

KARMA2020 PARTNERS

The KaRMA2020 project was launched on January 1, 2017 for a period of three years. Research partners involved in this project are: Cidetec (Coordinator), Aimplas, VTT, RISE, Centexbel, Institute of Biopolymers and Chemical Fibres, University of Nice Sophia Antipolis. Companies Avantium, Daren Laboratories, Ciaotech srl, Vertech Group, Sioen Industries nv, Grupo Sada, RISE Processum AB, Fertiberia and FKUR Kunststoff GmbH will bring the developed technologies from lab scale up to industrial level.



CONTACT

Project coordinator



Fundación CIDETEC
Sarah Montes
smontes@cidetec.es

Dissemination contact



Ciaotech s.r.l.
Patrizia Circelli
p.circelli@ciaotech.com



Industrial Feather Waste Valorisation for Sustainable KeRatin-based MATERIALS



KARMA2020 is a project funded by the
European Commission

This project has received funding from the European Union's
Horizon 2020 Research and Innovation program under Grant
Agreement n° 723268

www.karma2020.eu

THE PROJECT

KaRMA2020, funded by SPIRE “Industrial technologies for the valorisation of European bio-resources into high added value process streams” aims to the industrial manufacture and exploitation of sustainable raw materials from feather waste to develop innovative green products for high impact cross-sectorial markets. Its technological breakthroughs will guarantee significant environmental and economic benefits.

BACKGROUND

In Europe 13.1 million tons of poultry meat are produced for year, with an estimated generation of 3.1 million tons of feather waste. Due to the raise in poultry meat consumption, this amount is expected to increase. Therefore, the development of industrial conversion methods and exploitation strategies for poultry feathers will increase the value of feathers as raw material as well as reduce the environment impact and health hazards associated to landfill.

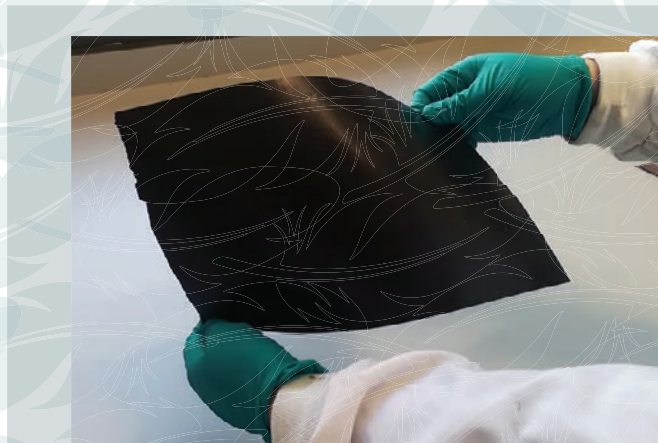
OBJECTIVE

The KaRMA2020 project aims at the industrial manufacture and the exploitation of such underutilized feather waste for the production of valuable raw materials that will be used to develop products for cross-sectorial applications, such as hydrolysed keratin, bioplastics, flame retardant coatings, spun bonded non-wovens and thermoset biobased resins.



KARMA2020 TECHNOLOGIES

- Steam explosion process
- Deep eutectic solvent fractionation
- Bioprocessing of feathers
- Hot melt extrusion
- Flame retardants
- Thermoset resins



THE PROJECT

After two years of research and development, KaRMA2020 has already reached some of the most challenging milestones of the project: the production of feather-based raw materials at pilot scale and the manufacturing of end products: fertilizers, biodegradable packaging, bio-based thermoset composites and technical coated textiles. Now the Project is facing its last phase and these products will be validated according to European Standards. Their environmental impact and carbon footprint will be assessed in order to compare them to corresponding products derived from fossil raw materials.

