



4

How to turn the tide on the packaging waste epidemic

“Unless we go circular, it's game over for the planet; it's game over for society”. These are the opening words of ‘Closing the Loop, the world’s first feature-length documentary film on the circular economy, publicly released on Earth Day, 22 April 2018. ‘Going circular’ refers to the necessary change from our current take-make-waste linear economy to a borrow-use-return circular economy (sometimes also referred to as the zero-waste or cradle-to-cradle economy).

Exponentially growing consumer demand and increasingly shorter product life cycles coupled with the linear (take-make-dispose) economy have resulted in resource scarcity and a significant surge in waste generation.

Do you know that containers and packaging make up a significant portion of municipal solid waste (MSW), amounting to 82.2 million tons of generation in 2018 (28.1% of total generation)? Packaging comprises the materials and products used to wrap or protect goods, including food, beverages, medications and cosmetic products.

In this brief, we focus on the last two. At present, most healthcare packaging uses plastic, which has been known to adversely impact the environment. Specifically, according to the World

Health Organization, the pharmaceutical industry generates over 300 million tons of plastic waste each year, of which, 50% has single-use purposes. Also, beauty products have a negative environmental impact. According to statistics from the Zero Waste Week research, plastic packaging waste from the beauty industry reaches over 120 billion units of packaging annually, with 95% of cosmetic packaging thrown away after a one-time usage.

Despite an increased focus on sustainability, the health, beauty and skincare industries are not doing enough to address waste, say critics. Just as in apparel, waste is often built into the business models. However, most work to eliminate waste has so far been connected to packaging while overlooking other sources. Waste is generated not only by packaging but also by formula testers, unsold or returned products and items that expire in pharmacies and warehouses or on store shelves. Let alone the sheer volume of packaging thrown away by consumers, the users of those products.

ISDIN is among the 3,800 B-Corp companies in the world, a status earned through its commitment to and philosophy on wellness and caring not only for people's skin and health, but also for their employees, customers and the

environment. These principles guide ISDIN's continued efforts to make both the company and the world better.

These are some of their Agenda 2030 goals:

- More than 95% of the packaging will be eco-designed.
- ISDIN will use a minimum of 25% recycled materials.
- All raw materials used in ISDIN's products will be certified with the highest social and environmental criteria.
- Carbon emissions are reduced by 20%.
- All of the waste generated in the sites will be recovered, becoming "0" waste in all production facilities.

But the company wants to do more. And that is why we ask you to design a service aimed at reducing packaging waste in the health, beauty and skincare industry with the involvement of all stakeholders beyond the producer; from sellers to users, from prescribers to dispensaries, and potentially others as well.

