

# BIO-MATERIALS: MIXCYCLING<sup>®</sup>, THE INNOVATIVE START-UP THAT OFFERS CONCRETELY SUSTAINABLE MATERIALS FOR A NEW BIOECONOMY

*“An innovative Startup is born in Vicenza that researches and develops sustainable materials by using the properties of vegetable fibers derived from production wastes, mixing them with polymers that comes from renewable, recycled or virgin resources thanks to a patent-pending process unique in its kind. This is accompanied by a visionary R&D activity that combines biotechnology and material design with the aim of achieving maximum circularity and consequently “zero waste”. Furthermore, Mixcycling<sup>®</sup> creates a community of partner and companies who share vision, business value and co-branding, an innovation mindset useful to launching new concept of materials in the global market and promoting a new bioeconomy model.”*

**[www.mixcycling.it](http://www.mixcycling.it)**

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Mixcycling<sup>®</sup> srl is the new Innovative R&D Start-up **that researches and develops innovative materials by using the properties of vegetable fibers** derived from production wastes, preferably at Km0, mixing them with polymers that comes from renewable, recycled or virgin resources, through an innovative patent-pending process, in order to significantly reduce the polymer component. Furthermore, Mixcycling<sup>®</sup> promotes a new Bioeconomy model by for those who want to develop sustainable products “*ad hoc*” with sustainable bio-based materials.

Whether they are durable products (ex. automotive, interior design, etc.) or “smart components” (es.: Agribusiness, e-devices, etc.), Mixcycling<sup>®</sup> gives a second life to organic production wastes fusing them inextricably with biopolymers or traditional or recycled polymers, creating surprising materials, with an attractive look, suitable for high level design application, with a natural soul, pleasing to the eyes, pleasant to the touch and above all, respectful of the planet.

## The process of Mixcycling<sup>®</sup>

The **patent-pending process of** Mixcycling<sup>®</sup> allows to sanitize organic vegetable wastes through a revolutionary plasma treatment and to indissolubly merge these vegetable fibers to polymers through patented binding agents obtaining a range of materials with a reduced polymer component. .

This innovative technology has created a new generation of Sughera, the first Mixcycling material with a cork base and a surprisingly natural appearance and touch, particularly loved by the final customer who instantly catches its green soul.

Mixcycling® materials are particularly suitable for injection molding and 3D print, they can be customized in their composition according to their application and to the sustainability needs of the customer. .

Every innovation requires network. Mixcycling® awards are not limited only to partners who appreciate and use Mixcycling®, but they also come from international experts in the field of materials. Mixcycling® received the **Seal of Material Excellence and has become part of Material ConneXion®**, the most important international **network of consultancy on innovative and sustainable materials and production process**. The entry in the Material ConneXion® library brings i Mixcycling® materials into contact with potential users on a global scale.

## Sustainability: a Community for the New Bioeconomy

Promote and accelerate the first steps of the "new bioeconomy" through the development of materials designed to be versatile for the producer and fascinating for the final customer, reducing the use of plastic: This is a first action for the Mixcycling® team who wants to make concrete the sustainability in the global business. In the current economic scenario, Mixcycling® is a sustainable alternative that is based on concrete actions:

- **reuses organic vegetable wastes** optimizing the exploitation of natural resources, ,
- where possible, it recovers organic wastes from sustainable supply chains (ex. cork oaks in the Mediterranean countries)
- Mixcycling® uses less plastic **and it has positive impact in terms of LCA** (Life Cycle Assessment) with a reduction of up to 70% of different parameters. This means fewer CO<sub>2</sub> equivalent emissions and less "new" exploitation of nonrenewable resources.

At the same time, Mixcycling® creates a community of companies and partners who share vision, values and a drive towards innovations useful to accelerate the "new bioeconomy". Mixcycling® becomes a point of reference for promoting concrete green innovation, and for transparently communicating green values, launching new ideas of truly sustainable materials in the global market. For this reason, Mixcycling® materials are granted only under an exclusive licence **through the creation of a partnership with a transparent tailored approach**. Mixcycling® goals are clear: the sharing of ideas and the development of truly sustainable materials and products without standards.

## Mixcycling® R&D

Mixcycling® team has a clear vision for its next future: **its goal is to invest in targeted R&D activities, such as :**

- The use of biotechnologies **in order to obtain plant compounds functional to the materials**,
- the search for a new organic bio-polymer derived from renewable resources,
- the study of connections between sustainable and innovative supply chains.

Activities that will involve science and design, and will go through collaboration with innovative companies, universities and European laboratories.