

WATER SOLUTIONS AND EXPERTISE FROM FINLAND



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team
FINLAND

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- Water solutions and expertise
- New, emerging products

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WHY FINLAND?

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HAPPIEST
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GLOBAL OUTLOOK

CHALLENGE

- Water supply infrastructure and lack of wastewater systems
- Water wastage
- Lack of cooperation in water management, both nationally and internationally
- Lack of water data
- Climate change
- Slow implementation of policies and regulations

SOLUTION

- More efficient water use
- Smart water management
- Strengthening the resilience of water services
- Integrated water resources management
- Digital and monitoring solutions
- Integration of natural and traditional water infrastructure
- Transboundary water cooperation
- Water diplomacy
- Climate-proof solutions

2 billion people are living in water-stressed areas.

Within 10 years, there will be a 40% shortfall in freshwater.

WORKING TOGETHER TOWARD RESPONSIBLE AND EQUITABLE WATER SECURITY



FINNISH WATER WAY

- Finland's international water strategy
- Finnish approach to sustainable water management based on close cross-sectoral collaboration
- Partners involved offer innovative tools for water-based solutions to ensure a water-secure world by 2030

[Read more](#)

WATER STEWARDSHIP COMMITMENT

- Challenges companies to identify water risks and impacts in their procurement and value chains
- Engages companies in collective action with the public sector, academia and NGOs to develop sustainable water use and governance
- Finland is a founding signatory of the Glasgow Declaration for Fair Water Footprints, making responsible water stewardship a global business norm

[Read more](#)

99.98 %

of supplied water exceeds the criteria set for drinking water

87 %

of the lake surface area in Finland is in good or excellent condition

Nearly 100 %

Customer fees fully cover the recovery of water supply and wastewater treatment

FINNISH STRONGHOLDS – WE CREATE CLEAN WATER, SECURITY AND WELLBEING

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OUR COMPETITIVE ADVANTAGE

- Holistic solutions including design
- Innovative new applications
- Testbeds, agile development
- Cross-sectoral cooperation
- Life-cycle solutions
- Good governance and comprehensive legislation, high standards and regulatory control
- High level of education

EXPERTISE SECTORS

- Digital technologies for smart water management
- Resource recovery and energy efficiency / circular water economy
- Water utilities and climate-resilient water services
- Water in industrial use and mining
- Water know-how and capacity building

FINNISH WATER FORUM – YOUR LINK TO FINNISH WATER EXPERTISE



The Finnish Water Forum (FWF) represents the whole variety of expertise in the Finnish water sector through its members. FWF is a platform for cooperation of commercial enterprises, governmental and non-governmental organizations, scientific institutes and water-related associations. FWF's mission is to create sustainable solutions for global water, climate and biodiversity challenges jointly using Finnish know-how and technology with local and international actors.

- Non-profit organization with more than 130 member organizations
- Expertise in all areas of water
- Projects in research and foreign cooperation in the EU, Ukraine, China, Vietnam, Central Asia, India, Egypt, Kenya and other countries
- Contact point for any inquiries addressing the Finnish water sector

Contact: info@fwf.fi | www.fwf.fi

FINNISH
WATER
FORUM



UNIVERSITIES AND RESEARCH CENTERS WORLD-LEADING RESEARCH



TOPIC	Syke Finnish Environment Institute	THL Finnish Institute for Health and Welfare	LUKE Natural Resources Institute Finland
Digital technologies for smart water management		<ul style="list-style-type: none"> • Development and testing of online water quality monitoring systems aiming to detect drinking water contamination • Development and testing of data mining systems that explore water quality information aiming to detect abnormal changes in water quality 	
Water utilities and climate-resilient water services	<ul style="list-style-type: none"> • Capacity building in planning of raw water intake • Assessment of groundwater resources • Consultancy in institutional development of sustainable and resilient water services • Assessment and planning of sustainable wastewater management • Stormwater management 	<ul style="list-style-type: none"> • Research projects focusing on identification and assessment of harmful effects related to climate change on water safety • Projects exploring the readiness/awareness level of water works concerning climate change 	
Water in industrial use and mining	<ul style="list-style-type: none"> • Management of the water balances of a mine • Assessment of the influence on a mine recipient • Assessment of the methods for restoration of the mine recipient • Water balance modeling • Data management 	<ul style="list-style-type: none"> • Development of web-based risk assessment protocol to assess risks related to effluent water originating from mine sites • Development and testing of biological monitoring techniques to determine efficiency of biological treatment of sulfate or nitrogen-rich industrial wastewater 	
Water know-how and capacity building	<ul style="list-style-type: none"> • Hydrological forecasting • Flood modeling, mapping and risk assessment • Impact evaluation of climate change on hydrological variables, floods and lake regulation • Evaluation for river basin management • Courses on hydrology <p>We can support you in designing:</p> <ul style="list-style-type: none"> • Hydrological monitoring network • Data management and data quality control <p>Read more about Syke</p>	<ul style="list-style-type: none"> • Development of new analytical tools to identify microbial waterborne hazards. Acquisition of Maldi-Tof device as part of the Kuopio Water Cluster program for advanced identification of aquatic microbes <p>Read more about THL</p>	<p>Tailored research services and innovative solutions in the water management chain of dryland agriculture and forestry</p> <ul style="list-style-type: none"> • Climate-smart water management • Life-cycle assessment (LCA) and sustainability of water consumption and technologies • Water retention and soil manipulation for wet and dryland farming <p>Read more about LUKE</p>

UNIVERSITIES AND RESEARCH CENTERS WORLD-LEADING RESEARCH



TOPIC	VTT Technical Research Centre of Finland	Aalto University
Digital technologies for smart water management	<ul style="list-style-type: none"> • Energy optimization and modeling • 5G network in water sector applications • Water data management ecosystem for water data spaces • Online leak monitoring • Cyber-secure water management • Metrology for real-world domestic water metering 	<ul style="list-style-type: none"> • Virtual sensors and model predictive algorithms in nutrient removal process applications • Digital twins in wastewater treatment plants and water networks • Modeling, simulation and sensor technologies in monitoring and managing water resources Read more
Resource recovery and energy efficiency / circular water economy	<ul style="list-style-type: none"> • Nutrient and metal recovery • Hydrogen production at wastewater treatment plants • Solutions for floating plastic debris • Membrane-based solutions for resource recovery and water reuse • Microplastics recovery 	<ul style="list-style-type: none"> • Recovery of phosphorus and nitrogen – phosphorus recovery as vivianite • Membrane absorption of ammonia – NPHarvest project • Organic micropollutants and antibiotic resistance – biological degradation of pharmaceuticals in conventional activated sludge (CAS), membrane bioreactor (MBR) and aerobic granular sludge (AGS), advanced oxidation processes • Energy efficiency and carbon footprint – aeration control optimization and mitigation of nitrous oxide emissions in activated sludge processes Read more
Water utilities and climate-resilient water services	<ul style="list-style-type: none"> • Solutions for decentralized stormwater management • Nature-based solutions • Municipal sludge utilisation concepts • Green-grey infrastructure 	<ul style="list-style-type: none"> • Natural water retention measures for sustainable stormwater management – international collaboration • Asset management • Characterization and removal of natural organic matter from drinking water
Water in industrial use and mining	<ul style="list-style-type: none"> • Metal recovery from mining water • Valorization of wastewater from food industry 	<ul style="list-style-type: none"> • Nutrient recovery from liquid streams • Nutrient removal using industrial side products
Water know-how and capacity building	<ul style="list-style-type: none"> • Water footprint assessment Read more	<ul style="list-style-type: none"> • Water resources management – computational hydrology, environmental hydraulics, fluvial processes • Global water issues – water risk assessments, food production, water-energy-food security nexus, climate change implications • Water diplomacy – transboundary water cooperation, hydropower impact assessments, water diplomacy processes Read more

FINNISH WATER CLUSTERS



ICT AND DIGITALIZATION Oulu Water Cluster

- IoT
- Wireless data solutions
- Data analytics and mining
- Artificial intelligence
- Modeling
- Cyber security
- International collaboration
www.water-solutions.org/

INNOVATIVE, CLIMATE-POSITIVE WATER MANAGEMENT Turku Water Cluster

- Managed aquifer recharge (MAR) technology
- Geological readiness, 3D modeling and flow modeling
- High-quality know-how of circular economy
 - Recovery of wastewater resources
 - Heat recovery from multiple sources
 - Green energy and chemical optimization
 - Continuous improvement
- Optimization of water distribution
- Sustainable development actions
- Carbon footprint and water protection
www.turunseudunpuhdistamo.fi/in-english
www.turunseudunvesi.fi/en/

SOLUTIONS FOR INDUSTRIAL WATER TREATMENT AND DIGITALIZATION IN WATER SECTOR

Kuopio Water Cluster

- Zero-emission industry – innovative water treatment and recovery technologies
- Smart water solutions – digitalization in the water sector
- Environmental monitoring and modeling – pollution prevention in agriculture and industries
- Research, development and innovation (RDI) services and mobile pilot units for onsite product development and testing
www.kuopiowatercluster.fi

SOLUTIONS AND INNOVATIONS FOR MUNICIPAL WASTEWATER Blue Economy Mikkeli Center of Excellence

- Membrane bioreactor (MBR) wastewater treatment plant with scalable RDI and piloting facilities
- EcoS, a unique integrated RDI platform for environmental information
- Recycled water for industrial use
- Resource recovery and reuse
[Blue Economy Mikkeli](http://BlueEconomyMikkeli.fi)

Finnish Water Forum, www.fwf.fi

WATER CLUSTERS WORLD-LEADING RESEARCH IN COOPERATION WITH COMPANIES



TOPIC	UNIVERSITY OF OULU	KUOPIO WATER CLUSTER	BLUE ECONOMY MIKKELI CENTER OF EXCELLENCE	TURKU WATER CLUSTER
Digital technologies for smart water management	<ul style="list-style-type: none"> Hydrological modeling and water management Smart agricultural water management Networks and stormwater management 	<ul style="list-style-type: none"> Smart digital solutions for mine water management (GTK) Smart water solutions for water utilities (Savonia) Cybersecurity and water safety (Savonia) 	<ul style="list-style-type: none"> Surface, groundwater and wastewater monitoring Online water-quality monitoring systems and automatic water sampling Drone monitoring (Xamk) 	<ul style="list-style-type: none"> Geodatabase Integrated 3D hydrogeological model 60-layer groundwater flow models Intermunicipal water management to provide tap water production and delivery for 300,000 consumers
Resource recovery and energy efficiency / circular water economy	<ul style="list-style-type: none"> Controlled drainage studies to retain water Water supply and energy Sludge handling and reuse 	<ul style="list-style-type: none"> Recovery of critical raw materials in hydrometallurgy and wastewater treatment (GTK, Savonia) Advanced technologies for sulfate and nitrogen compounds removal/recovery from mine waters and wastewaters in cold climate (Savonia, GTK) Carbon-neutral milk production and nutrient reuse in agriculture (Luke) 	<ul style="list-style-type: none"> Separation and purification methods in water treatment (LUT University) Wastewater treatment and resource recovery utilizing microalgal technology (LUT University) Generation of value-added bioproducts from wastewater (LUT University) Advancing the utilization of sewage sludge and nutrient recovery (Xamk) Enhancement and optimization of biogas processes (Xamk) 	<ul style="list-style-type: none"> Zero-emission energy from the flow of water Solar power system for Turku Region Water pretreatment plant
Water utilities and climate-resilient water services	<ul style="list-style-type: none"> Greenhouse gas emission from treatment processes Stormwater handling systems 	<ul style="list-style-type: none"> Predictive stormwater management and flooding prevention (Savonia) Smart agricultural water management for climate change adaption (Savonia, Luke) Identification and assessment of harmful effects related to climate change on water safety (THL) 	<ul style="list-style-type: none"> Adaptation of water supply to climate change (Xamk) Natural stormwater and wastewater treatment methods (Xamk) Water bodies and water reserve risks (Xamk) 	<ul style="list-style-type: none"> Virttaankangas Managed Aquifer Recharge (MAR) Plant
Water in industrial use and mining	<ul style="list-style-type: none"> Mine water treatment – wetlands and biofilters Impact of mining on water resources Industrial water management 	<ul style="list-style-type: none"> Closed water cycles and water reuse in water-intensive industry (Savonia, GTK) Membrane technologies in industrial water treatment and reuse (Savonia, GTK) Moving bed biofilm reactor (MBBR) technologies for microbiological water treatment in cold climate (Savonia, THL) 	<ul style="list-style-type: none"> Hydrometallurgy (LUT University) Applications of reclaimed water (Xamk) Wastewater monitoring (Xamk) 	
Water know-how and capacity building	<ul style="list-style-type: none"> Training on a regular basis in Finland and abroad in water engineering by University of Oulu <p>Read more about Oulu University</p>	<ul style="list-style-type: none"> Water safety training package (45 credits) in Finland and abroad for water professionals by University of Eastern Finland, Savonia University of Applied Sciences (UAS), Finnish Institute for Health and Welfare and Geological Survey of Finland <p>Read more in Kuopio Water Cluste site Read more about Universitys of Eastern Finland</p>	<ul style="list-style-type: none"> Degree programs and training modules in water technology (LUT University) Education, training and development of water management expertise (Xamk) <p>Read more about LUT University and South-Eastern Finland University of Applied Sciences – Xamk</p>	

BEST-PERFORMING EDUCATION SYSTEM

COMPLETE SERVICES FOR EDUCATING WATER PROFESSIONALS

- Bachelor and Master's Degrees with high-performing graduates
- Doctoral education contributing to the latest cutting-edge knowledge
- World-leading teacher training and pedagogical practices
- Comprehensive solutions for capacity building, curriculum development and remodeling educational systems
- Learning environments with high-quality technology and up-to-date scientific resources
- Educational travel and study tours in Finland