Background

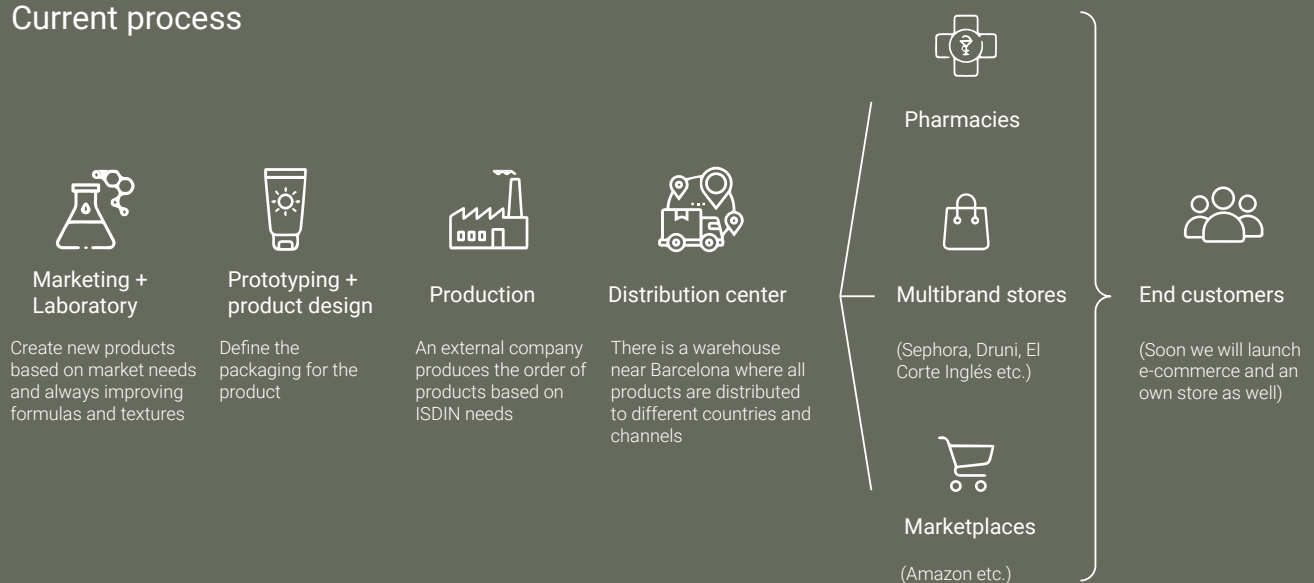
How can we close the loop?

To promote circular processes, we ask you to explore packaging within the health, beauty and skincare industry. How can we effectively close the loop on its packaging? The good news is that there are a number of packaging components that you can recycle at home or elsewhere. These include the cardboard boxes our pills come in and the accompanying paper instruction leaflets.

When looking at plastic, you may wonder how it can be non-recyclable. If you rinse it and place it in the recycling bin, you can prevent it from polluting, right? Unfortunately, no. Since 1950, the beginning of large-scale plastic production, only 9% of the world's plastic has been recycled. In recent years, more people have come to realise that the concept of recycling plastic is largely a myth.

Knowing what is and isn't recyclable can, for many consumers, feel a bit like a minefield –

Current process



and if the questions we get asked on social media are anything to go by, medicine packaging is one of the areas that cause the most confusion. Medical supplies can be dangerous – all it takes is a needle poking out of a bin liner, and the health of a collection crew member could be jeopardised. While there are a few bits of packaging that you can effortlessly recycle from home, there are other things you can easily recycle or safely dispose of via take-back schemes.

Sensitive prescription medications are typically distributed from the manufacturer to the consumer-serving pharmacies and drugstore merchants. Those medications are usually sent to them in bulky pouches or rigid containers. Then, pharmacies make them ready in smaller, end-user friendly and mainly single-use packaging. However, once in the hands of consumers, they bear responsibility not only for the product but also for its packaging. They don't have any control over the packaging, but they are still responsible for its proper disposal after use.

Driving circular service innovation

If we look at the five strategies mentioned before -reduce, reuse, recycle, renew and reinvent, we invite you to focus on (re)inventing a service that reduces packaging waste in the health, beauty and skincare industry with the involvement of all stakeholders, from producers to sellers to users, from prescribers to dispensaries, and many more. How? That's up to you.

Let's give you an example of a reverse logistics strategy. Reverse logistic services are still rare and, in many cases, overlooked. An example: in 1976, Nespresso designed an innovative coffee system based on capsules, a new, convenient way to make coffee at home. A website, local stores and a loyalty card system were designed to deliver a great experience and attract new and existing clients to purchase more and more

capsules. But what about the used capsules? Nespresso didn't think of the whole lifecycle and forgot to design a service to involve coffee drinkers in easily collecting, dismantling, reusing or recycling the capsules and the coffee pulp.

