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DEVELOPING A EUROPE-WIDE LARGE-SCALE PILOT FOR IOT IN AGRICULTURE

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ABSTRACT

The Internet of Things technologies have a lot of promise for use in the food and agricultural sector, particularly given the social and environmental problems that this industry faces. IoT technologies have the potential to revolutionize the food industry from farm to fork, contributing to food safety, agricultural input reduction, and food waste reduction. The implementation of IoT-based large-scale pilots (LSPs) throughout the whole supply chain will be a significant step toward wider adoption of these technologies. The difficulties and limitations that an LSP implementation of IoT in this area must address are outlined in this paper. In order to establish a set of technical and agrifood needs, sectoral and technological problems are outlined. We quickly describe an architecture based on a system of systems approach, emphasize the significance of solving the sector's interoperability problems, and discuss needs for new business models, security, privacy, and data governance. Finally, a summary of the technology and solutions used in pilot design for four agrifood domains (dairy, fruit, arable, meat, and vegetable supply chains) is given. Finally, it should be emphasized that for IoT to succeed in this area, a major cultural shift is required.

KEYWORDS: *Agri-Food Sector, Iot, Precision Farming, Smart Farming, System-Of-System Architecture.*

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