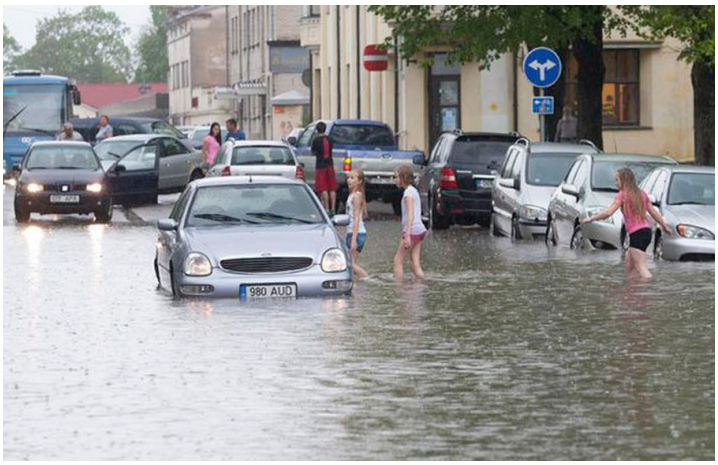
NOAH project pilot site

RAKVERE
ESTONIA

BSR NOAH: January 2019 - December 2021

Protecting the Baltic Sea from untreated wastewater spillages during urban flooding

NOAH



About the pilot site

- Rakvere is a town in northern Estonia, about 20km from the Baltic Sea coastline
- Total area of 10.7 km²
- Separate sewage and stormwater systems

CHALLENGES

- The center of town in Rakvere is extremely prone to flooding, since the tunnel connected to the stormwater system has limited capacity and cannot handle the water inflow during rain events.
- There is no automated control system for urban drainage system operation.

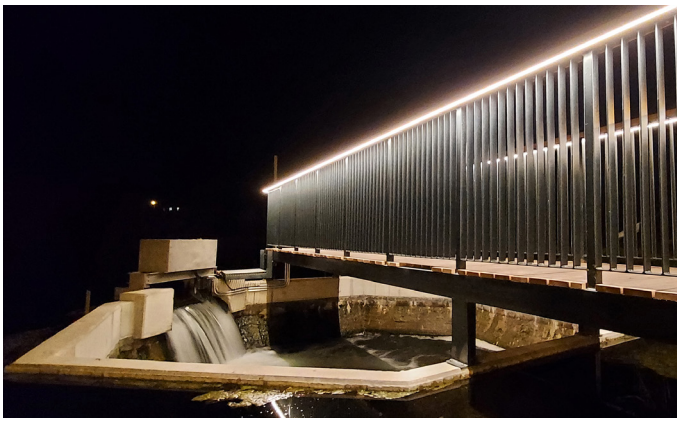
NOAH actions

A Storm Water Management Model (SWMM) of the Rakvere pilot area was created to estimate the amount of urban run-off. In addition, water flow measurements and sampling were carried out.

A Smart Weirwall System (SWS) was built to replace the original weir which was lacking real-time control, and released water from the pond to the stormwater system. The new system can adjust water flow in real-time based on the info sent by the remote level sensor in the stormwater system tunnel.

The overflow edge was raised by 30cm, providing additional depth in the pond. The pond acts as a reservoir to temporarily hold surplus stormwater until the downstream tunnel has the capacity to receive more water. The additional storage and real-time controlled weir allow a delay in the water flow, reducing flooding in the downstream city.

The Extreme Weather Layer (EWL) is a new tool created in the NOAH project and is used for planning in the town of Rakvere. The tool assists in spatial planning and flood risk prediction.



NOAH impact

- With NOAH actions, financial damages can be reduced, and flood risks mitigated.
- Consequently, wastewater spillages and overflows are reduced, resulting in less pollutants and excessive nutrients flowing to the Baltic Sea.

Interreg Baltic Sea Region

EUROPEAN UNION

EUROPEAN REGIONAL DEVELOPMENT FUND

SCAN QR CODE FOR MORE INFORMATION!
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