

UBC TALKS
26 March 2024
Lotta Lehti

EMPEREST solutions for cities, water utilities and international community

Interreg
Baltic Sea Region



Co-funded by
the European Union

SUSTAINABLE WATERS
EMPEREST





Study visit at Ulm WWTP (Germany), 24 November 2023

EMPEREST

Eliminating Micro-Pollutants from Effluents for Reuse Strategies

- **FUNDING:** Interreg Baltic Sea Region Programme 2021–2027
- **BUDGET:** 5 432 044 EUR (ERDF co-funding: 4 345 635 EUR)
 - **Seed Money support** for the core project
 - The project EMPEREST co-financed by the Interreg BSR Programme helps to drive the transition to a green and resilient Baltic Sea region.



- **DURATION:** January 2023 – December 2025
 - Year 1: preparing solutions
 - Year 2: testing solutions
 - Year 3: transferring solutions



Project partnership

1. Union of the Baltic Cities Sustainable Cities Commission c/o City of Turku (FI) – **Lead Partner**
2. Baltic Marine Environment Protection Commission – Helsinki Commission (HELCOM) (FI)
3. University of Tartu (EE)
4. Berlin University of Technology (DE)
5. Turku University of Applied Sciences (TUAS) (FI)
6. Gdańsk Water Utilities (PL)
7. Water and Sewage Company Ltd of Szczecin (PL)
8. Tartu Waterworks Ltd (EE)
9. Tallinn Water Ltd (EE)
10. “Kaunas water” Ltd (LT)

11. Turku Region Wastewater Treatment Plant (FI)
 12. DWA German Association for Water, Wastewater and Waste DWA Regional group North-East (DE)
 13. Environmental Centre for Administration and Technology (LT)
 14. City of Riga (LV)
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Associated organisations

1. Estonian Waterworks Association
2. City of Malmö
3. "Riga Water" Ltd.
4. Panevėžys Water Ltd.
5. Jonava district municipality
6. Taurage district municipality
7. Swedish Environmental Protection Agency (SEPA)
8. Finnish Water Utilities Association

Project target groups

Local authorities

Water sector experts

WWTP personnel

HELCOM

National authorities

Water associations

Methodological recommendations for monitoring and assessment of PFAS in the aquatic environment

Regionally
harmonised
approach for PFAS
monitoring and
assessment

- EMPEREST addresses the existing significant gaps in the monitoring and assessment of PFAS with **methodological recommendations** to provide **harmonised guidance** to the Baltic Sea region.
- These recommendations will include **detailed information** on what, when and where to measure and how to assess and use these results.
- The recommendations will be assembled **in cooperation with regional experts and authorities**, to assure their quality and applicability. Through the **science-policy dialogue**, these recommendations are expected to contribute to the development of potential target values and indicators for the regional assessment of the Baltic Sea aquatic environment.



**International workshop on monitoring and assessment of PFAS
HELCOM (Helsinki, Finland) and online
30 November 2023**

PFAS risk-assessment tool for local authorities

Tested with
18 municipalities
in the Baltic Sea
Region

- The project activities include developing a **PFAS risk assessment approach**. EMPEREST will co-develop **tailor-made tools and guidance** for local authorities enabling them to identify and assess PFAS-related risks and propose relevant risk mitigation strategies.
- Engaging in this work, the local authorities in the Baltic Sea Region will expand their understanding of the environmental risks posed by PFAS and will be able to **uptake and localise practical approach and functional tools** to manage the potential impact of PFAS entering the environment.
- The PFAS risk assessment framework validated within the project will be a basis to at least **5 local PFAS risk assessment plans**.



**Session on testing the PFAS risk assessment tool at EMPEREST workshop in
Tartu (Estonia)
13 February 2024**

Strategies and technological means for minimising organic micropollutants from wastewater

Piloting in
6 different
wastewater
treatment
plants

- The project will assemble the necessary knowledge for wastewater treatment plants to be able to start planning their own investments into advanced effluent treatment. To achieve that, EMPEREST will set up **mobile pilots for advanced wastewater treatment**.
- The technologies installed in the mobile pilot plants will include ozonation, coupled with granular activated carbon filtration and UV disinfection – a combination proven to have a **high degradation rate of different organic micropollutants**, reaching up to 90% reduction in many problematic substance groups.
- Throughout the project, these mobile pilots will travel to 6 WWTPs in different countries to collect the data on the treatment efficiency, most efficient combination of technologies and specific conditions required for the optimal operation of the advanced treatment.

