



Press release

Digital twins promise resource efficiency for EU agri-food sector

Horizon 2020 project BBTWINS will apply cutting edge technology to optimise meat and fruit value chains

Brussels, 30 September 2021 – The EU agri-food sector is a key contributor to the European economy. Small company losses and inefficiencies in this sector accumulate, resulting in significant economic and environmental burdens. [Agriculture accounts for nearly one-third of all greenhouse gases \(GHG\)](#) and with the world population estimated to reach 10 billion by 2050, the system efficiencies of crop and livestock production must increase by 40% to meet this demand. Cutting edge technology presents an opportunity to advance the sector's sustainability through increasing efficiency and optimising value chains, helping to overcome these challenges.

[BBTWINS](#), a Bio-Based Industries Research and Innovation Action project, has received €4.7 million with the aim of reforming the sector. The project will contribute to the EU's [Farm-to-Fork strategy](#), a key component of the [EU Green Deal](#), by developing **digital twins** or digital representations of agricultural value-chains to increase resource efficiency, reduce waste and enable a more resilient agri-food sector.

Coordinated by CTIC-CITA, BBTWINS will run for four years (2021-2025) with 13 partners from seven countries including research organisations, cooperatives, bioeconomy clusters and businesses – working together to optimise the food value chain.

“The digitalisation of production processes is a powerful tool that will let us simulate different scenarios in a computer to identify improvements that really matter.”

– Daniel de la Puente, Senior EU Project Manager, CTIC-CITA

The two innovative digital twins will cover use cases in Spain and Greece, for pork and peach production, respectively. These digital twins will follow a multi-actor approach, integrating all processing steps – from farm-to-fork – into a single platform.

Work on these use cases will follow a holistic approach, including an environmental, social, and economic assessment. The digital twins developed will integrate technologies such as artificial intelligence (AI), Internet of Things (IoT), and software analytics, together with blockchain and strategic logistic solutions – creating a clear representation of how to optimise the full value chains.

BBTWINS will support Europe’s fight against climate change by creating replicable technologies that improve agri-food efficiency while bolstering the EU’s bioeconomy.

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Keywords

Digital twins, blockchain, logistics, biomass valorisation, sensors, simulation, fertilizers, proteins, fruit processing, meat processing, feedstock, salts, protein, snacks, nutraceutical, waste, digital services, technology development, bioeconomy

About BBTWINS

Bio-Based Digital Twins (BBTWINS) aims to develop a digital platform for the optimisation of agri-food value chain processes and the supply of quality biomass for bioprocessing.

The platform will be based on 'digital twins' technology – creating a real-time digital replica of physical processes in the agri-food industry. BBTWINS will also combine Artificial Intelligence (AI), Machine Learning, the Internet of Things (IoT) and software analytics in this single platform.

With 13 partners in 7 countries, the BBTWINS consortium will be focusing on meat and fruit production, integrating the value chain (from crop to final product) and will define the optimal pathway for each feedstock to maximise efficiency and minimise losses – without impacting quality.

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