



## ABOUT

BiotaTec is an SME developing and licensing novel biotreatment solutions for the maximum valorisation of different low-grade Ores and Wastes/Tailings, Black and Oil Shales, Batteries and WEEE via generation of methane gas and metals extraction.

Biomining Centre at campus of University of Tartu.

- **Proud participant in:**
  - H2020 SME phase 1 in 2017
  - LIFE2017/ENV-000216 with Reydesa Recycling
  - EIT Raw Materials Accelerator 2018
  - Various SC05 proposals
- **Tenders won > 0,8 M€**
- **R&D grants > 0,9 M€**
- **2 agreements (> 165 000€) with Estonian Ministry of Environment in assessing the possibilities of biomining**
- **Organiser of first Estonian biomining symposium on Estonian Argillite in 2014.**
- **PCT at national phases - EU, Jordan, Australia, Canada, US**
- **Seed of 0,6M€ from Estonian State direct investment fund in 2010**
- **35% of the shares that belong to Estonian State are managed by VC Fund selected by EIB experts.**

## EXPERTISE

BiotaTec is strongly convinced that while targeting at the maximum yield for metals, an emphasis on valorising the ore's & waste's organics for energy production is an important factor for success in circular economy.

**In adapting BiotaTec novel solution for organics containing low-grade ore / waste** a biogenic methane gas is produced in anaerobic environment and certain metal compounds are released from organic complexes; in aerobic environment, metals in the form of sulphides are leached out from the core.

The unique feature of the method is the use of organometallic compounds degradation products for simultaneous methane production, i.e. energy generation.

Accumulation of fermentation metabolites (NH<sub>3</sub>, H<sub>2</sub>S, acetate, H<sub>2</sub>) is avoided by syntrophic action of acetogens, sulphate reducers and methanogens. Although utilisation of hydrocarbons by aerobic

microorganisms is also possible there is no other way for complex use of most metabolites.

## FACILITIES & SERVICES

BiotaTec offers biotreatment development services for different low-grade ores/wastes in their Biomining Centre facilities; various tests will be performed both aerobically and anaerobically from scale 0.5L up to scale 200L. Pilot scale bioreactors will be built in 2019 at the industrial environment.

Their interdisciplinary multinational highly experienced team covers microbiology, chemistry, geology, chemical engineering, industrial upscaling, etc.



## MORE INFORMATION

Website: [www.biotatec.com](http://www.biotatec.com)

Contact: James Obern  
 Sirli Sipp Kulli  
[sirli@biotatec.com](mailto:sirli@biotatec.com)