




NUTSEN

Sustainable Environmental Technologies Through Sensor Technology


Making
Water Management
Intelligent and Future-Proof

Digital Solutions and Sensor Systems
Made in Bavaria



As part of the cross-cluster projects NUTSEN and NUTSEN 2.0 we have been promoting technology transfer in the field of sensor-based solutions. We make the diversity of technologies “Made in Bavaria” accessible for you and support companies as well as municipalities during implementation.

Discover digital technologies from Bavaria for Bavaria in our compact **guide to intelligent water management**.



ACS Control-System is an innovative and efficient company for measurement technology and control systems. Sensors for level, pressure, temperature and flow have been produced and distributed worldwide for more than 30 years. The products are successfully used in all industrial sectors for the benefit of customers.

Technology solutions

Flow sensors

Rain and environmental sensors

Level and water level sensors

Water pressure sensors

Sensors for a „smart water network“ (monitoring, predictive maintenance)


Edgedevices & IoT solutions for data processing and connectivity solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Level, pressure and flow measurements for the drinking water industry, early warning systems for heavy rainfall, level measurements for surface waters

Lauterbacherstr. 57, 84307 Eggenfelden | www.acs-controlsystem.de | info@acs-controlsystem.com

A background image showing a close-up of water splashing, with droplets and ripples, rendered in a light blue color scheme.

AGVOLUTION designs and implements innovative solutions in the fields of agriculture, horticulture and environmental sciences based on a symbiotic integration of sensor technology, environmental data, modeling and software implementation.

By using wireless sensor networks, satellite data, geodesy and machine telemetry, AGVOLUTION creates extensive data sets to describe, analyze and forecast environmental conditions. The CLIMAVI IoT sensor technology continuously records climate and process data and transmits it to the IoT data platform. In the FARMALYZER platform, this data is combined with other environmental information to provide precise predictions on plant growth and optimal fertilization.

Technology solutions

Rain and environmental sensors

Sensors for a „smart water network“ (monitoring & predictive maintenance)

Edgedevices & IoT solutions for data processing and connectivity solutions IoT solutions for data processing and connectivity solutions

Software and interface solutions for visualization, databases and data analytics

Soil moisture sensors

Energy self-sufficient wireless data loggers

Plant growth models & irrigation forecasting

Irrigation control

Areas of application

Agriculture, smart city, environmental monitoring

Wöhrmühle 2, 91056 Erlangen | www.agvolution.com | contact@agvolution.com



The name BestSens has stood for high-tech sensor technology since 2011. The company develops, produces and sells high-tech sensors, software and electronics for monitoring pumps. Patented and technological highlights include the monitoring of mechanical seals and bearings in pumps.

Technology solutions

Sensors for a „smart water network“
(monitoring, predictive maintenance)
Edgedevices & IoT solutions for data processing
and connectivity solutions

Areas of application

Monitoring of pumps and rotating elements

Jean-Paul-Weg 2, 96489 Niederfüllbach | www.bestsens.de | info@BestSens.de

A blue-tinted photograph of water splashing, with droplets and ripples visible, serving as a background for the top half of the page.

Since its foundation in 2015, eesy-innovation has been helping companies worldwide to become more innovative, intelligent and cost-efficient through customized IoT solutions. The company offers comprehensive services, including consulting, product development and data analysis, to integrate intelligence into enterprise systems.


Technology solutions

Edgedevices & IoT solutions for data processing and connectivity solutions
Software and interface solutions for visualization, databases and data analytics

Areas of application

Areas of application IoT solutions for sensor technology

Leipziger Strasse 16, 82008 Unterhaching | www.eesy-innovation.com | info@eesy-innovation.com



Endress+Hauser is a leading global supplier of measuring instruments, services and solutions for industrial process engineering. We offer process solutions for flow, level, pressure and temperature measurement, analytical measurement, data logging and digital communication to optimize processes in terms of economic efficiency, safety and environmental impact. Our customers operate in a wide range of industries, including chemicals, energy and power plants, basic materials, metals & mining, food, life sciences, oil and gas and water/wastewater.

Technology solutions

Water quality sensors Smart water meters

Flow sensors Level and gauge sensors

Rain and environmental sensors

Water pressure sensors

Leakage detection

Sensors for an „intelligent water network“ (monitoring & predictive maintenance) Edge devices & IoT solutions for data processing and connectivity solutions predictive maintenance)


Edgedevices & IoT solutions for data processing and connectivity solutions

Solutions for power supply of sensor systems

Software and interface solutions for visualization, databases and data analytics

Areas of application

Drinking and waste water, food, chemicals, energy, steel, cement



As a specialist in the field of software products for process control technology, SCADA, energy management, IIoT, cloud services and telecontrol technology, FlowChief provides comprehensive solutions from a single source. With many years of experience and continuous development, the company offers an end-to-end process control and energy management system based on state-of-the-art web technologies.