UNIVERSITIES

- [Aalto University](#)
- [LUT University](#)
- [Tampere University](#)
- [University of Eastern Finland](#)
- [University of Helsinki](#)
- [University of Jyväskylä](#)
- [University of Oulu](#)
- [University of Turku](#)

UNIVERSITIES OF APPLIED SCIENCES

- [HAMK Häme](#)
- [Xamk](#)
- [LAB](#)
- [Metropolia](#)
- [Savonia](#)
- [OAMK Oulu](#)
- [Turku](#)
- [VAMK](#)
- [Centria](#)
- [Karelia](#)
- [Lapland](#)
- [SAMK](#)
- [TAMK](#)

WATER SOLUTIONS AND EXPERTISE

team
FINLAND

1. DIGITAL TECHNOLOGIES FOR SMART WATER MANAGEMENT

Abloy
Aquapriori
Caproc
Fluidit
Kemira
Keypro
Lining
Masinotek
Meoline
Nokia
Preventos Informatics
SATEL
Smartel
Smartvatten
Soficta
Toihan
Valmet

2. RESOURCE RECOVERY AND ENERGY EFFICIENCY / CIRCULAR WATER ECONOMY

Ensavetec
TeVe Water
Weeefiner

3. WATER UTILITIES AND CLIMATE-RESILIENT WATER SERVICES

Allwatec
Dewaco
Econet
FCG Finnish Consulting Group
Geological Survey of Finland
Operon
Owatec
Raita Environment
Smartvatten
Solar Water Solutions
Solid Water
TerCo Engineering
Vestelli

4. WATER IN INDUSTRIAL USE AND MINING

Aquator
EPSE
Feasib
Geological Survey of Finland
Kemira
Mittausguru
Senfit
Sensmet
SansOx
Waterix
WatMan Engineering
Wetend Technologies

5. WATER KNOW-HOW AND CAPACITY BUILDING

Geological Survey of Finland

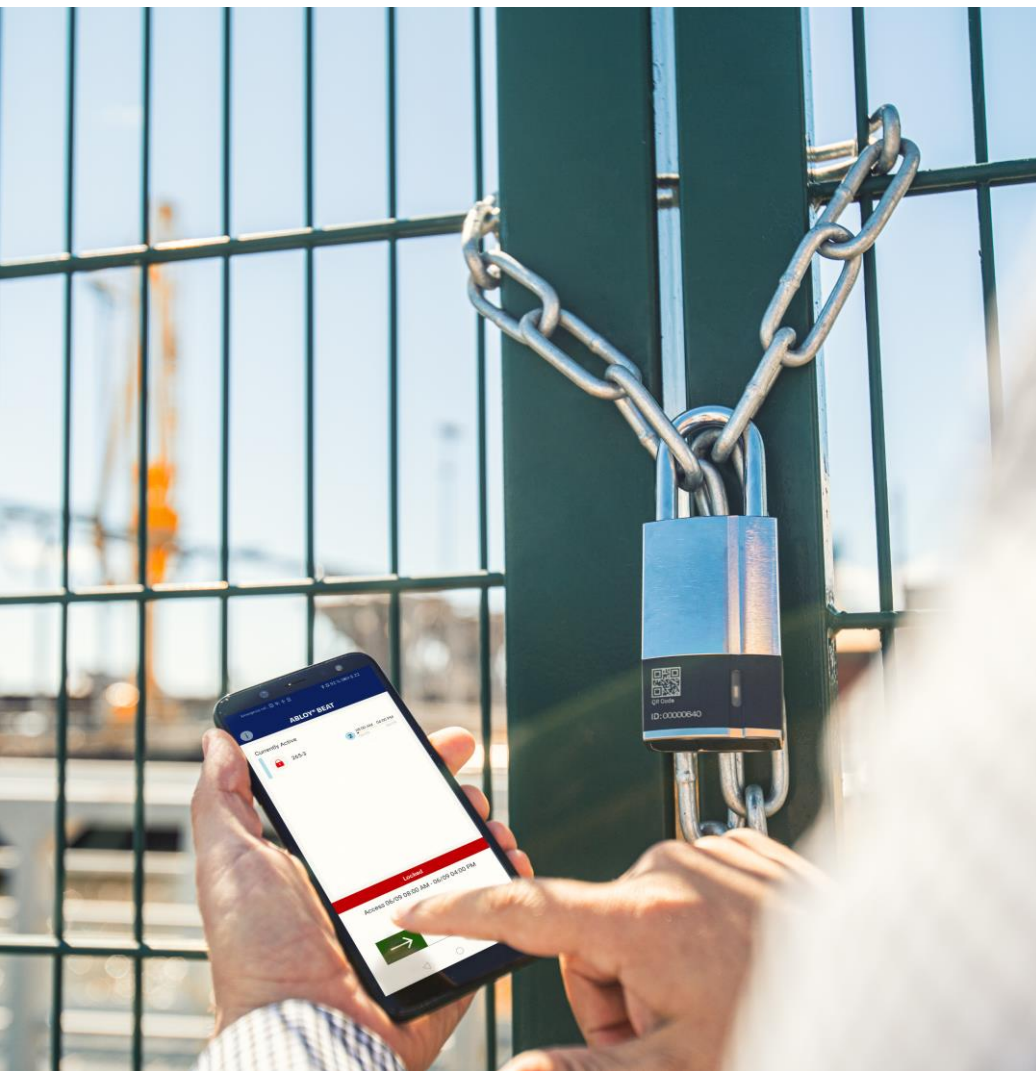
6. OTHER

BioSO4
Deep Scan Tech
Ekolet
Kemira
Watermaster | Aquamec

1. DIGITAL TECHNOLOGIES FOR SMART WATER MANAGEMENT

Abloy
Aquapriori
Caproc
Fluidit
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Keypro
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Masinotek
Meoline

Nokia
Preventos Informatics
SATEL
Smartel
Smartvatten
Soficta
Toihan
Valmet



SECURING CLEAN WATER FOR SOCIETY

OUR SOLUTION

Abloy offers security and locking innovations dedicated to creating more trust in the world. Combining digital and mechanical expertise, Abloy develops industry-leading security solutions that protect people, property and business.

BENEFIT FOR THE CUSTOMER

- Abloy helps companies improve their physical security with robust locking and advanced access management solutions.
- With the latest digital locks and management software, our partners can ensure that only the right people have access to their sites – everything is managed with one system.
- When avoiding interruptions in security, companies can enjoy peace of mind and efficient operations. Together with our network of distributors, we serve our clients with precision worldwide.

CUSTOMER SEGMENT

Water industry.

COMPANY

Abloy is part of the ASSA ABLOY Group, the global leader in access solutions. Every day, we help billions of people experience a more open world.

REFERENCES

Eau de Valence, O des Aravis, South Staffs Water.

CONTACT

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www.abloy.com/global/en



INFLOW AND INFILTRATION DETECTOR

OUR SOLUTION

Aquapriori's AquaDuscope® is an efficient, sample-based technique to detect inflow and infiltration (I&I) in sewer systems. It is a fingerprint method locating the places where I&I gets mixed with wastewater. Results of the sample analysis can be found in the content of I&I in the sewer pipeline. Stormwater, groundwater and domestic drainage systems connected to sewer mains can be located. We offer our solution as a SaaS model. Our customers' own staff does the fieldwork. It is easily combined with other techniques to give our customers a wider range of I&I inspections and opportunities for international ventures.

BENEFIT FOR THE CUSTOMER

- AquaDuscope® is the fastest technique to detect inflow and infiltration in the sanitary sewer system.
- Flexible method for a real comparison as well as pinpointing hotspots.
- Simple to implement and easy to use.

COMPETITIVE ADVANTAGE

AquaDuscope® is the only method measuring real-time I&I by analyzing sewage water. Not only does it apply reliable information all at once, our technique pinpoints where to utilize additional inspection techniques such as CCTV.

CUSTOMER SEGMENT

Water and wastewater utilities and a wide range of engineering companies.

COMPANY

Established in 2012, Aquapriori is a small company with a large cooperation network. Along with its R&D process, it has a patented technique.

REFERENCES

Over 50 municipalities in Finland and initial export in the US, Germany and Great Britain.

CONTACT

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www.aquapriori.com

YOUR PARTNER IN SMART WATER SOLUTIONS



OUR SOLUTION

Caproc provides end-to-end solutions for wireless water level and quality measurements. The combination of our wireless technology and best-in-class sensors ensures the best solution for your water-related monitoring needs. We manufacture wireless terminals in our factory in Finland to ensure short lead times and flexibility. In addition to wireless sensors, we offer a Caproc IoT platform for sensor management and data reporting. Integration to existing systems is easy with flexible REST application programming interface (API) options. A cloud portal and mobile applications with our wireless sensors increase the visibility of operations.

BENEFIT FOR THE CUSTOMER

- Wireless sensors reduce the need for manual samples and measurements on site.
- Our in-house design and manufacturing makes customer-specific solutions possible.
- Choose either wireless devices or full service with devices and IoT systems.

COMPETITIVE ADVANTAGE

Our devices are designed and manufactured in house. Our own design and production provides the best sensors in the

market for water level and water quality measurements. We can also add sensors from multiple vendors into our wireless device.

CUSTOMER SEGMENT

Water level and quality monitoring.

COMPANY

Caproc is a technology company founded in 2019. We combine long experience and new modern technology into a powerful service.

REFERENCES

National government organizations in Finland that measure water level and quality. Energy sector for water quality monitoring. Municipalities.

CONTACT

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+358 40 5562 176
www.caproc.fi

SIMULATING UTILITIES

OUR SOLUTION

Fluidit provides the basis for smart cities. Our cutting-edge hydraulic modeling portfolio is specifically designed to solve urban infrastructure issues creatively and analytically. We empower modelers, engineers and decision-makers to simulate water and energy systems, prepare for the future and make the best daily decisions. With Fluidit software, engineers can quickly prove the technical usability of pipe network designs and optimize a utility's operation for maximum efficiency.

BENEFIT FOR THE CUSTOMER

- Savings in operating costs with optimized energy usage and smarter decision-making based on better data.
- Savings in investment costs by making smarter decisions through simulations.
- Accurate forecast creation.

COMPETITIVE ADVANTAGE

We offer time savings in usability and fast simulations. We customize solutions to our customers' needs and we integrate to other systems with professional and fast support.

CUSTOMER SEGMENT

Utilities and consultants.

COMPANY

Fluidit works diligently to upkeep the health of cities by taking care of their vital flows of heating and cooling, water supply, stormwater and wastewater. With our cutting-edge hydraulic modelling software.

REFERENCES

Sweco, WSP, Afry, Celsio, Fortum, HVC Engineering, Rotterdam Engineering, Fluvius, Construct, Retencja.

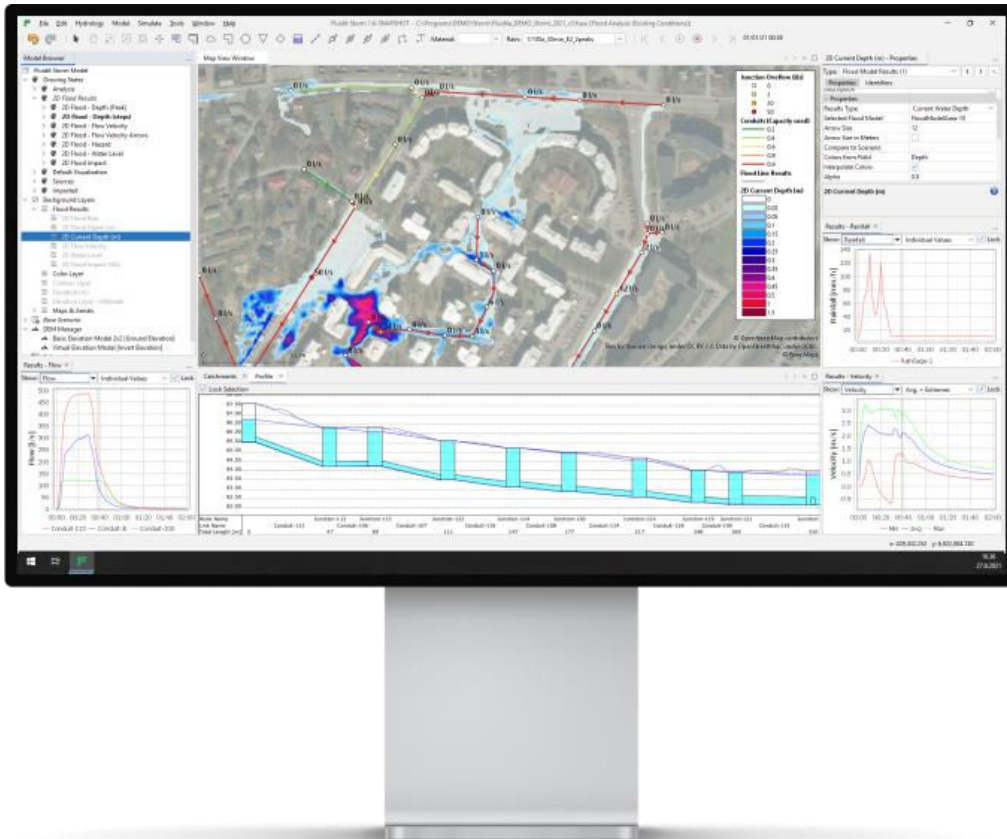
CONTACT

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www.fluidit.com





STABILIZING SLUDGE TREATMENT

OUR SOLUTION

Kemira KemConnect™ SD offers a 24/7 stabilized sludge treatment process, enabling energy savings and CO₂ footprint reduction. The KemConnect™ platform allows wastewater treatment plants to continuously monitor all relevant performance parameters and cost savings in real time. Achieving considerable process improvements in wastewater treatment requires consistent and accurate monitoring. Our service includes the selection and supply of chemistry, online equipment, recommendations for optimal dosage points and a customized reporting system.

