Recommendations for industrial wastewater treatment – results from Project BEST

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BEST
Better Efficiency for Industrial Sewage Treatment

PLATFORM BSR WATER

Interreg Baltic Sea Region

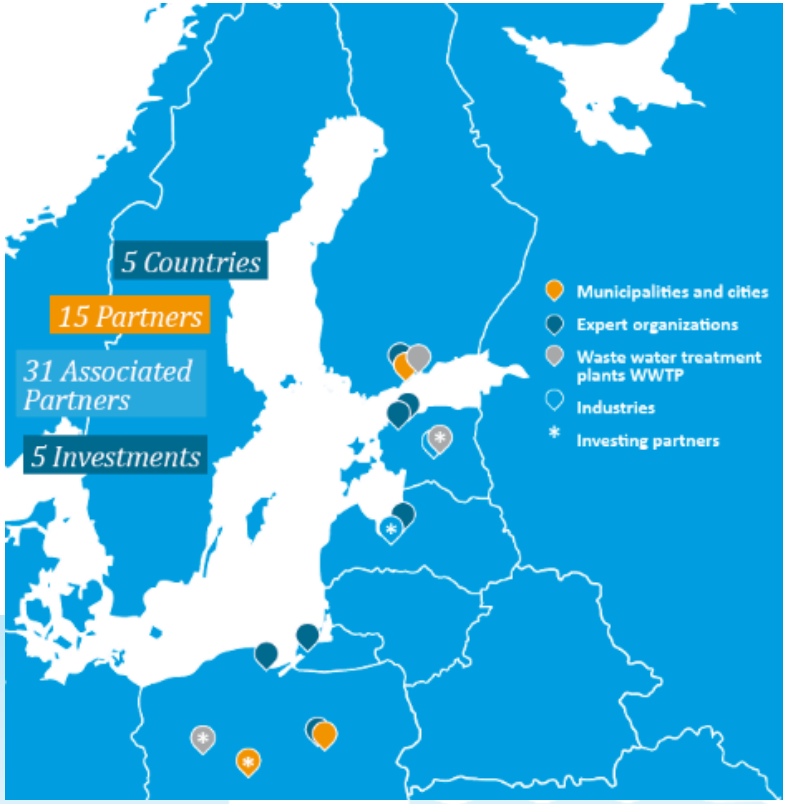
EU STRATEGY FOR THE BALTIC SEA REGION FLAGSHIP

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

WITH FINANCIAL SUPPORT OF THE RUSSIAN FEDERATION

BEST – Better Efficiency for Industrial Sewage Treatment – in a nutshell

- Efficient co-treatment of **industrial wastewaters in municipal networks** by promoting cooperation and best practices between industries, municipal wastewater treatment plants and environmental authorities in the Baltic Sea Region
- Duration: 1.10.2017 – 30.9.2020
- Budget: 3,4 million €
- Co-funding:
  European Union Interreg Baltic Sea Region (75/85 %),
  Russian Federation financial support
- The project has been granted an EU Strategy for the Baltic Sea Region Flagship status (Policy Area Nutri)



