



2nd Newsletter of the project



Dissemination event for the outcomes of the Smart Tool research project

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On 21st of February 2022, an online dissemination event was held, open to the public, in order to present the results of the research project:

"Smart Tool - Development of a smart tool for monitoring threats to the biodiversity of urban and suburban green using Earth Observation data, in-situ sensors and citizen science in the Municipality of Thessaloniki"

The event attracted the interest of the research community, as well as the authorities tasked with biodiversity management and protection of the city's green infrastructure.



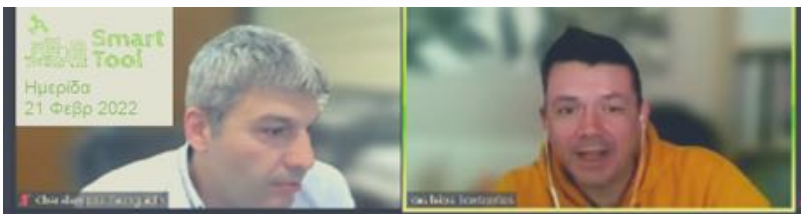
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Dissemination event for the outcomes of the Smart Tool research project

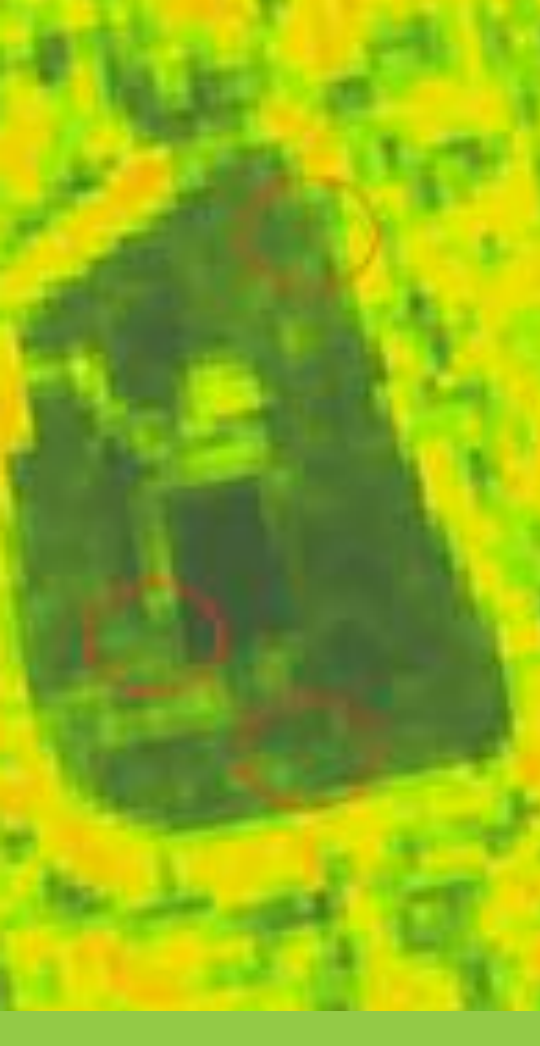
During the event, the Smart Tool digital platform and the integrated tool for monitoring the threats to the biodiversity of urban and suburban green in the Municipality of Thessaloniki was presented, by **Dr. Charalampos Georgiadis, Associate Professor, School of Civil Engineering, AUTH.**



Dr. Vassilios Bontzorlos, on behalf of the Green Fund, spoke warmly about the Smart Tool project and stressed the important implications that it can have for the protection and management of urban biodiversity and urban green areas.



Dr. Georgios Mallinis, Associate Professor of the School of Rural & Surveying Engineering, AUTH presented some of the tools developed for the management and monitoring of biodiversity in the natural environment.



Dissemination event for the outcomes of the Smart Tool research project

A very interesting lecture was given by **Dr. Iakovos Papadopoulos, Head of the Directorate of Forests Service of Thessaloniki**, regarding the legislative framework for the urban and peri-urban green areas.

Dr. Evangelos Matziris, Head of the Department for Urban Green Planning and Development in the Municipality of Thessaloniki, presented one of the emblematic actions of the Municipality of Thessaloniki in relation to the urban vineyard, and undelined its use for the activation and engagement of the public.



Finally, **Dr. Theodora Zagka, Agronomist - Landscape Architect** and member of the Smart-Tool research team, presented an holistic approach, for understanding the relations between the urban landscape of Thessaloniki, urban green areas and biodiversity.



