

ICT-BIOCHAIN: a European research project at the Intersection of bioeconomy and technology

March, 5. A group of European partners formed by the Regional Ministry for Agriculture, Fisheries and Rural Development of Andalusia (Spain), Fundación Corporación Tecnológica de Andalucía (Spain), Irish Bioeconomy Foundation (Ireland), Institute of Technology, Tralee (Ireland), VTT Technical Research Centre of Finland, Fraunhofer Institute of Material Flow and Logistics (Germany), Sustainable Innovations Europe (Spain) and Industrial Biotechnology Innovation Centre, University of Strathclyde (United Kingdom) is carrying out the ICT-BIOCHAIN project, aiming to develop efficient biomass supply chains for bioeconomy regions.

ICT-BIOCHAIN, funded through the Biobased Industries Joint Undertaking (a public-private partnership between the European Commission and the Bio-based Industries Consortium), works on cross-sector interconnections in biobased economy clusters by establishing Digital Innovation Hubs which examine the opportunities for integration of ICT (Information and Communication technologies) in regional biomass supply chains in Lisheen (Ireland) and Andalusia (Spain).

Availability of biomass is the bioeconomy's lifeblood. Being able to predict flows of biomass is of strategic importance for government and the industrial sector. According to a recent study, if by 2020 20% of chemical products and oil-based products in Europe were replaced by bioproducts, 34 MMT (million metric tons) of biomass would be necessary. By 2030, 30% would need at least 50 MMT¹. 48 MMT of biomass will be required to produce conventional biofuels, with up to 80 MMT required to produce biobased power and heat.

In this scenario, ensuring that the growing demand for biomass in Europe can be met by local supply is challenging. Through Biobased Industries Joint Undertaking activities, the Biobased Industries Consortium (BIC) is targeting a 10% increase in biomass supply in Europe by 2020 (rising to 20 % by 2030), while boosting the mobilization and utilization of 15% of currently unused biomass sources per year by 2020 (25 % per annum by 2030)².

For this purpose, ICT-BIOCHAIN partners are developing, during the 24 month of the project lifetime, a database of technology solutions which can be applied to various biobased supply chains and a bioresource modelling platform that will be piloted as well for bioeconomy regions in Ireland and Spain, identifying bioresource arisings and taking into account cost, existing fate and location of biomass.

¹ USDA Foreign Agricultural Service (2015) EU Bio-Based Economy and Its Inputs

² Biobased Industries Consortium (2017) Strategic Innovation and Research Agenda – Biobased Industries for Development and Growth in Europe

