

Development of an Intelligent Decision Support System for Smart Viticulture

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Abstract : The Internet of Things (IoT) represents the best option for smart vineyard applications, even if it is necessary to integrate the technologies required for the development. This article is based on the research and the results obtained in the DISAVIT project. For Smart Agriculture, the project aims to provide a trustworthy, intelligent, integrated vineyard management solution that is based on the IoT. To have interoperability through the use of a multiprotocol technology (being the future connected wireless IoT) it is necessary to adopt an agnostic approach, providing a reliable environment to address cyber security, IoT-based threats and traceability through blockchain-based design, but also creating a concept for long-term implementations (modular, scalable). The ones described above represent the main innovative technical aspects of this project. The DISAVIT project studies and promotes the incorporation of better management tools based on objective data-based decisions, which are necessary for agriculture adapted and more resistant to climate change. It also exploits the opportunities generated by the digital services market for smart agriculture management stakeholders. The project's final result aims to improve decision-making, performance, and viticulturally infrastructure and increase real-time data accuracy and interoperability. Innovative aspects such as end-to-end solutions, adaptability, scalability, security and traceability, place our product in a favorable situation over competitors. None of the solutions in the market meet every one of these requirements by a unique product being innovative.

Keywords : blockchain, IoT, smart agriculture, vineyard

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