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Sea2see. A change agent in the eyewear industry

TAGS: Recycled materials, recycled plastic, circular design strategies, sustainable design strategies, social impact.

1. Project definition

Sea2see (Spain-Italy) June 2016/present

Sea2see was started by François van den Abeele, an entrepreneur with deep passion for oceans and nature, convinced that around the globe consumers are becoming more environmentally conscious, that they expect ecologically friendly materials, a conservation-minded use of resources, reduced emission of pollutants and greater social commitment.

François firmly believes that every drop counts in changing the world and that to reimagine product design, use and consumption habits is our duty and one of the greatest challenges of our time.

Believing in circular economy and looking at the plastic contamination of our oceans, he thought that ocean plastic could be reconverted into raw material to produce everyday products. His motivation, investigations and investment in R&D have been lead Sea2see to succeed in manufacturing a premium eyewear made entirely with abandoned fishnets and ropes, collected by fishing communities of the coast of Spain, hence reducing ghost fishing and ocean contamination.

Sustainability is almost inexistent in the eyewear industry where plastic is the main source of raw material. Sea2see is leading a change, hoping consumers will start understanding that waste can be transformed into premium products.

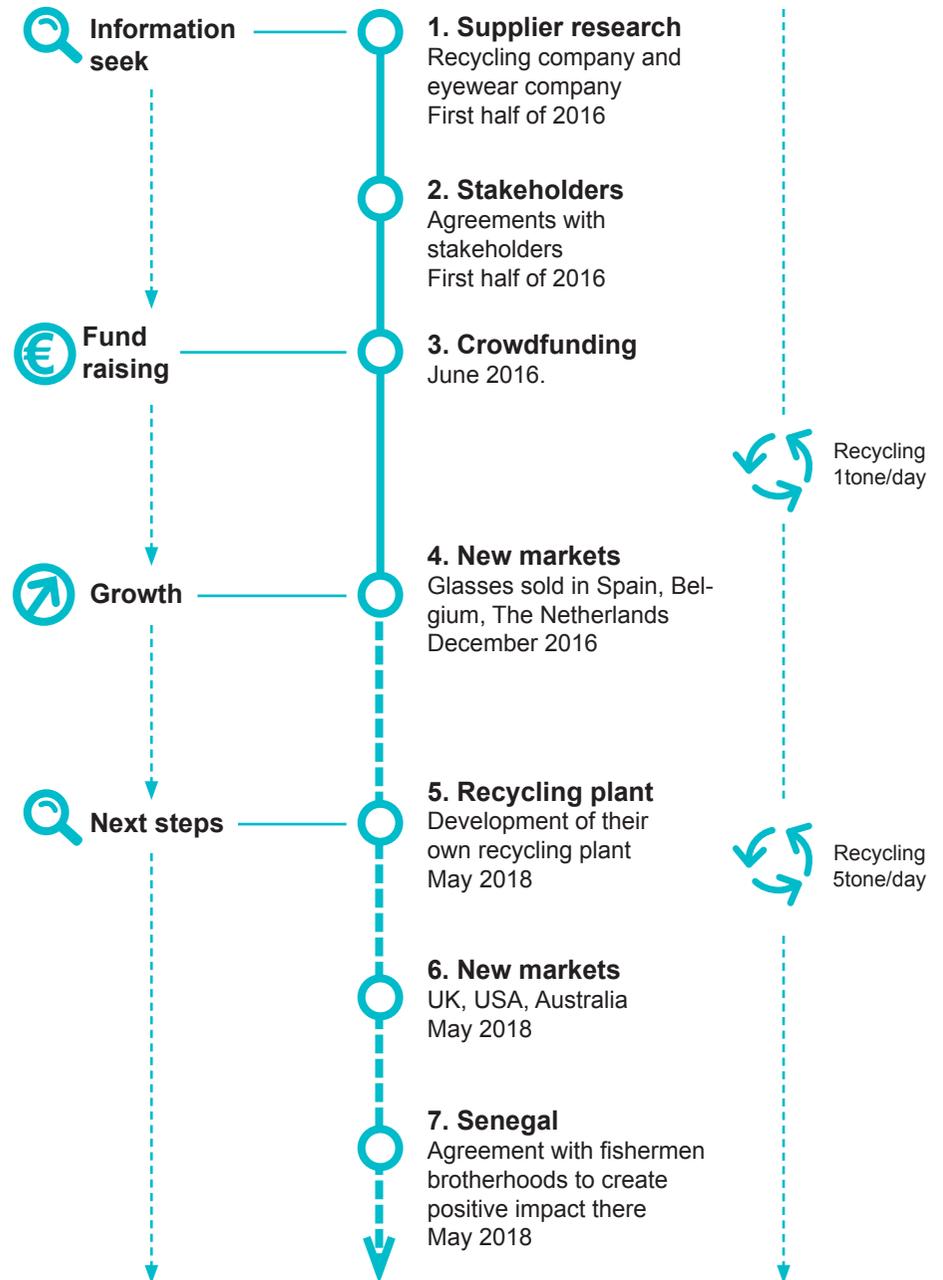
François has a business background, having started several projects in a variety of sectors like apps, filmmaking, things related to the sea, etc. always trying to generate a positive impact.

