



European Project Semester

PROJECT OUTLINE

Project dates: September – December 2020

Title:

Development of a 3D printing solution to process and recycle marine PET wastes (Polyethylene terephthalate)

Project activity areas:

Plastic up-cycling, circular economy, business project funding, material science, biochemistry, Research & Developments, Environment protection

Keywords:

Plastic marine waste, up-cycling, funding, circular economy, polymer science, material engineering, environment, protection, societal approach

Tutor's name and coordinates

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Project origin

Research, Innovation, Up-cycling, Circular Economy, Environment protection

Project technical background:

This project aims to create a new circular economical channel to up-cycle marine PET wastes. It is lead by the organisation www.ReSEAclons.org located in southern France. This association has organised a plastic marine waste collect channel in partnership with fisheries, local communities, governmental organisations, citizens. The aim of the project is to study and optimise au way to recycle marine waste of PET bottles thanks to 3D printing technologies.



Thus, the project shall investigate several aspects of the problem:

1. Project funding: This project implies the seek for funds (governmental, regional, other). This component of the project will consist in analysing all the funding possibilities available, select the best option and implement it. It also implies to able to defend the project in front of funders or public institutions. A great experience for those who have in mind a future business development.
2. Material science characterisation: definition of the 3D printing wire manufacturing process out of marine wastes.
3. Product development: development of a 3D printing solution for this recycled plastic wire.
4. Circular economy: this project is deeply anchored in values such as respect. Respect of the environment but also respect for the people. We have to think the future development of this project with respect with local economies by restoring the scale of values through the different actors of the cycle. As a consequence, a whole

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part of the project shall be dedicated to integrating all the stakeholders of this newborn economical ecosystem. Our goal is to heal the society as we want to heal the marine life.

5. Up-cycling solution innovation: the up-cycling project is only the first step of the project. We would like to develop other innovative or even revolutionary approaches of up-cycling plastics. This part of the project is to set up an ambitious project to provide a very local way to reuse PET waste into useful products for communities.

Studied topics:

- Innovative project funding
- Polymer science applied to marine plastic waste up-cycled characterisation
- Circular economy study and development
- Product development works in order to open up the application field of the up-cycled material