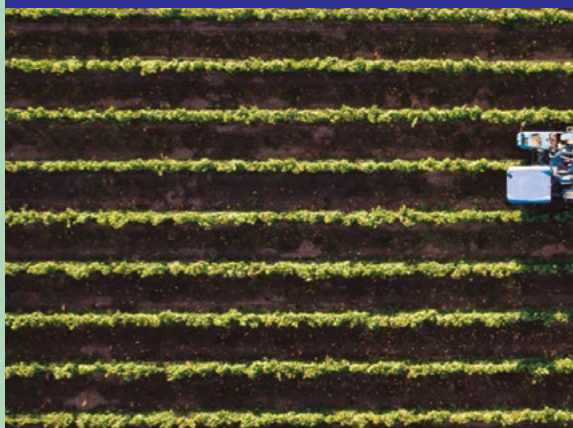## BBTWINS

Agri-Food Value Chain
Digitalisation for
Resource Efficiency

The BBTWINS project will help boost the bio-based industries and the optimisation of agri-food value chains, as well as accelerating the digitisation of the agri-food sector.

As Technical Coordinators of the project, at Soltec Ingenieros we are excited to be part of the BBTWINS team, formed by 13 partners in 7 countries. In the next four years working together, we will focus on meat and fruit production, integrating the value chain (from crop to final product), to define the optimal pathway for each feedstock to maximise efficiency and minimise losses – without impacting quality.

BBTWINS started on 1 June 2021, to be completed in 2025.

More information at www.bbi.europa.eu/projects/bbtwins

Get project updates at www.bbtwins.eu

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Digital Twin Technology for the Agri-Food Sector

The EU is the largest producer of food and drink in the world. Yet as the demand for food increases – and the need for EU food security grows – the agri-food sector is under increasing pressure. Food production systems need to become more efficient and productive, delivering nutritional, healthy food in greater quantities while at the same time addressing growing public demand to minimise any environmental impacts.

Deploying digital solutions will help overcome this challenge. The BBTWINS project will develop and validate a digital platform based on 'digital twin' technology: this is a real-time digital replica of a physical process that can be examined, altered and tested without it interacting with it in the real world and avoiding negative consequences.

Using two use cases – meat and fruit production – it will demonstrate how to integrate, in a single value chain, both the entire agri-food value chain (from crop to final product) and the feedstocks generated at all steps.

Combining Artificial Intelligence (AI), Machine Learning, the Internet of Things (IoT) and software analytics in a single platform, it will predict the optimal pre-treatment and pathway for each feedstock under varying conditions. As a result, it will increase the biomass available, reduce biomass losses and increase biomass storage times without impacting quality.

Efficiency and Sustainability Goals

The main objective of the BBTWINS project is to demonstrate the viability and effectiveness of a 'digital twin' approach in enhancing the performance of agri-food value chains, as well as maximising the efficiency of the feedstocks produced in the process. This approach is strongly supported by the following social and environmental goals:

Contributing to meeting the growing demand for quality food with greater efficiency through improving the quantity, quality, availability and sustainability of feedstock for bio-based operations. This will also improve the ability to model food production and adapt accordingly.

Helping reduce existing waste – currently a major issue - by ensuring that feedstocks from production are used more efficiently, effectively and with less waste. It will help maximise the use of existing resources while ensuring the highest level of circularity of use. By optimising transport routes and reducing the amount of biomass transported, it will also have significant impact on greenhouse gas emissions.