

Food packaging from natural fibres, reducing plastic by 95% while ensuring shelf life

Summary

Profile type

Technology offer

Company's country

Spain

POD reference

TOES20250529010

Profile status

PUBLISHED

Type of partnership

**Research and development
cooperation agreement****Commercial agreement with
technical assistance**

Targeted countries

• World

Contact Person

[Enrico FRANZIN](#)

Term of validity

29 May 2025**29 May 2026**

Last update

30 May 2025

General Information

Short summary

A spin-off of a Spanish research centre, designs and produces patented food trays made from natural fibres, replacing up to 95% of conventional plastic while maintaining the protective modified atmosphere essential for perishable food. A scalable, cost-effective solution to the growing demand for eco-friendly materials in the food industry. They would like to be connected to packaging manufacturers, food retailers or producers, investors or R&D partners, to explore collaboration possibilities.

Full description

The Spanish spin-off offers an innovative packaging solution for the food industry, addressing the urgent need to reduce plastic use while preserving food quality and safety. The patented tray combines a cellulose-based bottom made from natural tree fibres with a minimal upper plastic sealing layer that maintains a modified atmosphere. This design achieves up to an 95% reduction in plastic content compared to conventional trays.

The project originated from the need identified by food producers and retailers to switch to sustainable materials without compromising on shelf life, sealing performance, or compatibility with existing machinery. In collaboration with the centre, a leading food technology centre and current shareholder, the spin-off developed a patented system now protected in over 30 countries. They benefit from industrial validation, a first manufacturing partner in Spain, and a commercial pilot across several food companies.

Resources invested include over €300,000 in R&D, with support from public funds and private investors. The team includes experts in food engineering, packaging design, and sustainable innovation.

The solution's impact is twofold: environmental, by reducing plastic waste and promoting recyclable materials; and economic, by offering a competitive, compliant product ready for European food packaging regulations. The spin-off model includes direct sales and sublicensing to manufacturers across Europe.

They are open to being connected to different partners to explore possible collaborations:

- Manufacturing partners as licensees or industrial collaborators to produce and commercialize the product
 - Retailers, food processors or private-label brands to codevelop tailored formats and implement the solution in their product lines, serving as high-impact commercial showcases
 - Investment or strategic development partners to support the spin-off growth
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Advantages and innovations

- **Radical plastic reduction:** the solution reduces plastic usage by up to 95%, aligning with EU packaging targets and rising consumer demand for sustainable materials.
- **Patented international innovation:** the unique design is patented in over 30 countries, ensuring strong IP protection and licensing potential.
- **Performance without compromise:** unlike other fibre trays, this solution maintains a sealed modified atmosphere essential for meat, fish, and fresh food, ensuring product safety and extended shelf life.
- **Industrial compatibility:** the trays are compatible with existing sealing lines, requiring no investment in new machinery, making adoption easy for producers.
- **Scalable and cost-effective:** the product is designed to scale rapidly across manufacturers. Our cost structure is competitive with other MAP (modified atmospheric packaging) trays, while offering a significantly lower environmental footprint.
- **Circular economy alignment:** made with renewable, recyclable materials, the trays support circular economy goals and facilitate compliance with eco-design standards.
- **Strategic partnerships:** backed by the research centre and supported by public innovation funds, the spin-off is positioned for rapid European growth through sublicensing and joint ventures.

Technical specification or expertise sought

- European manufacturers of food packaging with thermoforming capabilities interested in sublicensing the technology.
- Retailers or food producers looking to reduce their plastic footprint in packaged products.
- Investors with a focus on circular economy, packaging innovation, or sustainable foodtech.
- R&D partners for ongoing development of bio-barriers and fully compostable sealing solutions.

Stage of development

Available for demonstration

IPR Status

IPR granted

IPR Notes

Sustainable Development goals

- **Goal 11: Sustainable Cities and Communities**
- **Goal 12: Responsible Consumption and Production**
- **Goal 2: Zero Hunger**

Partner Sought

Expected role of the partner

The spin-off is actively seeking strategic partners to accelerate the commercial deployment and European expansion of their patented packaging solution. The ideal partners fall into three categories, each with a specific role in scaling, distributing, or enhancing the innovation:

1. Manufacturing partners – Licensees / Industrial collaborators

They look for manufacturers of thermoformed packaging or industrial converters of fibre-based materials who can incorporate the patented technology into their production lines. These partners would obtain a sublicense to produce and commercialize the trays within their geographic region or client base.

Expected roles:

- Integrate the design and process parameters into their existing machinery.
- Produce and distribute the trays under the technical and brand guidelines.
- Collaborate on technical adaptation for specific food segments or local regulations.
- Contribute to cost optimization and scaling of production volumes.

The spin-off offers full technical documentation, training, and support, as well as co-marketing agreements in key markets.

2. Food industry stakeholders – Retailers, processors, or private labels

They seek large food processors, supermarket chains, or private-label brands committed to reducing plastic usage in primary packaging. These partners will implement the solution in their product lines and serve as high-impact commercial showcases.

Expected roles:

- Replace conventional plastic trays with the solution in fresh or MAP-packed food lines (meat, fish, plant-based products, etc.).
- Test and validate sealing performance and shelf life under real logistics conditions.
- Promote sustainable innovation through communication campaigns and consumer engagement.

The spin-off will co-develop tailored formats if needed and ensure full compatibility with current packaging lines.

3. Investment or strategic development partners

To support the spin-off growth and internationalization, they also seek investors, innovation accelerators, and corporate venture teams interested in sustainable packaging, foodtech, or circular economy ventures.

Expected roles:

- Provide capital to expand production capacity, international sales efforts, and R&D.
- Facilitate access to foreign markets, especially Northern and Central Europe.
- Connect with corporate innovation units of large FMCGs (Fast Moving Consumer Goods) or packaging groups.

The spin-off governance is open to active strategic partners who bring not just capital, but experience and networks in the packaging or food sectors.

Complementary expertise welcomed:

In addition, they are also open to collaborations with:

- Research centres or universities with expertise in bio-based coatings, barriers, or sealing films.
- Technology providers working on compostable laminates or biodegradable plastic alternatives.

- Certification bodies or consultants specializing in packaging compliance (e.g. EFSA, eco-design, recyclability protocols).

The spin-off partnership model is modular, scalable and win-win: they bring an industrially validated innovation, strong IP protection, and proven sustainability impact; their partners bring execution capacity, market access, or complementary know-how. Together, they aim to transform the food packaging landscape by making fibre-based trays the new standard.

Type of partnership

Research and development cooperation agreement

Commercial agreement with technical assistance

Type and size of the partner

- **R&D Institution**

- **SME 50 - 249**

- **Big company**

Dissemination

Technology keywords

- **02007020 - Biobased materials**
- **08002003 - Safe production methods**
- **08001003 - Food Packaging / Handling**
- **02007013 - Paper technology**
- **07002005 - Wood Products**

Targeted countries

- **World**

Market keywords

- **08001017 - Industrial chemicals**
- **09004006 - Packing products and systems**
- **08001001 - Plastic fabricators**
- **07004008 - Other consumer products**
- **09005 - Agriculture, Forestry, Fishing, Animal Husbandry & Related Products**

Sector groups involved

- **Energy-Intensive Industries - Materials**
- **Agri-Food**