BENEFIT FOR THE CUSTOMER

- Reduced chemical consumption.
- Cost savings.
- Reduced carbon footprint.

COMPETITIVE ADVANTAGE

KemConnect™ solutions for advanced water treatment from Kemira combine a unique offering of inorganic and organic chemistries, extensive chemistry expertise and smart process management to optimize and automate different water treatment applications.

CUSTOMER SEGMENT

Municipal wastewater treatment.

COMPANY

Kemira is a global leader in sustainable chemical solutions for water-intensive industries. We provide the best-suited products, expertise and services.

REFERENCES

The wastewater treatment plant in Arnhem Zuid, the Netherlands, reduced their carbon footprint and optimized operational performance. The plant size is 327,000 population equivalents (PE).

CONTACT

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www.kemira.com



PRIMARY WASTEWATER TREATMENT

OUR SOLUTION

Kemira KemConnect™ PT is an automated solution to optimize the chemical pretreatment process at wastewater treatment plants. The system enables various downstream efficiency improvements, maximizing the energy savings and energy production of a treatment plant and maintaining a consistent treatment level within a minimum and maximum range. The service measures and monitors all relevant parameters in the influent wastewater and treatment process, including feedback from aeration energy and biogas production. Intelligent algorithms calculate the optimal chemical dosage for the desired outcome.

BENEFIT FOR THE CUSTOMER

- Reduced carbon footprint.
- Increased biogas production.
- Increased capacity.

COMPETITIVE ADVANTAGE

KemConnect™ solutions for advanced water treatment from Kemira combine a unique offering of inorganic and organic chemistries, extensive chemistry expertise and smart process management to optimize and automate different water treatment applications.

CUSTOMER SEGMENT

Municipal wastewater treatment.

COMPANY

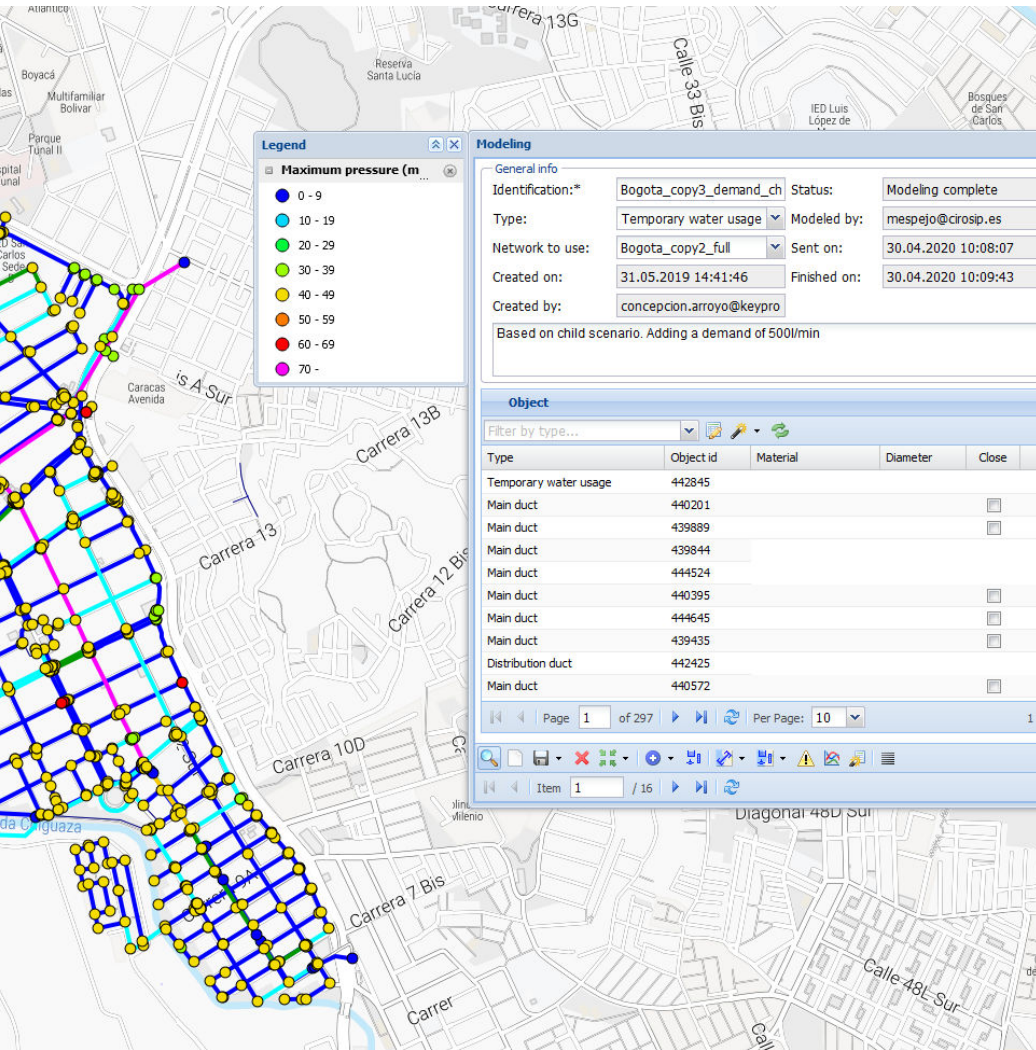
Kemira is a global leader in sustainable chemical solutions for water-intensive industries. We provide the best-suited products, expertise and services.

REFERENCES

Joensuu Vesi gained the needed visibility to manage load variability, chemistry and other variables affecting plant performance. The plant size is 85,000 population equivalents (PE).

CONTACT

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www.kemira.com



EXPANDABLE NETWORK INFORMATION SYSTEM

OUR SOLUTION

Keypro offers a comprehensive and expandable network information solution for water business experts to manage water network assets. KeyAqua is a browser-based software to document, manage, analyze and report water network assets to make daily network operations and long-term investments more fact based and efficient.

BENEFIT FOR THE CUSTOMER

- Analyze and understand the condition of the network to develop better maintenance plans.
- Keep network information up to date and share data with all stakeholders for better transparency.
- Communicate with water users to improve customer satisfaction.

COMPETITIVE ADVANTAGE

KeyAqua provides water business professionals one central view of the network. This includes the network itself, maps, customers, meters, IoT devices and other data to show all relevant information in one place and make network operations more efficient.

CUSTOMER SEGMENT

Geographic information system (GIS) solutions for water companies.

COMPANY

Keypro is a Nordic team of about 60 software professionals, GIS experts, and network engineers. Keypro makes software to manage, and optimize water networks so that critical infrastructure is protected and societies prosper.

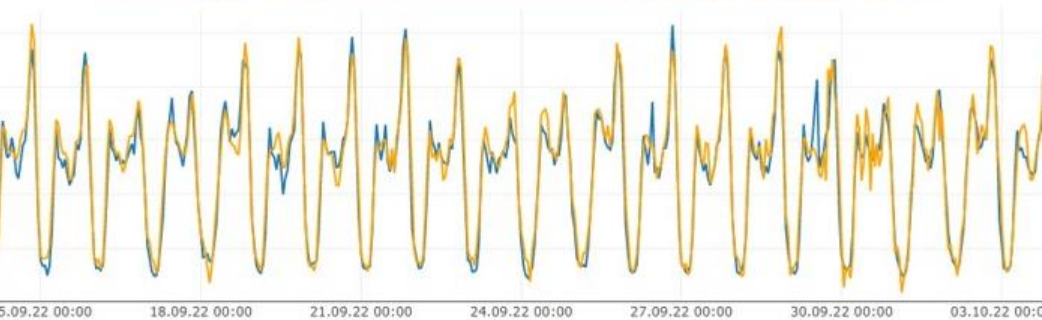
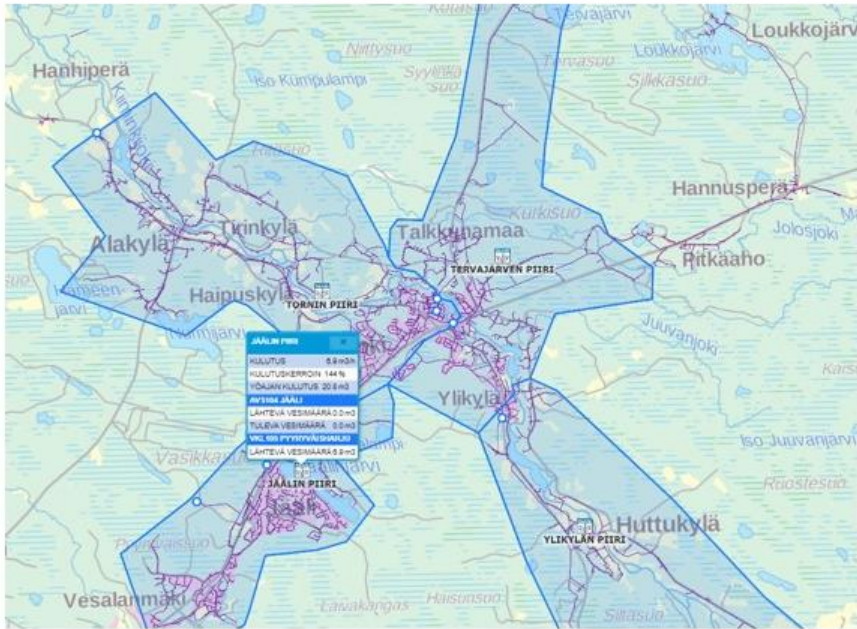
REFERENCES

We've made our software with tender care for over 300 different network owners worldwide, including water companies in Estonia and the Philippines.

CONTACT

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www.keypro.fi

FINDING LEAKS IN YOUR WATER SUPPLY NETWORK



OUR SOLUTION

Lining's AQUAVISIO District Metered Area (DMA) system includes all you need to find leaks in your water supply network. AQUAVISIO is SCADA system independent. It can be integrated into existing automation systems. All parts of the system are designed to work together seamlessly. The solution is custom built for client needs, resulting in a predictive, smart, secure and easy-to-maintain solution. Using the Lining AQUAVISIO DMA system is always secure. We pride ourselves on building security into all Lining AQUAVISIO solutions.

BENEFIT FOR THE CUSTOMER

- Connectivity – the AQUAVISIO system can be connected to existing automation systems.
- Machine learning algorithm – AQUAVISIO's machine learning algorithm has been developed together with Finland's largest water utilities for years. It is able to predict regional water consumption with more than 95% accuracy.
- Ease of use and system visualization – the visual icons in the map-based user interface inform the user in real time about the network status and immediately warn the user of possible new leaks.

COMPETITIVE ADVANTAGE

As DMA systems have been based on SCADA systems, their connectivity is limited. AQUAVISIO can be easily connected to existing systems. The AQUAVISIO system can be purchased as a SaaS-based solution, eliminating the need for expensive hardware investments.

CUSTOMER SEGMENT

Water utilities.

COMPANY

For over 60 years, Oy Lining Ab has specialized in technical solutions for clean water and sewage lines and plants. Lining is part of Indutrade.

REFERENCES

The AQUAVISIO DMA system is used in all of Finland's five largest cities. In addition, the Lining AQUAVISIO system is used in more than 150 water utilities in Finland.

CONTACT

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erik.johnsen@lining.fi
+358 50 5402 767
www.aquavisio.fi/?lang=en

ENVIRONMENTAL MONITORING OF WATER

OUR SOLUTION

Masinotek provides EMMI, a versatile environmental monitoring browser-based application that enables real-time monitoring of measurement data from multiple measurement points. EMMI features advanced application programming interfaces (APIs). It acquires data wirelessly, using 4G/NB-IoT and LoRa protocols from data loggers, which can be coupled with physical, biological and chemical sensors. EMMI monitors groundwater level measurements, identifies water pipe network leakages and provides online measurements of drinking water and natural water quality.

BENEFIT FOR THE CUSTOMER

- Combines data from different sources into one single user interface.
- Collects data and enables an automatic reporting process for water utilities.
- Easy-to-use, ready-made service also includes a handy map viewer.

COMPETITIVE ADVANTAGE

EMMI has been developed over the last 10 years. It has a very wide range of existing applications. EMMI combines data from many sources. It is an excellent choice to use

as the main situational awareness system for the entire water utility.

CUSTOMER SEGMENT

Water utilities, energy utilities, universities, process industry and research.

COMPANY

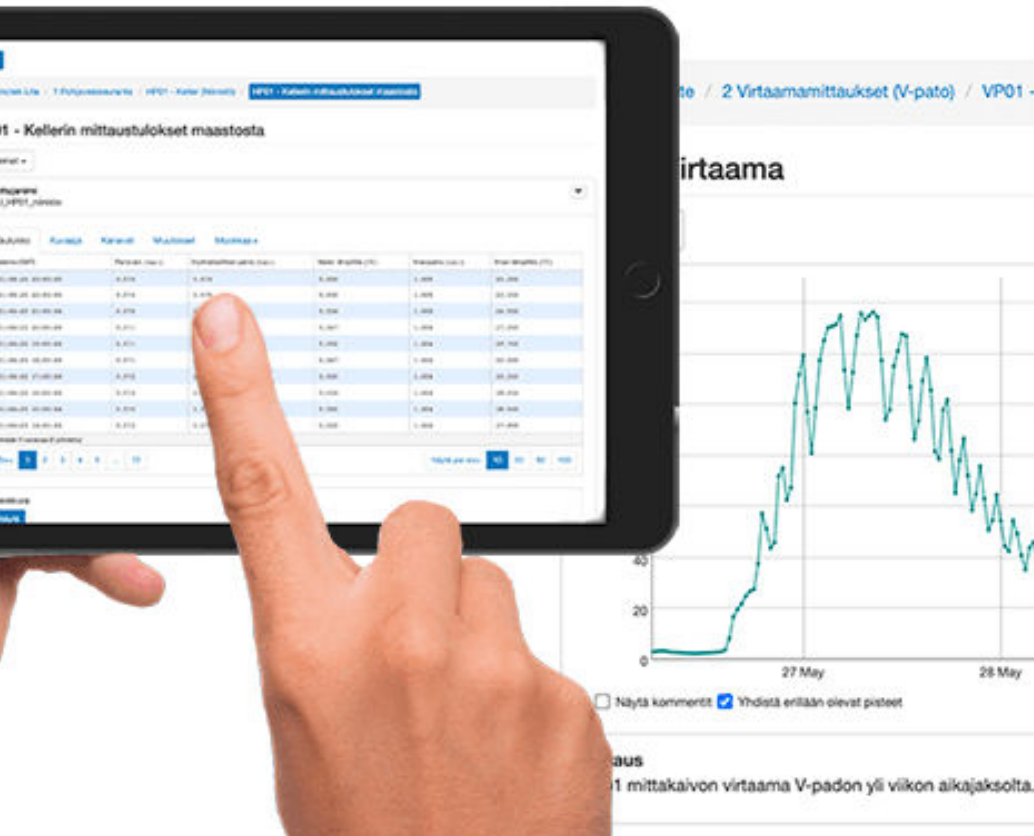
Masinotek has extensive expertise in software development, data integration and analysis, as well as building and maintaining IoT sensor networks.

