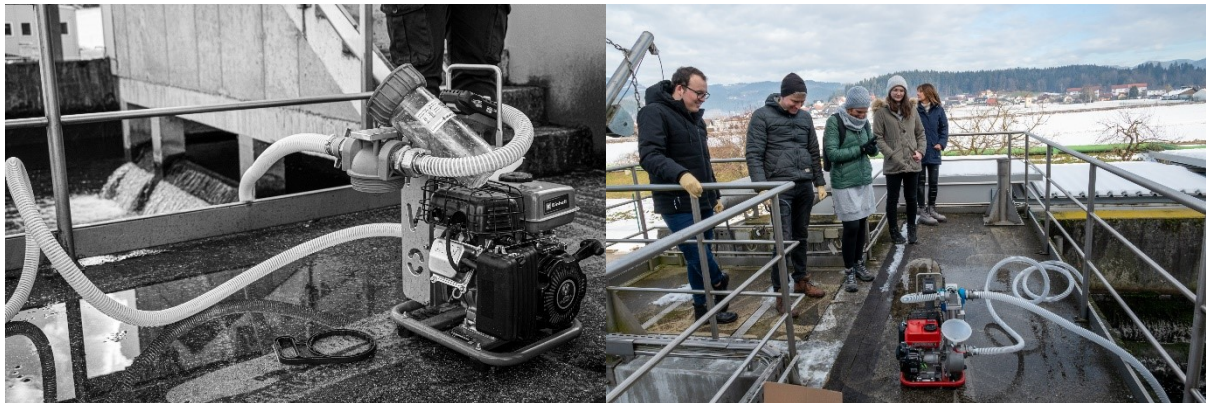


A major milestone in the Faculty of Environmental Protection's research on the PLASTIX project

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INTRO: The Faculty of Environmental Protection celebrates its first year of participation in the international project consortium PLASTIX - Plastics Revolution for European Regions, Interreg Europe Program, with the test launch of a prototype for microplastics identification in rivers.



The first launch of FEP prototype for microplastics monitoring (Photos: L. Furman).

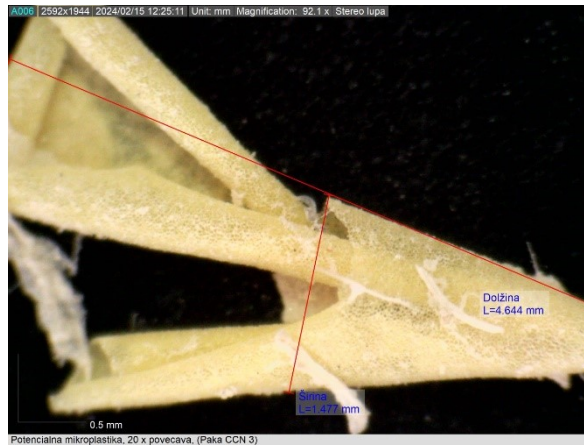
Within the framework of the PLASTIX project goals, the Faculty of Environmental Protection collaborates with the Development Agency of Savinja-Šalek Region (SAŠA) to address the developmentally and environmentally relevant regional document, the SAŠA Regional Development Programme 2021-2027. With professional knowledge and innovative research, we aim to make an important contribution towards achieving the strategic objectives for a low-carbon, green and connected SAŠA 2030 outlined in the tackled policy instrument.

Research at the faculty focuses on the investigation of potential presence of microplastics in rivers. We believe that monitoring microplastics in rivers is crucial for understanding the ecological and health risks associated with plastic pollution, since most plastics in the marine environment originated from land-based sources and whereby rivers act as the major transport pathways. In addition, by identifying the sources of plastic pollution, informing policy decisions, and raising awareness of the need for sustainable practices to protect our freshwater ecosystems, we are meeting various EU strategic goals related to environmental protection, circular economy, pollution prevention, and biodiversity conservation.

In the first project year, we explored and analyzed methodologies already used by researchers in different European regions and beyond and used collected data to develop our methodology for sampling and analyzing microplastics in and plastic waste along the rivers. With the technical expertise of the College of Industrial Engineering Celje, we developed our own prototype based on the use of a filtration system with a portable water pump. The advantage of such a system lies in the independence of the measurements from the

water flow and sampling site depth, and the control over the amount of water filtered, which makes the measurements more accurate and representative.

On January 26th, 2024, we successfully tested the prototype and carried out its trial run on treated water from the Central wastewater treatment plant of the Šalek Valley and on the Paka River. The testing represents an important turning point in the development of project activities in our region. We are now eagerly waiting to see what the analyses in the laboratory will show; initial observations have already taken us into the rather invisible and often overlooked world of microparticles.



The first microscopic images of collected particles from the Paka River (Author: A. Krajnc, FEP).

The results of the preliminary experiment will form the basis of our periodic monitoring, which will be tested at selected sites along both regional rivers over the next three years. Stay tuned for more microscopic and spectroscopic adventures, because in the world of microplastics, every small detail counts!