BEST Better Efficiency for Industrial Sewage Treatment

EUROPEAN REGIONAL DEVELOPMENT FUND
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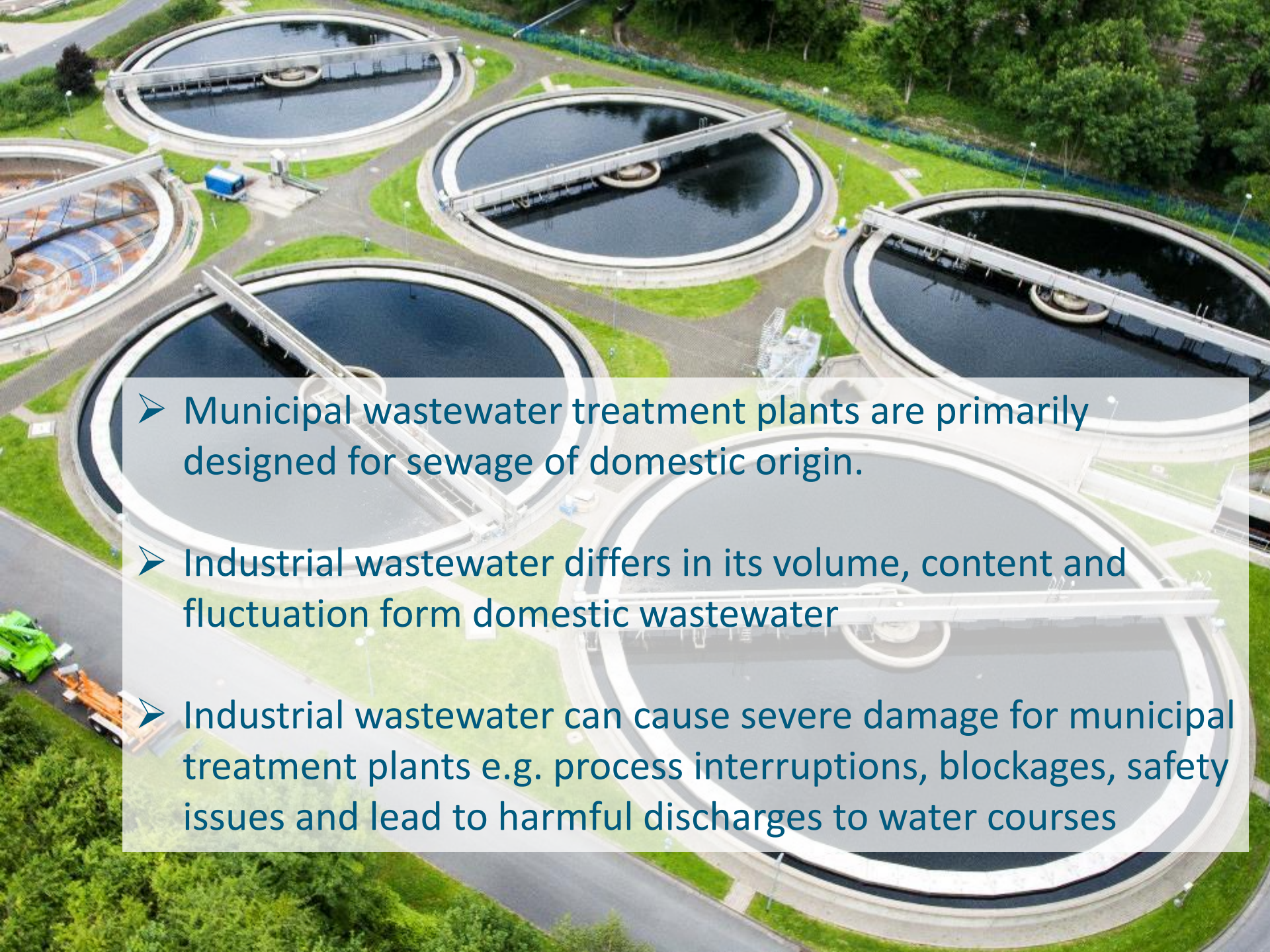


- Municipal wastewater treatment plants are primarily designed for sewage of domestic origin.
- Industrial wastewater differs in its volume, content and fluctuation form domestic wastewater
- Industrial wastewater can cause severe damage for municipal treatment plants e.g. process interruptions, blockages, safety issues and lead to harmful discharges to water courses

Guidelines and Policy brief

- **<u>Guidelines</u> for management of industrial wastewater**
  - legislative and institutional developments
  - co-treatment and pre-treatment
  - industrial wastewater contracts
  - cooperation and communication

- **<u>Policy brief</u> – Towards improved management of industrial wastewaters**
  - recommendations from the stakeholder point of view with targeted actions for
    - Industrial operators
    - Wastewater treatment plants
    - Environmental authorities
    - Policymakers

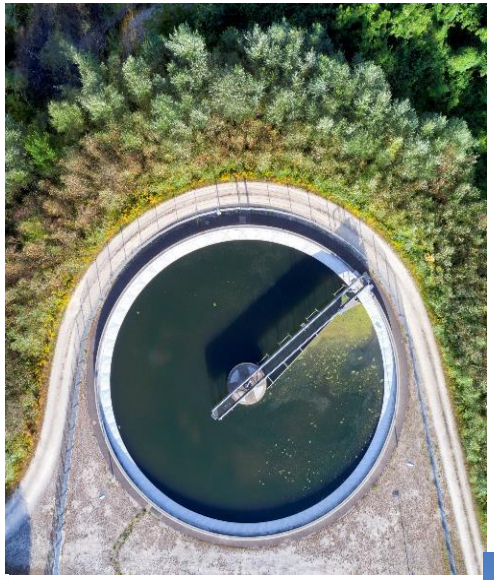
Work leader John Nurminen Foundation, Afry (consulting company)
https://bestbalticproject.eu/outputs/guidelines-for-management-of-industrial-wastewaters/

WATER UTILITIES

AWARENESS – MAPPING OF WASTEWATER

Water utilities need to map the industrial wastewater, its content and amount in their sewers.