REFERENCES

River, lake and sea environment monitoring, sewage monitoring, groundwater monitoring, stormwater monitoring and water quality monitoring.

CONTACT

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REAL-TIME HEAVY-METAL MONITORING SOLUTION

OUR SOLUTION

Meoline has developed the MEO+ solution, which consists of a novel instrument, wireless data transfer and online data service to help industrial operators and authorities monitor real-time, heavy-metal concentrations from environmental waters. The monitoring solution can be installed in a buoy, wells or other remote locations. It can be operated by power obtained from solar panels. An alarm function sends an automatic message if the set threshold is exceeded.

BENEFIT FOR THE CUSTOMER

- Tailored to work in harsh and remote locations.
- Prevents potential environmental accidents with its early warning system.
- Easy to operate and maintain.

COMPETITIVE ADVANTAGE

The MEO+ solution relies on new innovations in maintenance and reliability. It is especially tailored to work in harsh and remote locations. The advantages of the system are its low investment and maintenance costs and outstanding robustness.

CUSTOMER SEGMENT

Environmental monitoring, the mining industry, chemical industry and authorities.

COMPANY

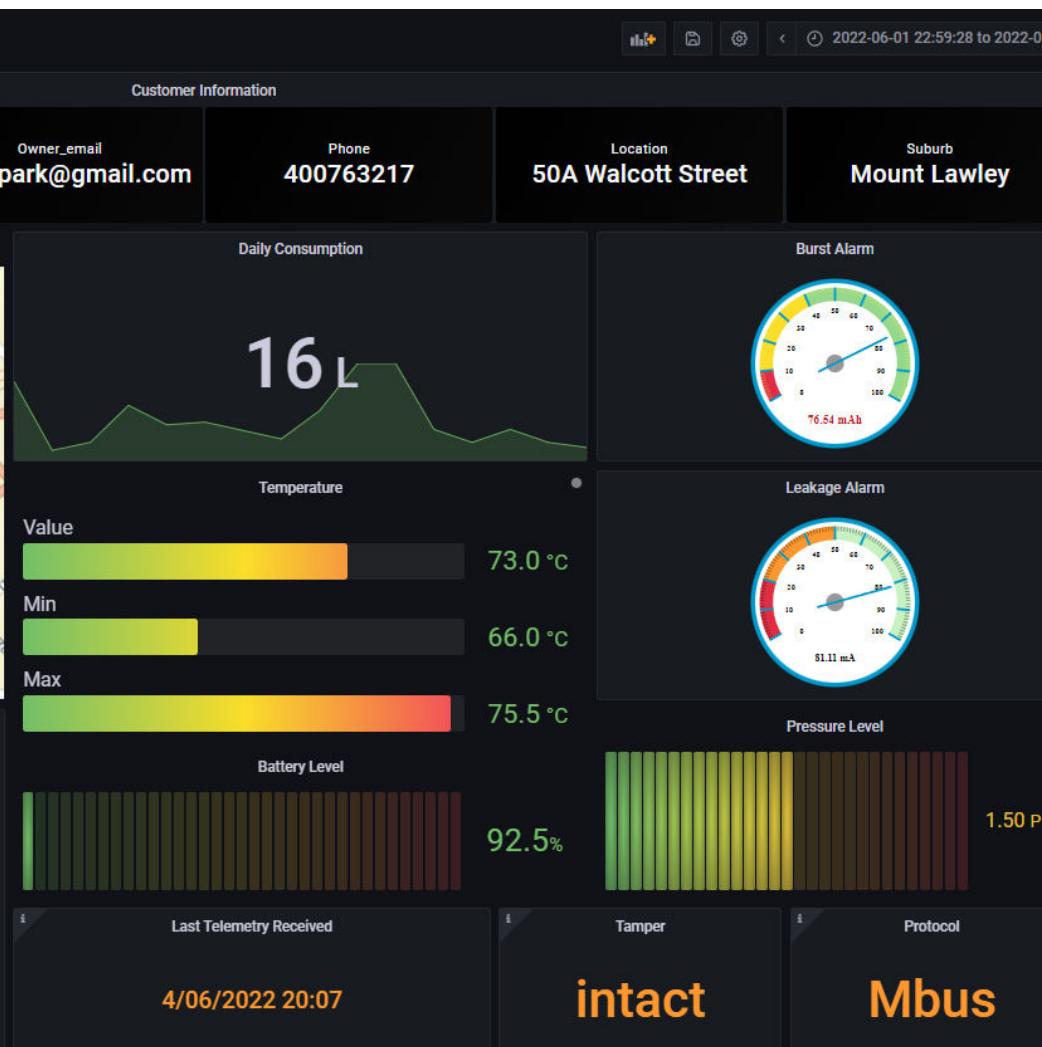
Meoline Oy is a measurement technology startup company spun off from the University of Oulu. It has just started its international operations.

REFERENCES

Meoline has already successfully field-tested its solution in Finland and Chile.

CONTACT

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WIRELESS SERVER SOLUTION FOR WATER

OUR SOLUTION

Nokia's IMPACT solution for water is a wireless-oriented server solution to manage devices in the water industry. This covers a wide range of endpoints and connectivity technology, including high-scale, low-power residential water meters to constantly monitor water supply and quality systems as well as wastewater systems. Nokia IMPACT is very well suited to low-power deployment using licensed and unlicensed wireless technologies at scale.

BENEFIT FOR THE CUSTOMER

- Lowest overall cost for the consumer, avoiding the need to deploy a network.
- High business agility, allowing endpoints to be procured independently of the server solution.
- The Nokia IMPACT solution is the most innovative system, as determined by ABI Research.

COMPETITIVE ADVANTAGE

Nokia IMPACT is a vendor-independent solution. Nokia has very strong competence in cellular technologies, including narrowband IoT (NB-IoT).

Nokia IMPACT supports both licensed and unlicensed endpoints. Nokia IMPACT is highly scalable and has been rated by ABI Research as the most innovative solution.

CUSTOMER SEGMENT

Utilities.

COMPANY

At Nokia, we create technology that helps the world act together.

REFERENCES

Vodafone, Optus, Rakuten, Verizon, Deutsche Telekom and associate utilities such as South-East Water and Yarra Valley Water.

CONTACT

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www.nokia.com/networks/solutions/impact-iot-platform



DATA-BASED SEWER MANAGEMENT

OUR SOLUTION

Preventos Informatics Oy has developed IoT-based measurement and data analysis methods to help operators manage their aging sewer infrastructure. This development has been made in close cooperation with Finnish water utilities. A municipal sewer system can be seen as one of the most important parts of any civil infrastructure. The sewer system is a massive underground structure, which is a challenge to be managed from a network operator's point of view. Our service covers everything from field installations to tailored user interfaces.

BENEFIT FOR THE CUSTOMER

- Minute-by-minute data for deep insight into what really happens in different parts of a sewer system.
- Data-driven knowledge on flows, leakages, blockages and other phenomena throughout the network.
- Management cost optimization to prioritize parts of the network for cost-effective investments.

COMPETITIVE ADVANTAGE

Our services are turnkey solutions for customers. We cover everything from field installations to user interfaces.

Our solution suits all kinds of customers, from small water cooperatives to metropolitan-area water services.

CUSTOMER SEGMENT

Municipal water and wastewater services, water utilities.

COMPANY

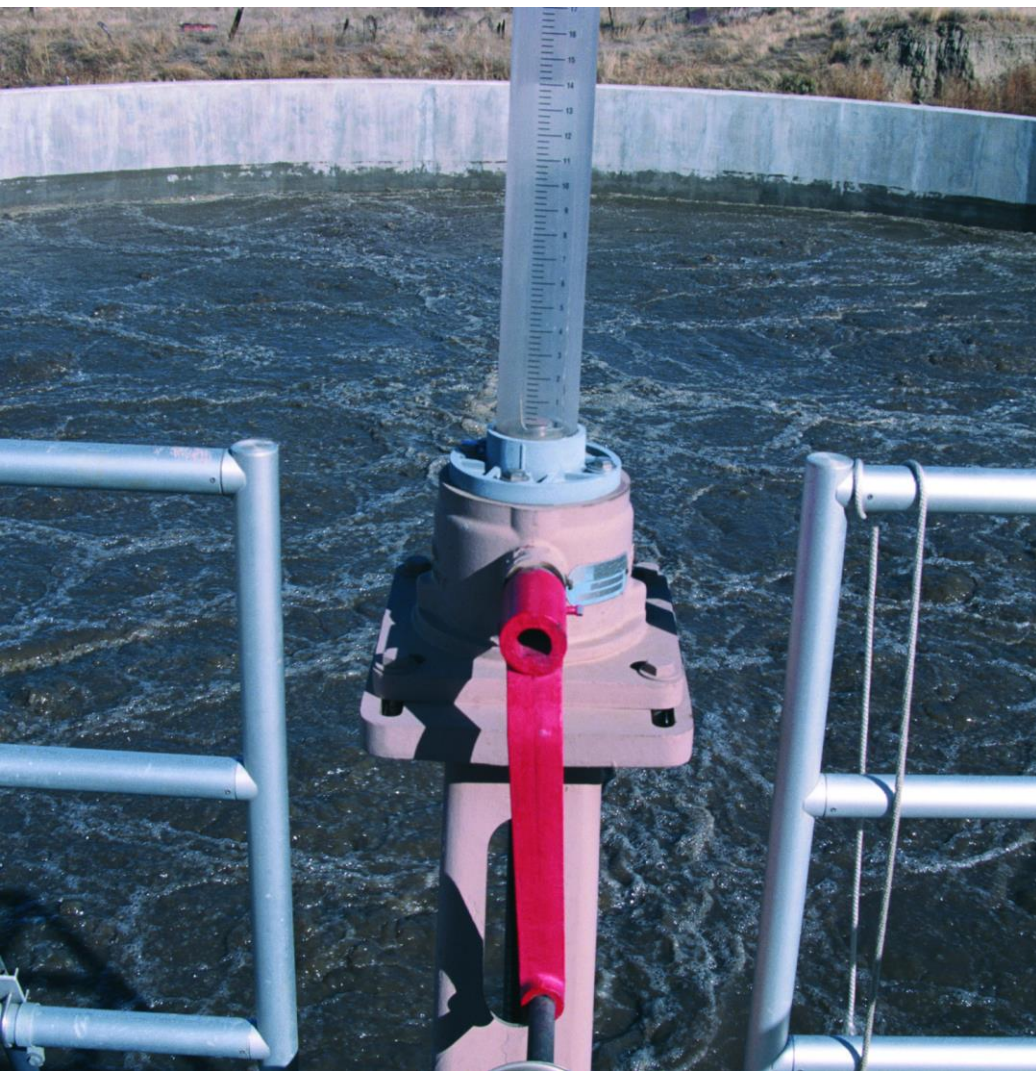
Preventos Informatics Oy is located in Kuopio, Finland, and is part of the Kuopio Water Cluster. Our passion originates from Finnish Lakeland traditions.

REFERENCES

Kuopio area wastewater sewer IoT surveillance system, Kuopion Vesi Oy, leakage and overflow management of Helsinki sewers, HSY.

CONTACT

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REMOTE CONTROL FOR WATER SOLUTIONS

OUR SOLUTION

SATEL offers smart water solutions in mission-critical remote control and real-time monitoring for pumping stations, water reservoirs and distribution substations. With the help of data, our customers can identify where and when water is overconsumed, for example. Better efficiency and reducing waste help create a more sustainable future.

BENEFIT FOR THE CUSTOMER

- Real-time monitoring of the water network.
- Our own cybersecure communication network.
- Easy identification of overconsumption points.

COMPETITIVE ADVANTAGE

SATEL designs, manufactures and offers high-quality connectivity solutions that enable secure, mission-critical connections, utilizing the best characteristics of each technology for real-life use cases.

CUSTOMER SEGMENT

Water treatment utilities, pure and waste.

COMPANY

SATEL is the world's leading expert and innovator in wireless networking technology. SATEL products are type approved globally.

REFERENCES

[Please see our website.](#)

CONTACT

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WIRELESS LEVEL SENSORS FOR WATER & WASTEWATER

OUR SOLUTION

Smartel's expertise is focused on sewage- and water-level metering, wireless alarm transmission with low power consumption and the IOT services around them. Smartel's product range includes a variety of sensors for liquid level measurement. You can select the device according to whether you want the alarm to be sent locally or directly to the customer's own system. We offer customers our know-how, customized product development and production. We manufacture most of our wireless level guards as white-label products under our customers' own branding.

BENEFIT FOR THE CUSTOMER

- Smartel products have lower power consumption and longer battery life than competing products
- Proprietary product development enables customized solutions for the customer before the start of mass production
- We manufacture products as white-label products under the customer's brand

COMPETITIVE ADVANTAGE

- High competence in wireless alarm transmission with low power consumption
- Strong experience and reliable products
- Integrations with customers systems

CUSTOMER SEGMENT

Water industry.