Technology solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Monitoring, visualization, consumption recording, leakage monitoring, data recording and evaluation for industrial water, wastewater and industrial applications

Alte Salzstraße 990530 Wendelstein | www.flowchief.de | info@flowchief.de



Franken Plastik, founded in 1957, specializes in pioneering signage and identification solutions for public utilities, energy suppliers and industrial companies. Franken Plastic's flexible, world-renowned signage system made it possible for the first time to use and exchange important information about underground fittings directly on site in signs. The spectrum ranges from the marking of wind farms, industrial or offshore facilities to the creation of fire department plans.

Technology solutions

Edgedevices & IoT solutions for data processing and connectivity solutions
Software and interface solutions for visualization, databases and data analytics

Application areas

Tamper-proof RFID transponders (NFC), identification for information signs, intuitive software applications for inspection and maintenance

Balbiererstr. 11, 90763 Fürth | www.frankenplastik.de | info@frankenplastik.de

The Fraunhofer EMFT conducts applied research into sensors and actuators for humans and the environment. The institute's technology portfolio ranges from semiconductor processes and MEMS technologies to 3D integration and film electronics. These nano- and microtechnologies form the basis for the Fraunhofer EMFT's other areas of expertise: sensor solutions, safe electronics and micropumps. It is precisely the interdisciplinary interplay of these competencies that produces pioneering solutions. As a result, the Fraunhofer EMFT is ideally positioned to contribute to overcoming the current challenges facing our society.

Technology solutions

Water quality sensors


Sensors for a „smart water network“ (monitoring, predictive maintenance)

Edgedevices & IoT solutions for data processing and connectivity solutions

Anwendungsbereiche

Mikropumpen

Hansastraße 27 d, 80686 Munich | www.emft.fraunhofer.de | contact@emft.fraunhofer.de



Fraunhofer IIS, headquartered in Erlangen, conducts cutting-edge international research into microelectronic and information technology system solutions and services. The research areas include audio and media technologies, communication systems, localization and networking, smart sensing and electronics, supply chain services as well as the development of adaptive systems and the X-ray technology development center EZRT.

Technology solutions

Water quality sensors

Rain and environmental sensors

Sensors for a „smart water network“ (monitoring, predictive maintenance).

Areas of application

Radio technology, water quality monitoring, leakage detection, flood monitoring

Am Wolfsmantel 33, 91058 Erlangen | www.iis.fraunhofer.de | info-bmt@iis.fraunhofer.de



The natural hair filters from Frischwasser.tech can be used to filter hydrophobic and amphiphilic pollutants from water. The filters have a high adsorption capacity and are able to absorb up to eight times their own weight in pollutants and bind them permanently. They are versatile, durable and made of 100% natural material, making them ideal for combating water pollution and protecting the environment.


Technology solutions

Filtration materials

Areas of application

Drainage of traffic areas, pollutant reduction, water treatment, protection and cleaning of water protection areas

Prinzenhöhe 4, 82211 Herrsching | www.frischwasser.tech | info@frischwasser.tech



With over 35 years of experience in environmental measurement technology, gained in various companies in the industry, HELMENSTEIN Umwelttechnik offers consulting, services and sales in the field of water and wastewater technology. In recent years, the company has specialized in the areas of flow measurement technology, sampling and online analysis measurement technology and provides support from planning to commissioning and process operation.

Technology solutions

Flow sensors

Water quality sensors

Level and gauge sensors


Water pressure sensors

Edgedevices & IoT solutions for data processing and connectivity solutions

Areas of application

Expert for flow measurements, data loggers for environmental and water analyses

Heinrichstraße 23, 82362 Weilheim | www.helmenstein-gruppe.de | info@helmenstein-gruppe.de



The ILF Group is an internationally active, fully independent engineering and consulting company that supports its clients in the successful realization of technically demanding, complex industrial and infrastructure projects. The companies of the ILF Group employ 3,000+ highly qualified staff in over 45 office locations on six continents. The regional presence enables ongoing coordination with the respective clients and project participants on site. At the same time, the close cooperation within the ILF Group network also enables the integration of top international experts, special experience, processes and tools.

Technology solutions

Solutions of all kinds: from concept development to the implementation of all current and future-oriented technologies for customer-specific requirements.

– Water treatment in every discipline –

Application areas

Energy & climate protection, water & environment, transportation & urban areas, and resources & sustainable industry

Werner-Eckert-Str. 7, 81829 Munich | www.ilf.com | water-environment@ilf.com

Ing Plus AG helps local authorities and their service providers to realize their data potential. The company uses modern technologies to simplify the exchange, processing, analysis and visualization of infrastructure data in the construction industry. Its expertise lies in traditional civil engineering and municipal infrastructure, particularly in the field of wastewater.