Based on the results, water utilities need to conclude contracts with industrial customers with the highest loads and risks.



ACCIDENTS AND RISK MANAGEMENT

Wastewater treatment plants must prepare for possible problems caused by industrial wastewater and plan and rehearse needed action beforehand.

UNIFORM TERMS (WWTP AND AUTHORITY)

Industrial customers should be treated equally in permits and contracts especially if they are connected to the same wastewater network.

Needed terms and penalties should be equalised nationally either in legislation or national industrial wastewater guides.

INFORMATION EXCHANGE

Water utilities should exchange information and experience on the challenges and best practices for industrial wastewater management

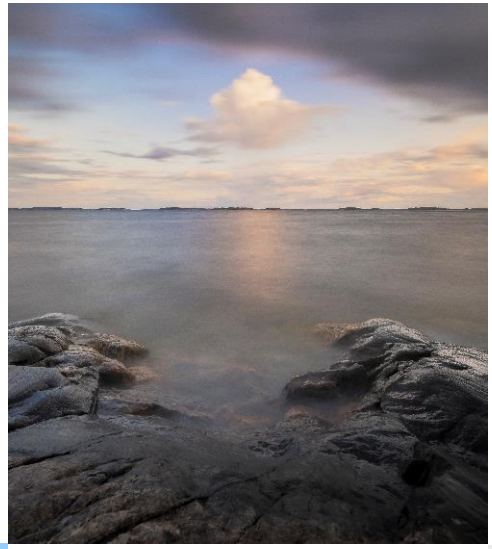
Water utilities should set up yearly meetings with industrial operators and environmental authorities

Source: Afry

ENVIRONMENTAL AUTHORITIES AND POLICY MAKERS

ENVIRONMENTAL PERMITS

In addition to contracts, sufficient requirements need to be included in environmental permits for industrial wastewater, including limit values for quality and quantity.



INTERFERENCE IN PERMIT NON-COMPLIANCE

Environmental authorities need to have enough resources to interfere with non-compliance of permit requirements.

Authorities and water utilities need to have the right to take water samples without prior notice.

HEARING OF WATER UTILITIES

Water utilities and wastewater treatment plants need to be heard and have the right to impact on the permit terms.

The wastewater treatment plant should be part of the permit negotiation process.

ENVIRONMENTAL PERMITTING SHOULD BE FREE FROM ECONOMIC AND POLITICAL INTERESTS

Regional business politics should not steer setting of permit terms; these should be set based on the needs of water treatment and for protecting the environment.

Source: Afry

Concluding remarks

- One of most alarming discoveries of the project is the insufficient permitting of even large and heavy industries in some BSR countries. In the worst cases, there are no limit values or monitoring requirements for hazardous substances, which cannot be treated at municipal treatment plants and thus pose a risk for wastewater treatment operation and the natural environment.

- On the positive side, rather cheap technical solutions or cooperation practices locally may significantly improve the situation.

Investments, pilots and cooperation models

- **Pre-treatment at cheese factories**
  - Balancing tank and flocculation-flotation unit *(E-Piim Tootmine, Estonia and Latvijas Piens, Latvia)*
- **Municipal WWTP solutions**
  - Mobile sampler for monitoring influent water (*Põltsamaa Vesi, Estonia*)
  - Industrial ww treatment line using calcium-silicate filter material enabling P recovery, *Doruchow Commune, Poland)*
  - Piloting use of industrial waste and sewage for co-fermentation *(Leszno, Poland)*
- **Development of local cooperation models among water utilities and industries**

BALTIC SMART WATER HUB

balticwaterhub.net

Dziękuję, спасибо, äitäh, paldies, kiitos!

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