COMPANY

Smartel is part of the Vestelli Group, which provides wastewater solutions, liquid level sensors and related IOT services. Founded in 2000 Sipoo.

REFERENCES

More than 70,000 delivered wireless level guard's in the Nordic countries. Customers we serve include Xylem, Wavin, Uponor and Onninen.

CONTACT

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MINIMIZING WATER USE FOR REAL ESTATE

OUR SOLUTION

Smartvatten's water efficiency service monitors and analyzes water consumption through main meters and submeters in properties like offices, apartments, hotels and logistics centers. Smartvatten offers the best user experience and customer support for property owners, real estate managers and sustainability managers to measure and analyze their data in the most effective way. Smartvatten's comprehensive water efficiency service is easily implemented and scaled, also to larger real estate portfolios. It helps save water, time and money, detecting leaks and preventing water damages, and contributing to preserving our blue planet. Over 12,000 properties are already measuring their water consumption with Smartvatten.

BENEFIT FOR THE CUSTOMER

- Save water and money – Lower your water consumption and save money and the environment while doing it.
- Ease your workload – Digitized water data across your portfolio, saving time on maintenance and administrative work.
- Easily scalable – Easily implemented and scaled throughout your portfolio and API-interfaces, with our proven customer success and support teams helping you make the most out of your water efficiency data.
- Fulfill your ESG goals – One of the cheapest, easiest, fastest way to achieve automatic ESG points towards your ESG strategy.

COMPETITIVE ADVANTAGE

Unique service portfolio combining all water consumption data across your real estates at a minute level, scalable thought out your portfolio and other data points. A proven track record of helping clients throughout the world with state-of-the-art customer success and support.

CUSTOMER SEGMENT

Property owners, real estate managers, housing companies, public entities, energy management systems and insurance companies.

COMPANY

Smartvatten is a company specializing in water efficiency. The company has offices in Finland, Sweden, Norway, Denmark, Germany and the Netherlands.

REFERENCES

CapMan Real Estate, Varma, Forenom, Innax, Savills and NSI N.V.

CONTACT

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ONLINE UTILIZATION OF WATER DATA

OUR SOLUTION

Soficta's main product, AISTIO district monitoring (ADM) solution, is now combined with KeyPro's online information system, KeyAqua. Our joint innovation provides network condition measurements and information processing in the network information system. Wireless, IoT-based measurements in the water supply network and their observations are combined with possibilities offered by the network information system to process information. This creates an excellent platform for genuine cooperation, development and internationalization.

BENEFIT FOR THE CUSTOMER

- Collected data can be gathered into the network information system and used for decision-making.
- Online information generates an overall snapshot of the network.
- Distribution network anomalies can be detected with low-cost sensors and an intelligent platform.

COMPETITIVE ADVANTAGE

ADM's and KeyAqua's collaboration has produced a completely new innovation to help digitalize the water industry.

Our user-friendly cloud service allows customers to examine their network situation independently.

CUSTOMER SEGMENT

Water utilities, energy companies providing district heating, condition monitoring.

COMPANY

Soficta is a software development company with nine employees located in Salo, Finland. KeyPro provides network information systems. The company has 90 employees and is located in Helsinki.

REFERENCES

ADM has already been successfully used in 35 district heating companies in Finland and Sweden. Now, we aim to help the water sector globally.

CONTACT

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CLOUD-BASED ADVISORY TECHNOLOGY FOR WASTEWATER TREATMENT

OUR SOLUTION

Toihan provides cloud-based advisory technology for improving wastewater treatment process performance. Our PAULA-WWTP® is built on predictive and prescriptive algorithms that convert raw data into actionable insights automatically. The main objective is to improve the accuracy and timing of process adjustments. Since more information is available to support decision-making, mill operators can react more quickly to process changes.

BENEFIT FOR THE CUSTOMER

With increased process stability, customer mills have decreased their environmental load by 20–30% from earlier levels and generated EUR 0.15–0.3 million in annual operational cost savings.

COMPETITIVE ADVANTAGE

Toihan successfully combined its expertise in wastewater treatment process optimization with modern cloud-based data analytics when creating PAULA-WWTP®. The support technology is scalable, and it can be integrated into existing operational mill systems.

COMPANY

Toihan is an expert organization specializing in pulp and paper industry wastewater and its treatment. We assist mills in maximizing the full potential of their wastewater treatment plants by:

- Defining the best process control strategies that are most suitable for their wastewater
- Improving control accuracy with modern cloud-based technologies
- Being an innovative partner in process development

REFERENCES

Public references for PAULA-WWTP® users –
Stora Enso, Holmen and MM Group.

CONTACT

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RELIABLE MEASUREMENT SOLUTIONS FOR WATER AND WASTEWATER

OUR SOLUTION

Valmet offers solids measurements, valves, pumps and automation systems for water and wastewater plants. Our reliable automation solutions provide instant and continuous online solids measurement and controls to optimize, automate and improve plant processes and operations. Valmet's flow control solutions can be customized to fit any application within the water and wastewater industry. Our valves protect the environment while keeping performance at the highest level. Our solutions allow safe and reliable pumps to withstand the most demanding process applications.

BENEFIT FOR THE CUSTOMER

- Reliable solids measurements offer chemical, energy and transport savings.
- Our valves and pumps help safely optimize flow through pump control stations and assemblies.
- Automation systems help plants maintain business continuity with proven life-cycle security.

COMPETITIVE ADVANTAGE

Industrial-quality solutions offer a complete solution for various process control and optimization needs in water and wastewater plants.

Valmet's professionals work closely with customers worldwide to provide high service availability.

CUSTOMER SEGMENT

Our solutions are widely used in water and wastewater treatment plants.

COMPANY

Valmet is a leading global developer and supplier of process technologies, automation and services for the pulp, paper and energy industries. With our automation systems and flow control solutions we serve an even wider base of process industries.

REFERENCES

With an extensive installed base in municipal wastewater treatment plants and industrial facilities globally, Valmet delivers proven results.

CONTACT

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2. RESOURCE RECOVERY AND ENERGY EFFICIENCY / CIRCULAR WATER ECONOMY

Ensavetec
TeVe Water
Weefiner

INTELLIGENT FLOOR DRAIN



OUR SOLUTION

Ensavetec's intelligent floor drain saves 40% of energy with every shower taken. The recovered energy is used to preheat the cold water feeding the shower. This reduces the amount of hot water generated and saves money every time people shower.

BENEFIT FOR THE CUSTOMER

- Saves energy.
- Saves money.
- Reduces carbon dioxide emissions.

COMPETITIVE ADVANTAGE

We provide a potentially high energy savings of between 40–90%. Based on scalable technology, our intelligent floor drain works like any normal one. Ensavetec technologies can be integrated into existing building technology or other industrial products.

CUSTOMER SEGMENT

B2B construction companies, B2C homeowners, apartments, hotels, schools and sports halls.

COMPANY

Ensavetec's technology saves energy, money and nature by reducing CO₂ pollution. It is easy to assemble and easy to use.

REFERENCES

A fire station, South Savo Sports hall (2023), private houses.

CONTACT

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www.ensavetec.com



COMPOUND RECOVERY FROM MINE WASTEWATER

OUR SOLUTION

TeVe Water's experimental approach allows the combination of different techniques to recover prevalent compounds from mine wastewater. Our approach is based on piloting techniques and provides efficient scale-up from laboratory tests to full-scale operations. A combination of techniques, such as precipitations, ion exchange steps using various resin types and membrane technologies ranging from nanofiltration to reverse osmosis, leads to improved recovered side stream quality. This results in compounds that can be used as raw materials in different industrial branches.

BENEFIT FOR THE CUSTOMER

- Zero-liquid-discharge solutions.
- High-quality recovered side streams for efficient circulation.
- Our network provides end users for the recovered side streams.

COMPETITIVE ADVANTAGE

Instead of relying on existing solutions, we pilot novel solutions that combine different techniques. An example of our process includes precipitations followed by ion exchange and membrane techniques for side stream recovery.

CUSTOMER SEGMENT

Mining.

COMPANY

TeVe Water represents an independent water treatment service provider for raw water, boiler water, process water and wastewater.

REFERENCES

[Callio waste-free mining.](#)

CONTACT

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RECOVER DISSOLVED METALS AND NUTRIENTS

OUR SOLUTION

Weeefiner's 4D Scavenger® allows you to recover dissolved metals and nutrients from industrial processes and wastewater. The highly selective technology can be customized to recover valuable components and toxic elements in concentrated, high-quality form. You can reuse process elements, reduce liquid waste and even find new revenue streams. For smooth operations, Weeefiner provides customized recovery units for industrial customers. The compact and modular units can be easily integrated into existing processes. 4D Scavenger® is an ideal solution for creating closed material cycles.

BENEFIT FOR THE CUSTOMER

- Recover valuable metals and nutrients from liquid waste for reuse and closed material cycles.
- Remove toxic contaminants to comply with stricter regulatory requirements.
- Treat water cost efficiently and significantly reduce the amount of waste.

COMPETITIVE ADVANTAGE

Traditional water treatment usually results in a very high amount of unusable waste. 4D Scavenger® recovers dissolved metals and nutrients for reuse. It offers

selective recovery of targeted metals or nutrients with a low need for chemicals and energy.

CUSTOMER SEGMENT

Mining industry, process industry, metal refining, runoff water and wastewater.

COMPANY

Weeefiner Ltd. is a Finnish greentech company that offers innovative solutions for material recovery and streamlining industrial processes.

REFERENCES

Projects and pilots in pulp, mining, metal recycling and chemical industries. Public references include Kemira, Andritz and the Finnish Defence Forces.

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3. WATER UTILITIES AND CLIMATE-RESILIENT WATER SERVICES

Allwatec

Dewaco

Econet

FCG Finnish Consulting Group

Geological Survey of Finland

Operon

Owatec Group

Raita Environment

Smartvatten

Solar Water Solutions

Solid Water

TerCo Engineering

Vestelli





Kuva: FCG Mikko Laine

BIO-REMOVAL OF IRON AND HUMUS

OUR SOLUTION

Allbiron® by Allwatec is a brand-new, licensed technology to remove iron and organic matter from groundwater. Iron and organic matter, known as humus, are present in coastline groundwater in the northern hemisphere. With Allbiron®, it is possible to utilize water reserves that were previously too expensive or difficult to use. Our biobased process produces clean drinking water without the use of chemicals at only half the investment and running costs of a traditional chemical-based water purification process. In addition, Allbiron® saves more than 90% of water reserves in the process.

BENEFIT FOR THE CUSTOMER

- Allbiron® uses little to no chemicals compared to traditional purifying processes.
- Allbiron® is 50% cheaper to build and run compared to traditional plants.
- Allbiron® is an ecological way to use groundwater that has been discarded as not being cost effective.

COMPETITIVE ADVANTAGE

Iron and humus are difficult to remove from groundwater. These water reserves are mostly discarded and used only when no other possibility exists. Allbiron®

relies on a simple biological process that requires only a mundane chemical to adjust the pH of otherwise discarded wastewater.

CUSTOMER SEGMENT

Municipal water treatment, industrial and agricultural water plants.

COMPANY

Allbiron® is a product of Allwatec Oy, which specializes in developing water supply processes and manufacturing water pipe cleaning elements.

REFERENCES

The world's first commercial Allbiron® process is in operation in Jeppo, Finland. Pilot plants currently operate at multiple water plants across Finland.

CONTACT

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SLUDGE COLLECTION AND DEWATERING

OUR SOLUTION

Dewaco manufactures the DEWA brand of equipment for water, wastewater and sludge treatment, as well as for the drying of various biomasses. Our main products are chain scraper systems, belt filter presses, gravity belt thickeners and accessories for these applications. We have delivered high-quality, globally competitive, efficient and long-lasting solutions across different industries and municipalities to over 90 countries since 1986.

BENEFIT FOR THE CUSTOMER

- Our equipment has industry-leading features, high quality, long-term durability and decades of proven performance.
- Our team of professionals makes sure you succeed when you choose DEWA.
- We offer powerful, yet highly energy-efficient solutions.

COMPETITIVE ADVANTAGE

Our solutions are always customized to specific needs, successfully enabling our customers to get their desired results. We offer well-functioning processes and decades of service life with the lowest possible lifetime costs.

CUSTOMER SEGMENT

Water, wastewater, desalination, pulp and paper, oil and petrochemistry, food and agriculture.

COMPANY

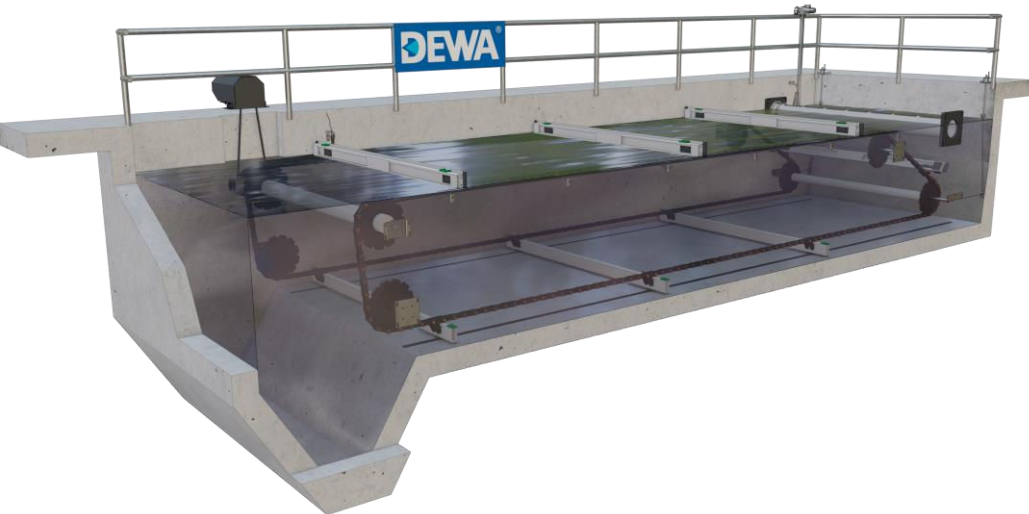
All our equipment is made in Finland from the best available materials with ISO 9001 certification.

