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WP6

D6.1 Update of Dissemination, Communication, and Exploitation Plan (DCEP)

Spatially Explicit Digital Twin of the Greek Agro-Hydro-System

14815

Greece 2.0
NATIONAL RECOVERY AND RESILIENCE PLAN

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Plan Details

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1. Introduction

This document outlines the Update of the Communication Dissemination, and Exploitation Plan (DCEP) for Work Package 6 (WP6) of the DT-Agro project, designed to ensure that the project's results, including concepts, scientific findings, models, simulation tools, validated work, and problem awareness are effectively shared with relevant target audiences.

Since the launch of the initial DCEP in M6, the DT-Agro project has taken steps in implementing the dissemination and communication strategy. Following the objectives of WP6, this plan continues to implement activities in accordance with the original plan. Updated activities include:

- **T6.1 Development of a detailed Communication, Dissemination, and Exploitation Strategy and Plan.** The initial strategy was finalized on D6.1, which was completed in M6, and has guided all activities to date. Target audiences were defined, and messages focusing on digital twins, sustainable agriculture, and data-driven decision-making have been communicated across channels.
- **T6.2 Online and offline communication tools and campaigns.** The project's website and Facebook page were successfully launched in M6 and are regularly updated, following key outputs and events.
- **T6.3 Documentation and dissemination of project outputs and outcomes.** This task focuses on ensuring open access to project outputs, developing and disseminating policy briefs and reports, and establishing a repository for project resources. The team is planning to organize an online presentation near the end of the project to disseminate its results. More in depth results will be presented in the "6th Congress of Geographical Information Systems and Spatial Analysis in Agriculture and Environment", which is organized by the GIS Research Unit of AUA and will take place in May 2026 at the Conference Center of Agricultural University of Athens.
- **T6.4 Scientific publications and presentations in journals and congresses.** Project findings will be presented at EGU25 and IAHS 2025. Peer-reviewed articles are in preparation or have been submitted for publication, covering the evaluation of digital

maps of topsoil properties in relation to laboratory data, a comparison of the PESERA and (R)USLE erosion modeling approaches and the development of the DT-Agro model and its first application.

Of all the deliverables included in WP6, DCEP (D6.1), the project website and social media pages (D6.2) and the open-access research database and portal (D6.3), have been completed. Other key deliverables include communication and dissemination materials policy brief (D6.4) and the publication of scientific articles (D6.5).

2. Communication Strategy

By M18, the communication strategy for DT-Agro has been effectively implemented to engage diverse audiences and disseminate key findings. The strategy ensures that the project remains visible, relevant, and impactful through to M24, which marks the end of the project.

During this period, key focus has been to raise awareness of DT-Agro's role through the development of the spatially explicit Digital Twin of the Greek agro-hydrological system. These efforts emphasize the scientific innovation behind the project and its potential to improve decision-making at both the policy and farm-management levels. To reach a broad and diverse audience both online and offline channels have been maintained. The project website continues to offer access to public deliverables and updates. Facebook, as a social medium platform, has extended the projects' reach by sharing news and project updates. Additionally, offline activities such as participation in conferences have successfully complemented the project's outreach by promoting updates.

3. Dissemination Strategy

Substantial progress has been made in implementing a multi-channel dissemination approach tailored to its diverse target audiences. The DT-Agro project dissemination strategy has been actively pursued to make sure that the project's findings and tools reach a broad spectrum of target audiences, including researchers, policymakers, farmers, industry representatives, and the general public. This ensures that the project's contributions to agro-hydrology and sustainable agriculture are both accessible and impactful. This plan will be maintained for dissemination efforts through to project completion in M24.

Significant progress has been also made in scientific dissemination. DT-Agro will be featured at the European Geosciences Union 2025 (EGU25), where two studies will be presented. The first, titled "Evaluation of digital maps of top-soil properties compared to large-scale laboratory soil data and synergies towards a better European soils' delineation" addresses the alignment between digital soil mapping products and empirical laboratory data. The second, titled "Estimating Top-Soil Moisture at High Spatiotemporal Resolution" focuses on advanced modeling techniques to estimate soil moisture, which is a critical variable for agriculture and water resources management. Later in 2025, results of the DT-Agro will be featured in XIIth Scientific Assembly of the International Association of Hydrological Sciences

(IAHS 2025), where one study titled “Assessing the impact of uncertainty in global soil property datasets on soil erosion predictions” will be presented.

