



Università  
Ca'Foscari  
Venezia

**PROJECT ACRONYM AND TITLE:** LIFE BIOPOL - Production of Leather making BioPolymers from biomasses and industrial by products, through Life Cycle Designed processes.

**FUNDING PROGRAMME:** LIFE

**CALL:** LIFE Call for Proposals 2015

**SCIENTIFIC FIELD:** Environment

**HOST DEPARTMENT/CENTRE:** Department of Molecular Sciences and Nanosystems

**SCIENTIFIC RESPONSIBLE:** Dr. Valentina BEGHETTO

**PROJECT NUMBER:** LIFE15 ENV/IT/000654

**FINANCIAL DATA:**

Project total costs	Overall funding assigned to UNIVE
€ 3.879.018,0	€ 115.030,00

**ABSTRACT:**

The leather Industry is an high water and chemical consumption Industry. The chemicals normally used in the leather manufacturing are based on petrochemical chemistry, due to the easy fossil raw materials availability and to their relatively chemical stability.

In accordance with the European Dangerous Substances Directive (67/548/CEE) almost 31% of the volume of the Chemicals used by the European leather Industry are Hazardous Substances: 62% of those are used in Italy. BREF (Best Available Techniques Reference document) and IPPC UE Directive of 2008 highly recommend the reduction of water consumption in the leather making process and push to an identification of efficient and sustainable alternatives concerning the use of Non Hazardous Substances and more Environmental Friendly Products, that can also guaranty a reduction in the Carbon Foot Print.

LIFE BIOPOL project intend to:

- 1) Design and build up an Industrial Prototype Plant able to produce green chemicals: the involved chemical reactions will be Condensations, Polymerisations, Cationisations, Sulphitations, Oxidations, Estherifications, Solphonations of biomass and by-products.
- 2) Produce Bio-Polymers using as raw materials some industrial by-products (from the leather industry too) like animal & vegetable biomasses and Builing-blocks from Bio-Refaneries. The involved industries will be agro-chemical and lealther. Tanning, re-tanning, fatliquors for the leather making process will be produced.

- 3) Contribute to the re-use of biomasses and by-products actually disposed in landfill, incinerated or already re-used but with high related costs.
- 4) Prove that the new green chemicals have same or better quality performances than what is currently in use, through the application on leather in small and big scale trials. These trials will be carried out by the tanneries beneficiaries of the projects. A new crosslinker agent will be used as promoter of biopolymers activity in order to minimize their use in comparison with traditional chemicals.
- 5) Prove that the Environmental impact and the total Water consumption of the leather making process by using the new chemicals is largely lower than the state of the art.
- 6) Prove that the Product Environmental Footprint (PEF) of the new Biopolymers is far inferior than the state of the art leather making auxiliaries.

<b>Planned Start date</b>	<b>Planned End date</b>
1 July 2016	30 September 2019

**PARTNERSHIP:**

<b>1</b>	Codyeco SRL	Italy	<b>Lead Partner/Coordinator</b>
<b>2</b>	Derivados del Colageno, S.A.	Spain	<b>Partner</b>
<b>3</b>	ILSA SpA	Italy	<b>Partner</b>
<b>4</b>	Industrias Peleteras S.A.	Spain	<b>Partner</b>
<b>5</b>	UNIVERSITA' CA' FOSCARI VENEZIA	Italy	<b>Partner</b>

**WEBSITE:** available by October 2016