

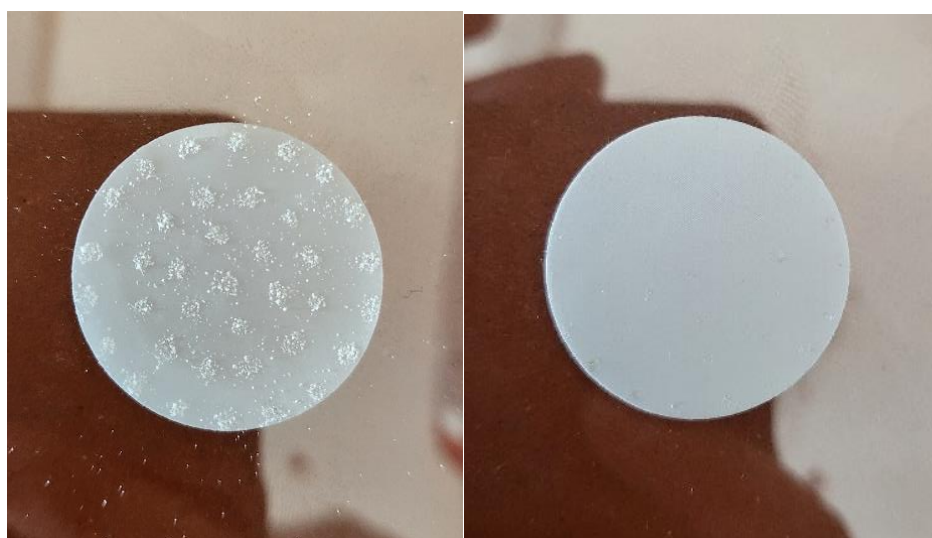
PRE-DEPLOYMENT TESTING OF CLERAONE FILTRATION TECHNOLOGY

Testing of CleraOne filtration technology was conducted at Laboratory for Process System Engineering and Sustainable Development, University of Maribor (UM) for the purposes of establishing the effectiveness of the proposed technology before deploying it in Marina Koper as part of Koper Demo site. The research was conducted by Kostja Klabjan CEO funder of CleraOne and dr. Annamaria Vujanović, representative of UM and leader of Koper Demo site in **Horizon Europe Mission project REMEDIES**.



The research team that conducted CleraOne filtration technology effectiveness test: Jan Puhar (UM), Dajana Jeglič (CleraOne), dr. Annamaria Vujanović (UM), Kostja Klabjan (CleraOne).

Innovative filtration technology with silicon carbide (SiC) membrane and pore size of 100 nm, have been tested on the modelled water by the protocol proposed from **dr. Mariacristina Cocca**, Institute of Polymers, Composites and Biomaterials (IPCB) at The National Research Council (CNR). Prepared water samples with 0.5 mm size polyethilenteraftalate (PET) in high (50 mg/L) and low (0.087 mg/L) concentration has been filtered in the laboratory, and further sent to CNR for the analysis.



PET microplastic samples from model waters on filter paper before and after filtration process with CleraOne filtration technology.

The proposed low concentration corresponds to the concentration of microplastics in some parts of the ocean, and proposed high concentration correspond to concentration of microplastics in

wastewater streams after washing processes. CleraOne together with University of Maribor (Koper Demo site leader) is planning to carry out deployment and testing of innovative filtration technology in Marina Koper in the beginning of year 2024. Annual vessel maintenance requires washing to peel of the old antifouling layer, causing treads to marine environment and consequently to human health. That is the reason why Marina Koper is aiming to perform sustainable vessel washing by capturing dangerous pollutants like microplastics and re-using water for washing.