Since 2010, Nespresso has been making its own recyclable aluminium capsules, which people have to return to Nespresso to be processed at the company's recycling factory. In some countries, Nespresso offers a service that collects them from customers' homes. Some 14 billion Nespresso capsules are sold every year, both online and from over 800 boutiques in more than 80 countries. Over 400 Nespressos are drunk every second. Hundreds of rivals and imitators have emerged, some making capsules for Nespresso machines, others pushing competitor systems. But why isn't this a huge success? With the possibility of dropping off used capsules at the Nespresso boutiques and other locations, there is still no reverse logistic service in place, let alone the commitment and involvement of all Nespresso coffee drinkers. In 2020, Nespresso's global recycling rate was 30%.

Let us be clear: Nespresso isn't the only example. Many manufacturers focus on making beautiful products, seamless purchase journeys, and omni-channel customer service processes. But without a human-centred approach, a circular mindset, a well-crafted service blueprint, and a viable business model, a reverse logistic service won't become successful for people, planet, and profit.

But we can learn from many more strategies, business models and initiatives. Think about collaborative consumption and rethinking the ownership model. Why are we purchasing the product including the package, when our primary concern is ultimately the medicine, the skin lotion or a health supplement? When rethinking different roles, such as owners, sharers and

users, value can be created by enabling interactions and transactions amongst them. Not to mention the potential benefits of engaging in a service that includes these roles, for instance, convenience, empowerment, pursuing a shared purpose or interest, making new connections, and supporting each other as well as the planet.

Putting our planet on the table

In support of the UN Sustainable Development Goals (especially Goal 12 on Responsible Consumption and Production), the documentary 'Closing the Loop' explores five key strategies for achieving circularity – reduce, reuse, recycle, renew and reinvent.

Design has a significant impact on the environment; 75% of the final production process and material decisions are made during the design stage. For this reason, it's time to be part of the solution and not the problem, rethinking the design process and the product ecosystem to accelerate the creation of regenerative and restorative resources.

Taking our present design practices into account, we currently require 1,75 times the earth's resources to cover our demand and use of these limited natural assets. So, it's crucial to take action and prioritise circular design, and that certainly includes packaging.

As designers, we are very used to putting our customers at the centre and creating a service according to their needs, but it's less common to design thinking about the planet as a customer as well. If we want to practise circular or regenerative service design, we need to place the planet's needs as the focus or topic of discussion, evaluating the impact of our solutions on the environment and society. Are the materials used, the logistic system or the infrastructure to collect products beneficial for

(do no harm to) the planet? We advise you to ask those questions during the service design process for this challenge.

Many governments are preparing new policy proposals to reduce waste and reach greater recycling rates, in order to move towards a zero-refuse economy. "The way in which our society has produced and consumed so far is simply not sustainable any longer," said Karl Falkenberg, who headed the European Commission's environment directorate in 2014.

There is a tendency towards exploring this more holistic approach: a circular economy with social and ethical concerns. Circular and regenerative strategies to satisfy all human needs within the means of the planet. That's why ISDIN's goal for 2024 is to "Be a force for good".

Technology levers

We ask you to look at emerging technologies for this challenge. Not as a solution, but as an enabler. For instance AI may positively affect the way we tackle this problem. Several organisations have begun to identify the importance of artificial intelligence in sustainable packaging and waste reduction. We have powerful technological tools at hand that we may utilise to design impactfully and responsibly for a regenerative future. Over the last few years, we have gained unprecedented technological abilities. From new bio-benign materials to data-powered abilities to understand and design across complex supply chains, and digitally-enabled business models that address our needs without extractive material flows. We have the potential to design and work with nature rather than against it. In conjunction with the rising desire among creatives to use the transformative power of design as a force for good, we have a real opportunity for change.

