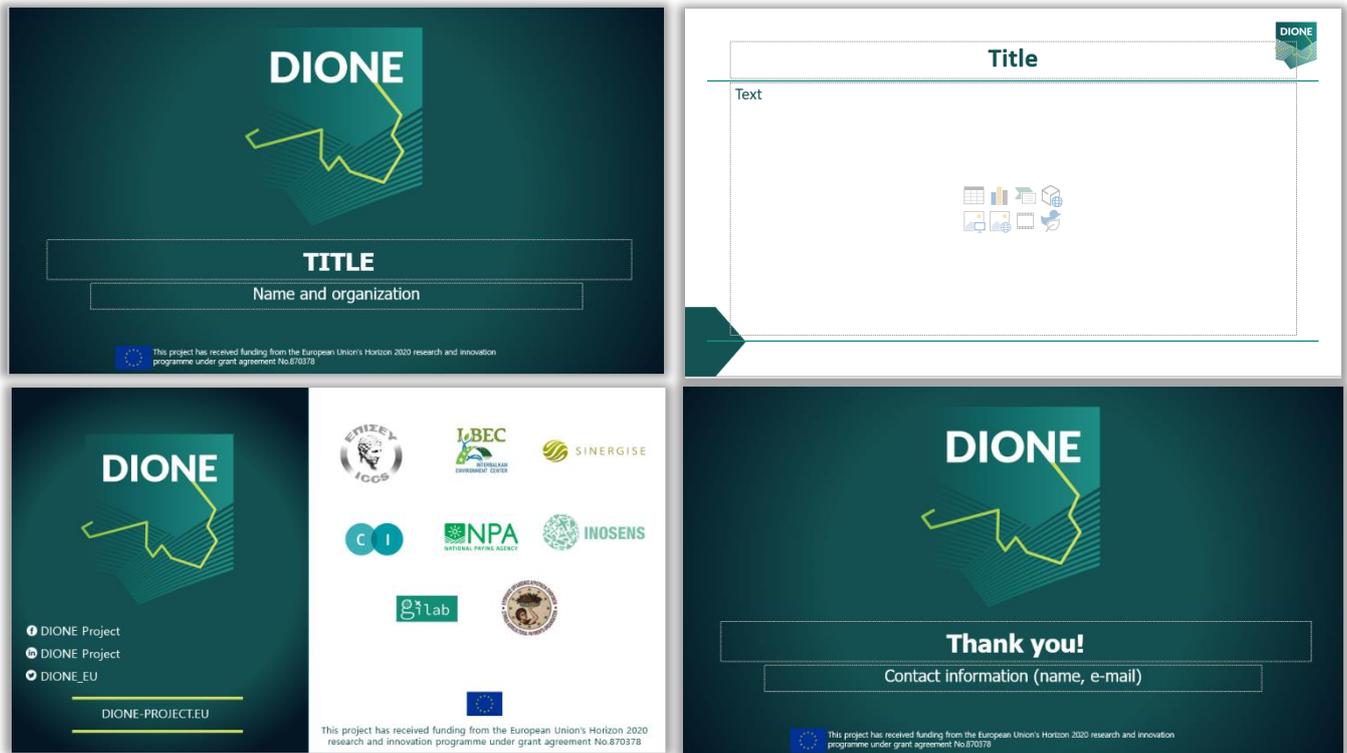
Figure 8. DIONE PowerPoint presentation template

4.1.1.5.   DIONE Roll-up and Poster template

Project roll-up and poster templates have been produced and will be used for presentation at project's own events as well as for external conferences and workshops.

Prior to the kick-off event, an A3 info poster had been designed to help explain how DIONE target groups may benefit from the Project. Although the poster is in English, it can be translated into other languages, but the content should be kept as close as possible to the message that is conveyed in the original text.

The production of communication material also includes mugs, pencils, bags, notebooks, t-shirts. These will be prepared in advance and distributed at any (relevant) event.

