

S³Rem

Sufficient and Sustainable Remove of Anthropogenic Substances



S³Rem network management:
Institute for Water und Energy
Management at Hof University

Current project partners:
utp Umwelttechnik pöhl GmbH
TSH GmbH
up2e! GmbH
Hydrotec GmbH
PWL GmbH
HST Systemtechnik GmbH
Blue Foot Membranes



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Background

S³Rem focuses on solutions to reduce the input of anthropogenic particulate materials and dissolved trace substances into the environment like, for example, micro- and macroplastics, abrasion particles from tires or paint, very fine particles from various types of waste or pharmaceutical substances. Sources are consumer products, building materials, transportation, infrastructure, agriculture and industry. The direct discharge of precipitation into surface water, the discharge of wastewater via overflow or from sewage treatment plants as well as the direct input into soil as a result of agricultural activities were identified as particularly relevant emission paths. These emissions are not only problematic regarding their input of partially almost persistent material, but also of pollutants associated with the particles as well as dissolved pollutants. Although up to 99% of the particle load is retained in the sewage treatment plant, particulate material still gets into our water with negative effects on the water quality and the ecosystem.

Aim and approach

The aim of the S³Rem innovation network is the development of innovative, intelligent, efficient and sustainable solutions to reduce the input of anthropogenic particulate materials and dissolved trace substances into the environment considering all relevant emission paths. Since the sources cannot be completely eliminated, additional effective retention and treatment technologies are required where high particle loads are released into the environment and no or only insufficient treatment has taken place. The current processing techniques are not able to effectively eliminate fine particles, which can account for up to 90% of the particle load. Therefore, innovative techniques should retain both coarse and very fine material taking into account the different dirt load qualities.

For improving water quality, enabling wastewater reuse and thereby counteracting the increasing water shortage, innovative technologies must be resilient to increasing extreme conditions in the future by efficiently treating both the widely varying amounts of water and the associated highly variable pollutant loads. Thereby, digitization plays a central role as a controlling element. In addition, transferrable solutions from other disciplines should be taken into account and testing of prototypes, as well as laboratory and semi-technical tests, will define later application maturity for municipalities at an early stage.

Join our innovation network S³Rem!

The innovative power of our S³Rem network is strengthened by additional network members and thus opens up new market opportunities, both nationally and internationally. We are constantly working on strengthening our network and gaining additional network and cooperation partners.

If you are interested in getting more information about our innovation network and the framework conditions of S³Rem, please contact us! We will then discuss future cooperation and the added value for everyone involved.

QR-Code from S³Rem website

