

/ HydroMet



Water Quality and Aquatic Ecosystems

KISTERS
Empowering decisions of tomorrow

Holistic view on the state of aquatic, riverine and terrestrial ecosystems

The quality of water resources and aquatic ecosystems is of increasing importance. Water quality assessment is essential not only in natural water systems like surface water bodies or groundwater aquifers but also in industrial environments, e.g. for drinking water supply, wastewater treatment, or water management processes within the mining industry. On a global scale there is a clear focus on and commitment to protecting water bodies, maintaining rich aquatic and terrestrial ecosystems as well as ensuring public health standards.

KISTERS Solutions for Water Quality and Aquatic Ecosystems provide information about the physical, chemical and biological quality criteria of the resource water at a glance. They integrate qualitative aspects into the quantitative description of surface water, groundwater, process water and drinking water, turn complex data into easy-to-understand information and generate new valuable insights to ensure a good overall condition of our water resources. The KISTERS solution meets all the daily and long-term data management requirements for water quality and ecology in your organization.

KISTERS Software Highlights

KISTERS Water Solutions are designed to provide a holistic view of water bodies: They link qualitative data with quantitative, hydrological and geographical factors and then evaluate all data as a whole. We offer flexible, hardware-independent data management for analyzing, validating and archiving water quality data that is collected either manually or automatically. Besides customized management and graphical representation of data, useful information on water quality can also be provided for specific target groups.

- ✔ **Integrate ecological data and discrete data from field samples with continuous time series data**
KISTERS Water Solutions combine heterogeneous information and simplify their management. Graphs, charts, box plots, maps, etc. reveal trends and patterns in your environmental data. Visualization avoids misinterpretations and creates security in decision-making. With integrated management programs, you can better protect and restore your watersheds and ecosystems.
- ✔ **Respond to changing environments**
When it comes to measuring and assessing water quality – whether it be via physical, chemical or biological indicators – you need a software package that you can easily adapt to your organization's needs. KISTERS Water Solutions are highly versatile and configurable to meet all your data storage, data integration and analytics requirements.
- ✔ **Conveniently correlate all water quality data with lab results from LIMS**
The variety of water quality data is high, because they derive from spot samples collected manually and/or automatically. In KISTERS Water Solutions you recognize relationships between data sets and analyze them all together. Above that you can examine and optimize existing lab practices via trends on sample container specifications, sample storage times, and temperatures at which samples are shipped to labs.
- ✔ **Create water quality analyzes and statistics**
Turn pure water quality data into relevant information – e.g. with known standardized statistical techniques (including regressions, trends, frequency analyzes) or graphic visualization techniques (including box whisker plots, spatial representations). In addition, KISTERS Water Solutions provide interfaces to the well-known statistical packages familiar to professionals.



Full assessment of your ecosystems

Rather than relying solely on single water quality indicators – e.g. the presence of toxic chemicals or levels of nutrients such as nitrogen or phosphorus – biological data is also important for environmental managers in order to assess the health and robustness of a given aquatic or riparian ecosystem. Whilst a water sample provides only a snapshot in time, the assessment of species richness and composition can provide a much broader understanding of the long-term health of a water system. This is why KISTERS Solutions offer the **combined analysis of bioindicators, physical and chemical indicators** – one single systems for the storage and examination of all relevant data.

Solutions for the industries

The water quality components of KISTERS Software can be assembled into industry-specific solutions, e.g. for **surface or groundwater monitoring, urban water management and drainage, industry, agriculture or environmental and civil protection**. Our solutions are used wherever clean water is important. In conjunction with other KISTERS solutions, real-time hydrological and meteorological data can be stored in a single system with chemical-physical sampling and biological observations. This provides a comprehensive solution for environmental data management.

Systems of every size

In order to derive meaningful and reliable insights from the ever-growing volumes of data and to be able to cope with the increasing demand for derived data products, water quality software systems have to be developed scalable right from the start. KISTERS Solutions grow with the requirements. Using server-side clustering, they **process a larger volume of data, higher resolutions, and generate a larger number of derived data products**. This way, they can withstand future requirements – for your **investment security**.





About KISTERS

KISTERS is a medium-sized IT company with 700 employees. It is headquartered in Aachen, Germany, and operates numerous national and international offices. KISTERS offers leading software solutions for sustainable resource management (water, energy, air). Professional competence, implementation experience and industry know-how make KISTERS a desirable and reliable partner. KISTERS water solutions form a framework for building efficient customer solutions based on modern technology and a deep understanding of application areas and markets. The solutions are implemented for surface water and groundwater monitoring, meteorology, flood warning, dam operation and safety, water quality and urban water systems at hundreds of customer locations with several thousand users worldwide.



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