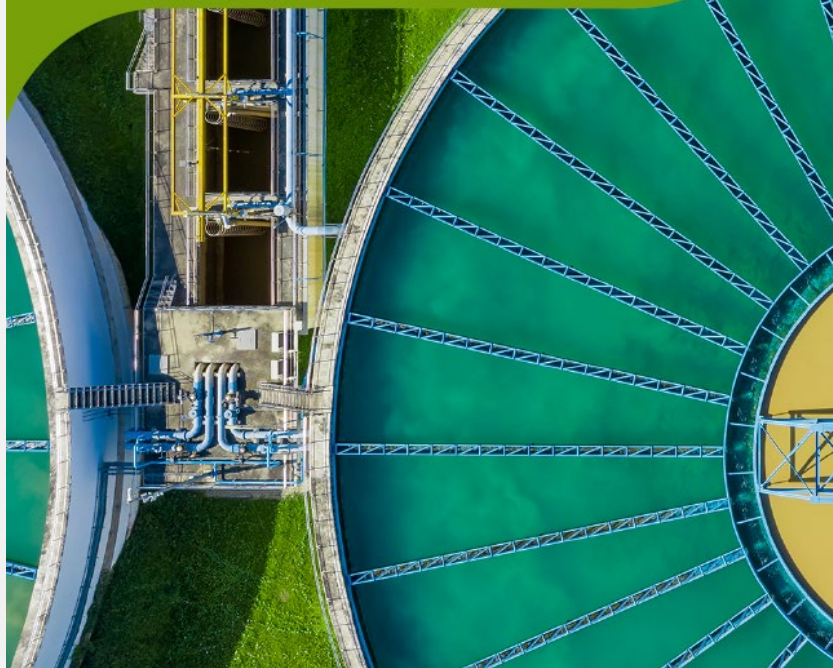


Roadmap for advanced effluent treatment pilot investments

Tartu – Tallinn – Turku

EMPEREST – ELIMINATING MICRO-POLLUTANTS FROM EFFLUENTS
FOR REUSE STRATEGIES

Tartu Waterworks Ltd, 2023

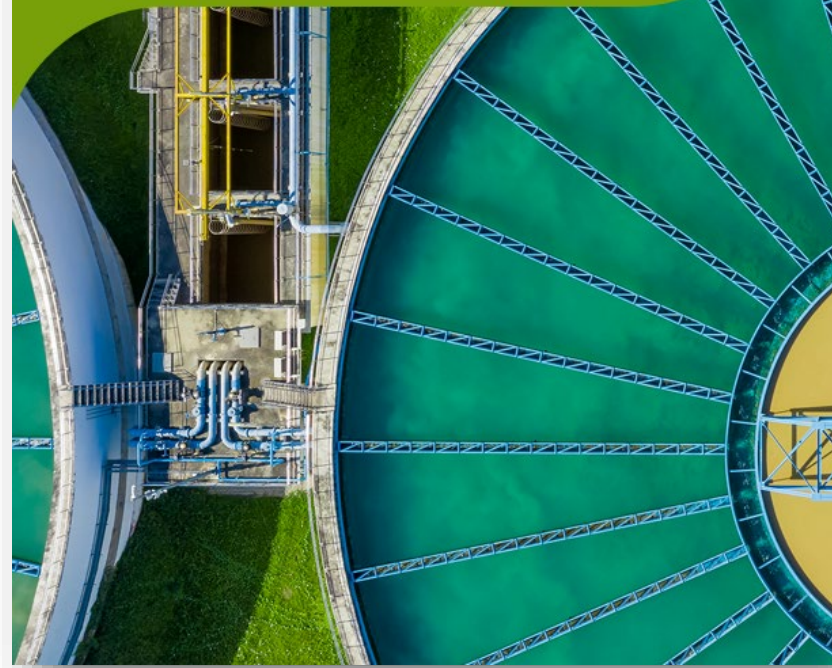


Roadmap for advanced effluent treatment pilot investments

Gdańsk – Szczecin - Kaunas

EMPEREST – ELIMINATING MICRO-POLLUTANTS FROM EFFLUENTS
FOR REUSE STRATEGIES

Gdańsk Water Utilities, 2023



Training package about PFAS and other organic micropollutants – for local authorities and public service providers

Tailor-made
digital-based
training
material

- PFAS are getting more and more attention; however, there is still a lack of comprehensive and accurate information on the fate of PFAS during wastewater treatment and the possibilities to remove them, and their fate in the environment. EMPEREST addresses the identified lack of knowledge with the **tailor-made training materials** for relevant target groups.
- The training package will be developed based on the **demands of the BSR countries** and of the **specific target groups**, and include theoretical and practical trainings, as well as materials for addressing PFAS within the interests and mandates of the municipalities.
- The package will be paired with a **promotional campaign targeting local authorities**, to focus on environmental impacts, upstream measures, and advanced wastewater treatment.

Coordinated by:

Berlin University of Technology,
Turku University of Applied Sciences, DWA Regional group North-East



Conceptual framework of the EMPEREST training package

EMPEREST – ELIMINATING MICRO-POLLUTANTS FROM EFFLUENTS
FOR REUSE STRATEGIES

Technische Universität Berlin, 2023



Thank you for your attention!



EMPEREST website

interreg-baltic.eu/project/emperest



EMPEREST LinkedIn

www.linkedin.com/company/emperest

Lead Partner

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Cities Commission c/o City of Turku

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