Figure 9. DIONE Poster

A roll-up banner stand will be designed for display at events hosted by DIONE and various external events of relevance to the project. The roll-ups will be printed by partners locally, following the recommended layout and design suggestions to ensure consistency.

Figure 10. DIONE Roll-up banner

4.1.1.6.   DIONE Deliverable template

The DIONE deliverable template was produced in line with the overall communication and dissemination material graphic identity and will be used by the consortium partners for the development of all project deliverables. The deliverable template has a cover page that displays the project's logo in a prominent position, EU emblem, deliverable information (number, full title, the work package number and title) as well as the writers information.

Figure 11. DIONE Deliverable template

4.2.   DIONE online presence

4.2.1.   DIONE website

The DIONE website (www.dione-project.eu) has already been developed and the first version of the website was released on M1 and it is the main interface for communication to the public. The DIONE one-pager will be the basis of formulating the DIONE project website aiming to deliver a product-oriented philosophy without neglecting the information of project-side activities.

The website contains main information about the project, its partners, the main objectives and services of the DIONE. Additionally, it will also allow having access to the dissemination material and a blog to facilitate the interaction between partners and interested parties. In order to maximize its visibility, free or affordable methods to increase page ranking on search engines is used.

The website also includes information about the project and the possibility to contact project partners for interested stakeholders. Interested parties will have the possibility to register to receive updated information and networking opportunities via DIONE newsletter. Electronic newsletters reporting on project events and results will be published half-yearly on the website of the project reaching a wide community of potential stakeholders.

The Privacy Policy, together with the Terms and Conditions have also been included in the DIONE website, set for the general rules and policies governing the visitors' use of the website.

Figure 12. DIONE website

The website has direct access to social networks by clicking over the icons situated on a visible part of the webpage. In this way, it will be easy for every user to participate in this when the website is visited.

4.2.2.   DIONE social media channels

In order to broaden the target audience while establishing two-ways communication channels, the presence of the DIONE project in social media channels will be encouraged. To ensure maximum usability and exploit to the most possible DIONE partners' already developed profiles in social media, focus has been given to those social media that DIONE partners have been using regularly and successfully to communicate and interact with their customers and other stakeholders.

DIONE project has established three social media channels: LinkedIn page, Facebook page and Twitter account. Some hashtags that are being used, are the following: #DIONE; #H2020; #agricultural_monitoring; #agriculture; #smartmonitoring #payingagencies; #earthobservation.

4.2.2.1.   DIONE LinkedIn page

A LinkedIn showcase[1] page has been set up, free subscription which is open to all who are interested in learning about agricultural monitoring and compliance checks, infrastructure, as well as business and technological services. This page will help us to strategically connect and professionally engage with our target groups. Additionally, announcements from the DIONE ecosystem will be posted in the following LinkedIn groups within agricultural and earth observation industries, as well as within groups of policy makers, control and certification bodies and farmers communities.
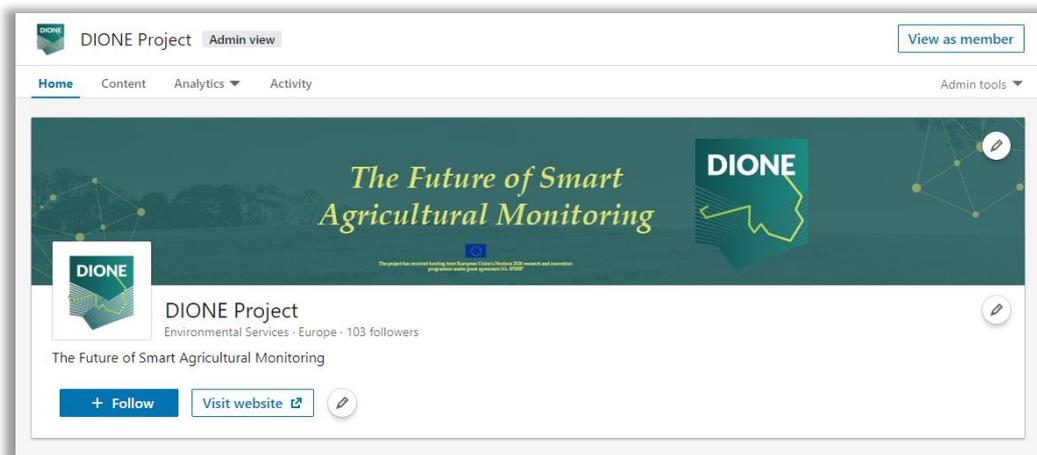
Figure 13. DIONE LinkedIn page

