Grant agreement #836884

USABLE PACKAGING – PRESS RELEASE

BIODEGRADABLE FROZEN BAGS: THE LATEST SUCCESSFUL DELIVERABLE FROM THE USABLE PACKAGING PROJECT

August 2022 – USABLE PACKAGING project partner BIO-MI has announced the launch of frozen bags as a new milestone in the production of biodegradable packaging products derived from food industry residues.

Launched in June 2019, the USABLE PACKAGING project – funded by the Bio-Based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 Research and Innovation programme - aims to reduce the use of environmentally harmful fossil-fuel-based packaging by developing high-performance bio-alternatives derived from food industry by-products, to cover packaging and product needs for the food, drinks, pharmaceutical and clothing industries.

The materials produced create a sustainable, circular value chain where the end-of-life processes of the products contribute towards the next cycle of manufacture, further reducing the impact of plastic waste on the environment. The frozen bags represent the fourth successful output from the project after compostable straws, cutlery, and plates.

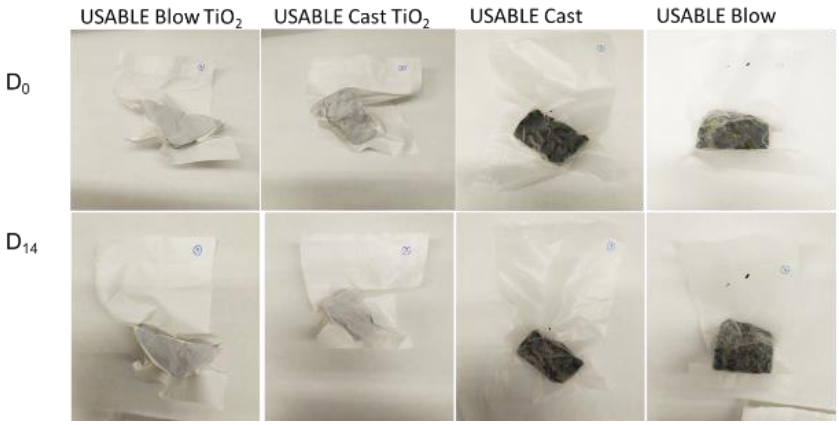
"The availability of frozen food that can be used at will gives consumers a broad variety of options when it comes to preparing meals" explains CSIC's Prof José Maria Lagarón, USABLE PACKAGING project leader. "However, whilst frozen food can reduce waste and significantly extend the shelf life of the product, it relies on the use of fossil-based packaging which causes harmful plastic pollution, and the growing use of frozen food on the market has exacerbated the problem.

"*The USABLE PACKAGING project aims to replace these fossil-based packaging materials with high-performance environmentally-friendly alternatives which, while retaining the high-level properties needed to package food and other fragile products, feature biodegradable characteristics that ensure that their end-of-life process is sustainable*."

The USABLE PACKAGING frozen bags were developed and manufactured by the project partner BIO-MI by film blowing and film casting. They were then characterized in terms of physical and antibacterial properties by the CSIC partner.

"*The frozen bags prototypes showed strong antimicrobial properties against typical food borne pathogens and a good balance between mechanical and barrier properties, proving their effectiveness at reducing and controlling the growth of food-borne bacteria*", continues Prof Lagarón. "*This translates into an extra performance of this material when compared to the reference one. The films showed good mechanic strength and varying degrees of opacity - requirements needed to protect the food from light".*

To analyse their sealing and vacuum capabilities, the bags were vacuumed sealed containing spinach, as would typically be done by the companies OROGEL and SONAE, partners in the project. The bags were kept at -20°C and visual inspection was done after 15 days. Up to that point, no changes in colour, vacuum or bag breaking occurred.



Vacuum sealed samples were obtained from different frozen bags prototypes used

The biodegradation study currently being carried out in real environmental conditions at the University of Athens suggests a trend towards full biodegradation in all the environmental conditions tested.

Further studies regarding the shelf-life of various frozen food products will also be carried out by SONAE, who will use the USABLE PACKAGING frozen bags for internal studies with a view to replace the non-biodegradable frozen bags they currently use.

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About USABLE PACKAGING:

- Launched in June 2019 in Valencia, Spain, the Usable Packaging project aims to develop a portfolio of new bio-based, compostable packaging materials for application in the food, clothing, and pharmaceutical industries. The core objective of the project is to dramatically reduce the use of environmentally harmful fossil-fuel-based packaging by developing high performance bio-alternatives with adequate packaging properties.

- A consortium of 25 partners representing businesses, universities, research centres, trade associations and other organisations from all over Europe are working together on the project, led by Spain's Consejo Superior de Investigaciones Cientificas (CSIC). Each partner is tasked with delivering key elements of the process as Work Packages ranging from an assessment of the current packaging options to the development and testing of the new polymers, engagement with end-users and commercialisation.

- The project has received funding from the Bio-Based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 Research and Innovation programme under grant No 836884. The JU receives support from the European Union's Horizon 2020 Research and Innovation programme and the Bio-Based Industries Consortium.

- The project will close on 30 November 2022 – An end-of-project conference will take place on 9th November, during the Ecomondo Green Technology Expo in Rimini, Italy.

- Find out more about the Usable Packaging project at www.usable-packaging.eu