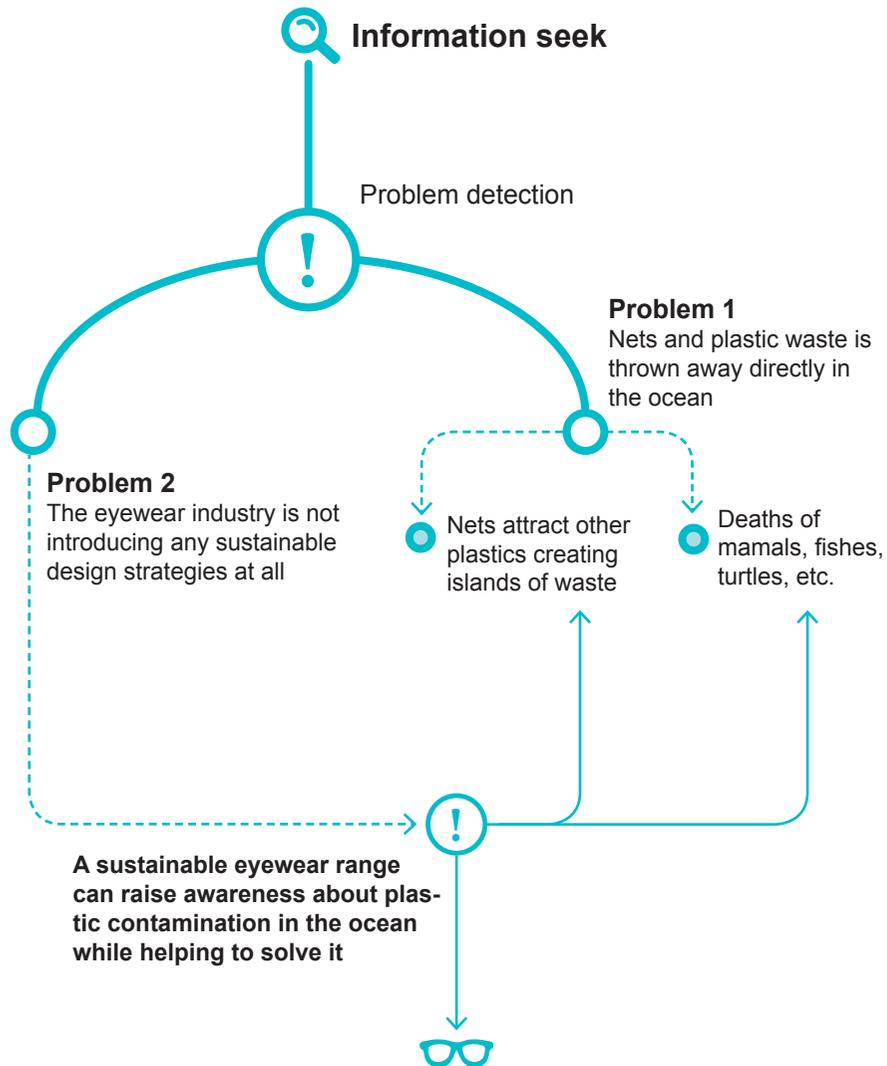
To start Sea2see he looked for a plastic recycler, to help him to get the raw material he needed to produce the glasses, and a glasses producer that brought all the expertise needed to make a competitive product.

