

Cooperation offer by



Programme

HORIZON EUROPE



# COOPERATION OFFER CALLS 2023/24

**BIOGRADA**  
SLOVAKIA

# CIRCULAR SOLUTION FOR BIO-WASTE, ENERGY, SOIL AND AGRICULTURE

## THE PROBLEM

The humans have been **continuously exploiting natural resources**, e.g. land, forests and minerals and producing **large amounts of waste**. As a result, there is **devastated land** and **emissions** causing a climate crisis. There are policies that support the transformation towards sustainable life cycle of resources, and **some solutions are being developed**; however, they are **rather focused on recycling** (1-2 times) rather than renewing the natural resources.

## THE SOLUTION

**BIOGRADA process** differs significantly. It turns **waste into value** by processing biodegradable waste of municipal or industrial origin, waste from farming and animal production. On the output, **BIOGRADA** produces a **certified biochar-based pellet-sized soil regenerator (EFFECO)** and **low-emission bio-fuel (bio-CNG, bio-LNG and biomethane)**. The vision of BIOGRADA is to perform this recycling of energy, material and organic matter in real time in the place of biowaste origin and product consumption.

EFFECO is a biochar-based **regeneration substrate** and a **biofertilizer** at the same time: 100% natural, chemical free, environmentally friendly. During the EFFECO production, the manufacturer is able to **regulate its future properties according to farmers requirements**. It is impossible in cases of other amendments such as: peat, animal manures, plant residues and their products, compost, vermicompost. EFFECO has **significant liming effect, optimal nutrient content and ratios, high sorption capacity**. In comparison to other amendments, the EFFECO **decreases CO<sub>2</sub> and N<sub>2</sub>O from soil to the atmosphere and reduce greenhouse gas emissions**.



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## CALLS OF BIOGRADA ´S INTEREST

HORIZON-MISS-2023-SOIL-01-04: Innovations to prevent and combat desertification

HORIZON-MISS-2023-SOIL-01-05: Soil-friendly practices in horticulture, including alternative growing media

HORIZON-MISS-2023-SOIL-01-08: Co-creating solutions for soil health in Living Labs

HORIZON-MISS-2023-SOIL-01-09: Carbon farming in Living Labs

HORIZON-CL6-2024-ZEROPOLLUTION-01-2: Fertilizers recovery from secondary raw materials

## BIOGRADA ´S CONTRIBUTION

**BIOGRADA** can become a **local pilot facility** for processing of bio-waste and turning it to a soil improver with specific composition based on the needs of a local soil.

**BIOGRADA process** can serve as a **platform solution** and integrate solutions of other producers (e.g. fertilizers) into new bio-based soil improving and fertilizing products.

**BIOGRADA** can be a **validation case** for a **business model** based on a **closed-loop process** that works in a perimeter of 100km and serves local community stakeholders.

**BIOGRADA** can participate in **testing and verifying safety** of a soil improver and process of its production.

**BIOGRADA** can participate in **monitoring of the pre-market processes** by measuring the effectiveness of the process and economic feasibility for target clients.

## BIOGRADA PILOT SITE

The **Horný Jatov** site (SK, approximately 70 km from Bratislava) is being transformed from a devastated brownfield into an experiment and pilot production plant.

The pilot site is designed to process **120 000 tons** of waste and produce **20 000 tons** of **EFFECO** by **ZZ**, **1,2 MWh** of energy and **1300 tons** of pure biogas per year.

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## BIOGRADA ´S KNOW-HOW AND EXPERIENCE

BIOGRADA process is based on original research and development of the company and its strategic partners. The production process, products and equipment for treatment of food waste and biomass and production of regeneration substrate are protected by four domestic and two international patents in 57 countries of the world.

BIOGRADA is the business name of Zdroje Zeme - a high-added value green company established in 2016 in Slovakia. Our vision is to **deliver and upscale environmentally friendly solutions** in areas of waste treatment, bio processes, bio fuels, soil regeneration, reconstruction of unused brownfields and recyclable packaging. Zdroje Zeme was awarded a **Seal of excellence in EIC Accelerator in 2020** and is currently implementing this project funded from national sources.

## BIOGRADA STRATEGY

The business and society perceive a problem of growing amounts of biodegradable waste and, on the other hand, increasing areas of degraded soil. The BIOGRADA strategy is to address these two global societal problems by a **single complex waste-free and energy-autonomous process that can be localized and used anywhere in the world**. And at the same time, it is designed as a universal technological process with a modular composition for the needs of a specific farmers communities, country, region or entrepreneur.

## BIOGRADA PARTNERSHIPS



# CIRCULAR SOLUTION FOR BIO-WASTE, ENERGY, SOIL AND AGRICULTURE

## BIOGRADA TEAM WITH RELEVANT EXPERIENCE



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Miroslav is a senior project manager and consultant at BIOGRADA. He has been working since 2006 as a project manager for EC framework programmes.

He has gained rich experience in HE/ H2020/ FP7 project preparation and management. He was involved in more than 20 approved projects as a member of the team with roles in project management, review and exploitation.



LUCIA DAVIDOVA, MSc.  
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Lucia is a project manager and consultant at ADDSEN. She has a rich experience in consulting, coaching, project development and management, budgeting, financing of innovation implementation, foresight, analyses and studies preparation.

For a couple of years she served as Horizon Europe National Contact Point for EIC, Legal & Financial Aspects and Horizon 2020 National Contact Point for Innovation in SMEs, Legal & Financial Aspects.

# REGENERATE RESOURCES OF EARTH