Technology solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Automated sewer data management, geographic information systems (GIS), business intelligence maps (visualization and analysis of the wastewater network for quick decisions)

Badstr. 13-15, 90762 Fürth | www.ing-plus.de | service@ing-plus.de

A close-up, high-speed photograph of water splashing, creating a dynamic and energetic background. The water droplets are captured in mid-air, with bright highlights and soft shadows, giving a sense of movement and freshness. The overall color palette is a range of blues, from deep navy to light sky blue.

INSYS MICROELECTRONICS has been a reliable partner in the field of digitalization since 1992. With its three business units, the company offers complete solutions for networked data communication, intelligent lock systems and innovative testing systems. The requirements and wishes of the customer are at the heart of the realization.


Technology solutions

Edge devices & IoT solutions for data processing and connectivity solutions

Areas of application

Remote maintenance, fault messages and Internet or WAN communication of edge devices

Hermann-Köhl-Straße 22, 93049 Regensburg | www.insys-tec.de | info@insys-tec.de



With a solution portfolio comprising hardware, connectivity, security, cloud infrastructure and consulting, NXTGN is a holistic provider of IoT-based end-to-end solutions for companies in the plant and mechanical engineering, logistics, process manufacturing and chemical industries, as well as the food and pharmaceutical industries.

Technology solutions

Water quality sensors

Rain and environmental sensors

Level and water level sensors

Sensors for a „smart water network“ (monitoring, predictive maintenance)


Edge devices & IoT solutions for data processing and connectivity solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Remote maintenance, fault messages and Internet or WAN communication of edge devices

Amberger Str. 82, 92318 Neumarkt | www.nxtgn.de | info@nxtgn.de



The Sensor Technology Application Center (SappZ) at the OTH Regensburg is an interdisciplinary laboratory that pools the sensor technology expertise of the city of Regensburg and acts as a link between research and industry. The SappZ concentrates on pre-competitive research and development. The development of intelligent sensor technology focuses on areas such as photoacoustic gas sensors, ultrasonic sensors, process monitoring, smart farming, smart health and environmental sensors.

Technology solutions

Flow sensors

Water quality sensors

Edgedevices & IoT solutions for data processing and connectivity solutions

Anwendungsbereiche

Wasserqualitätsüberwachung

Franz-Mayer-Straße 1, 93053 Regensburg | www.sappz.de | ta-sappz@oth-regensburg.de



With over 300 employees throughout Germany, the Rietzler Group is proud of its thirty-year company history. During this time, all companies in the group have always been owner-managed and family-owned. The headquarters are located in Nuremberg, where the group has continuously developed since 1986. The expertise in the fields of environmental assessments, environmental technology, infrastructure, energy and analytics has been constantly expanded.

Technology solutions

Environmental laboratory and drinking water analytics

Digital twin for municipal energy concepts

Software and interface solutions for visualization, databases and data analytics

Areas of application

Water supply and extraction, environmental analysis, surface water, construction dewatering

Kopernikusplatz 24, 90471 Nuremberg | www.rietzler-gruppe.de | info@rh-umwelt.de



For over 35 years, the family-run company SCHRAML has specialized entirely in water and wastewater companies, environmental management and infrastructure systems. It develops solutions for highly efficient drinking water supply and energy and environmentally friendly wastewater treatment. The aim is to contribute to the sustainable use of water as a resource and to protect the environment and people.

Technology solutions

Flow sensors

Water quality sensors

Smart water meters

Rain and environmental sensors

Level and water gauge sensors

Water pressure sensors

Sensors for a „smart water network“ (monitoring, predictive maintenance)

Edgedevices & IoT solutions for data processing and connectivity solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Process control technology, telecontrol technology, automation, AI, energy optimization, sewer network management

Herxheimerstr. 7, 83620 Vagen | www.schraml.de | info@schraml.de

As a competence center for measuring devices, indicators and controllers as well as temperature sensors, Senseca pools the many years of expertise of experienced specialists at its Regenstauf site. Current market trends are tracked here and taken into account in the development of new technologies. The product portfolio has been continuously expanded and includes transmitters, indicators, sensors and high-quality hand-held measuring devices.

Technology solutions

Flow sensors

Water quality sensors

Rain and environmental sensors

Level and water gauge sensors


Water pressure sensors

Sensors for a „smart water network“ (monitoring, predictive maintenance)

Areas of application

Data loggers for environmental and water analysis

Hans-Sachs-Straße 26, 93128 Regenstauf | www.greisinger.de | info@senseca.com



SebaKMT by Megger Germany GmbH - a partner to water utilities worldwide for 70 years - is a pioneer in the development and manufacture of measuring systems for water leak detection and water loss reduction. The company offers the complete range of conventional technologies and is one of the leading suppliers of permanent, fully automatic, correlating network monitoring systems.

