PLAST4H2

PLAST4H2

The project PLAST4H2 addresses global marine pollution and energy issues and focuses on the challenge of ensuring a sustainable and efficient energy supply with low carbon emissions while reducing plastic littering impact in the Atlantic region. The central objective is to promote plastic valorization in the Atlantic area into hydrogen, energy, and value-added products through the development of new and advanced systems to supply strategic sectors along the Atlantic coast. In addition, developing a world-leading position in the field of plastic circularity and sustainable fuel generation. The main activities encompass the development of a pilot mobile application for the detection of floating plastics, underwater and beach clean-ups of plastics, and the modeling of spread, accumulation, and transport patterns of plastics in the Atlantic region, with a final sorting of removed wastes plastics. These plastics are valorised into hydrogen, energy and value-added products. This is followed by the life cycle assessment (LCA) on the environmental impact along with raising awareness in different sectors of society. The TUS activities for PLAST4H2 will play a key role in unlocking value in these currently un processable polymer waste streams. The TUS contribution to is dedicated to next-generation methodologies and protocol development to improve polymer sustainability for collected sea-based waste plastic stockpiles. This will be carried out by modifying and tailoring TUS sustainable technologies based on mechano-green chemical and biocatalytic technologies for sea-based plastics streams. TUS plans to utilize its collection of innovative microbial strains, fermentable raw materials, and advanced polymer processing methods to create fresh Eco-friendly plastics, enhanced extracts with added value, and prototypes for bio-based products.