

Request for industrial partners (15/03/2019)

Project title:

Robotised production of sustainable multi-layer rotomoulded parts: combining a very stiff sandwich structure with a functional outer layer

Acronym: ROTO

Project ID	
Type	ICON
Period	2 years
Starting date	October 2019
Total project budget (€)	TBD
Total man months	TBD
Subsidy percentage	According to SBO- and O&O regulations
Amount of subsidy (€)	TBD
Coordinator	TBD
Industrial partners	Current partners not disclosed at the moment
Executing partners	TBD

Project description

Context

Polymer transformation technologies like blowmoulding, blown film and sheet & film extrusion, have made the transition from mono-layer to multi-layer parts in the 70's and 80's. This transition was needed as 1 material solutions could not comply with the always increasing performance requirements of the market. For technical reasons, rotational moulding missed this revolution and continued to focus on mono-layer parts with lower added value.

The robotization of rotational moulding and its direct tool heating & cooling revolutionises the rotational moulding process. It is now also possible to produce multi-layer parts with rotational moulding. This allows to overcome the intrinsic weaknesses of conventional rotational moulding and to take the full benefit of its strengths.

Research Target

The project aim is triple.

1/ First of all the project wants to investigate the impact of the innovation in heating and cooling on the material properties of the parts produced and hence determine the processing limits of the process.

2/ Secondly the project wants to explore the optimised formulations for the production of a structural foam layer in rotational moulding and fully characterize its properties

3/ Thirdly the projects wants to explore new applications for which the process can combine light weight structures with functional layers. Different functions can be considered like

- Safety : flame retardant properties, conductivity, ...
- Esthetical properties : different kinds of touch,...
- Acoustic insulation
- Thermal insulation
- ...

Often functionalizing a polymer is done at the expense of the mechanical performance of the material. Multi-layer solutions are a way to overcome this and to fully comply with all the requirements for a functional part. Robotized rotational moulding is now well suited to produce such parts: combining function with light weight and strength.

The consortium wants to take into account the end of life cycle of the part at the design phase in order to maintain the parts material value at the end of the parts useful life.

Request for partners

To complete the consortium, Catalisti is searching for additional industrial partners with knowledge and experience in:

- Rotational moulding
- Compound formulation and production
- Design of parts with functional requirements like flame retardancy, conductivity, acoustic or thermal insulation, ...
- OEM in Appliances, Design, Transportation or Building & Construction, ...
- Polymer testing capabilities
- Polymer grinding capabilities

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 **March 29th 2018**, to kvanwesenbeeck@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. Please contact Karen Van Wesenbeeck (kvanwesenbeeck@catalisti.be; +32(0)472 81 63 97) for any further questions you might have related to this request.