



Ca' Foscari
University
of Venice

PROJECT ACRONYM AND TITLE: RES URBIS - REsources from URban Bio-waSte

FUNDING PROGRAMME: Horizon 2020 – Cross-cutting activities

CALL: H2020-IND-CE-2016-17 Industry 2020 in the Circular Economy; Topic CIRC-05-2016

TYPE OF ACTION: RIA

SCIENTIFIC FIELD : Bioproducts, bio-waste

HOST DEPARTMENT/CENTRE : Department of Environmental Sciences, Informatics and Statistics

SCIENTIFIC RESPONSIBLE: Prof. Paolo PAVAN

FINANCIAL DATA:

Project total costs	Overall funding assigned to UNIVE
€ 3.046.656,25	€ 199.020,00

ABSTRACT:

RES URBIS aims at making it possible to convert several types of urban bio-waste into valuable bio-based products, in an integrated single biowaste biorefinery and by using one main technology chain. This goal will be pursued through:

- collection and analysis of data on urban bio-waste production and present management systems in four territorial clusters that have been selected in different countries and have different characteristics.
- well-targeted experimental activity to solve a number of open technical issues (both process- and product-related), by using the appropriate combination of innovative and catalogue-proven technologies.
- market analysis within several economic scenarios and business models for full exploitation of bio-based products (including a path forward to fill regulatory gaps).

Urban bio-waste include the organic fraction of municipal solid waste (from households, restaurants, caterers and retail premises), excess sludge from urban wastewater treatment, garden and parks waste, selected waste from food-processing (if better recycling options in the food chain are not available), other selected waste streams, i.e. baby nappies.

Bio-based products include polyhydroxyalkanoate (PHA) and related PHA-based bioplastics as well as ancillary productions: biosolvents (to be used in PHA extraction) and fibers (to be used for PHA biocomposites).

Territorial and economic analyses will be done either considering the ex-novo implementation of the biowaste biorefinery or its integration into existing wastewater treatment or anaerobic digestion plants, with reference to clusters and for different production size. The economic analysis will be based on a portfolio of PHA-based bioplastics, which will be produced at pilot scale and tested for applications:

- Biodegradable commodity film
- Packaging interlayer film
- Speciality durables (such as electronics)
- Premium slow C-release material for ground water remediation.

Planned Start date1st January 2017**Planned End date**31st December 2019**PARTNERSHIP:**

1	UNIVERSITÀ DEGLI STUDI DI ROMA LA SAPIENZA	Italy	Lead Partner/Coordinator
2	DANMARKS TEKNISKE UNIVERSITET	Denmark	Partner
3	NOVA ID FCT - ASSOCIACAO PARA A INOVACAO E DESENVOLVIMENTO DA FCT	Portugal	Partner
4	BIOTREND - INOVACAO E ENGENHARIA EM BIOTECNOLOGIA SA	Portugal	Partner
5	SO.F.TER. SPA	Italy	Partner
6	UNIVERSITÀ CA' FOSCARI VENEZIA	Italy	Partner
7	UNIVERSITÀ DEGLI STUDI DI VERONA	Italy	Partner
8	BIOINICIA SL	Spain	Partner
9	CONSIGLIO NAZIONALE DELLE RICERCHE	Italy	Partner
10	UNIVERSITAT DE BARCELONA	Spain	Partner
11	ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA	Italy	Partner
12	PROVINCIA AUTONOMA DI TRENTO	Italy	Partner
13	MI-PLAST DOO ZA PROIZVODNJU TRGOVINU I PRUZANJE USLUGA - MI-PLAST LLC MANUFACTURING, TRADING AND SERVICES MIPLAST	Croatia	Partner
14	Physis	Italy	Partner
15	EPAL-EMPRESA PORTUGUESA DAS ÁGUAS LIVRES, SA	Portugal	Partner
16	INNOEXC GMBH	Switzerland	Partner
17	UNIVERSITY OF SOUTH WALES PRIFYSGOLDE CYMRU	United Kingdom	Partner
18	ISTITUTO NAZIONALE ASSICURAZIONE INFORTUNI SUL LAVORO INAIL	Italy	Partner
19	AREA METROPOLITANA DE BARCELONA	Spain	Partner
20	BZIA	United Kingdom	Partner
21	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	France	Partner