



SCHILDKNECHT
SMART DATA COMMUNICATION



**Versatile DATAEAGLE Radio Modules
supporting Water Management**

APPLICATION EXAMPLE WATER MANAGEMENT

The mostly extensive facilities with different Basins often require wireless data transmission, to save time and money.



①

DATAEAGLE can be optimally used for this purpose. The **Master** is usually installed centrally directly on the control unit.

②

The DATAEAGLE **Slaves** are installed decentrally on the basin or directly on the agitator, as in a sewage treatment plant and receive the fieldbus protocols via Bluetooth or 869MHz.





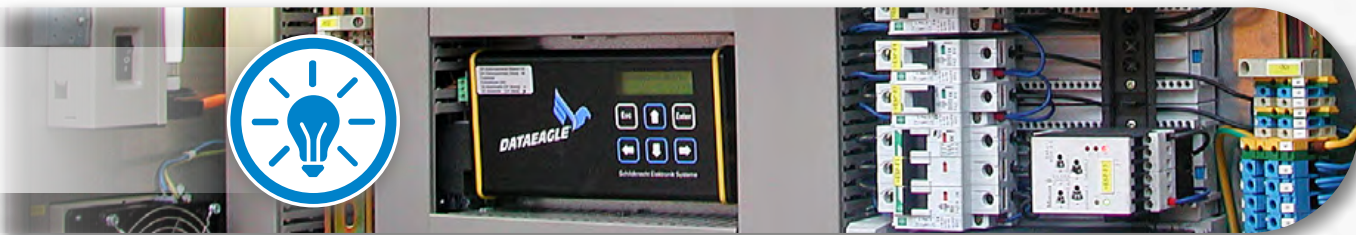
APPLICATION

Water management with its segments drinking and wastewater, watering and dewatering, phreatic water, water protection and others is an increasingly important sector, but which with regard to its technological requirements is still underestimated. Even here – like in other industrial sectors – sustainability looms large. In 1998 already, the Federal Environment Agency by its concept Sustainable Water Management in Germany elaborated objectives for a sustainable development of water supply. Also the German Water Partnership network with its Wasser 4.0 working team founded in 2015 addresses itself to important current subjects of the German water industry: It is called for applying innovative technologies as assistance for sustainable management of all processes related to water. Digitalization and automation of water systems enables a resource-efficient, flexible and competitive water management. Corresponding data collection and data analysis by radio technology can for example be ensured by safe, sustainable drinking water supply and effective measures taken for flood protection. Processing drinking and wastewater, measuring levels at waters, wells or rainwater retention basins, but also management of water networks including remote monitoring of large pumps or for example seawater desalination plants, all of these being applications for using radio communications as having been developed, produced and applied by [Schildknecht AG](#) for more than 20 years.



CHALLENGES

The future-oriented management of the water resource is facing different technological challenges. Examples for this are: permanent monitoring of large, frequently remote areas such as dams or retention basins, networking of relevant data over long distances in flood warning systems, controlled watering of remote agricultural systems for ensuring earnings or also central control of moving plant parts in clarification tanks. All this makes classic data communication via cables difficult, cost-intensive or even impossible, which again militates in favor of applying wireless solutions using data radio technologies: Interference-prone cables are replaced with modern data radio modules and so compressed data is capable of being sent up to the cloud portal via radio link in an uncomplicated, safe manner and over long distances.



SOLUTION

For many communication tasks of water management, the powerful radio modules of the series [DATAEAGLE 3000, 4000 and 7000](#) of [Schildknecht AG](#) provide ideal solutions: [DATAEAGLE 3000 and 4000 modules](#) "talk" [PROFIBUS or PROFINET](#) and consequently assume wireless data transmission on distances of a [PROFIBUS or PROFINET](#) system which are inappropriate for hard-wired cable connections. Enhanced, highly efficient modules of the [DATAEAGLE 7000](#) series are equally suitable for this. At the input side, they feature numerous interfaces for "collecting" data of various systems of water management such as for example gauge, pressure or flow monitors or also state detectors at pumps or compressors. At the output side, the [7000 modules](#) are fitted with a universal mobile radio modem. Data is pre-processed and transferred to a cloud. For this purpose, the [7000 module](#) automatically dials up into the most powerful available mobile radio network. The universal eSIM card, tightly integrated in the [DATAEAGLE 7000](#) and allowing cost-effective access to more than 400 international mobile radio networks provides for global connectivity by mobile radio. So [DATAEAGLE 7000](#) utilizes the communication technology with the highest global coverage.



RESULT

Particularly in the water industry with its extensive facilities scattered over wide distances, a modern, flexible and uncomplicated radio technology is in great demand. For many years already, [Schildknecht AG](#) has been successfully facing various challenges of this sector and with the [DATAEAGLE device series](#) as well as the development of new, innovative radio-based applications many times has contributed to the modernization of systems and plants of water management – even in the sense of sustainability.

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