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[1] https://www.linkedin.com/showcase/dione-project/
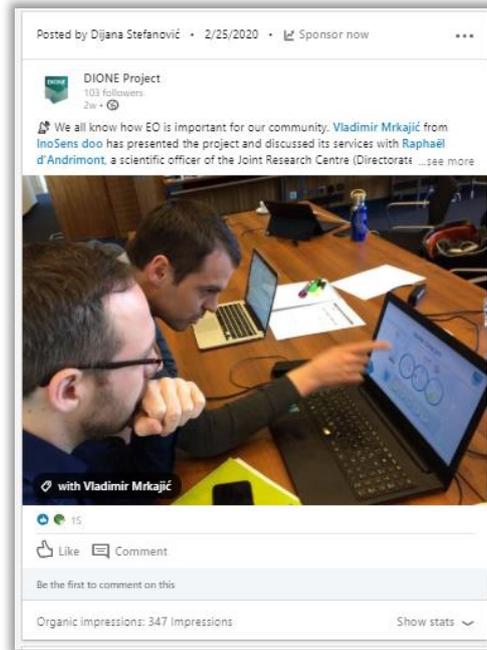
Figure 14. DIONE LinkedIn post example

4.2.2.2.　　DIONE Facebook page

A dedicated Facebook page[2] has been created, with the messages being both professional (i.e. speaking in the language of our target groups) and trustworthy, that is, already trusted by industry. With its sophisticated targeting measures, in the context of DIONE, Facebook represents a massive opportunity for always-on lead generation. Also, this channel is used to communicate and disseminate the project activities, upcoming and past events as well as results, and in general to share experiences and facilitate conversations about the project.

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[2] https://www.facebook.com/dione.eu
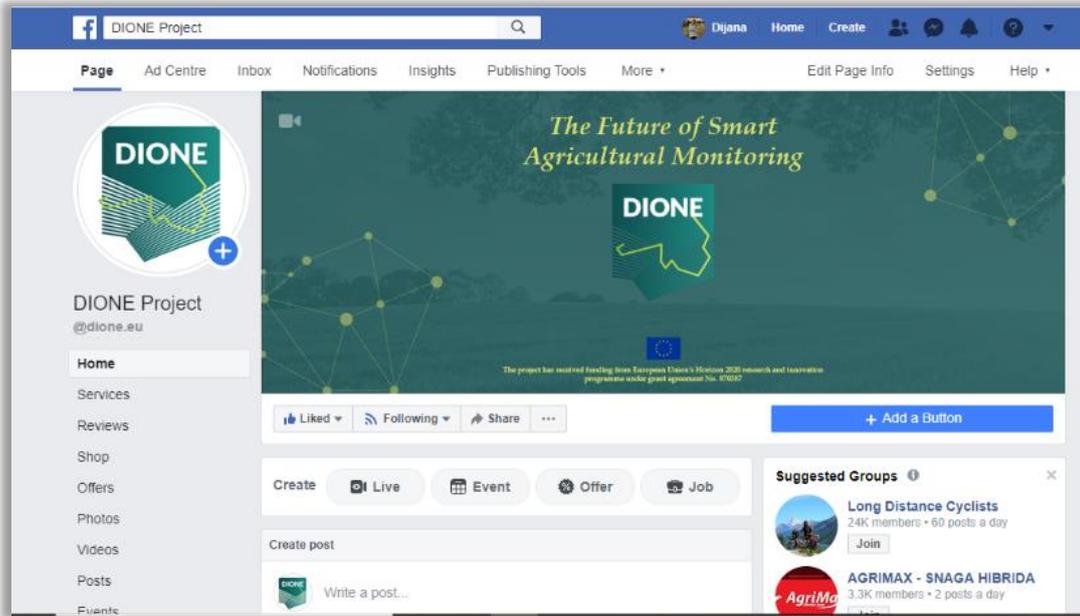
Figure 15. DIONE Facebook page

