Executive Agency for Higher Education, Research, Development and Innovation Funding

FACCE SURPLUS
SUSTAINABLE AND RESILIENT AGRICULTURE FOR FOOD AND NON-FOOD SYSTEMS

USAMV BUCUREȘTI

CENTRUL DE CERCETARE PENTRU STUDIUL CALITATII PRODUSELOR AGROALIMENTARE

IMT Atlantique
Bretagne-Pays de la Loire
École Mines-Télécom

HaloSYS

BIOTEN

Integrated system of bioremediation - biorefinering using halophyte species

Objectives

► Sustainable use of unsuitable lands for any agriculture purpose

► Bio-based products through biorefining
- extraction and separation of biomass major components (fibres, sugars, oils, proteins);
- extraction, identification and characterisation of specific bioactive molecules (enzymes, phenols, alkaloids, etc.) with specific activities (biocatalyser, cytostatic effect, antioxidants, antimicrobial, etc.);
- valorisation of extracted components and resulted waste from biomass processing to produce bio-based products (pharmaceuticals, nutraceuticals, 2nd generation biofuels, biopolymers, biofertilizers, etc.

► Biologic carbon sequestration
- following the concept of terrestrial (or biologic) sequestration, plant species like *Salicornia* spp., *Amaranthus* spp., *Suaeda* spp., *Festuca arundinacea* L., *Calamagrostis epigeios* L., *Spartina pectinate*, etc. will contribute to CO_2 capture and storing as carbon both in plants and soil.

Expected results

► Environmentally sustainable growth under climate changes effect and environmental pressures, and biodiversity and ecosystem services preservation;

► Intensification of agriculture through phytoremediation practices using halophytes culture systems on saline soils.

► Opportunity to develop new agriculture crops to overcome the economic losses due to continuous trend of soil aridisation.

Expected impact

► Knowledge and innovation enhancer in the bio-economy domain at European and regional levels;

► Achievement of critical mass and better use of limited natural resources;

► Awareness raising for stakeholders and general public regarding social and economic advantages of bio-based products obtained from biomass sources that use lands unsuitable for agriculture;

► Dissemination and exploiting the results of transnational and multidisciplinary project strengthening the innovation and competitiveness within the concerned results end-users. This will lead to a better management of knowledge transfer.

Project partners

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Project Website: http://www.halosys.eu/
https://projects.au.dk/faccesurplus/research-projects-2nd-call/halosys/

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