

**Submitting Country, Organization, Company**

Italy, Orange Fiber S.r.l.

**If Organization or Company, please indicate the approximate number of employees**

8

**Title of the action**

Orange Fiber: Sustainable fabrics' production and life cycle management

**Upload an image**



**ORANGE FIBER**

**Relevant Website**

<http://orangefiber.it/>

**Associated Partners**

Lenzing, Boniser

**Type of initiative**

Private initiative

**Description of action**

• Orange Fiber is the Italian innovative SMEs that patented and manufactures circular fibres and fabrics for the fashion industry from citrus juice by-products with enhanced sustainability, brand strength and communication to reshape final consumer and brands' engagement.

• Our final goal is to establish Orange Fiber as an enabler of sustainability and innovation in diverse industries through a totally green and transparent production of new materials from waste, by-products and renewable sources. Through our brand building, marketing and communication we aim to be an influencer of our community of final consumers and fashion industry players for a more ethical system of consumption, production and competition.

• Our action is featured in our integrated approach for our sustainability strategy. We cover the sustainable management of all the steps of the value chain:

- Sustainable materials as starting point: Our products are bio-based, biodegradable and compostable

derived from the upcycling of by-products from the citrus juice industry as peels, seeds and leaves, from which we extract a cellulose pulp apt to be spun.

- Green and short supply chain: Our partners are meticulously selected according to sustainable practices, low chemical, water and resources usage, environmental product and process certifications and proximity. We co-located our production plant with Boniser S.r.l., specialised in the juice and active principles extraction from fruits. Our partner for fiber making is Lenzing Group, who stands for ecologically responsible production of specialty fibers made from the renewable raw material wood and drives many new technological developments.

- Certification strategy: Our products, processes and business are in progress to undergo a very broad spectrum of sustainability assessments and certifications: Lifegate GRI sustainability assessment, LCA analysis of our fibre and finished fabrics, B-Corp Certification, OEKOTEX Standard 100, Recycled Claim Standard, OK-Biodegradable in Soil, Water, Marine, OK-Compostable Home and Industrial.

- Digital traceability: We are planning to partner with an European specialist provider of smart digital technologies and software in order to enable the digital identity of our fabrics and prolong their lives as much as possible. Thanks to this partnership we will be able to provide our fashion brand customers with QR labels, RFID tags and NFC threads in order to make much more information available to them and final consumers in regards to material passport, supply chain characteristics and life cycle data. Final users will be able to get engaged with an app in order to find instructions and tools for the best and more sustainable options for garments care, washing and drying as well as for their repair, reuse, recycling and disposal.

- Communication: We receive massive attention from traditional and new media and exploit these channels to promote more conscious lifestyles and more accurate knowledge about fashion materials and environmental impacts, counteracting greenwashing and fake news. In these regards, LifeGate is our partner in the development of consistent communication campaigns and in accompanying the company in defining a future roadmap that gives value to the positive impact created. LifeGate has been a benefit company point of reference for sustainability issues since 2000.

**Type of action**

Traceability

Transparency

**Please select the specific area/s of the action**

Research and Development of Innovative Solutions

Awareness and Education

Collaborative initiatives

Business management systems or instruments

## **Scope of the action, including a description of the value chain processes that are covered**

### **Objective**

Spread the use of more sustainable materials in fashion since globally improved material mixes could deliver 41 million tonnes of GHG emissions savings and a 1% increase in circular model market share reduces emissions by 13 Mn tCO<sub>2</sub>e.; Achieve triple bottom line of environmental, social and economic sustainability in our business; Establish trust and transparency along the supply chain and towards consumers through certifications and assessments; Integrate the supply chain and align efforts towards decarbonization of each step; Educate brands and fashion consumers with easy but specific information for more sustainable approaches towards production, consumption and competition; Engage consumers in reusing and returning clothes for recycling.

### **Commitments**

We work to alter business-as-usual practices among industry manufacturers and fashion brands, finding the synergies among different actors and building strong partnerships for concrete results in innovation.

### **Value chain scope**

Cradle to cradle: From raw materials extraction not rival to food consumption, to fiber making through certified, measurable and green processes, to low impact spinning and weaving, to fashion design co-innovation, till the most environmentally fitting disposal of the products containing our fabrics, driving their repair, reuse and correct biodegradation or recycling.