The development of the Digital Smart Tool Platform has been completed

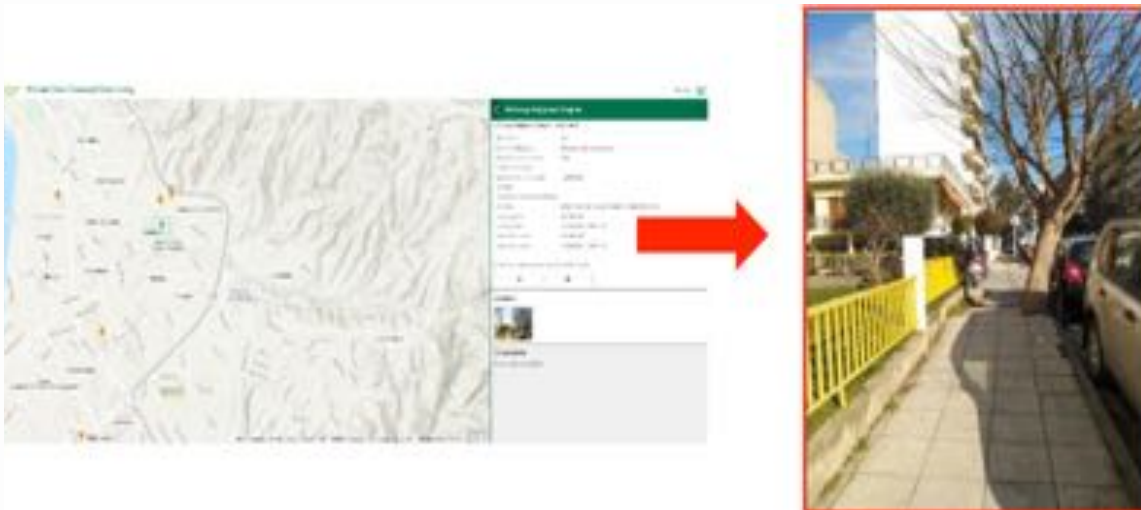
The development of the system for monitoring biodiversity threats existing in urban green areas was based on the integration of new technologies and methodologies that will facilitate almost real-time update of the condition and threats of urban and suburban green areas.

The new technologies in the framework of this project were integrated in Geographic Information System combining:

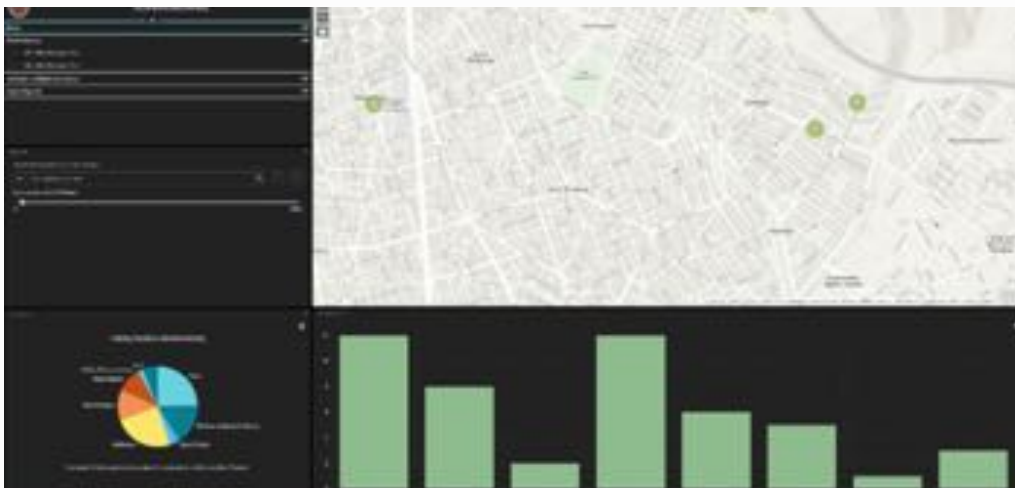
- Collection and analysis of Earth Observation data (satellite data)
- Collection of data through Citizen Science
- Data collection via in-situ sensors
- Integration of open environmental data

The development of the Digital Smart Tool Platform has been completed

A key component of the Smart Tool is the web app that has been designed and developed for providing end-users with the ability to report biodiversity issues through a straightforward and simple interface.