As most of the companies of the optical sector Sea2see has created a network of distributors that sell their products in a growing number of markets. Eyewear industry works mostly in a B2C model, where eyewear stores are the real client of the companies, not the final consumer. Sea2see is not an exception, and they are proud of having created a network of retailers and distributors that have believed in the project selling their products.

KEYWORDS: Waste material, business alliances, multidisciplinary team, B2C.

Timeline





2. Research

Specially in developing countries, but also in the richest ones, nets and plastic waste from fishing is thrown away in the ocean. The nets that trawling boats frequently leave in the sea act as magnets for the 8 million tonnes of plastic detritus estimated to be thrown into the world's oceans each year.

They create islands of waste that trap hundreds of thousands of sea mammals and fish. Plastic is also ingested by aquatic animals, such as sea turtles, who mistake it for viable food.

The eyewear industry is a \$120 billion market in which plastic is the main source of raw material and sustainability is almost non-existent. Approximately 50% of the population needs eyewear and this is increasing with the constant use of smartphones and tablets. Transforming this pollution into a wearable product allows Sea2see's customers to make a visible statement about this issue.

KEYWORDS: Direct observation, information from reputable sources



Fishing nets are thrown away in the ocean every day creating islands of waste that trap hundreds of thousands of sea mammals and fish. Plastic is also ingested by aquatic animals, such as sea turtles, who mistake it for viable food. They have become a huge environmental problem in our oceans.

3. Analysis

Van den Abeele has definitely been the MG of this project. He is the one who detected the problem with the nets and other plastics from fishing, the one who started speaking with the stakeholders, and the one who found the other actors that are finally involved with the goal of producing a range of eyewear made with recycled plastics. As we said before, he has a business profile with a really diverse experience and a great love for the sea, so he had the perfect background to act as a motor group of Sea2see.

One of the most necessary actions in every project is to define properly the actors needed to complete the profile, and in this case this was done in a brilliant way.

Because of the high specialization required in the plastic sector, it was necessary to be associated with a company with high expertise in it, to get the recycled plastic with the necessary homogenization to get an injection with the required quality, and he found it in Girona, near one of the most important fishing areas of Catalonia. This company allowed him also to accomplish the rigid waste management policies.

To find a company with knowledge in eyewear production was also basic, because glasses are a sector with a lot of competitors and completely influenced by trends, so it was necessary to have a partner with high competency in the sector.

MG, the recycling company and the eyewear producer became the necessary team to make Sea2see a reality in the market, but Van Den Abeele also considered basic to speak with the main stakeholders associated to the waste