REFERENCES

Dewaco has delivered close to 5,000 systems to over 90 countries. Our customers range from small private companies to large global corporations.

CONTACT

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+358 2 461 800
www.dewaco.fi





ECONET

TURNKEY WATER PROJECT CONTRACTOR

OUR SOLUTION

Econet implements water treatment projects worldwide as a turnkey water project contractor. Our water treatment equipment is designed to operate in demanding conditions and under heavy industrial loads. The fight for clean water is a global megatrend, and our experts work tirelessly to ensure clean water for all – one water plant and one factory at a time. From design to commissioning, Econet offers cost-efficient solutions for municipal drinking water plants, industrial process water plants as well as plants to produce additional desalinated water and condensation purification in power plants.

BENEFIT FOR THE CUSTOMER

- State-of-the-art water treatment expertise.
- Complete system from process design to commissioning with one contractor.
- Economical and technically reliable solutions.

COMPETITIVE ADVANTAGE

It's all about taking responsibility. Econet implements a complete system from process design to commissioning. Our experts handle the full range of water treatment processes and have extensive experience managing large-scale international projects.

CUSTOMER SEGMENT

Water and wastewater treatment solutions for industry and municipalities.

COMPANY

Econet stands for WaterHow – a Finnish expert solving water engineering and project management challenges worldwide since 2002.

REFERENCES

Econet has excellent references for both industrial and municipal customers in all size categories.

CONTACT

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CONSULTING AND PROJECT MANAGEMENT SERVICES

OUR SOLUTION

FCG is one of the leading consultants in water, sanitation and the environment. We provide multidisciplinary consulting services in water resources management, water supply and sanitation, water and wastewater utility management and environmental management. We work at all levels, from national and regional policies and strategies to implementation support for community-level solutions. Our services cover the whole project cycle, including identification, preparation and feasibility studies focusing on design, engineering, procurement, implementation, supervision, monitoring and evaluation.

BENEFIT FOR THE CUSTOMER

- Highest quality project management with experience in working with different country environments and clients.
- Strong expertise in engineering as well as social and environmental aspects of infrastructure development projects.
- Linking Finnish water sector expertise to international markets with broad global experience.

COMPETITIVE ADVANTAGE

FCG has over 50 years of experience working in development in more than 150 countries. Our strong consulting, engineering and design expertise makes us one of the top-level consulting and project management companies in Finland.

CUSTOMER SEGMENT

Independent fiscal institutions (IFIs), national governments, bilateral donors, private sector, municipalities and utilities.

COMPANY

FCG Finnish Consulting Group (FCG) is a multidisciplinary and globally operating consulting company working toward sustainable development.

REFERENCES

We have successfully implemented over 5,000 projects across the world in over 150 countries. Our projects are financed by the Ministry of Foreign Affairs of Finland, European Bank for Reconstruction and Development (EBRD), World Bank (WB), the EU, NEFCO, International Finance Corporation (IFC), Asian Development Bank (ADB), African Development Bank (AfDB) and others.

CONTACT

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SUSTAINABLE WATER MANAGEMENT

OUR SOLUTION

GTK's managed aquifer recharge (MAR) solution is environmentally friendly and cost efficient for sustainable water management in areas where natural groundwater reserves are not sufficient to meet the water supply demands. Artificially infiltrated groundwater is produced by increasing the natural yield of a groundwater basin, for example, by infiltrating untreated or pre-treated surface water into the aquifer. Our MAR solution enables year-round sustainable water management in areas where the amount of rainfall is not consistent throughout the year and dry seasons are becoming longer due to climate change.

BENEFIT FOR THE CUSTOMER

- Tailored case-by-case services, starting with feasibility studies.
- Turnkey solution offering with partner networks.
- State-of-the-art knowledge based on long, independent research.

COMPETITIVE ADVANTAGE

Our MAR solution represents a viable method for sustainable water management. It is widely implemented in Finland but not yet globally.

CUSTOMER SEGMENT

Water utilities and water-intense industry.

COMPANY

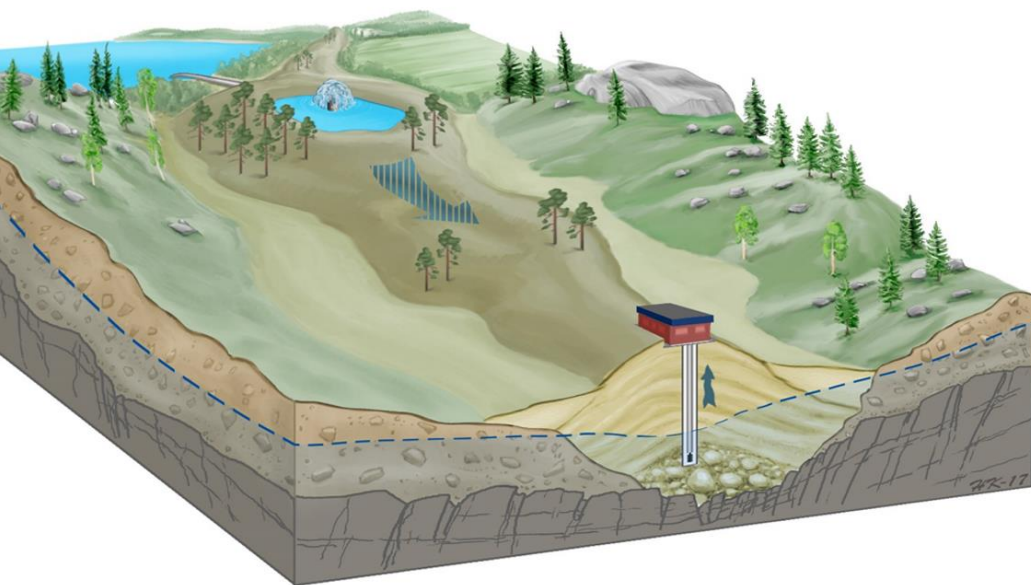
GTK is an internationally oriented research agency. We are a leading European competence center for the assessment of geological resources.

REFERENCES

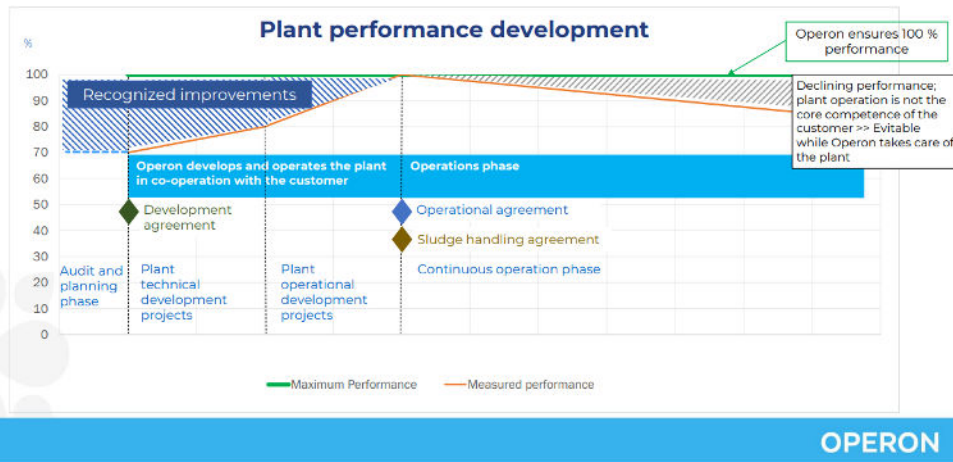
We have performed several consulting cases in Finland. International case – Viet MAR project in Vietnam:
www.gtk.fi/en/research-project/viet-mar/

CONTACT

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Audit process as an enabler



AUDIT FOR OPTIMAL WATER SECTOR SOLUTIONS

OUR SOLUTION

Operon Group is a Finnish company offering solutions for water and wastewater treatment, sludge handling and the disposal sector. We aim at optimized and tailor-made solutions for each customer, created from independent services, either from Operon's own expertise in operation, design and sludge handling or from relevant outsourced services. To fulfill the requirement of independence and optimized solutions, Operon has created an audit process to identify the challenges and optimized solutions to address them. Our audit process includes data gathering, data refining and neutral interpretation of outcomes.

BENEFIT FOR THE CUSTOMER

- Optimal solutions for challenges in the water sector, including both operative and technical solutions, aimed at optimized life-cycle costs and impact.
- Tailored solutions addressing fact-based needs for a customer's water sector-related challenges.

COMPETITIVE ADVANTAGE

Operon is an independent company offering various products, equipment and services for the water treatment sector. Being independent allows us to provide a wide range of possible offerings. This enables optimal use of our expertise and the supplies available in markets.

CUSTOMER SEGMENT

Water and wastewater utilities, industrial water-intensive factories.

COMPANY

Operon Group Oy is an environmentally friendly and cost-efficient pioneer in wastewater treatment.

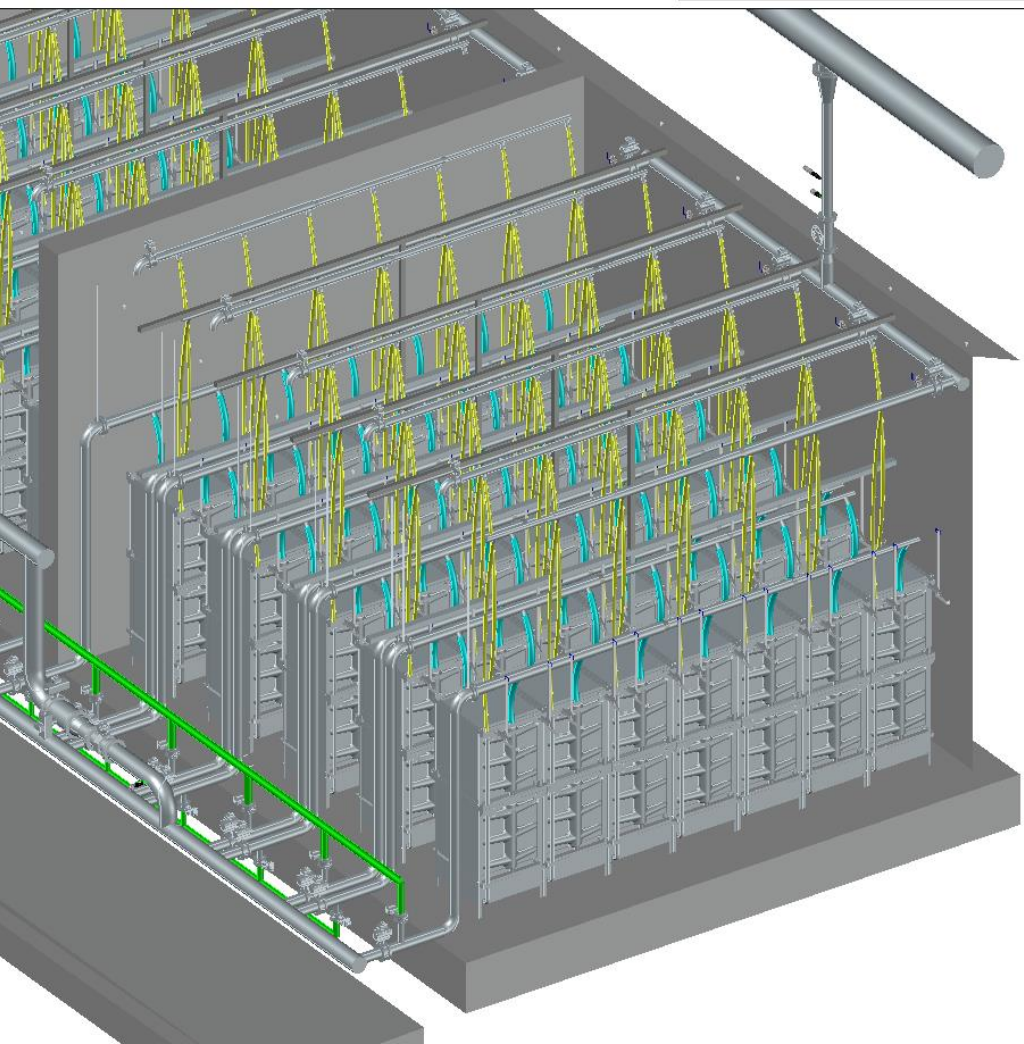
REFERENCES

2 international audits completed in the Netherlands and Sweden.

8 national audits of various scopes completed in Finnish wastewater treatment utilities.

CONTACT

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WASTEWATER TREATMENT FROM DESIGN TO OPERATION

OUR SOLUTION

Operon Group is a Finnish company offering solutions for water and wastewater treatment, sludge handling and the disposal sector. Our goal is to provide customers with optimized and tailor-made solutions either from Operon's own expertise in operation, design and sludge handling or from relevant outsourced independent services. For membrane bioreactor (MBR) filtration, Operon has created a unique approach to bring hands-on MBR commissioning and operation experience into the hands of our designers. This is fostered by a powerful OperonWay process visualization platform using machine learning (ML) and artificial intelligence (AI) capabilities.

BENEFIT FOR THE CUSTOMER

- Designing, building, testing and commissioning done in real process-proven steps by experienced experts.
- Faster ramp up, less downtime and first-time-right solutions.
- Growing problem-solving solution library – every day.

COMPETITIVE ADVANTAGE

Operon offers the everyday wastewater treatment facility user tailor-made solutions in design and building

principles, ensuring optimal costs and ease of operation. Our design and build principle is: "Do it like you would use it yourself."