Figure 16. DIONE Facebook post example

4.2.2.3.   DIONE Twitter account

A DIONE Twitter account[3] will be used for amplifying communications (B2C, B2B and B2G) to a large community of active stakeholders, as well as for propagation of news and project developments. Regular twitter chats will focus at attracting and engaging with target audiences leading also to the establishment of a trusted DIONE network, enlarging the outreach to broad and targeted audiences.

Figure 17. DIONE Twitter account

Figure 18. DIONE Twitter post example

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[3] https://twitter.com/dione_eu

4.2.3.   DIONE Newsletter

DIONE e-Newsletters will be composed and published in the project website and social media, but also will be distributed to the consortium members, target audience, as well as networks and direct contacts within the DIONE ecosystem of stakeholders. The newsletters will serve as a tool to communicate key updates and developments to the DIONE ecosystem of stakeholders and aiming to keep them informed and engaged.

The content will be incorporating latest developments of the project as well as recent or upcoming dissemination activities; pilot activities deployment and success stories; presentations, workshops and demonstrations; reports, publications and media interest, etc.

The newsletter will be published on a 6-months basis, but also ad-hoc for the distribution of important-high priority news and developments. A specific newsletter potential recipients list has already been created and will be populated constantly all along the project implementation. Data Protection Laws will be fully respected, and the newsletter recipients will be asked to provide their consent prior to sending any information related to the project. At DIONE special attention is paid to security and respect of the privacy and confidentiality of the users' personal data. Therefore, relevant activities and aspects regarding personal data will be fully compliant with the applicable national, European and international legal framework, and the European Union's General Data Protection Regulation 2016/679[4].

To stay engaging and competitive interactions, DIONE will take into account the following:

- Responsive email design for better engagement: Mailchimp[5], a real-time email marketing automation platform will be used to design and distribute responsive, targeted email campaigns, with enhanced reading experience. Additionally, the platform will facilitate reporting and analytics.
- Dynamic customization and personalization: The email double opt-in form on the DIONE website will contain required only an email address, while the custom optional fields (type of company, industry , etc.) will be available through mailchimp website. The subscriber database will allow for creation of email campaigns, which are more in the context of subscriber interests. The subscriber will have the right to withdraw their personal data at any time (for more details regarding the compliance with GDPR see D1.4 Data Management Plan).
- Customer lifecycle and multichannel integration: DIONE will review opportunities for email marketing automation across the entire lifecycle of end-user engagement. The most important DIONE online marketing channels will be integrated in order to encourage email opt-in or to plan a range of follow-up activities.

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[4] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679
[5] https://mailchimp.com/

Interested parties will be able to subscribe and unsubscribe at any given point from the DIONE Newsletter (through a link provided in each issue of the newsletter) and all the collected data will be stored and saved in accordance with the DIONE Data Management Plan (see D1.4). This data will not be accessible from other third-parties.