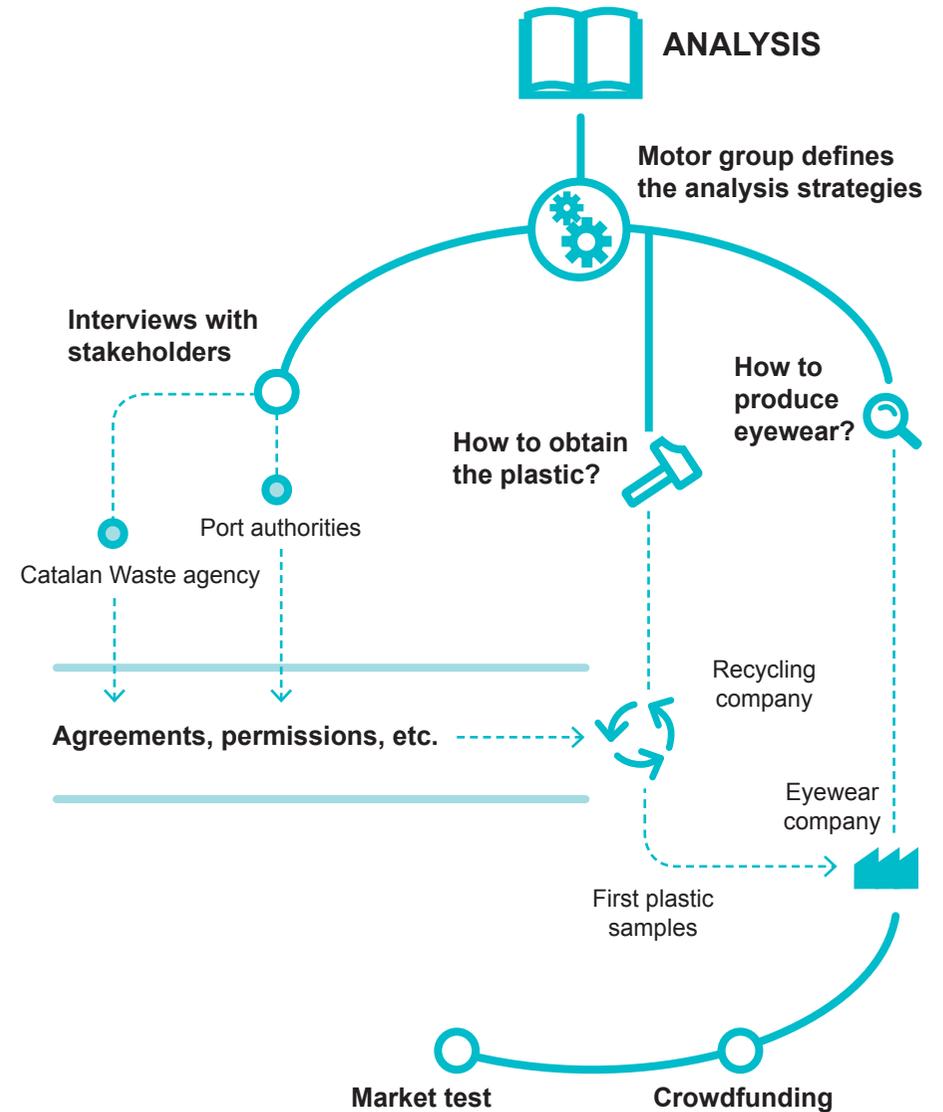
sector and the fishermen collective, both completely necessary for the success of the project.

The main stakeholders that he spoke with were the Catalan Waste agency (ARC) and the Port authorities. As a public company in charge of the waste management in a regional level the waste agency needed to be involved, because as we said before you need to be legally certified to manage some waste materials. The second stakeholder, the port authorities, became the easiest way to convince the fishermen to collaborate into the collection of the plastic waste.