Regarding online dissemination, the project website, which was launched in M6, serves as the central hub for public communication. It hosts deliverables, news, and research outputs in a user-friendly and accessible format. The Facebook page complements the website by targeting a broader audience. This page is used to share project updates and participation in conferences. Both will be regularly updated to engage stakeholders and act as an entry point for learning about the project.

The overall success of the dissemination efforts will be evaluated based on the achievement of all planned activities, including the publication of scientific articles, the dissemination of policy briefs, and the organization of workshops and training events (M6.2).

In addition to participating in scientific events, the team is also preparing articles to publish in scientific journals. These articles are about:

- Conceptual disambiguation and systematic comparison of the PESERA and (R)USLE methodologies, applied in the NEMEA wine producing zone, Greece. This manuscript is submitted for publication.

- Evaluation of digital maps of top-soil properties compared to large-scale laboratory soil data and synergies towards a better European soils’ delineation. This manuscript aims to contribute to the understanding and integration of soil data into the project’s digital twin model

- A simplified approach to consider watersheds heterogeneity in direct runoff estimation using SCS–CN Model. This study investigates the effect of impervious surfaces on the application of the SCS–CN direct runoff estimation method and introduces a simplified approach to account for watershed heterogeneity in SCS–CN model parameter estimation.

- The development of DT-Agro model and results of its first application

Since M6, research articles that were under preparation have now been published. These include:

- Soulis, K. X., Nikitakis, E. E., Katsogiannou, A. N., & Kalivas, D. P. (2024). Examination of empirical and Machine Learning methods for regression of missing or invalid solar radiation data using routine meteorological data as predictors. *AIMS Geosciences*, *10*(4), 939–964. https://doi.org/10.3934/geosci.2024044

- Soulis, K., Dosiadis, E., Nikitakis, E., Charalambopoulos, I., Kairis, O., Katsogiannou, A., Palli Gravani, S., & Kalivas, D. (2025). Assessing AgERA5 and MERRA-2 Global climate datasets for Small-Scale Agricultural Applications. *Atmosphere*, *16*(3), 263. https://doi.org/10.3390/atmos16030263

4. Exploitation Strategy

DT-Agro's exploitation strategy focuses on ensuring that the project's outcomes, processes, and tools are effectively used to achieve long-term impact beyond the project's duration. By focusing on important stakeholders such as policymakers, researchers, farmers, and industry representatives, the strategy assures that DT-Agro's innovations help to advance sustainable agriculture practices and agro-hydrological management.

By Month 18, the DT-Agro exploitation strategy has advanced from planning to implementation. The DT-Agro model has been tested with real-world data and is producing different scenarios, while selected data and methodologies will be available to support continued research and collaboration. Academic and research institutions will benefit from open access to such datasets and modeling methodologies. As part of the exploitation effort, these resources will continue to be made available through the project's online repository. In parallel, several scientific publications have now been submitted or published, while new research outputs are also in preparation, helping to establish DT-Agro's scientific contributions in the fields of agriculture, agro-hydrology, hydrological modeling and spatial data analysis.

Engagement with policymakers is progressing through the development of a policy brief, which will be ready in M24. This document will highlight how DT-Agro's findings can inform national and EU-level strategies related to sustainable agriculture, water management, and environmental resilience. The digital twin's capacity to simulate different scenarios positions it as a valuable tool for policy planning and evaluation.

In summary, by Month 18, the exploitation strategy has matured into a results-driven, effort focused on ensuring the real-world use and long-term sustainability of DT-Agro's outputs. Through ongoing collaboration, training, and publication, the project is on track to deliver lasting impact in digital agriculture and agro-environmental innovation.

5. Conclusion

In conclusion, following the launch of the project website and social media (Facebook page) (D6.2 in M6), updates have been shared engaging with the general public and stakeholders. Participation of the team in EGU25 (Vienna, Austria) and IAHS 2025 (Roorkee, India) will increase project visibility, as the studies that will be presented provide useful input in the DT-Agro project.

In this updated plan, it is important to highlight that all the achievements mentioned were made possible through the financial support of the National Recovery and Resilience Plan Greece 2.0, funded by the European Union – NextGenerationEU (Implementation body: HFRI). The team remains committed to acknowledging this support in all dissemination efforts and ensuring that the project's outcomes align with the objectives of the funding framework.