## **Timeframe and/or milestones for the action**

- In February 2014 Orange Fiber was formed as Italian Innovative Startup with headquarters in Catania.
- In December 2015, thanks to the funds of Smart&Start by Invitalia, the first pilot plant for the extraction of citrus pulp opened in Sicily and the company completed the first fabric production.
- In April 2017 the first fashion collection created with the exclusive Orange Fiber fabric by Salvatore Ferragamo is presented.
- Between April and June 2019 the sustainable fabrics from citrus juice by-products have been included in the H&M Conscious Exclusive Collection and have been used to create a limited edition of ties by the artisan brand E. Marinella.
- In October 2020 the company completed the creation of a new plant in Sicily and produced the first ton of a new sustainable fibre contributing to craft the future of the Fashion Industry in a greener way.
- In July 2021 the new partnership with Lenzing Group was officialized for the development of a more sustainable product through innovative production methods.
- From 2022 on, thanks to our scale-up and sustainability strategy Orange Fiber will strengthen its commercialization and continue research and development activities for new low-impact products from different alternative feedstocks.

## **Reference instruments and sources used**

- GRI standards
- Sustainable Development Goals
- EPD guidelines
- LCA analysis
- B-Corp Certification

- OEKOTEX Standard 100
- Recycled Claim Standard
- OK-Biodegradable in Soil, Water, Marine
- OK-Compostable Home and Industrial

### Expected benefits and impact for the stakeholders involved

Enhanced visibility of compliance with sustainability requirements by industry actors/partners along the entire value chain

Enhanced traceability of the social/environmental/ethical attributes of product(s)/materials along the value chain; for example, for origin, quality, sustainability performance, and compliance with health and safety requirements for consumers and workers

A measurable impact on sustainability in value chains over time, eventually verified through life-cycle assessments and/or sustainability certifications

Enhanced environmental and socially responsible consumption and production, and circularity of the value chain, that may be relevant to and inspire other countries and industry actors/partners

### Stakeholders involved

Business and industry associations

Consumers and consumer associations

Investors/shareholders

### Key performance indicators for the action

- % savings in water, chemicals and virgin resources
- % final clothing volumes reused, recycled mechanically, recycled chemically
- Number of brands and final consumers reached
- Engagement rate with consumers
- Volume of sustainable OF fabrics sold to brands

### Good practices

Multi-stakeholder collaboration is the key to concretely build up a more circular, transparent and traceable fashion ecosystem. In contrast to a multi-layered and dispersed textile industry, since the beginning Orange Fiber acted as supply chain integrator, enabling changes in all the steps, lowering environmental pollution, usage of water, fertilizers, food crop land. We already extended internationally our IP and established partnerships with the main fiber producers to implement a greener fiber and an improved production process.

In these regards, on the 14th of July we announced the official launch of the first ever TENCEL™ Limited Edition lyocell fiber made of orange and wood pulp.

We are proud to partner with Lenzing to create a new material and pioneering production model which can help revolutionize the fashion industry and empower brands who are looking for eco-responsible textile value chains.

- Establishing Orange Fiber as an Ingredient Brand, we aim to get involved and engage industry

professionals and consumers working on the added value of the fiber origin and its environmental and social sustainability.

In the long run, and this depends on the industrial scalability of the business and on the industrial partnerships that we will establish, our target client will be any brand who wants to adopt a material as versatile as existing cellulosic fibers but with an enhanced sustainability content.

- The next steps will imply the implementation of transparent information through quantitative science-based sustainability assessments and certification, supply chain and impacts traceability through cutting-edge digital technologies as well as of an ever greener production process and establish a bio-refinery model, in order to keep resources and chemicals in a closed loop.

<http://orangefiber.it/process/>

**How has this UNECE-UN/CEFACT Call to Action contributed to strategic engagement and/or public awareness in support of your commitment?**

We believe in the power of collaboration and partnerships and therefore we participate to this UNECE-UN/CEFACT Call to Action because we find it to be the perfect environment to further define our sustainability strategy and further measure the related positive impacts in order to create a network of aligned actions and knowledge for the fashion industry of the future. Our mission combined with our brand strength and communication strategy creates the synergetic mix for the sensibilization of our community and network of consumers and producers, in order to drive widespread behavioral and industrial changes.

**Link to relevant goal(s) and specific target(s) of the United Nations**

