

Greek technology for valorization of food waste and by-products from agrifood sector

Summary

Profile type	Company's country	POD reference
Technology offer	Greece	TOGR20230727006
Profile status	Type of partnership	Targeted countries
PUBLISHED	Research and development cooperation agreement Investment agreement	• World
Contact Person	Term of validity	Last update
<u>Rita ELSTE - TOMSONE</u>	27 Jul 2023 26 Jul 2024	27 Jul 2023

General Information

Short summary

A Greek spin-off has developed a waste management and recovery - reuse technique for reducing food waste. It is interested in setting up partnerships for further research and development of this technology in order to be able to commercialise it.

Full description

This is a spin-off company set up by a team of food science and technology experts from one of the oldest universities in Greece. The company's main focus is on green technologies and in particular on innovative techniques for the extraction of bioactive compounds from various plant materials such as medicinal and aromatic plants, spices, by-products and waste material from the agrifood sector.

It is also active in the use of green solvents, the encapsulation of plant extracts in edible coatings using various methodologies (e.g. spray drying and freeze-drying), and the preparation of chitosan-based active packaging materials (based on crustacean shells). All these techniques are intended for use in the development of green raw materials for the food and cosmetic industry.

Food waste and residual by-products from the agrifood sector (such as rice husks, residue from cereal crops, pomegranate peels and seeds, peach peels and kernels, spent coffee grounds) can be recovered, treated and

reused. For example:-

- a natural additive for foods can be extracted from pomegranate peel
- phenolic compounds can be recovered from spent coffee grounds through extraction processes in order to be reused as aromatic substances
- lycopene, which is a powerful antioxidant, can be extracted from tomato residue
- caffeine can be extracted from coffee pulp using a green solvent.

The client is looking for partners in order to conduct further research and development of this technology with the ultimate aim of being able to commercialise it. Also of interest would be potential investors who would be willing to provide financial support for developing this technology.

Advantages and innovations

Development and use of novel green techniques for extraction of valuable reusable substances from food waste:-

- ultrasound-assisted extraction
- microwave-assisted extraction.

Development and use of novel green solvents:-

- aqueous solutions of cyclodextrin (derived from glucose)
- deep eutectic solvents (hydrophilic, hydrophobic) formed from melting composition of minimum two or more components, each of which melts and freezes congruently. During the crystallization phase, a mixture of the components is formed, hence acting as a single component.

Technical specification or expertise sought

Stage of development

Available for demonstration

IPR Status

No IPR applied

Sustainable Development goals

- **Goal 13: Climate Action**
- **Goal 12: Responsible Consumption and Production**

Partner Sought

Expected role of the partner

The client is looking for partners in order to conduct further research and development of this technology in order to be able to commercialise it. Also of interest would be potential investors who would be willing to provide financial support for developing this technology.

Type of partnership

Research and development cooperation agreement
Investment agreement

Type and size of the partner

- **SME <=10**
- **SME 11-49**
- **Other**

Dissemination

Technology keywords

- **10002013 - Clean Production / Green Technologies**
- **10002007 - Environmental Engineering / Technology**

Targeted countries

- **World**

Market keywords

- **05008002 - Food and feed ingredients**

Sector groups involved

- **Agri-Food**

Media

Images



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