



Press release

European Innovations Driving the Future of Food

BBTWINS will combine cutting edge technologies to improve agri-food supply chains

Vigo, September 22, 2023 – The BBTWINS project, comprised of leaders in technology from seven EU countries, convened on 12 and 13 September in the seaside town of Vigo in Galicia, Spain, with the goal of transforming the way Europe farms.

Buoyed by the climate crisis and funded by the European Union, the project is dedicated to making the agricultural sector more sustainable through the development of “digital twins.” These computer simulations of agri-food processes – think meatpacking, collecting fruit from orchards, and even deliveries – play a crucial role in enhancing efficiency and reducing waste. Digitising the sector means that scenarios can be run virtually, optimising the production line and saving farmers precious time and resources.

“For us, BBTWINS means innovation, collaboration, and a vision of the future. What makes BBTWINS unique is that it combines blockchain, AI, big data, software analytics, and computer simulation, all on the same platform.”

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

Two years into the project, the diverse array of partners proudly shared their progress. One entrepreneurial team, StelvioTech, introduced their integrated traceability system, based on blockchain technology, where consumers could scan a QR code to learn about the origins of the products, information valuable for improving animal welfare and food safety along the supply chain.

The waste valorisation team, CVR (the Centro Para a Valorização de Resíduos), announced they had successfully converted pig manure, bones, and hair into potentially useful products: keratin for the beauty industry, hydroxyapatite for tooth health, and biogas to be re-used as fuel in the same processing plant respectively, closing the loop on the circular bioeconomy.

The partners focusing on logistics, VTT (Valtion Teknillinen Tutkimuskeskus) and VITO, had developed computerised methods forecasting feed demand and optimising deliveries between farms, not only saving time and unnecessary expenses, but also reducing emissions stemming from transport.

Another team, PANOlmaGen, presented their 'artificial vision' program, capturing data through sensors and using this AI to estimate the weight of livestock, relieving farmers of the physical difficulty of weighing each animal individually.

These and other innovations associated with the BBTWINS project align with the European Union's Farm-to-Fork strategy, an integral component of the EU Green Deal. One of the most anticipated results of the BBTWINS technology is the significant reduction in raw material and transportation costs, which are expected to reach up to 25%.

The event's culmination featured Ana M^a Mejías Sacaluga, member of the special delegate of the state and professor of engineering at the University of Vigo, who highlighted the collaborative effort across the continent shaping the future of agriculture and food production.

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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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