Technology solutions

Flow sensors

Water quality sensors

Smart water meters

Rain and environmental sensors

Level and water gauge sensors

Water pressure sensors

Sensors for a „smart water network“ (monitoring, predictive maintenance).

Edgedevices & IoT solutions for data processing and connectivity solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Water balancing, acoustic drinking water monitoring for leak detection, water loss reduction, pressure monitoring, water quality monitoring

Dr.-Herbert-Iann-Str.6, 96148 Baunach | <https://de.megger.com> | sales@sebakmt.com

With innovative technologies for industry, infrastructure and mobility, SIEMENS AG helps customers to connect the digital and physical worlds and supports the transformation into smarter, more productive, more efficient and more sustainable systems. For the water and wastewater industry, the company offers applications that optimize energy efficiency, reduce water loss or water pollution and enable predictive maintenance, among other things. It also offers cloud and edge computing applications for real-time analysis.

Technology solutions

Flow sensors

Smart water meters

Level and gauge sensors

Sensors for a „smart water network“ (monitoring, predictive maintenance).

Edgedevices & IoT solutions for data processing and connectivity solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Leakage detection, autonomous water meter measurements

Schwieberdinger Straße 95-97, 70435 Stuttgart | www.siemens.com/de | contact@siemens.com



Systemc Controls is an innovative and dynamic company with over two decades of expertise in industrial flow measurement technology and laboratory-validated environmental monitoring and measurement methods. An example of this expertise is the Deltaflow, which is integrated with the self-averaging Pitot tube, whose special profile has introduced a special dimension in differential pressure measurement.

Technology solutions

Flow sensors

Rain and environmental sensors


Areas of application

Flow measurements of wastewater, rainwater and in sewage treatment plants

Lindberghstr 4, 82177 Puchheim | www.systemc-controls.de | info@systemc-controls.de

University of the Federal Armed Forces Munich (Chair of Urban Water Management and Waste Technology)

der Bundeswehr
Universität  München



The teaching and research activities of the University of the Federal Armed Forces Munich focus on health, water and resource protection for the entire field of urban water management, from (drinking) water to wastewater and sewage sludge. Interdisciplinary teams work on both basic and user-oriented issues.

Technology solutions

Software and interface solutions for visualization, databases and data analytics

Areas of application

Digital twin for wastewater treatment plants

Werner-Heisenberg-Weg 39, 85577 Neubiberg | www.unibw.de/wasserwesen/swa | info@unibw.de

utp umwelttechnik pöhl GmbH is a manufacturer of small wastewater treatment plants and small sewage treatment plants, as well as a DWA-certified maintenance company from Seybothenreuth (Bavaria), which was founded in 2002 and currently employs around 25 people. The company holds several building authority approvals from the DIBt in Berlin, is CE-certified and a member of the RAL quality association "Grundstücksentwässerung RAL-GZ 968". From turnkey civil engineering of a wastewater treatment plant to fully biological small wastewater treatment plants for single-family homes - utp has been planning and implementing wastewater treatment plants in Germany throughout the past 20 years.

Technology solutions

Water quality sensors Flow sensors

Level and gauge sensors Rain and environmental sensors

Water pressure sensors

Sensors for a „smart water network“ (monitoring & predictive maintenance) – Edge devices & IoT solutions for data processing and connectivity solutions – Solutions for powering sensor systems predictive maintenance)

Edge devices & IoT solutions for data processing and connectivity solutions

Solutions for power supply of sensor systems

Software and interface solutions for visualization, databases and data analytics

Areas of application


Small wastewater treatment plants and wastewater treatment plants up to 3,000 PE

Plants for decentralized wastewater treatment

Plants for rainwater treatment

Operational management concepts for small wastewater treatment plants

Dissolved air flotation for industrial wastewater

A close-up, high-speed photograph of water splashing, creating numerous bubbles and droplets, set against a blurred background of more water. The overall color palette is a range of blues, from light to dark.

WILO EMU Anlagenbau GmbH is an efficient, medium-sized company specializing in water supply, wastewater disposal and control technology. The company has been active in this field for 42 years and designs, manufactures and installs sophisticated or standardized systems. To ensure smooth operation, the company also offers a comprehensive range of services following the completion of systems.

Technology solutions

Sensors for an „intelligent water network“ (monitoring, predictive maintenance).

Areas of application

Pumps for wastewater transport, intelligent blockage detection

Heimgartenstraße 1-3, 95030 Hof | www.wiloemu-anlagenbau.de | roth@wilo.com



Imprint

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