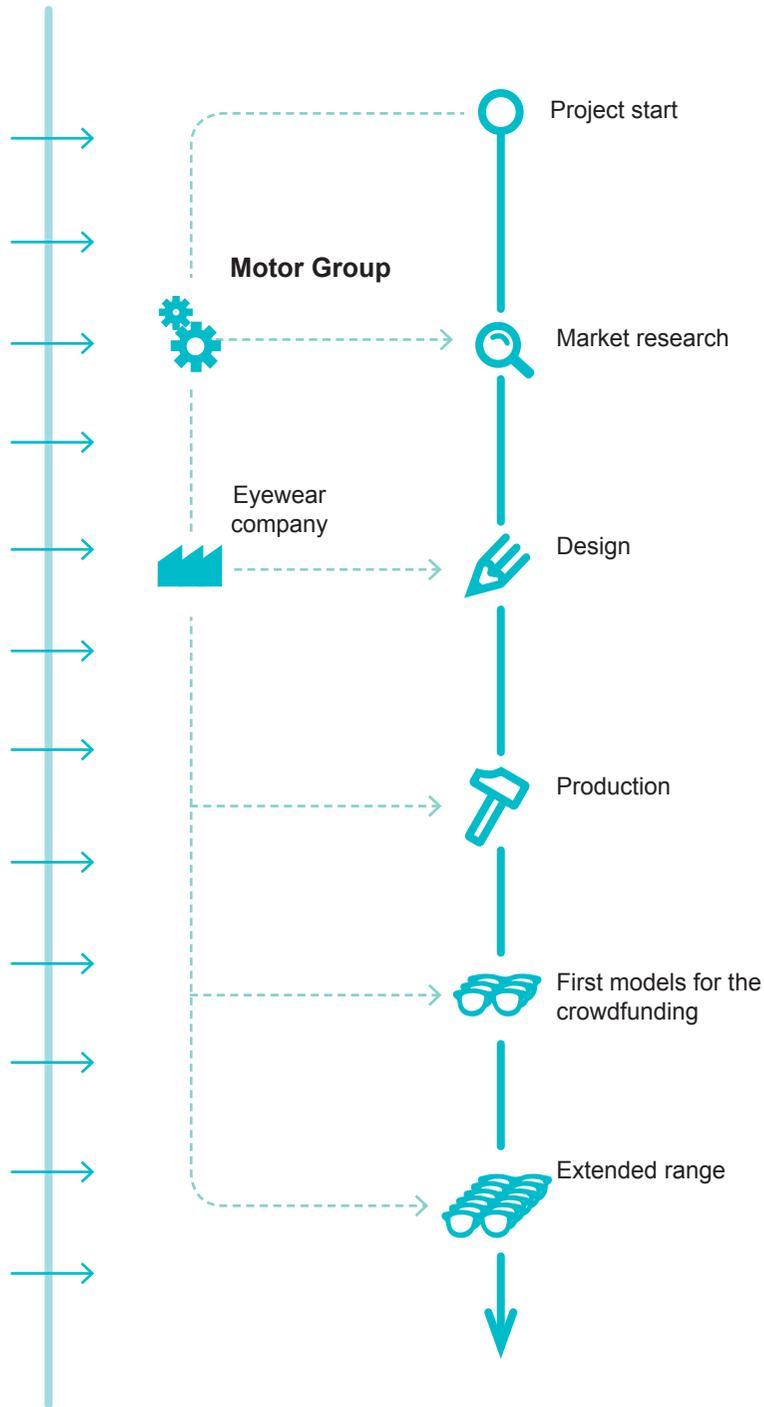
Once he found the eyewear company that wanted to participate in the project they did the first injection and laboratory tests to get the first units. These units were the ones who they used to test the viability of the material and the project, and they were used to create a crowdfunding that got the necessary investment to produce the first series. This crowdfunding worked also as a test to see if the market was interested in their products, and they succeed getting the money they needed.

