STRENGTHENING THE EUROPEAN FARMING AND FOOD CHAINS THROUGH THE INTERNET OF THINGS TECHNOLOGY

The Internet of Food and Farm 2020 (IoF2020) project aims to consolidate Europe’s leading position in the Internet of Things (IoT)-technology applied to the agri-food sector. We develop an ecosystem consisting of farmers, food companies, policy-makers, technology providers, research institutes and end-users. The project aims to solve the European food and farming sectors’ social challenges, maintain their competitiveness and increase their sustainability.

FOR MORE INFO: IOF2020.EU
LEAN MULTI-ACTOR APPROACH
IoF2020 uses a lean multi-actor approach focusing on user acceptability, stakeholder engagement and the development of sustainable business models. IoF2020 aims to increase the economic viability and market share of developed technologies, while bringing end-users’ and farmers’ adoption of these technological solutions to the next stage.

THE STANDARDS
With an open ecosystem and collaboration space, the project relies on existing standards, as well as security and privacy platforms, applying these to the food production chains.

TOWARDS AN ECOSYSTEM
Led by the Wageningen University and Research (WUR), the 70+ members consortium includes partners from agriculture and ICT sectors, and uses open source technology provided by other initiatives (e.g. FIWARE). Together we build an innovation ecosystem in which technology is validated, knowledge is shared and innovative solutions are brought to market.

FOR MORE INFO: IOF2020.EU
The IoF2020-project is organized around 5 agriculture sectors: arable crops, dairy, fruits, vegetables and meat. Within each trial several use-cases (19 in total) demonstrate the value of IoT solutions for the European food and farming sectors.

FOR INTERACTIVE MAP: IOF2020.EU/TRIALS
The arable trial focuses on wheat, soy bean and potato production and processing in Europe’s different climate zones. It includes activities across the cropping cycle: e.g. with the help of IoT technologies data relevant to growing crops is gathered (e.g. soil condition, humidity and weather conditions). This trial also includes machine-to-machine communication. Overall, the use of IoT in arable farming can help to reduce pesticide, fertilizer and energy use, while increasing transparency and food safety.

FOR MORE INFO: IOF2020.EU/TRIALS/ARABLE
The dairy trial explores the usefulness of collecting real-time sensor and GPS location data throughout the whole dairy chain—‘from grass to glass’, using neck collars or movement sensors for livestock. Use-cases range from monitoring the outdoor grazing of cows (from ‘grass’) to the application of machine learning technologies and cloud-based services (to ‘glass’), making it possible to ensure the quality of the dairy chain remotely.

FOR MORE INFO: IOF2020.EU/TRIALS/DAIRY
The fruit trial aims to improve the use of IoT-technologies in the fruit supply chain, from growing to harvesting and processing. This trial will gather data on pre- and post-harvest losses to increase the yield and quality of fruits. In addition, IoT-technologies is used to ensure better traceability of fruit products in relation to the protected designation of origin. The use-cases include, among others, fresh table grapes, wine and olives, while addressing the challenges of automation in the fresh logistics.

FOR MORE INFO: IOF2020.EU/TRIALS/FRUITS
The cultivation of vegetables can be done in different climate conditions, such as (fully) controlled indoor greenhouses with an artificial lighting system, semi-controlled greenhouses or non-regulated open-air cultivation. IoT-technologies can help to increase the efficiency of these production processes, e.g. water and nutrients consumption or the supply of artificial light. The vegetables trial aims to improve the quality and the productivity of lettuce and tomatoes in the controlled cultivation and weeding of the vegetables in organic production.

FOR MORE INFO:
IOF2020.EU/TRIALS/VEGETABLES
The meat trial aims to improve the meat production chain’s value through the application of IoT-technologies. The use-cases include the management and optimization of pork production by on-farm sensors and slaughterhouse data. In addition, it will attest the role of IoT-technologies in poultry chain management, and communicate about meat transparency and traceability.

For more info: iof2020.eu/trials/meat
**KEY FACTS:**
- Funding Scheme: Horizon 2020, Industrial Leadership, IOT-01-2016
- Contribution of the European Union: €30 million
- Total costs: €35 million
- Duration: 4 years, 2017-2020
- Consortium: 70+ partners
- 5 trials: arable crops, vegetables, fruits, meat and dairy
- 19 use-cases
- €5-6 million open call in 2018

**FOR MORE INFO:**
IOF2020.EU
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