

automated sorting technologies. Plastics identified as having high technological values will be post-treated to create extruded wire or aggregates intended for additive and/or compression-friction manufacturing. In this way, it will be possible to create, either on a very local scale or on a more global scale, value creation loops in the circular economy by creating products of all shapes made from recycled plastic. The aging of different polymers will also be studied.

3. Tribological studies: Different tribological properties of different types of polymers (and blends of polymers) will be studied for compression-friction manufacturing. The goal is to understand better the tribological behavior of neat polymers and their blends to make stronger recycled materials by different technologies.

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 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.

4. 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.

Studied topics:

- Innovative project funding.
- Definition of requirements and technical specifications.
- Analysis of the existing method and determine their limits.
- Polymer science applied to marine plastic waste up-cycled characterization.
- Compression-friction study of different type of polymer.
- Experimental study of different blend of polymer (Tribological and physical-chemistry characterization).
- Circular economy study and development.
- Product development works in order to open up the application field of the upcycled material (3D printer).