Sea2see also made it into the final rounds of the Chivas Venture Awards, a prize that seeks to highlight new businesses that are making a positive social impact.

KEYWORDS: Interviews with stakeholders, research of qualified partners, market test through crowdfunding



the MG has the task of checking the result of each of the phases before moving on to the next



4. Concept

The idea of producing eyewear comes in a natural way after noticing the problem that plastics provoke in the ocean, having spoken with the main stakeholders of the sector, and having gotten the necessary alliances to move forward.

They decided to produce a reduced range of different models with the main glasses typologies the market was asking for in that moment, that now has grown to a more extended family of models. Eyewear industry is strongly influenced by trends and it's considered a part of the fashion sector despite not working with fabrics as a main material, so Sea2see products had to be under the umbrella of the main styles that the clients were going to buy, with the aim of getting the easiest introduction in the market.

Product design was implemented by the eyewear company, that knew perfectly the necessary ergonomics, dimensions, technical needs, joints, etc. that the glasses needed. In this case there were no co-design methodologies that involved the users into the design process, but users have been an important actor of the beginning of the company, as they invested in the first units thanks to the crowdfunding.

KEYWORDS: Outsourced design, in-house strategy

5. Prototyping

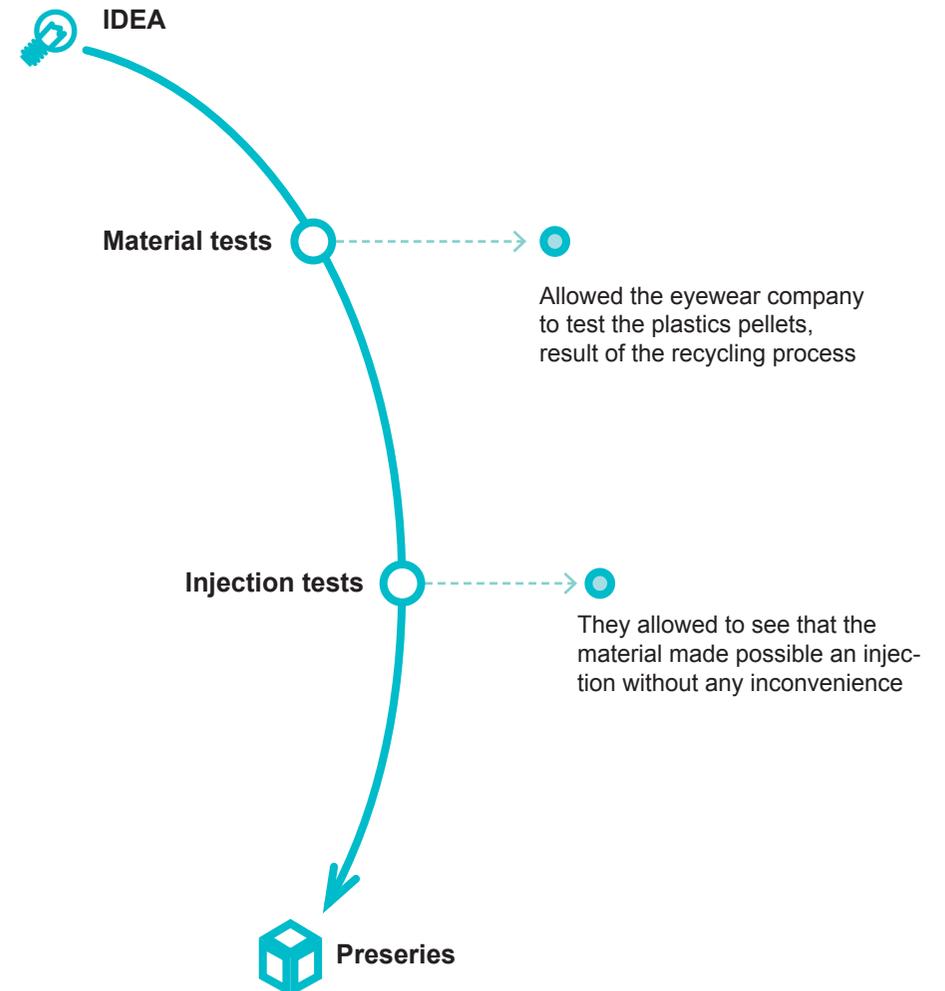
With the very first 20kg of recycled plastic François van den Abeele and the eyewear company made material and injection tests to get the first prototypes after two months. As we said, these prototypes were the ones that Sea2see used for the crowdfunding, so they could be considered final.

The prototypes also allowed them to certify that they could make a product with the desired quality working with their recycled plastic.

They were also a key tool to know if they could get a product with the highest level of quality with a competitive price, helping to determine the exact costs involved.

Since then every new model is tested in terms of material, color, dimensions, etc. reducing the risks before making a big scale production.