CUSTOMER SEGMENT

MBR wastewater treatment users, municipalities and industries.

COMPANY

Operon Group Oy is an environmentally friendly and cost-efficient pioneer in wastewater treatment.

REFERENCES

National: 2 designed, built and commissioned plants; one in daily operation.

Nordic: 1 plant being designed.

CONTACT

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MODULAR WATER TREATMENT SOLUTIONS

OUR SOLUTION

Owaterc builds effective wastewater treatment and sludge dewatering solutions in containers according to the principle of #justplugandplay. Water treatment plants commonly include a chemical treatment unit and water treatment options, such as flotation or sedimentation to remove solids, and sludge dewatering options. All our units are customized according to specific needs. Automation and remote control ensure that the treatment is continuously optimized. Owaterc solutions not only provide immediate savings but also continuity and better environmental process responsibility.

BENEFIT FOR THE CUSTOMER

- Modular solutions built in sea containers.
- Automation solutions available for remote locations.
- Cost-effective processes that ensure savings in water treatment.

COMPETITIVE ADVANTAGE

Owaterc offers a water treatment service agreement that frees our customers from investments and time-consuming processes. We provide an all-in-one package with one monthly fee.

CUSTOMER SEGMENT

Food and Beverage, Fiber and Mining (&steel) industries.

COMPANY

Owaterc Group is a Finnish growth company expanding to the international market with our modular Plug and Play – wastewater management systems. We are an environmental technology company specializing in industrial wastewater and sludge management and efficient handling and recovery of valuable components from side streams.

REFERENCES

www.owatec.fi/referenssit/elintarviketeollisuus
www.owatec.fi/ajankohtaista/epressi-tiedote
www.esitteemme.fi/Owaterc/WebView

CONTACT

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www.owatec.fi



GREYWATER SEWAGE CLEANERS AND BIOTOILETS

OUR SOLUTION

Raita's passion is to develop and manufacture environmentally friendly, sustainable products and methods for living. With our systems, we want to leave as little carbon footprint and environmental impact as possible on our earth. In addition to environmental benefits, our products are also affordable. Waste and wastewater are treated and utilized close to where they originate. In this way, acquisition and operating costs are affordable, and the systems are secure and independent. Our areas of expertise include biotoilets, greywater and rainwater purification, wastewater treatment and composting.

BENEFIT FOR THE CUSTOMER

- RAITA BioBox greywater cleaners.
- RAITA Biokem sewage cleaners.
- RAITA Biotoilets.

COMPETITIVE ADVANTAGE

Our products provide a small environmental footprint in use, and their system modularity ensures a small CO₂ footprint. The products have a long lifespan of between 50–100 years. They enable waste recovery on site, eliminating the need for transporting waste.

CUSTOMER SEGMENT

Private users, recreation areas and small municipalities.

COMPANY

Raita's activities in the environment field began in the 1950s. Our area of expertise is in environmental technology development and manufacturing.

REFERENCES

Tens of thousands of RAITA products are in use in different locations. We have been providing greywater and sewage treatment purification results at the Best Available Techniques (BAT) class level for decades.

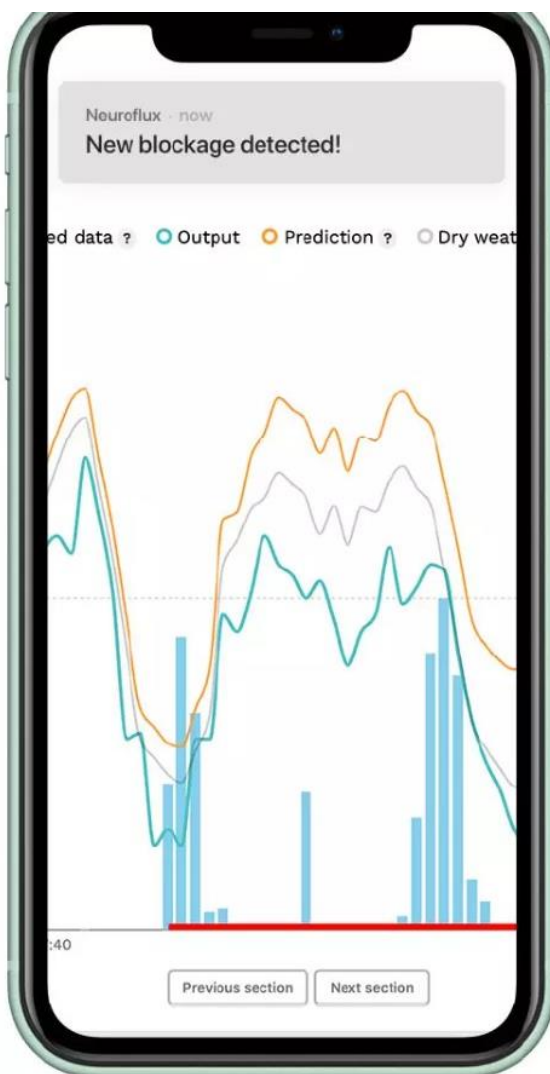
CONTACT

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livingearth3000.com



MANAGING DATA FOR WATER UTILITIES

OUR SOLUTION

Smartvatten's cloud service combines, visualizes and analyzes wastewater and freshwater pumping station data, highlighting problems before they even occur, reducing time on maintenance and manual labor. Using machine learning, Smartvatten's system detects pipe blockages, leaks and other anomalies immediately, helping water utility companies keep their operations running as efficiently as possible. Real-time alerts and trend analysis help you optimize the operations of your water network.

BENEFIT FOR THE CUSTOMER

- Intelligent data – Understand your operations even better with intuitive overview and knowledge easily at your disposal and reportable.
- Ease your workload – Detect blockages, leaks and anomalies before they become a problem. Focus your maintenance and administrative efforts where they are needed, helping you plan and use your time in the most efficient way possible.
- Customer success and support – Smartvatten has a proven track record in helping our clients understand and make the best out of their own intelligent data.
- Protecting the environment – Saving water by preventing leaks and anomalies in the network helps minimize water loss, protect the environment and keep our blue planet healthy.

COMPETITIVE ADVANTAGE

Smartvatten's unique system and support provide the best possible user interface for your own water utilities data in your water network. Intelligent data helps you in understanding and running your operations in the most efficient manner, protecting the environment while doing it.

CUSTOMER SEGMENT

Water utilities companies

COMPANY

Smartvatten is a company specializing in water efficiency. The company has offices in Finland, Sweden, Norway, Denmark, Germany and the Netherlands.

CONTACT

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smartvatten.fi



CLEAN WATER SUSTAINABLY IN REMOTE LOCATIONS

OUR SOLUTION

Solar Water Solutions produces clean water with solar power. Affordable and sustainable desalination can revolutionize economies in the developing world and in water-thirsty regions globally. Because the nature of solar energy is variable, our unique technology creates constant pressure for the reverse osmosis (RO) purification process, even under cloudy conditions. Our automatic ANVS[®] system maximizes water production with an optimal flow rate throughout the day. It enables you to make high-quality drinking water using solar power without the need for any external energy storage. All units can also be used with a hybrid power source.

BENEFIT FOR THE CUSTOMER

- High-quality water easily and affordably from seawater and brackish water sources..
- Automatic, robust, and low-maintenance system for use in harsh environments..
- CAPEX and OPEX savings: no need for batteries, diesel, or grid as power sources.

COMPETITIVE ADVANTAGE

The company's patented technology solution enables the water purification system to operate in off-grid locations entirely renewably powered, eliminating the need for CO₂-heavy alternatives.

CUSTOMER SEGMENT

A decentralized solution for water-scarce areas without water infrastructure. Ideal for: communities, disaster response, hospitality, irrigation, and residential use.

COMPANY

Established in 2015, Solar Water Solutions designs and manufactures highly efficient, small- and mid-sized RO water purification systems.

REFERENCES

Through local sales and service networks, we help customers with energy-efficient water purification already in Africa, Oceania, Southeast Asia, and Scandinavia.

CONTACT

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www.solarwatersolutions.fi

HIGH-QUALITY CLEANTECH PRODUCTS

OUR SOLUTION

Solid Water has delivered a large number of products and services around the world to places where both quality and functionality are most required. Contracting is also one of the most important parts of our services. Along with more than 50 great standard Solid Water products, we have some superior-rated products. Our Plastic Chain Scraper System is simply one of the best and most economical solutions for thickening and settling sludge in any industrial or municipal plant. Our Belt Filter Press Systems are also exceptional. We provide all required products for a complete dewatering system.

BENEFIT FOR THE CUSTOMER

- Manufacturing facilities – all our products are delivered from our own factory. We offer the possibility for large-scale projects and fulfill customer-specific requirements.
- High-quality Scandinavian products. We have delivered many products to municipalities and industries.
- Direct contact to our sales or sales agents to provide the best customer service.

COMPETITIVE ADVANTAGE

Solid Water offers expertise and professional advantages because of our process know-how, high-quality products and services. We provide contracting and start-up operations. Our manufacturing facilities have a wide range of international references.

CUSTOMER SEGMENT

Municipal and industrial water and wastewater plants.

COMPANY

Solid Water is widely recognized among our customers because of the quality of our service, know-how and high-quality products. We provide complete processes.

REFERENCES

Plastic Chain Scraper Systems – numerous references around the world.

Belt Filter Press Systems – many deliveries, including 15 belt filter presses at one plant in Egypt.

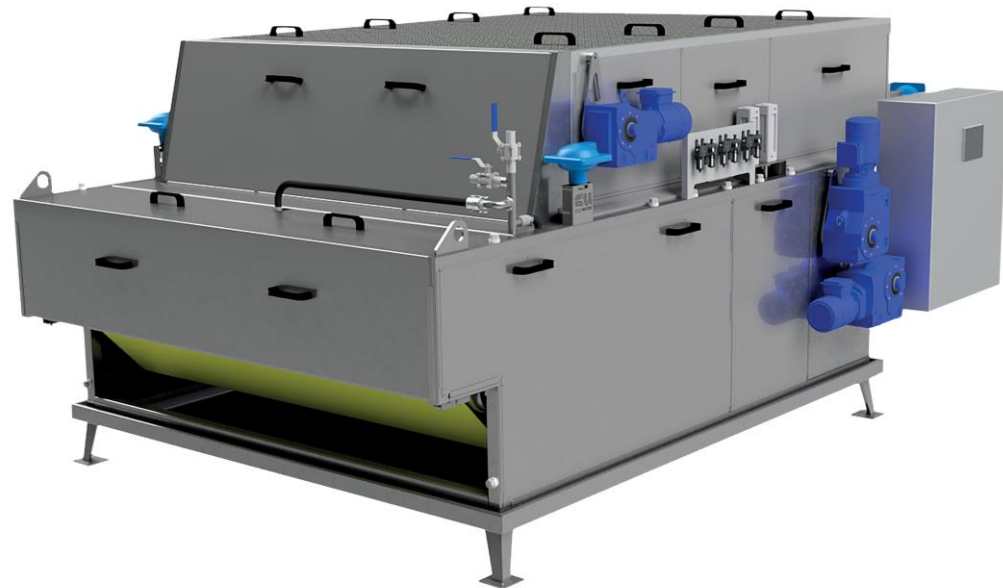
CONTACT

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www.solidwater.fi





MODULAR WATER PUMPING PLANT

OUR SOLUTION

TerCo offers a complete water pumping station built from modules and delivered in its finished state to the installation site. The modules are easily tailored to suit any application, including chemical treatment. A gravel-based foundation and water inlet and outlet pipes are all that are required for installation. This is an excellent solution that can be used in hard-to-reach crisis areas, for example.

BENEFIT FOR THE CUSTOMER

- Cost effective.
- Easy and high-speed installation at the final location.
- Tailor-made for the need.

COMPETITIVE ADVANTAGE

TerCo provides a modular concept for scalable water flow requirements. Our systems are engineered and manufactured inside our workshop.

CUSTOMER SEGMENT

Cities and municipalities.

COMPANY

TerCo Engineering was established in 2011. Our main products and services are waterworks plants, wastewater handling, various types of conveyors and industrial maintenance.

REFERENCES

Finnish cities and municipalities.

CONTACT

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WASTEWATER TREATMENT PLANTS UP TO 500PE

OUR SOLUTION

Vestelli designs and manufactures wastewater treatment plants. We specialize in wastewater solutions for less than 500 PE, which can be used in individual properties, residential areas or industry. Vestelli's wastewater solutions are efficient and are delivered as complete, plug-and-play solutions. Our production is ISO 9001 and ISO 14001 certified.

BENEFIT FOR THE CUSTOMER

- Save money – you can buy a tailor-made wastewater solution directly from the manufacturer.
- Save time – you can directly discuss the project with our engineer and receive technical drawings and a quotation for a suitable wastewater treatment plant quickly.
- Save the environment – our products are long-lasting, high quality and they purify wastewater efficiently.

COMPETITIVE ADVANTAGE

We assign an experienced team to each project, who will be responsible for the project from start to finish. In-house product design and manufacturing ensures a high quality, tailor-made solution for each project.

CUSTOMER SEGMENT

Private users, recreation areas, small industry and small municipalities

COMPANY

Vestelli is part of the Vestelli Group, which provides wastewater solutions, liquid level sensors and related IOT services. Founded in 2010 Tampere.

REFERENCES

More than 10,000 Vestelli products are in use throughout the Nordic countries. Vestelli systems have received the highest ratings in user surveys.

CONTACT

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4. WATER IN INDUSTRIAL USE AND MINING

team
FINLAND

Aquator
EPSE
Feasib
Geological Survey of Finland
Kemira
Mittausguru
Senfit
Sensmet
Waterix
WatMan Engineering
Wetend Technologies



ULTRA-PURE WATER PLANTS

OUR SOLUTION

Aquator provides membrane-based filtration plants to produce clean drinking water and reuse industrial water.

