

## EUTECH SDG Awards

Progress report - state of art.

- **Eco-design – Circular Design**

The packaging design was carried out using finite element mathematical analysis.

All packaging is in polypropylene (PP). The shell is injection molded, while the spacers, which decouple the geometry of the product packed from the external shell and, at the same time, absorb the kinetic energy during accidental product drops, are in Expanded Polypropylene (EPP).

After identifying the suitable materials and producing thousands of pieces, we used the feedback data from the market and developed a further mathematical model which allowed us to arrive at the use of recycled PP material, that allowed to a) further reduce energy consumption and CO<sub>2</sub> emissions, b) increase the life cycle of the RPP from 15 to 40 cycles, doubling the environmental benefits that LCA reported taking into consideration 15 cycles.

In order to complete the Circular design processes linked to Extended Producer Responsibility, we are working with plastic material suppliers to change our business financial and environmental model from the raw material **purchase** formula, to the raw material **rental** formula – renting polymers, which at the end of the reusable packaging's life, will allow to return the plastic materials for regeneration to original producer, thus closing the circle of plastics in the Circular Economy.

- **Reverse Logistics and Traceability platform for Reusable Packaging (RPP).**

All RPP reverse logistics procedures have also been approved by the major logistics service providers in the major Regions (EU, NAR, PRC and Brasil) with excellent results both as regards the elimination of damages to products and regarding the recovery of all RPPs (no piece was lost in the market along the supply chain).

A traceability platform for RPPs has been developed and tested; it is unique in the world.

By interfacing different digital technologies, it has been possible to use RFID, barcodes and QR codes simultaneously for the traceability of each component of the RPP.

The traceability platform is our Packaging Inventory Management System that identifies the position of reusable packaging along the supply chain and at the same time keeps track of the CO<sub>2</sub> emissions that are generated at each step of the value chain (please see attached picture named *RPP Tracking Platform*).

In accordance with Reverse Logistics procedures, when a certain numbers of RPP are in the Retailer's hub (collection center) and ready for reverse logistics, the system is delivering messages to qualified 3PL that can decide to accept the transport from Collection Center to Sorting Center. This methodology will significantly reduce the number of empty or partially loaded trucks traveling our roads (today, 60% of trucks circulating in Europe are only 50% loaded) and naturally will contribute to further reduce CO<sub>2</sub> emissions.

A real revolution that will allow Large Household Appliances manufacturers, retailers, third part logistics and consumers to be able to interface and integrate into a Social Platform that will

also be available to the Authorities in charge of controlling flows and complying with regulations.

- **Commercial**

**LHA Producers** - The technical sales action which includes the involvement of the entire corporate structure (from the CEO to plant manager) of the Large Household Appliances manufacturer, was completed with all the major world producers, in Europe, the United States and China.

While we are planning and budgeting the necessary volumes with the producers of these regions to cover production and market needs within five years, the company is working on pilot projects with some Brazilian and Indian companies, which have applied.

A TCO calculation model called IPPC - Integrated Product Protection Costs comparison model was shared with the manufacturers' organizations, which highlights the significant economic advantages that the organization obtains by using reusable packaging instead of disposable packaging.

**LHA Retailers** - Also in this case, major Retailers of the various geographical areas have been involved in operational projects which have proclaimed the positive peculiarities of RPPs and the economic and environmental advantages. Retailers' organizations are today able to receive a product packed with RPP and manage the preparation for its reverse logistics in accordance with the procedures.

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- **Partnerships**

In order to speed up the global action towards climate change we are identifying strategic partners that, operating in the Reusable Packaging sector, are interested to co-operate in the achievement of SDG and relevant Circular Business models.

- **Norms and Directives**

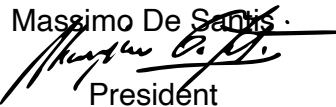
In the last 3 years an enormous job has been done to support the development of the new Circular Economy standard at ISO level. Within this standard, Free Pack Net has been identified as one of the six companies in the world that, in accordance with the Performance Based Approach, will be mentioned and described to represent Circular Economy.

In the last 3 years, an enormous job has been done to involve and support European Authorities in understanding the principle and the social value of our sustainable initiative based on Reusable Packaging, PaaS, Reverse Logistics, Traceability and Sustainable finance (in the new Industrial strategic plan 2021-2027, para 1 page 17, the EC is clearly stating that will support companies able to generate savings of CO<sub>2</sub> emissions in selling it into the ETS).

- **Strategic plan.**

In the next 5 years, the company is committed to:

1. Reach a very consistent percentage of the European and Global Segment Addressable Market in the Large Household Appliance sector.
2. The operational involvement of retailers in the reverse logistics operations will allow to put in the market a new Returnable Protective Packaging for flat screen TV (prototype already developed and tested).
3. Sell the CO<sub>2</sub> emissions that are saved thanks to the use of RPPs and invest in new projects and products in the finished goods sector (water heaters, scooters, bikes, ..).

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