

"We bring the water quality data your project doesn't have yet."

The **FC1** is a hand-held, single-use sampler that captures microplastics and PTFE from **1 µm to 1mm** directly in the field. No bulk water transport, no heavy equipment, no specialist crew required. The filter chip is mailed to a central lab for Raman / FTIR analysis. It works in clean water, turbid wastewater, river water, and industrial effluents. The output is a **standardised particle size & shape dataset** ready to plug into fouling models, process simulations, or compliance reports. **New active development, FC5, covers 1mm to 5 mm**, together covering the full microplastic spectrum.

VALIDATED PERFORMANCE · DOI 10.5281/ZENODO.19451611

1 µm

Minimum particle size captured

99.6%

Peak separation efficiency (lab matrices)

91–98%

Efficiency in wastewater & river water

20–90 mL

Direct Sample volume without bulk water

WHAT YOUR CONSORTIUM GETS FROM SATOORNIK

- Validated, peer-reviewed sampling methodology (Zenodo DOI, CC BY 4.0), citable in your proposal
- Field-deployable hardware usable by non-specialist project partners at any EU site
- Standardised particle size & shape datasets as real boundary conditions for models
- Passive separation, zero thermal or chemical input, positive LCA contribution to your project
- Polymeric PFAS co-separation capability Of FC1
- Using both FC1 and FC5 to cover full microplastics spectrum

WHERE FC1 FITS IN HORIZON EUROPE PROJECTS

- Circularity & water efficiency:** quantify microplastic removal from industrial process streams (CID-01/02)
- Raw materials processing:** inline QC for secondary raw material streams (MAT-PROD-16)
- Advanced materials recovery:** recover sub-mm polymer particles from waste (MAT-PROD-06)
- Energy systems:** ground-truth water data for hydropower, electrolysis & green hydrogen fouling models
- Environmental monitoring:** standardised field sampling for Cluster 6, Zero Pollution, water missions

On-site Sampling
20–90 mL



Anyone can do it, turbid or clean

Send Filter Chip



Preserved, standard envelope

Raman / FTIR
Central Lab



Analysis



Clean dataset
Ready for your model · fouling · compliance · LCA