In order to achieve a broader distribution and facilitate the engagement of as many stakeholders as possible, the DIONE partners will be encouraged to distribute the newsletters to their contacts who may be interested in the project.
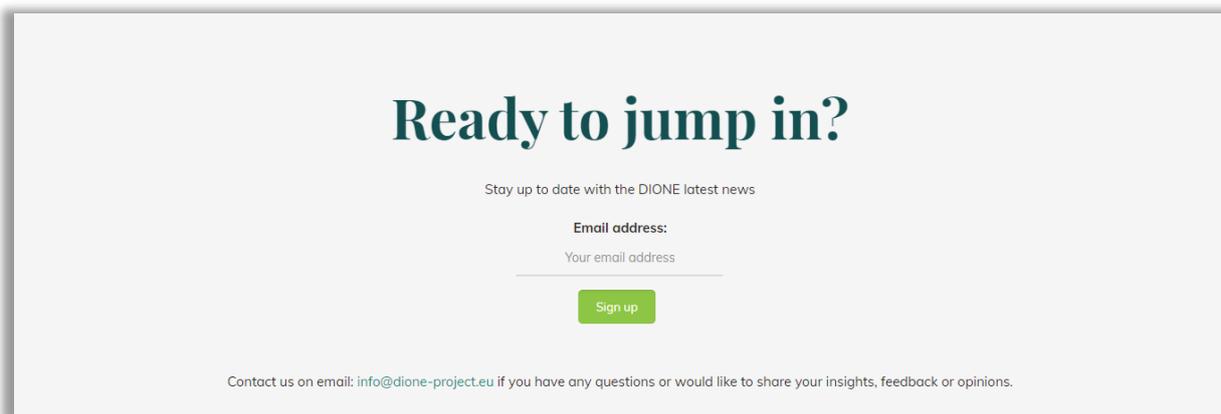
Figure 19. Subscription to DIONE newsletter

4.2.4.   DIONE promotion material

4.2.4.1.   Mass media communication, press releases

Press releases will be produced as relevant pieces of news. Press releases will especially target local and European electronic media. Indicative electronic media platforms that will be targeted will be: Farmers Guardian, CAP Reform.eu Blog, Cordis Wire, EurActiv, Farmers Weekly, Agra Presse, Fresh Plaza, Agri Holland and various News Agencies. Partners will also be asked to distribute the press releases to relevant media within their own regions/countries as well as to their professional network. The first press release is already written and apart from specific project activities the topics covered include opinions/interviews of experts within and out of the partner organizations, attracting media attention on relevant topics. A continuous cooperation with press and media will be promoted by all DIONE partners. All press releases will also be available on the DIONE project website as well as social media channels.

Figure 20. DIONE Press release

Local, regional and national paper journals and magazines that cover agricultural, environmental and ecological topics will be utilized to communicate and inform wider audience about DIONE project objectives, activities and achievements. Here, information about the DIONE project will be mostly written in national language of the partners in a scientific jargon free style in order to allow audience to understand the objectives of the project and the benefits it brings to the society (Figure 21).

Figure 21. Informative article about the DIONE project in Serbian printed magazine Ekolist (No. 73, pp.24-25, March 2020)

4.2.4.2. DIONE One pager

A short project fiche will be used for ice-breaking communications with interested stakeholders, providing them with a first view on the DIONE project. The project fiche structure and content will be adapted to the needs of any communications with different stakeholders segments, highlighting relevant to each segment information. Incorporated with background information and/or customized content based on the project developments, the project fiche together with DIONE press releases, will