Based on this information, a user-friendly dashboard provides to the authorities an accurate depiction of the problems identified by the citizens.





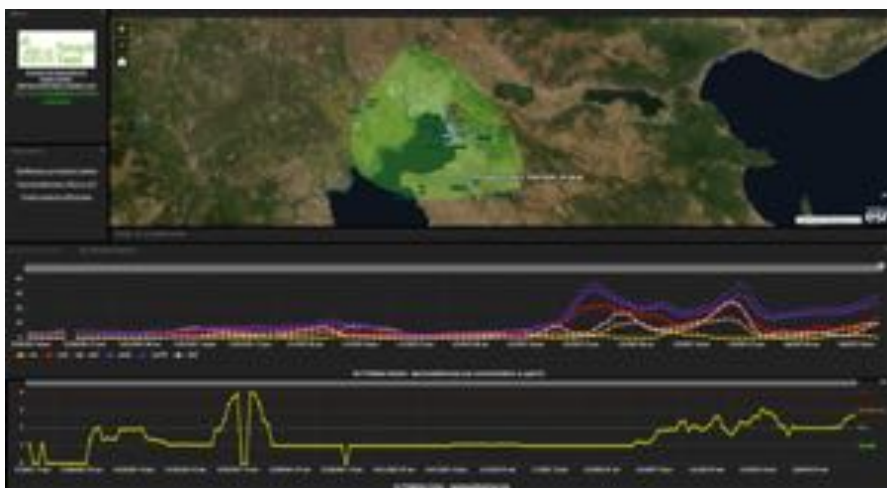
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At the same time, data collection from in-situ sensors within the Smart Tool provides almost real time monitoring of the threats to biodiversity.



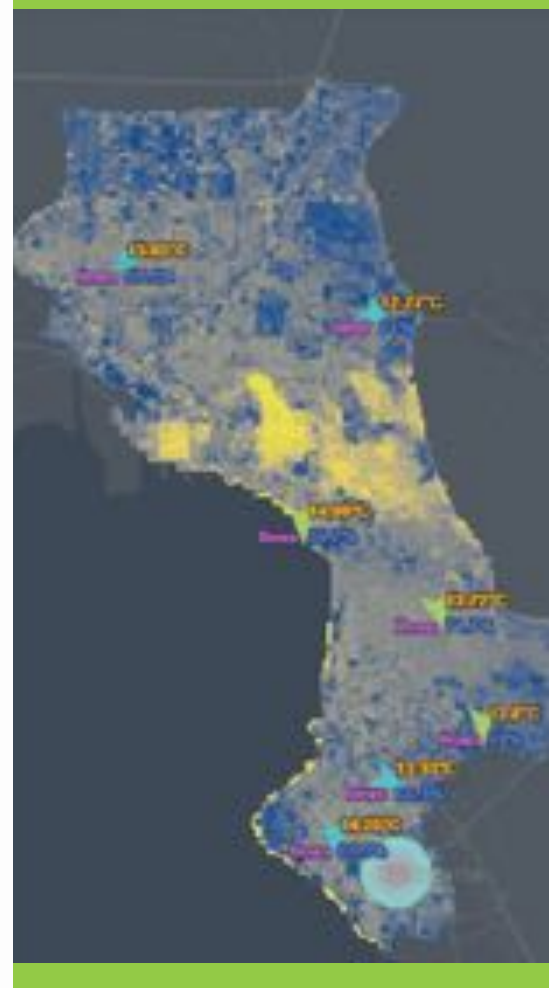
Based on the data from the in-situ sensors, density maps (“heat maps”) for various air quality indicators (PM 10, No2 etc), are presented in a user-friendly manner from the Smart Tool platform.

Citizens' science data, are the basis for the implementation of real-time monitoring of urban pollution.



The development of the Digital Smart Tool Platform has been completed

Finally, an Earth Observation Data Management infrastructure is implemented through a subsystem of the Smart Tool platform, facilitating collection, processing and analysis of satellite data with robust automated algorithms.



Actions aiming to reduce threats to biodiversity over the urban green areas in the Municipality of Thessaloniki

The problems identified within the project and with the use of the Smart Tool platform, mainly concern selection, survival and growth of species.

These problems result from the lack of proper planning regarding the selection of suitable species for the environmental setting of the city and lack of sufficient growing space as well as inappropriate management practices (i.e. pruning).

