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Smart decentralized water management through a dynamic integration of technologies

The WATINTECH project proposes a combination of concepts of sewer mining with urban run-off treatment in decentralized treatment facilities to enhance the recovery of valuable resources including water, methane (heat, energy) and value-added chemicals, either extracting or producing them from the fluxes inside a sewage pipe. It is also postulated that this combination improves the management of centralized wastewater infrastructures under variable weather events (such as heavy rain episodes combined with long dry periods). The impact of sewer mining and wastewater characteristics on downstream wastewater treatment plants (WWTP) will also be analysed. In an ideal scenario, besides generating the value-added products for local reuse, decentralized treatment will also impact positively on the existing centralized sewage collection and treatment facilities, an aspect rarely taken into account in the design of decentralized infrastructure. WATINTECH summons an inter-disciplinary consortium offering capabilities that cover the whole R&D value chain - from fundamental research to market uptake. The project will advance the state-of-the-art of novel technologies by employing different size laboratory and pilot-plants and by modelling process innovations.