Let's give you a few examples of emerging technologies in general:

1. *Blockchain* - Can be used to create smart contracts between parties and also to reward customers.
2. *AI-driven automated recycling* - AI can analyse large amounts of data and approve adjustments based on that data. By utilising advanced algorithms, these systems can identify, sort, and process recyclable materials effectively.
3. *Barcode/QRs and scanning* - For collection and incentivisation (e.g. Green Earth).
4. *AI-powered smart packaging* - presents an option for improving sustainability. Through sensors, RFID tags, and other technologies, smart packaging can track and monitor a product's journey from production to consumption. Valuable data on temperature, humidity, handling conditions, and potential exposure to contaminants can be gathered. This data enables companies to make informed decisions to minimise environmental impact.
5. *Internet of things* - Waste collection with the use of smart bins can lead to smart truck management and transportation.
6. *Zero-waste manufacturing* - A shift away from a traditional linear supply chain, which takes resources from the Earth to make products that are ultimately discarded, is zero-waste manufacturing. Its goal is to adopt a circular model that uses and reuses materials with minimal waste. [An example is this Sao Paulo-based factory](#) ♪ that is pioneering zero-waste manufacturing and closing the loop with plastics, by recycling products into new ones and forging ties with local communities. Another way to use AI for recycling is by [AMP Robotics](#) ♪.

These are just a few of the many examples.

Your new service or service innovation will leverage AI as a partner to address this packaging waste challenge.

Additional references:

- [How medical packaging is changing amid environmental concerns](#) ♪
- [Recycling medicine packaging and blister packs](#) ♪
- [Closing the Loop documentary](#) ♪
- [AI in sustainable packaging](#) ♪
- [Design and the circular economy](#) ♪
- [AI and the circular economy](#) ♪
- [B Corp and ISDIN Agenda 2030](#) ♪

The assignment: Design a service that turns the tide for good

In his book 'Principles of a Permaculture Economy' Hendrith Vanlon Smith Jr states: "When we apply the design principles of permaculture to economics, we end up with an economic ecosystem where every participant adds to and benefits from maximised productivity." But we want you to go beyond circular and regenerative. There is a potential to address the situation holistically, taking into account all actors of the system. Every action and individual contribution can and needs to have a positive impact.

By designing a service that truly closes the manufacturing and logistics loop, has planet needs as a starting point, and all actors and stakeholders involved, you're empowering individuals to create a more sustainable society.

In your design and service concept, we ask you to significantly emphasise on changing people's behaviour. An important factor considered in the literature is using incentives to achieve that. For

instance, well-designed incentive schemes for the collection of end-of-life products, including single-used packaging, that consider the value of the recovered products and volumes being returned by consumers may be an idea to think about. For that, you may use an existing loyalty program such as 'LOVE ISDIN' for customers and pharmacies. Its current mechanic uses a QR-code in the products' packaging to reward the customers with points after every purchase.

Increasing convenience, such as ensuring a shorter distance to the collection centres or improving the service level in the collection function, can also nudge consumers towards positive reverse logistic practices. Similarly, providing information to the consumer that others in their social environment are behaving in a similar manner is likely to activate the social norms and nudge consumers towards appropriate behaviour (Flygansvær et al., 2021).

About ISDIN

This is a challenge offered to you by [ISDIN](#) ^ρ. ISDIN is an international pharmaceutical company and a leader in the Spanish dermatology market, specialising in solutions for the main dermatology conditions and needs. Almost celebrating our 50-year anniversary, we have become a global benchmark in dermatology. With an industry-leading understanding of sun protection & enjoyable textures, we have been strongly committed, together with dermatologists and pharmacists, to provide comprehensive solutions for skin treatment, prevention and maintenance fighting the main diseases and conditions affecting the skin and the mucosa. Our skin is the only organ of our body in direct contact with our surroundings; it touches them, caresses them, discovers them, deciphers them and feels them. Just as we care for our skin, we also want to care for and improve the footprint we leave on

our planet. Not only by looking for ways to be more sustainable, but also by acting to protect our world. We are proud to be B Corp certified. However, forming part of the solution also comes with great responsibility: to be a force for change towards a more sustainable world. This journey into the future is never-ending. Today, people in over 40 countries enjoy our skincare range.

ISDIN