

Rethinking Waste – Ocean Bound Plastics

Theme: **Digitalize Idea generation for novel applications of Ocean bound plastic.**

Introduction

Virgin plastic and its applications are responsible for a significant amount of the global pollution, both for the production as for the end-of-life aspect. Which is why eradicating the use of virgin plastics is one of the most stressing missions of modern day society. One way this can be done is by designing a fully sustainable and circular value chain for ocean bound plastic (BLUEWAVE®)!

Who is behind this initiative?

Archwey is the sustainable materials engineering group, dedicated to ensuring circularity, eradicating plastic pollution, and protecting life.

Archwey is on a mission to reshape the world's building blocks and believes that the best moment to change the way we use materials was 25 years ago. The last best moment is now. Archwey essentially aims to rid the world of virgin plastics – full stop – this goal will be achieved through its GRS-certified plastic solution BLUEWAVE®: a thermoplastic material made from 100% upcycled ocean-bound plastic, marine plastic and recycled post-consumer plastic, collected predominantly from four of the most polluted rivers on earth.

Archwey's three companies utilise BLUEWAVE® – along with other materials, including recycled acrylic, metals and FSC®-certified wood – to supply ground-breaking sustainable solutions for the manufacturing, display, and transportation of products in fashion, retail, hospitality, and healthcare.

It's three companies consists out of:

- Arch&Hook: Transforming Fashion & Retail with Sustainable Materials (hangers, crates, furniture, etc.).
- Shieldler: Eliminating virgin plastics from healthcare, pharma & nutraceuticals (pill bottles, specimen container trays, blister packs, etc.).
- PlasticBean: The source of sustainable business; offers a variety of BLUEWAVE® R-Plastics (rPET, rHDPE, rLDPE, etc.) to manufacturing companies.

What is the challenge of a new circular value chain for plastics?

This specific project entails developing an IT tool to automate identifying potential new business cases for Ocean Bound Plastic. Now new business cases are identified by means of ideation sessions of groups of people with various backgrounds. However, by crawling the internet and selecting existing plastic products (based on a set of selection criteria) one is able to quickly identify new business cases. (For example, plastic gears for industrial purposes are not something the average person comes up with, but it is sold on AliExpress).

Some general things to think about are:

- Archwey is looking to develop products from circular plastic. As such it desires to identify interesting business cases. However, the business cases need to make an impact (so no small number products) and the products need to be truly circular. So an important part of the business case consists of how the plastic can be returned to the company. (Single use products without the potential to return it are not to be included).
- Key in developing the tool is the selection criteria based on which products are selected. Think about what criteria provide the most interesting results. Think about price vs volume vs order quantity. But maybe also look at whether products are already produced with circular plastic.

Relevant consideration for the challenge/theme:

We understand that this is a very challenging case to do right. There is a thin line between collecting all the potential plastic products (multimillion results are easily expected) and identifying a few hundred cases that can be explored further.

A satisfactory solution would be a tool that provides a limited (few hundred) cases that can be explored further to identify viable business cases.

Relevant links:

Will be presented at the Collider.