


success story

 Farmers' Tools for
Complementing EO
Data

An Integrated EO-Based Toolbox for Modernising CAP Area-Based Compliance Checks and Assessing the Respective Environmental Impact

The EU-funded DIONE project offers a unique fusion of innovative technologies that improve the workflow of agricultural monitoring. DIONE project is developing a direct payment controlling toolbox for paying agencies to abide by the modernized CAP (Common Agricultural Policy) regulations, involving novel techniques that will improve the capabilities of satellite technology while integrating various data sources (drones, soil sensors, and mobile applications). At the same time, a system developed on a regional or national scale will evaluate the monitored parameters to form evidence-based conclusions regarding eventual environmental impacts on an entire region.

Our team developed a novel Soil Scanning System that revolutionizes environmental monitoring by providing real-time estimations of key soil properties. The DIONE Soil Scanning System is a low-cost portable soil spectrometer that captures the electromagnetic reflectance of topsoil, and based on novel machine learning algorithms, converts it to estimations of key soil properties. The collected point estimations are then upscaled to spatially explicit soil indicators with the help of EO data, aiming to minimize the need for time and cost-demanding laboratory analysis. Soil Organic Carbon, soil texture, pH, and Calcium Carbonates have successfully been estimated with the DIONE Soil Scanning System which can act as a reliable solution for National Paying Agencies, farmers, or agronomists when it comes to assessing soil health and soil quality and environmental monitoring towards climate neutrality and farming with net-zero greenhouse gas emissions.

Useful links:

www.dione-project.eu

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