KEYWORDS: Material tests, volumetric prototypes

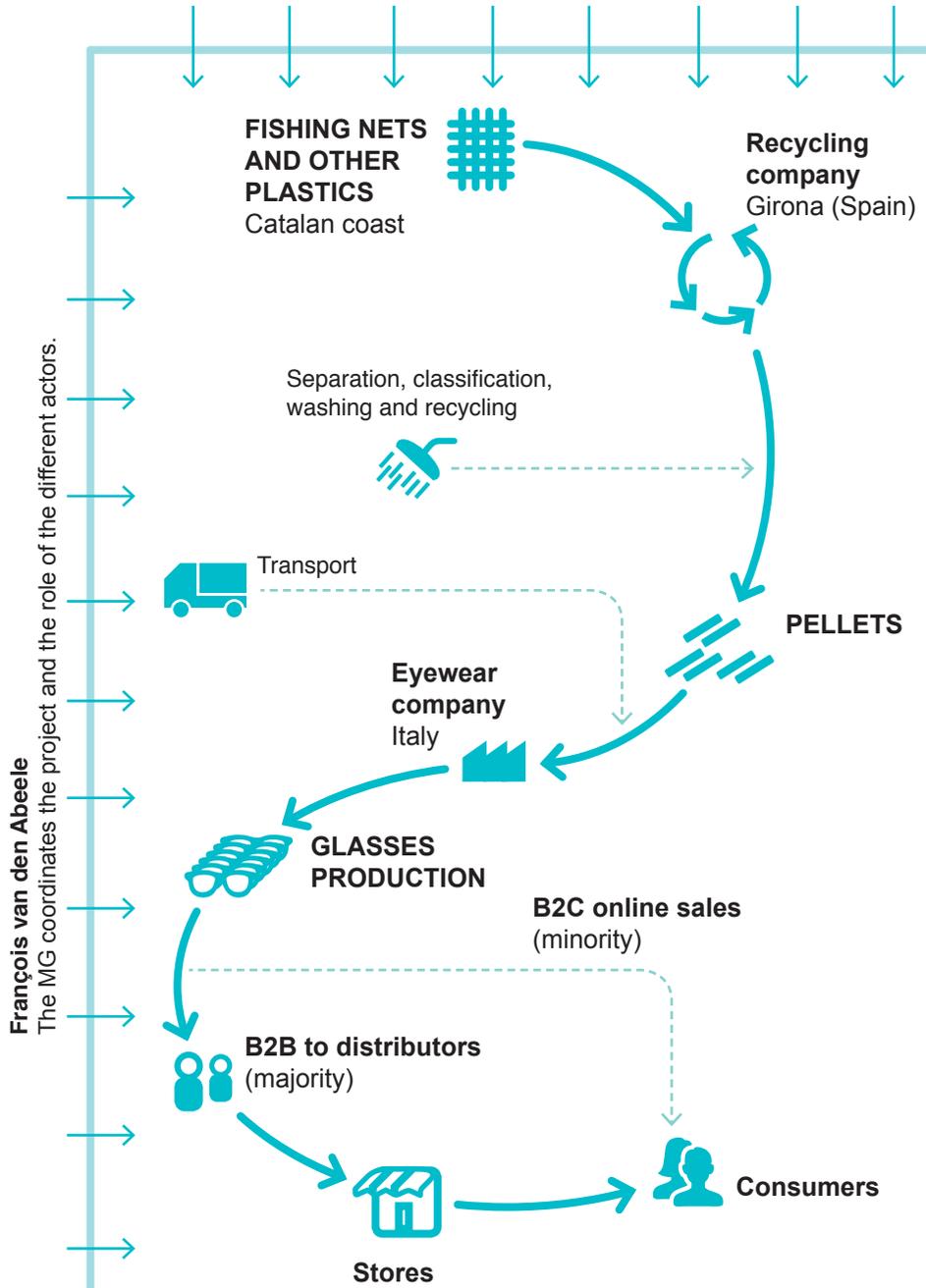


Their biggest innovation is the creation of this complex system that involves very different actors and organizations, allowing in a very efficient way to recycle something that was not being recycled before and has a high environmental impact, getting as a result a product with a big added value as are the glasses. Sea2see is an example that demonstrates that every sector can be an agent of change.



PORT NETWORK

Thanks to the agreement with the port authorities a network of 20-25 ports of Catalonia collaborates with the collection of nets in specific containers



6. Project

The system that they have created to pick up the plastic and recycle it involves different actors and processes. The network of 20-25 ports picks up the nets and other plastic materials that the fishermen throw away thanks to containers specifically dedicated. These materials are taken to the recycling company that they are associated with where it's separated, classified, washed and finally recycled to get pellets that can be injected again.

Around 90% of the material that the fishermen throw away can be recycled, and Sea2see uses part of it for their glasses, as plastic injection needs a homogeneous mixture. The rest of the plastic goes to the normal recycling chain. To give some data they are actually recycling around a tone of fishing net per day, and their goal is to reach five tones per day in mid 2018.

These pellets are transported to Italy -probably the country with more tradition and industry in the eyewear sector- where they are injected to produce the glasses and handmade painted to assure the highest possible quality. The glasses are sold in several countries of Europe, and soon in UK, USA and Australia.

This system is sustainable from a social, environmental and economic point of view, and it's being known by the fishermen community abroad, as it demonstrates the fact that Sea2see is being contacted to manage the recycling of

tones of nets from France or others parts of Spain. As an important fact each pair of glasses produced by Sea2see consumes 10m2 of fishing net that otherwise would probably end up in the sea.

It's also important to highlight that to manufacture a product that is as visible and important for the personal image as glasses and sunglasses can also create a social change, because it's showing to many people that waste materials can have a second life.

During this 2018 Sea2see is giving even more steps to be circular, because they are creating their own recycling plant to improve the percentage of plastic they can manage and the economic efficiency of the system, and they are about to start collaborations with fishermen's brotherhoods in Senegal to buy their wasted fishing nets, something that will provide these communities with very necessary resources, creating direct impact in the area. Fishermen that collaborate with the project, naturally, get free pairs of glasses.

KEYWORDS: Recycled materials, circular design strategies, change agent, social impact, sustainable growth

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