

THE SUNGLASSES PRODUCED BY TUKUNA RECYCLING PLASTIC WASTE IN ECUADOR

The [Tukuna design workshop](#) based in Quito (Ecuador), is a small enterprise committed to sustainable fashion that produce glasses by recycling discarded single-use plastic bottles.

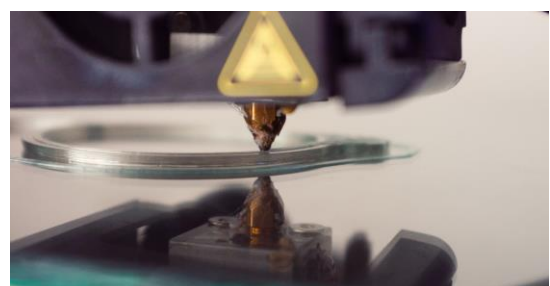
Tukuna sunglasses are an ethical, local, 100% recycled and handmade product. Each sunglass is unique and can compete with high quality and high fashion products.

The workshop has been created by Mariuxy Jaramillo, Philip Solvang Wright and Nantu Melo, young engineers committed to environmental challenges and in particular to the goal of a world free of plastics. Through a long work that began in 2017 to experiment the recycling process of PET plastic, in March 2021 they came to the decision to transform single-use plastic bottles into glasses and created the enterprise Tukuna.

Tukuna in the Quechua language means *to return* and the enterprise has managed to create a circular economy model that makes it possible to take advantage of a waste material that causes problems in any territory in order to produce a high-quality recycled product. The Workshop produces sunglasses and also frames for prescription glasses.

The production process adopted presents different qualifying aspects from the point of view of its social, environmental and economic contribution to the territory and a more sustainable fashion industry:

- Tukuna contributes to recycling local garbage and their work is carried out with the collaboration of the community. Tukuna buys the plastic bottles directly from [grassroot recyclers](#) who collect them on the streets of Quito. The recyclers are also in charge of separating the caps, the labels and removing the glue, receiving a fair payment for the bottles and for their extra work. In addition, through a collaboration with the Pichincha Red Cross, Tukuna donates glasses with prescription according to the needs of the grassroots recyclers for every five glasses sold by the online store.
- The material of the frames is 100% recycled and the production process does not add any chemical product. The bottles are separated by color and crushed to make the color mixtures according to the design. The shredded



plastic goes through a machine that melts it and forms it into filaments, which is the raw material used in 3D printers. A manual process finishes the product that comes out of the printer, sanding the frame to make it smooth and shiny and assembling, adding rivets, hinges and everything else needed. The workshop does not generate any more garbage while the discarded materials are again crushed to return to the glasses production process.

- Tukuna glasses are a handmade product that combines aesthetics and ecology. The glasses retain the color of the bottle and in the process no dyes or chemicals are added to change it. The different shades of the waste are simply mixed together to create their colors. Each frame is unique, because the mixture is always different, which makes the product more striking. The cases of the glasses are also original designs made by social enterprises such as Allpamamas and Remu that locally make sustainable fashion with textile waste. For prescription lenses and eyeglass lenses, Tukuna collaborates with a local optician company, which allows them to offer polarized glasses with UV protection and personalized lenses.

Tukuna is a small enterprise and their workshop is equipped to produce a single model and a volume of 10 glasses per week. The enterprise manages the sales online, aiming to save costs and attract customers with the adopted ecological process and with a personalized product. However, the innovative process of producing recycled filaments and transform plastic bottles into sunglasses is unique in Ecuador. In addition, the approach of adding recycling, craftsmanship and design has already shown its ability to increase the value of the product in the market, especially thanks to the demand of young people. The website and some articles published by Ecuadorian magazines through interviews with the managers, allow to know more about the work of this innovative enterprise.

In 2021 Tukuna has been recognized by the [Premios Latinoamérica Verde](#) as one of the winners for the Circular Economy category. This important award will surely facilitate the enterprise's work to expand the production and sales of innovative glasses and their social, economic and environmental impact with the support of different investors.

Meanwhile, with the results already achieved, Tukuna can inspire other small businesses to invest for the design and creation of attractive new products and useful circular economy technologies to face in their own territories the global challenges for a cleaner world and a more sustainable fashion industry for the future.

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