

Request for industrial partners (12/02/2019)

Project title: **Tuning the biodegradability of (bio)polymers for more sustainable plastic applications**

Acronym: Tune2Bio

Project ID	
Type	ICON
Period	3 years
Starting date	2019
Total project budget (€)	TBD
Total man months	TBD
Subsidy percentage	According to SBO- and O&O regulations
Amount of subsidy (€)	TBD
Partners	Current partners not disclosed at the moment

Project description

1. Context

The pollution of the environment by plastics is a hot and controversial topic. Biobased and biodegradable polymers can be an important element in the solution towards more sustainable plastic processing and use. However, “biobased” is not a synonym to “biodegradable”. Not all biobased polymers are biodegradable, some petro-based polymers are biodegradable. And, very important, not all biobased polymers or biodegradable polymers are more sustainable than the currently used petro-based forms. Guiding humanity towards sustainable plastics practices by offering biodegradable and biobased polymers, is a very complex matter. Even more so, if you want the products not to disrupt the well-functioning recycling routes that are already established. This project will research new formulations and plastics options that meet both the sustainability and biodegradability demands, for selected applications in diverse application fields.

2. Goals

To research and test new formulations that meet the sustainability and biodegradability criteria for selected applications. The project will NOT research new monomers leading to biopolymers or biodegradability properties, but will rather research new formulations, inspired by existing biopolymers, by making innovative derivatives and combinations. Both

physical as well as chemical routes will be investigated, respectively blending polymers or synthesizing copolymers from established or emerging monomers, or modifying existing (natural) polymers. Finally adding biobased additives and fillers can tune the properties even further to the specific needs of the end application. The industrial partners will be able to implement the use of these new formulation on a relatively short term in their selected applications, thus innovating their product portfolio and strengthening their competitive position and/or accessing new markets. The project will make a significant contribution to the knowledge base on biobased and biodegradable polymers in Flanders (at knowledge institutions and companies) and will become an important part of the puzzle leading to a future Flemish circular economy.

3. Research Target

The present research project aims to tune the biodegradability of biopolymers to increase the sustainability of plastic applications, this project envisions:

WP1: Formulation of new polymer blends or copolymers materials

WP2: Processing of materials to primary structures (filaments, sheets, films)

WP3: Biodegradability kinetics and optimizing test methods

WP4: Selection, upscaling and testing most promising materials for end applications

WP5: Sustainability and techno-economical assessment of new materials

Request

To complete the consortium, Catalisti is searching for additional industrial partners in all areas (with the exception of textile and food service ware) that are interested in researching applications of which tuning the biodegradability to specific demands is required. Both extrusion and injection moulding processing techniques will be investigated, especially parts with a thickness ranging between 0.1-1.0mm will be the focus of this project.

Important notice: To be eligible to receive funding from Catalisti in Catalisti-supported projects, industrial partners must be (at least) project member of Catalisti. For more information on membership and membership fees, please visit our website: <http://catalisti.be/membership-2/>

How to reply to this request

Please send an **email** before **February 25th 2019**, 12:00 PM (noon) to wlibbrecht@catalisti.be, and **briefly describe your interest and potential contribution** to the project. Based on all offers, the current industrial partners will determine together with Catalisti which partners can join the consortium. After submission of your offer, you can be contacted by telephone to further elaborate your offer. The decision will be communicated earliest on February 28th 2019. Please already tentatively reserve time on March 1st 2019 (afternoon) in your agenda if possible for a meeting with the initiating companies. Please contact Wannes Libbrecht (wlibbrecht@catalisti.be; +32(0)499 31 56 04) for any further questions you might have related to this request.