

#REFUCOAT coordinators talk about the project's home stretch



Q: You both work at AIMPLAS. What is your background?

LORENA RODRIGUEZ GARRIDO

(technical coordinator): I have a degree in chemistry and 15-years' experience in the packaging industry. At AIMPLAS I'm involved in the printing and coating department – focussing on creating sustainable coatings, producing packaging structures and improving barrier properties.

JAVIER MARZO MUÑOZ (project manager):

I'm a biologist and have an environmental management master with 10 years' experience in internalisation in the food business. At AIMPLAS, I work as a project manager in close contact with the technical departments.

The REFUCOAT paradigm

Q: Your core business is plastic production. What is important in thinking about the sustainability aspect?

LORENA: Considering the whole life cycle assessment of the plastic production process is essential. We need to ask ourselves a) How much energy is needed throughout the development process? and b) How much emission is release during the recycling step? The REFUCOAT paradigm arises due to a change in regulation towards 2030 wherein all packaging needs to be

recyclable, while at the same time needs to have optimal barrier properties.

Q: The packaging is bio-based. Will it be compostable, recyclable or biodegradable?

LORENA: The chicken tray and lid made from PLA/PHA material with active coating will be compostable. The packaging for breadcrumbs will also be compostable. Only, for the packaging of crisps, made from biopolyester and biopolyethylene material, will be mechanically recyclable. Both materials are recyclable after separation. Further research needs to clarify if REFUCOAT's project can also develop a compostable structure based on PHA and PLA.

Technical challenges

Q: What are the biggest challenges?

LORENA: The biggest challenge for us is not only obtaining new materials like PHA and PGA but also being able to process them using conventional equipment. The processability of PGA material is not easy, it is a new material which shows very good barrier properties, which makes it the perfect biobased material for barrier packaging structures. Working with PGA requires a high knowledge of its properties and behaviour to overcome the challenges the material faces to become the perfect solution for packaging structures. REFUCOATs biggest challenge is developing and understanding PGA material for barrier packaging solutions.

“Packaging needs to be recyclable, while at the same time have optimal barrier properties.”

Q: Do you get support or resistance from the industry?

LORENA: The industry remark about REFUCOAT is that the project is rather complicated. But with a set up that is looking for recyclable, compostable multi-layered material instead of mono-materials this structural complexity is innate. Multiple industrial organisations have expressed their interest in the REFUCOAT outcomes and results.

They are especially interested in the development of the PGA material for breadcrumbs and chips and the PHA with improved water vapour barrier for chicken trays.

COVID-19 versus REFUCOAT

Q: What stage is the project currently at?

LORENA: The project was planned to finish in May 2020. Due to COVID-19, some lab work is postponed, and the project needs to be extended to September 2020.

JAVIER: Our final conference “From plastic to policy – How can we improve the performance of food packaging”? would have taken place in Brussels, May 2020. The event is replaced by a 2-session interactive webinar with inspiring keynote speakers Tristram Stuart, author and food waste campaigner and Dr Andrew Dent, Executive Vice President, Material Research at Material ConneXion.

New research opportunities

Q: How have you experienced the work in REFUCOAT?

JAVIER: REFUCOAT thrives on good interaction between its partners. Therefore, we organise monthly meetings and liaises with partners regularly to optimise collaboration.

LORENA: REFUCOAT has been an interesting experience. We have learned from the positive outcomes and even more from the processes that weren't planned initially. While trying to solve the challenges in the project we have seen the complexity of developing new material for industrial processes and have obtained valuable scientific information. This exact complexity will open new opportunities for research and other EU project can be initiated as a result of the outcomes.

Q: What is key to making the end product a success?

JAVIER: The support of the BBI network and the engagement and maximal involvement of end-users within the packaging industry.

More on [REFUCOAT.eu](https://refucoat.eu)