be circulated to specialized media channels (as well as mass media) and journalists enhancing the project outreach.
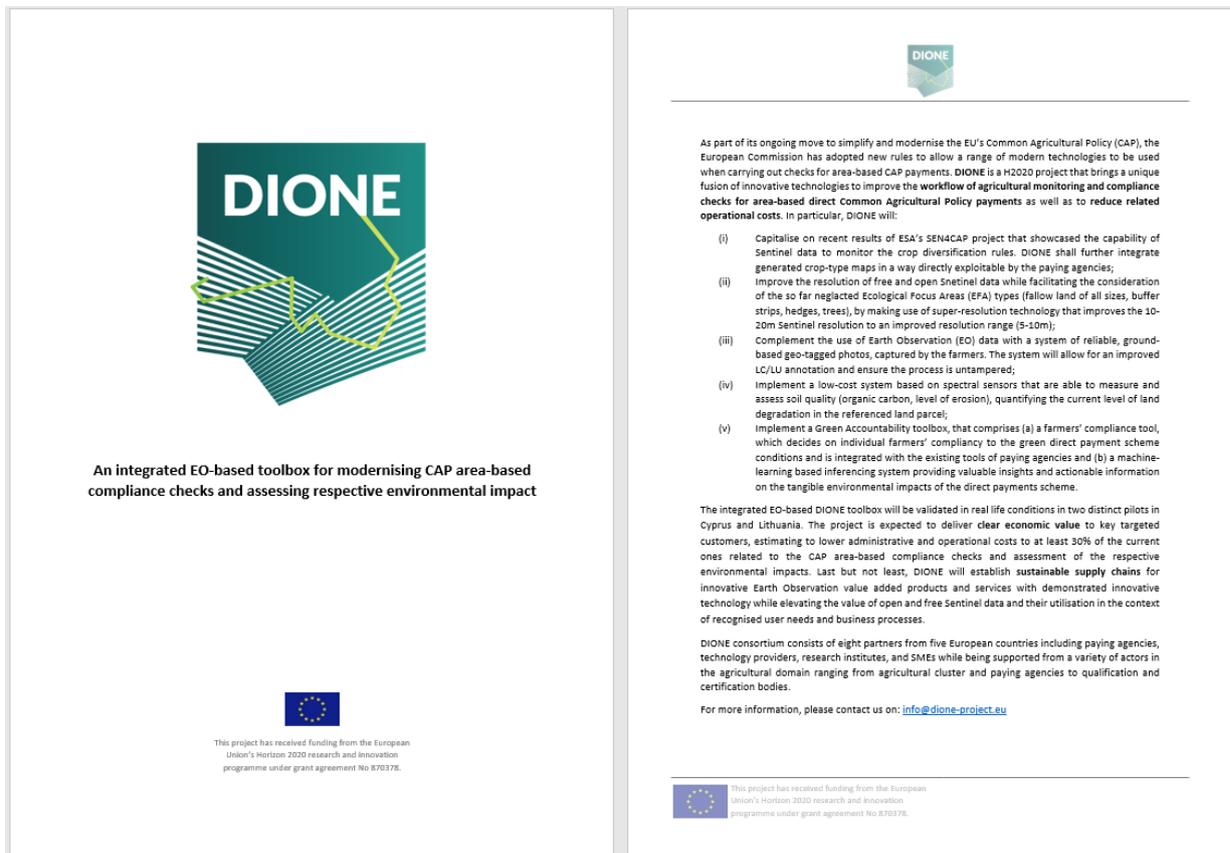
Figure 22. DIONE One pager

4.2.5.   Networking and Informal person-to-person meetings

Project partners will also disseminate project activities and outputs beyond the involved territories by participating in networking, informal personal meetings, and whenever possible official presentations will be used to present the project results and activities at different stages of project development. Meetings with other EU projects related to CAP, earth observation, remote sensing and agri-environmental issues in agriculture will be held by the coordinator and the relevant WP leaders to identify commonalities and avoid repetition, as well as to identify collaboration areas and allow for cross-fertilization of ideas and concepts.

Informal person-to-person meetings with relevant stakeholders at national level beyond the project events organised in DIONE will also be held at the discretion of the project partners whenever relevant.

5. Timeline of Activities

Communication and dissemination activities are planned in accordance with the stage of development in the project. Although a number of communication actions will take place during the first half of the project, the most significant dissemination activities will take place as intermediate and final research and innovation results are available. The dissemination will follow the **AIDA model**:

- **A**wareness to attract the attention of the target audience,
- **I**nterest of the target audience,
- **D**esire of the target audience to know more about the project, and
- **A**ction to lead the target audience towards getting involved in the project and to promote its results to facilitate their exploitation.

According to this principle, three phases are considered, summarized in Figure 23.

