

Climate change in agriculture: a platform for risk mitigation and secure data exchange

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Leading the AGRICLIMA project, Fondazione Bruno Kessler will implement an innovative technology platform for analyzing the impact of climate change in agriculture, developing tools for risk mitigation, and managing and securely exchanging data.

Leading a partnership made up of major industry players, Fondazione Bruno Kessler is coordinating the AGRICLIMA project, **aimed at creating an innovative technology platform for analyzing the impact of climate change in agriculture, developing tools for risk mitigation, management and secure data exchange.**

Supported by cascading **PNRR** call funding – National Center for Technology in Agriculture, Spoke 4 W.P. 4.3 **Agritech** – the platform will offer tools to facilitate and simplify the collection, cataloging and access to a relevant set of public and private datasets. By integrating these with advanced data processing models, the platform will enable the study of the relationship between climate, agricultural productivity and hydrological dynamics.

In particular, by assessing the vulnerability of crops to sudden frost events, **AGRICLIMA** will enable the **prediction** of their occurrences, developing mitigation strategies such as warning, forecasting and protection systems, maps and hazard indices.

By analyzing historical and real-time climatic data, such as examining the distribution of snow over the local area, it will enable the prediction of drought conditions, assisting in the planning of irrigation strategies and the selection of more resistant crop varieties.

Flood risks to agricultural lands will be assessed and management plans developed, such as needed improvements to drainage systems.

Finally, the impact of catastrophic events on crop yields and agricultural productivity will be estimated, providing farmers with crucial data for informed decisions regarding agricultural

insurance, resource allocation and crop planning.

Fabio Antonelli, head of the OpenIoT research group at Fondazione Bruno Kessler (FBK) and coordinator of the initiatives on Digital Agriculture:

“In line with the principles of creating a European Data Space, we will ensure the management and exchange of public and private data in a secure way that respects the sovereignty of the data itself, the control of which remains with the companies and organizations that generate and supply it. Digitization and data collection are now key prerequisites for the development and deployment of technology solutions in the agribusiness sector, helping to improve productivity, sustainability and scientific innovation. The integration of climate, hydrological and agricultural data will provide farmers and industry stakeholders with practical information and effective strategies to address key environmental challenges.”

Joining Trento at the kick-off event along with Fondazione Bruno Kessler will be project partners DedaNext, Agriduemila Hub Innovation, ASNACODI Servizi, University of Calabria, Waterjade, Radarmeteo, AMIGO, Enogis, and Stellar Project.

In the field of digital agriculture, Fondazione Bruno Kessler has cross-cutting expertise – ranging from computer vision to autonomous robotics, automation, remote sensing, and data management and analysis – combined with mastery of machine learning techniques, research, innovation and technology transfer activities. In addition, the foundation maintains strategic relationships with relevant stakeholders in the field and coordinates major projects at the local, national and European levels.



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