

CALL FOR ARTICLES
IEEE INTERNET OF THINGS MAGAZINE
IoT AND AGRICULTURE

BACKGROUND

The world of Agriculture is undergoing a profound transformation, which many believe will be as impactful as previous Agricultural revolutions. In fact, the ability to more precisely monitor crops and control irrigation, fertilisation, and treatments at a much finer granularity than before, is enabling the use of land previously not considered for agricultural purposes, optimising the use of resources and maximising the health of plants and the yield of crops. Furthermore, the availability of cheap IoT sensing devices, the possibility of collecting data over wide coverage, and low energy LPWANs is enabling more detailed monitoring and data gathering from the fields, producing unprecedented amounts of data that will enable data scientists and agronomists to better assess cause-effect relationships in dealing with quality, yield, diseases of plants, fruits and vegetables, changes in phenology.

Challenges to face are of course all those related to increasing demand from a growing population worldwide, effects of climate change, and the need for faster reaction times to combat spreading of pests and diseases which are spreading everywhere due to globalisation trends.

Opportunities, on the other hand, relate to the use of IoT technologies and to the above-mentioned unprecedented possibility of collecting high-granularity, high-quality data, further enhancing the assessment of data collected through drones, remote sensing techniques or via satellite imaging. Furthermore, using solutions for traceability purposes in agriculture contributes to realising more reactive systems (where sources of infections, bad lots, or rogue suppliers can be more easily tracked) or indeed lead to the establishment of direct trust relationships non-mediated by certification authorities between producers and consumers.

The purpose of this Special Issue (SI) is to provide the researchers and practitioners working in the AgriTech domain from both a technology but also an agronomic point of view, a means to share experiences and disseminate successful applications of IoT technologies in agriculture and identifying recent trends and opportunities poised to revolutionise the agricultural sector.

Submissions should provide where possible guiding principles for technical, operational and business success. More specifically, in accordance to the IoT Magazine generic requirements, illustrate i. a high-level operational description of the IoT solution, ii. a high-level technical description of the IoT system, iii. a summary of the business case and iv. lessons learned from deployment and operation.

Topics of interest include, but are not limited to:

- Precision agriculture (irrigation, treatments, fertilisation, frost management)
- Management of different crops (horticulture, orchards, viticulture, cereals)
- Applications of IoT in agriculture
- Traceability in agricultural practices
- Use of Big Data for agricultural applications
- Smart irrigation systems for improved yields and / or quality
- Environmental impact of agricultural practices
- Management of pesticides and various treatments
- Indoor and vertical farming
- Crop protection and risk management in agriculture
- Soil science and smart water management
- Sustainable agriculture
- Successful business cases in AgriTech
- Use of robotics and IoT for farming automation
- IoT applications for farmers
- Use of IoT in forestry management

SUBMISSIONS

Manuscripts should conform to the standard format as indicated in the Information for Authors section of the Article Submission Guidelines. All manuscripts to be considered for publication must be submitted by the deadline through Manuscript Central (<https://mc.manuscriptcentral.com/iotmag>). Select 'December 2019/IoT and Agriculture' from the drop-down menu of Topic titles.

IMPORTANT DATES

Manuscript Submission Deadline: 31 May 2019

Initial Decision: 31 July 2019

Revised Manuscript Due: 31 August 2019

Decision Notification: 30 September 2019

Final Manuscript Due: 31 October 2019

Publication Date: December 2019

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