- **Initial phase (Awareness)**: focused on increasing the visibility of the project and mobilising stakeholders and multipliers. At this phase, the main activities will be related to the implementation of the communication/dissemination tools (website, social networks, visual identity), preparation of dissemination material, general presentations of the DIONE project, the distribution of publishable abstracts and progress resumes.
- **Intermediate phase (Interest/Desire)**: focused on disseminating available initial data and evidences on scientific advances and technological results. Each partner will contribute at specific levels according to their expertise and business activities focused on informing and engaging to the target stakeholders when preliminary results become available. The project results and their future applications will be presented in journals and conferences to specialize the audience with the objective of stimulating the interaction with the concerned scientific and industrial community and determining the expectations of the stakeholders.
- **Final phase (Action)**: focused on encouraging further exploitation of the DIONE outcomes (transfer to other industries, market of new products, replicability). At this phase, the results of the validation of the DIONE approach at TRL7 and the transferability analysis will be presented in journals, conferences and industrial events.

Figure 23. AIDA model

6. Monitoring of Dissemination and Communication activities

Monitoring is the continuous and systematic process carried out during the project, which will generate data on the implementation. In order to achieve the successful implementation of Dissemination and Communication activities, and fulfillment of the relevant objectives, a systematic monitoring will be carried out throughout the project implementation. The impact of the DIONE communication activities will be monitored on an ongoing basis and reported in the relevant deliverables (DIONE promotional activities and engagement reports - M8, M18, M30).

The monitoring system will provide evidence on whether the DIONE Dissemination and Communication Plan is being implemented as initially planned and scheduled. It will also address possible implementation problems and identify whether further action is required to ensure that objectives are met. Emphasis is given on the pre-assessment of information needs, on the monitoring frequency and the method of collecting evidence.


Figure 24. Monitoring System for KPIs

Online presence of DIONE will be monitored using specific analytics monitoring software i.e. Google analytics and relevant social media analytics too.

The table below presents the Key Performance Indicators (KPI) which will be used to evaluate the success of the project's actions. In each case, the data will be examined with the aim of excluding those linked to actions by members of the consortium.

Table 6. Key Performance Indicators

KEY PERFORMANCE INDICATORS	TARGET VALUE	MEANS OF VALUE
Project website page views	10.000	Google analytics
Social media followers	3.000	Social media analytics
Sector-specific newsletters	6	Project reporting
Newsletter subscribers	1.000	Email records (Mailchimp)
Blog posts	50	Blog on the website
Videos released	20	Youtube channel
PR articles published in national/regional/European press	200	Project reporting
Publications in business journals	5	Project reporting
Distributed printed material	5.000	Project reporting
Presentations in national/international forums, workshops relevant to project results	10	Project reporting
Meetings with Paying Agencies, Control and Certification Bodies, EO Organisations, EU institutions	35	Project reporting
Informal person-to-person meetings with relevant stakeholders at national level beyond the DIONE project events	80	Project reporting

7. Conslusion

As an innovation action, the DIONE needs to achieve high visibility (both in public and private sector) across Europe. Therefore, the DIONE's DC plan is designed to adequately respond to the heterogeneity and multi-sector interests of various stakeholders as well as the general public, taking into consideration gender issues. On the other hand, the DC plan and results of its corresponding activities serve as an input for other WPs. By facilitating active engagement of the key stakeholders, the DC plan supports setting of the base for the development of the co-creation approach (T2.1). Also, reaching out to target audiences and feeding necessary information prepare the ground for the iterative process of the DIONE toolbox development and its evaluation (T6.4). Finally, the DC activities make a strong link to the T7.4 (Exploitation, Business Plan and IP Management) by creating interest and opportunities for further exploitation routes of DIONE's solutions and outcomes.

To achieve maximum impact of the DIONE project activities and results, the DC plan will be treated as a living document, ensuring validity and relevance by integrating new insights through discussion with partners and stakeholders and thereby continuously revising and updating it throughout the project. In addition, the plan is supplemented with risk-mitigation measures (D1.1), where an adaptive approach will be applied in a case that that predicted goals prove unattainable. In such case, the DC team will be proactive in pivoting a strategy towards even more successful avenues of dissemination and communication.