



Fraunhofer

ISI

FRAUNHOFER INSTITUTE FOR SYSTEMS AND INNOVATION RESEARCH ISI

Z * DEZ – CENTRAL OPERATION OF DECENTRALIZED SYSTEMS

New technical solutions need new forms of organization. In the Ravensburg district of Baden-Württemberg an innovative organizational approach to wastewater disposal using small sewage treatment plants has been implemented.

Fraunhofer Institute for Systems and Innovation Research ISI

Competence Center
Sustainability and
Infrastructure Systems
Breslauer Strasse 48
76139 Karlsruhe, Germany

Contact

Dr. Jutta Niederste-Hollenberg
Phone +49 721 6809-115
jnh@isi.fraunhofer.de

Dr. Thomas Hillenbrand
Phone +49 721 6809-119
thomas.hillenbrand@isi.fraunhofer.de

www.isi.fraunhofer.de

CHALLENGE

A fundamental challenge when implementing decentralized wastewater infrastructure concepts is to guarantee long-term that the plants are operated professionally. In principle, based on technical advances, modern small wastewater treatment plants can achieve permanently high purification efficiencies in practice if their operation is professionalized and web-based remote monitoring is used.

The z * dez project aims to implement an innovative organizational concept for the construction and operation of small sewage treatment plants in rural areas.

CONTENTS

The z * dez project aims to implement an innovative organizational concept for the construction and operation of small sewage treatment plants in rural areas.

Within the scope of a contracting model, small sewage treatment plants were acquired for interested citizens by the municipalities as part of a collective call for tender. At the same time, the plant manufacturer was assigned the task of operating the plants using web-based remote monitoring.



Z * DEZ – CENTRAL OPERATION OF DECENTRALIZED SYSTEMS

ADVANTAGES

The specific advantages of such an approach are:

- Investment and operating costs can be saved by bundling the acquisition and installation of the same kind of system and operating a larger number of such systems in parallel, supported by modern remote monitoring technology.
 - The “all-inclusive package” offers a higher level of comfort to users, comparable to centralized system concepts, because they have only very limited dealings with the sewage disposal system.
- The system manufacturer’s dual function as supplier and operator means there is a strong incentive for him to operate stable, reliable systems with minimal wear and tear.
 - Compared with previous experiences of decentralized sewage disposal systems, the professional operation of the plants substantially improves the wastewater treatment.

The project is unique in this form (several municipalities, supplier guarantees operation, “all-inclusive package”). It can be transferred to any other area. The professional operation of the plants guarantees high purification efficiency and reliable water protection. By bundling the acquisition and operation of a large number of the same kind of plant (here > 20), saving potentials are generated and passed on to users.

STATUS

The small scale wastewater treatment plants were constructed in 2013; the project is currently in the evaluation phase.

CLIENT

Regierungspräsidium Tübingen
(regional government office of Tübingen)

PARTNER

Landratsamt Ravensburg
Stadt Wangen im Allgäu.
Gemeinde Kißlegg