



Three experienced partners, each a champion in its own field, provide you with tailored solutions to effectively reduce water losses – always focusing on your individual needs and supply conditions.

Our services include everything from developing concepts and strategies for permanent and automated monitoring of your facilities for water loss to pinpointing the leaks. For this, we supply and install the latest technology and software for loss monitoring and leak detection.

Our experienced engineers have extensive expertise in design, supply, and operation, and can advise you on all related issues, including modernizing networks and facilities, rehabilitation measures, and operational issues.

Our integrated approach to water loss management helps to protect resources and increase the efficiency of your water supply.

You can rely on our expertise, which we can provide on an integrated or on a modular basis, depending on your particular needs.

Integrated water loss management is...



... a well-rounded package.

*SIWA is a trademark of Siemens AG
CIS = Completely Integrated Solutions*

RBS wave is a company within the EnBW group

sebaKMT is a registered trademark of the sebaKMT Group

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Engineering



RBS wave, a subsidiary of EnBW Regional AG, is one of the leading engineering companies in the German state of Baden-Württemberg in the areas of water supply, structural engineering, power engineering, cathodic corrosion prevention, and pipeline network consulting.

As a former subsidiary of the Technische Werke Stuttgart AG (now EnBW), RBS wave is one of the pioneers of hydraulic pipeline network analysis. For over 30 years, RBS wave has planned, calculated, and appraised water and gas supply systems for municipalities, cooperatives, and utility companies.

More than 100 projects have been carried out over the last five years in the field of water supply alone. As part of the overall concepts for these projects, the subject of combating water loss was always viewed as a core issue.

This engineering knowledge, combined with the operating expertise of EnBW, the largest water supplier in Baden-Württemberg, is the basis for the development of the LeakControl system. This system for automated monitoring of supply networks for water losses was designed by RBS wave/EnBW in close cooperation with Siemens.



Graphic representation of a supply structure

As part of the development of a comprehensive water loss monitoring plan, our experts determine the most advantageous locations for sensor measuring points in the supply network.

RBS wave's integrated approach to reducing water losses includes:

- ▶ **Creation of water balance sheets (reclamation, treatment, distribution)**
- ▶ **Hydraulic analysis of the supply network**
- ▶ **Water loss monitoring with LeakControl and other measuring techniques and their integration into control and instrumentation technology**
- ▶ **Assessment of supply scenarios**
- ▶ **Preparation of short, medium, and long-term rehabilitation concepts, based on an analysis of the system's condition**



Monitoring and leak monitoring



For many years Siemens has been a worldwide player and expert partner in equipping water and sewage facilities as well as providing water transport systems with innovative solutions and diverse references – both in Germany and abroad.

Services such as monitoring throughout the entire life cycle, preventive maintenance, mobile handling, upgrades, and remodeling are essential elements of our business activities.

Along with a broad product spectrum of electrical equipment and the automation of drinking water and sewage treatment facilities, Siemens Water Technologies also supplies products for optimizing drinking water and sewage treatment facilities.

Our many years of experience in monitoring and optimizing water transport systems has led to the development of **SIWA^{CS} LeakControl for the permanent, continuous, and fully automated leak monitoring** of pipeline networks. Data from already existing flow rate measurements, along with additional LeakControl flow rate measurements, are fed into innovative analysis processes, thus allowing any leaks to be allocated to a small network

segment (DMA) within the shortest possible time. This substantially reduces the time needed to identify a leak as well as expenditures for subsequent leak localization, resulting in **shortened leak times, effectively reducing loss.**

The advantages of SIWA^{CS} LeakControl:

- ▶ **Supply of hardware and software**
- ▶ **Efficient diagnosis, analysis, and maintenance**
- ▶ **Network-wide accounting of volumes**
- ▶ **Model-based assessment**
- ▶ **Use forecast model**
- ▶ **Complete integration into existing control and instrumentation technology**



Leak localization



For over 60 years, sebaKMT in Baunach has developed, produced, and marketed devices for localizing water leaks and pipeline ruptures in water networks.

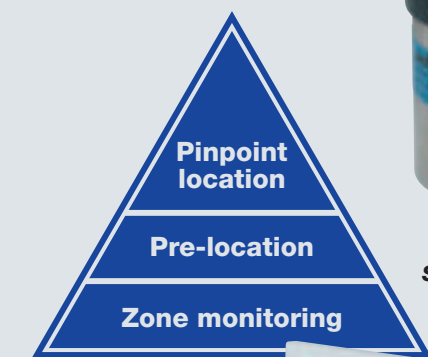
The company has always consistently pursued a strategy of producing practice-oriented, high-quality instruments for the user's daily tasks.

In terms of strategically localizing water leaks, a fundamental differentiation is made between **zone measurement, pre-location, and pinpoint location.**

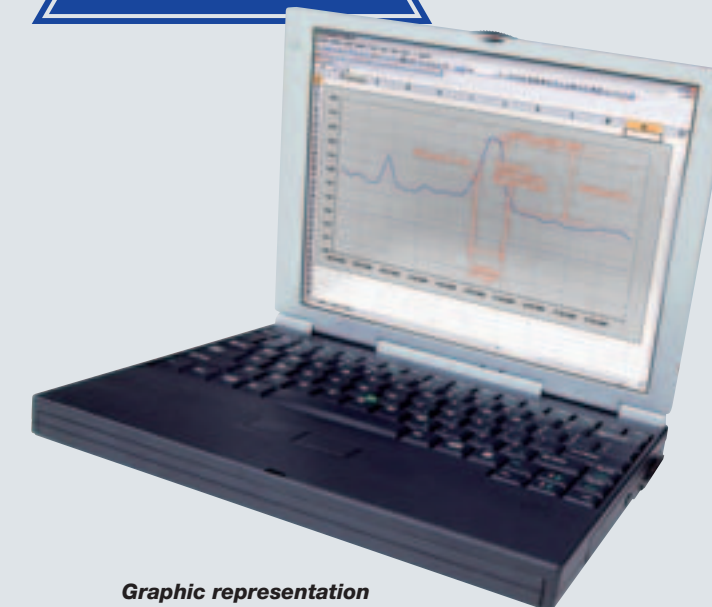
Through **zone measurement**, the district metering areas (DMA) with the greatest water losses are identified – initially without detailed localization of the individual leaks.

During **pre-location**, acoustic loggers are used to determine the segments in the identified DMA that are affected by the leak. Detailed localization is then performed on these segments.

Pinpoint location through the SebaKMT correlator makes it possible to localize the leak with the pinpoint accuracy needed prior to excavation.



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Graphic representation of LeakControl analysis

