

BUP Mobility Grant Report

Project Title: *Sustainable Technical Solutions for Plastic Waste Management during Activities Controlled by Municipalities (TechPlastControll)*

Grant Recipient: *Dr. Tamari Mumladze, Representative of Kaunas University of Technology (KTU), Lithuania*

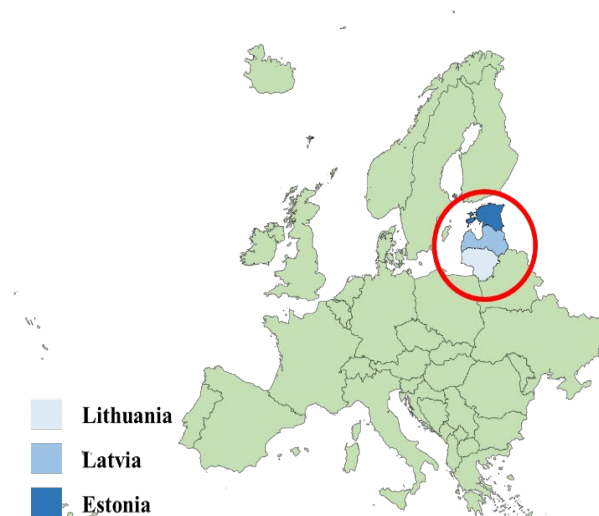
Hosting Institutions: *Daugavpils University (DU), Latvia, and Tallinn University of Technology (TalTech), Estonia*

Executive Summary

This report details the use of the BUP Mobility Grant, which supported my research visit to enhance plastic waste management solutions. As a representative of KTU, the grant enabled my practical training in waste morphological analyses in Estonia and Latvia, complementing similar efforts in Lithuania. The project facilitated collaboration with DU and TalTech, focusing on developing and implementing innovative plastic waste management solutions within municipal activities across the Baltic Sea Region.

Research Visit and Activities

In September 2023, I conducted fieldwork, including visits to mechanical and biological treatment plants in Tallinn and Daugavpils. These visits offered insights into the challenges and current practices in managing plastic waste effectively. The collaboration was crucial for accessing advanced research facilities, laboratories, and documentation, significantly contributing to the project's goals.



Findings and Contributions

The visit enabled a thorough analysis of plastic waste management systems, leading to several key findings:

- A conceptual framework for plastic waste separation and recycling using advanced technologies.
- Identification and analysis of microplastics in compost and landfill sites, enhancing understanding of plastic waste's environmental impact.
- Innovative proposals for recycling multi-layered and flexible plastic packaging.
- These findings highlight the potential for significant improvements in plastic waste management through sustainable technical solutions.



2nd Practical Training in waste morphological analyses. Tallin, Estonia; September 2023

Conclusion and Future Directions

The BUP Mobility Grant was crucial for a productive research visit promoting sustainable plastic waste management solutions. The insights and knowledge gained are invaluable for future initiatives to minimize the environmental impact of plastic waste. Continued collaboration between KTU, DU, and TalTech will focus on exploring innovative solutions for enhancing plastic waste management in the Baltic States, contributing to sustainability and environmental preservation.

Acknowledgment

I am profoundly grateful for the BUP Mobility Grant's support, which significantly expanded the scope and impact of my research, enabling essential cross-border academic collaboration. This grant is crucial to supporting diverse research activities and facilitating the exchange of knowledge and methodologies across the Baltic Sea Region. Special thanks from me to the BUP staff for their



invaluable assistance during grant implementation. Their guidance was instrumental in advancing my research journey.