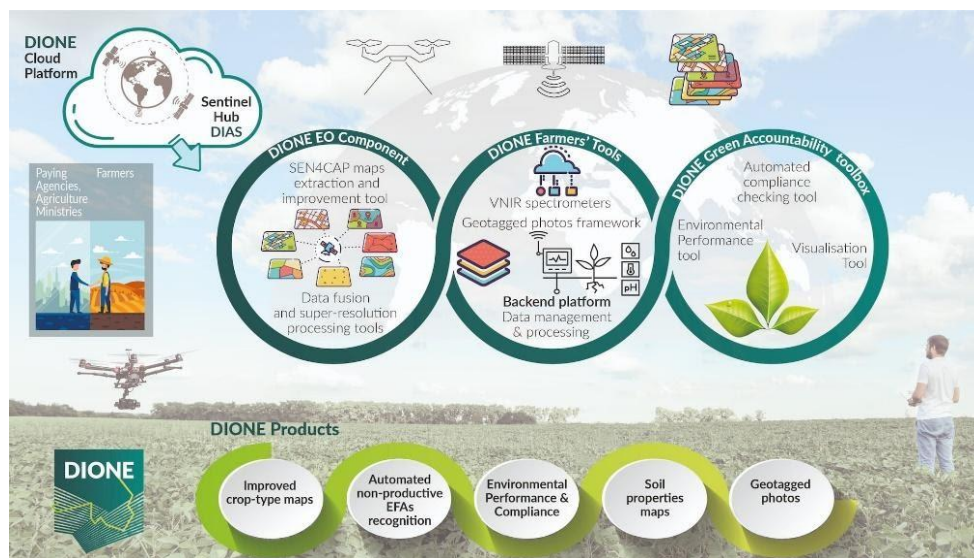


The DIONE' Toolbox - Innovative technologies for agricultural monitoring

Being developed within an EU-funded project, DIONE Toolbox is a solution that allows European Paying Agencies to comply with the Modernised CAP regulations while conducting an environmental performance evaluation of greening at a national or regional level, depending on the agency's jurisdiction. Beside Paying Agencies as a key beneficiaries, the DIONE Toolbox is designed to fulfil the requirements of smart agricultural monitoring provided by Certification & Control Bodies, as well.

The key products that the DIONE Toolbox brings to its key stakeholders are: improved crop-type maps, automated non-productive EFAs recognition; Environmental Performance & Compliance assessment, soil properties maps, and geotagged photos.



Inside of DIONE Toolbox

[The DIONE Toolbox](#) consists of three main components: DIONE EO Component, DIONE Farmers' Tools, and DIONE Green Accountability toolbox.

DIONE EO Component

This component uses Sentinel Hub information/images based on DIAS and produces enhanced crop-type maps and non-productive EFAs maps. As such, it delivers clear economic value to key targeted customers, estimating lower administrative and operational costs related to CAP area-based compliance checks and assessment of respective environmental impacts.

DIONE EO Component includes land cover/land use image dataset, as a tool that uses drone-based LC/LU image capture next to the remote sensing technology. The main benefits this component brings are simplified and less expensive monitoring of area-based CAP payments and more accurate and reliable environmental impact assessment of the CAP payments.



DIONE Farmers' Tools

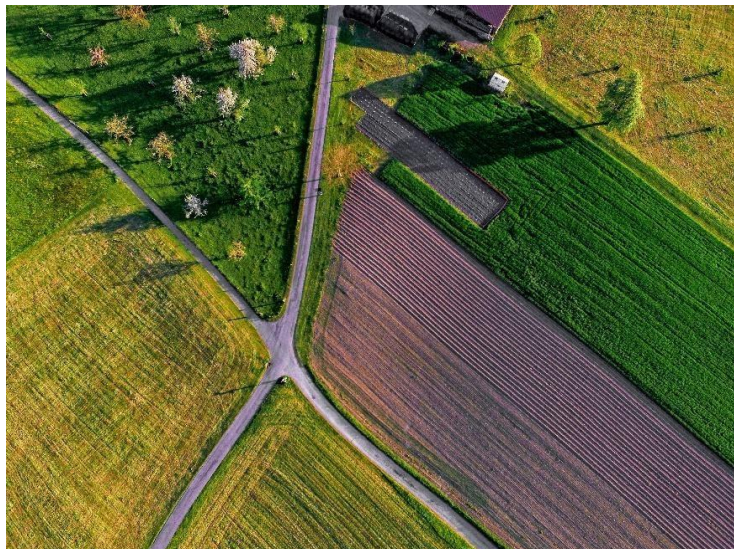
This component supports the efficient and automated monitoring of farmers' compliance to the Green Direct Payment Scheme conditions by the paying agencies. The farmers' tool encompasses Land Parcel Identification System Data, Sen4CAP crop-type maps, improved resolution EFAs maps and geotagged photos from fields.

Here in particular, geo-tagged image framework and Low-cost sensors for evaluating land degradation, represent novel technologies to farmers, making compliance checks less administrative as well as enabling the less stressful process of compliance checks.

Green Accountability Toolbox

This component represents a tool for automated checking of farmers' compliance to the Green Direct Payment Scheme rules, allowing paying agencies to monitor the environmental performance of green direct payments. This toolbox is comprised of: (i) farmers' compliance monitoring tool, including data collection and management component which decides on individual farmers' compliance and is integrated with the existing tools of paying agencies, and (ii) an AI-enabled DIONE environmental performance tool, as a support to decision-making processes, that provides feedback to professionals of paying agencies and the policymakers about the land condition and land use.

Validation in the real-life environment of the DIONE toolbox and its components is being performed with two project partners - the National Paying Agency from Lithuania and the Agricultural Payments Organisation from Cyprus. The preliminary results indicate envisioned benefits of the toolbox, such as lower administrative and operational costs, more accurate and less expensive compliance checks, wider sample and auditable proof of compliance checks, etc.





A team behind DIONE Toolbox

The DIONE Toolbox has been developing within [DIONE](#), an ongoing EU-funded project that received funding from the European Union's Horizon 2020 research and innovation programme (under grant agreement No.870378). This project kicked-off in January 2020, with a mission to improve the workflow of agricultural monitoring and compliance checks for area-based direct CAP payments, and consequently to drastically reduce related operational costs. The project will end in June 2022.

As the project enters its final phase, many important outputs are to come out soon. So, stay tuned for the new insights and results by [subscribing to Dione's newsletter!](#)



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



Editor notes

Short description:

DIONE proposes a close-to-market and integrated area-based direct payments monitoring toolbox that will address the forthcoming Modernised CAP regulation of using automated technologies to ensure more frequent, accurate and inexpensive compliance checks.

The project will exploit DIAS' storage of Copernicus data in its fullness, making 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 DIASes. DIONE toolbox will be further enhanced through complementary data sources (VHR images from drones as well as ground-based images taken by the farmers). The DIONE toolbox will include a Green Compliance toolbox, allowing paying agencies to check the compliance of farmers but at the same time monitor the green direct payments' environmental performance.

Starting date: 01/01/2020

Duration: 30 Months

Total cost: 2.377.125,00

EC contribution: 1.999.837,50



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

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Partners: [Diabalkaniko Kentro Periballontos](#) Greece

[Sinergise - Laboratorij za geografske informacijske sisteme doo](#) Slovenia

[Core Innovation and Technology OE](#) Greece

[National Paying Agency](#) Lithuania

[InoSens doo](#) Serbia

[GILab doo](#) Serbia

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