BENEFIT FOR THE CUSTOMER

- Production of high-quality pure water.
- Simple to use, low maintenance.
- Low energy consumption.

COMPETITIVE ADVANTAGE

Our solutions are simple to use and provide a high filtration quality.

CUSTOMER SEGMENT

Drinking water production, industrial process water reuse.

COMPANY

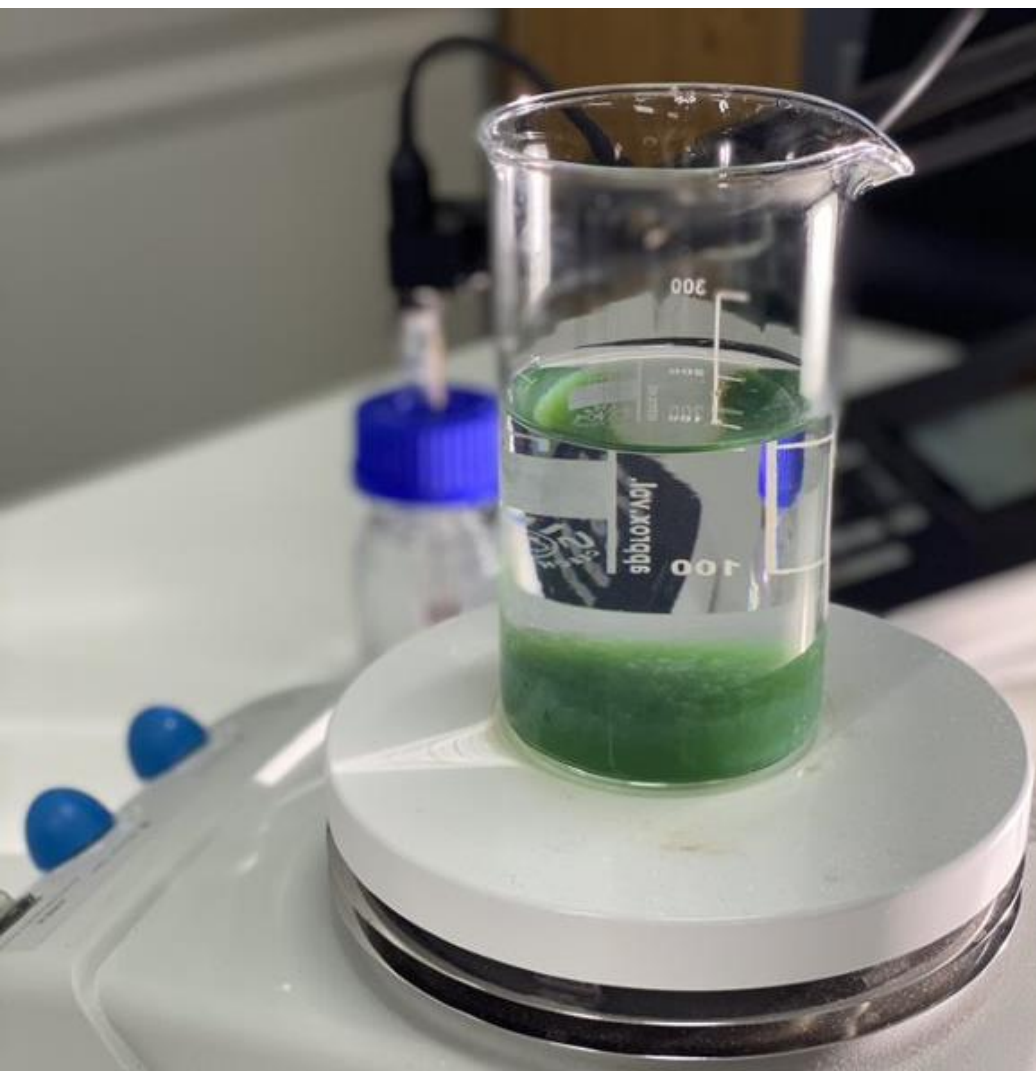
Aquator Oy is a privately owned company specializing in water treatment and process filtration technology.

REFERENCES

No public references.

CONTACT

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RECYCLING WATER AND VALUABLE METALS

OUR SOLUTION

EPSE's patented innovation, the EPSE™ Method, is a solution to treat soluble metals from industrial processes and wastewater. Our water treatment process is based on dosing the reagents, including the EPSE™ chemical treatment and adjusting the pH level. EPSE technology works for all treated metals in one treatment round, even in very low temperatures. With the EPSE™ Method, the treated metal-free water can be recycled back into the processes or safely released into nature. The multi-metal precipitate can be further processed and recycled as valuable raw material.

BENEFIT FOR THE CUSTOMER

- Very effective and easy way to clean soluble metals and reach environmental limits.
- Possibility of closing water loops – increasing the reuse of water and using fewer natural resources.
- Valuable metals can be recycled from the precipitate.

COMPETITIVE ADVANTAGE

With the EPSE™ Method, you can treat all soluble metals in wastewater in one run, eliminating the need to have several different process steps. This leads to a simpler and easier process.

CUSTOMER SEGMENT

Metal and mining industry, metal surface treatment plants, chemical and power industry and many more.

COMPANY

EPSE Oy is a company specializing in the treatment of industrial hazardous process and wastewater and mining wastewater containing soluble metals.

REFERENCES

Metal surface treatment (pickling) and mining sector customers.

CONTACT

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WATER TREATMENT TESTING SERVICES

OUR SOLUTION

Feasib Analytics offers laboratory services and pilot-scale testing for mine water treatment methods. Our testing pools are located in an actual mine site, with a real mine waste seepage water stream and weather conditions. The performance of our treatment method can be measured and proven in our laboratory by our certificated samplers with no delays. This adjustable testing environment is suitable for reactive filtration materials, geopolymers, activated carbon and others.

BENEFIT FOR THE CUSTOMER

- Real weather conditions and water quality variations.
- Fast sampling and results.
- Water stream adjustable to desired amount.

COMPETITIVE ADVANTAGE

We have no competition in this field. Our service suits the phase when the first laboratory tests are successfully performed with a new mine water treatment method, and the customer is ready to run pilot-scale tests in a measured environment.

CUSTOMER SEGMENT

Companies introducing or developing new mine water treatment materials or methods.

COMPANY

Feasib provides environmental, energy and circular economy consulting services and tailored laboratory services.

REFERENCES

HUESKER Synthetic GmbH, Teknoma, Ramboll.

CONTACT

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MINE WATER SERVICES

OUR SOLUTION

Geological Survey of Finland (GTK) has extensive experience in services and research and innovation (R&I) in the field of mine water management and mine water treatment at all stages of a mine's life. Our expertise consists of hydrogeological research and innovation in mining areas, reactive transport modeling and simulation of groundwater and mining waste. We also are involved in the development of water treatment and recovery of valuables from mining effluent and ore processing, the development of monitoring methodologies and strategies as well as capacity building.

BENEFIT FOR THE CUSTOMER

- State-of-the-art knowledge based on long, independent research.
- Unique methodologies and equipment for field and laboratory studies.
- Unique on- and off-site research facilities for water treatment and mineral processing.

COMPETITIVE ADVANTAGE

Geological Survey of Finland has gained its experience in mine water services by developing the knowledge, facilities and methodologies in research projects. As a result, our services are scientifically proven and tested on site.

CUSTOMER SEGMENT

Mining.

COMPANY

GTK is an internationally oriented research agency. We are a leading European competence center for the assessment of geological resources.

REFERENCES

Several consulting cases in hydrogeology and groundwater modeling with mining companies in Finland.
The Susmin project: <http://projects.gtk.fi/susmin/>

CONTACT

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REAL-TIME VIEW FOR PULP AND PAPER MILLS

OUR SOLUTION

Kemira KemConnect™ Water Treatment solutions combine high-performing chemicals with patented online units for monitoring and automated dosage control for all water treatment applications in pulp and paper mills. Staying compliant with environmental regulations requires efficient wastewater treatment operations at pulp and paper mills. Tertiary treatment is increasingly important to ensure that pollutants are removed from effluent before it is discharged. A reliable, real-time view of the wastewater treatment process and effluent quality enables mills to optimize tertiary treatment and chemical usage and achieve performance stability.

BENEFIT FOR THE CUSTOMER

- Optimized, stable and cost-efficient effluent treatment process.
- Improved effluent quality that remains below environmental permit levels.
- Savings in treatment chemical consumption.

COMPETITIVE ADVANTAGE

Seasonal variations and changes in the upstream process cause varying effluent composition. This is a challenge for manual treatment operations.

A real-time view of pollutant levels with automated control allows an optimized chemical treatment.

CUSTOMER SEGMENT

Wastewater treatment plants at pulp and paper mills.

COMPANY

Kemira is a global leader in sustainable chemical solutions for water-intensive industries, providing the best-suited products, expertise and services.

REFERENCES

Kemira provides chemicals and online units for monitoring the tertiary treatment phase of wastewater for dozens of pulp and paper mills in Europe.

CONTACT

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<https://www.kemira.com/pulp-paper/digital-services/>



ONLINE ENVIRONMENTAL MONITORING SERVICES

OUR SOLUTION

Mittausguru provides real-time environmental monitoring solutions for demanding industrial and research applications. Our off-grid stations monitor water flow, quality, ground and weather conditions at sites in real time, all year round. We provide monitoring solutions as a turnkey service, so you can focus on the results. You can access the data through our secure cloud service. This allows you to view results, compare locations, set alarms, prepare reports and much more.

BENEFIT FOR THE CUSTOMER

- Better understanding of environmental conditions at your site.
- Environmental safety from real-time monitoring and alarms.
- Turnkey service to cover all your monitoring needs.

COMPETITIVE ADVANTAGE

Compared to manual sampling, online monitoring provides superior data and an understanding of your environmental conditions. Our customers also value the advanced cloud software, extensive range of monitoring parameters and robust installations.

CUSTOMER SEGMENT

Industrial sites, mines, fish farms, peatlands, municipalities and research projects.

COMPANY

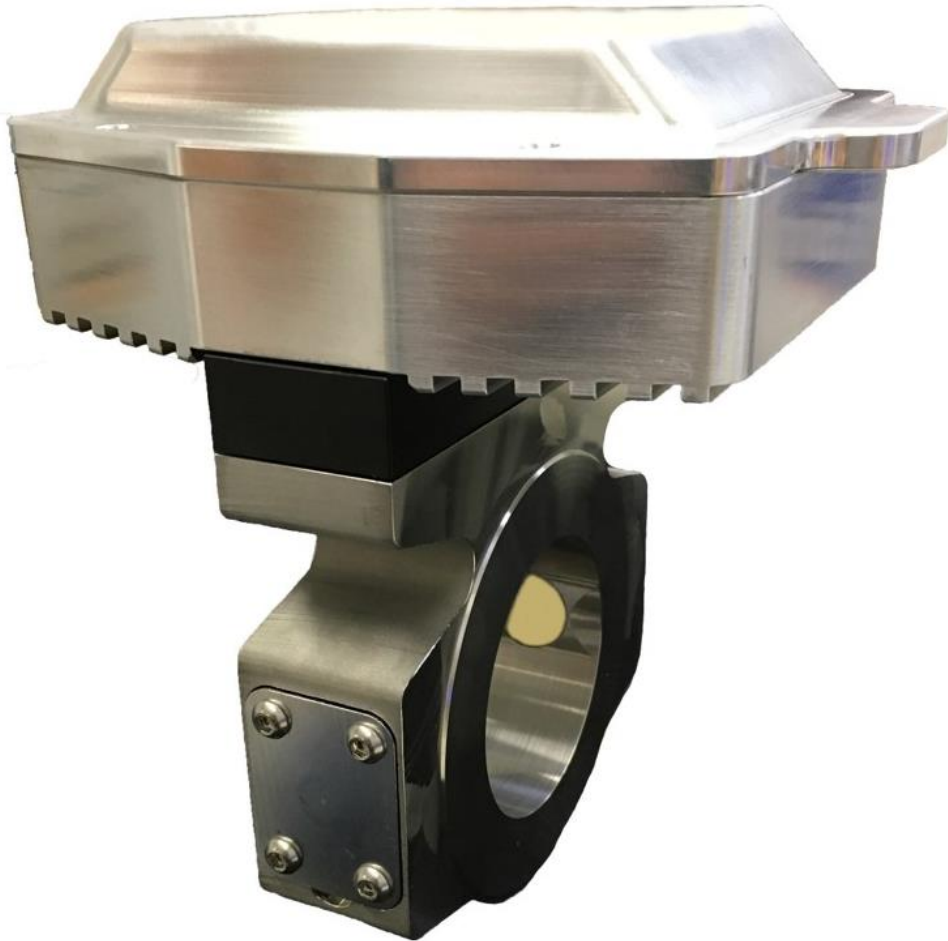
Mittausguru Oy is a new company with an experienced team of environmental professionals. We are owned by the Finnish Päähöyry group, which was established in 1961.

REFERENCES

Staff references from 20+ years of environmental monitoring in Finland and abroad. Company references include several industrial and research projects.

CONTACT

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MEASURING PRODUCTS FOR WATER AND SOLIDS CONTENT

OUR SOLUTION

Senfit offers a wide range of water content measurement products for liquid and solid materials using microwave and millimeter wave technologies. Today, our products are mainly used in the process industry but are not limited to that alone. We have decades of experience in customizing and manufacturing application-specific products for global instrumentation and automation corporations and system integrators.

BENEFIT FOR THE CUSTOMER

- Measurement enables the optimization of energy and material consumption, which leads directly to economical and environmental benefits.
- Senfit's products have long been industrial standards in numerous applications. They are safe investments for a better future.
- Safe technology for operators and the environment.

COMPETITIVE ADVANTAGE

Senfit's key advantage is decades of in-depth experience in industrial material measurements using electromagnetics. This results in using the most modern digital microwave technologies and design tools available.

CUSTOMER SEGMENT

Wastewater, oil and gas, bioenergy, pulp and paper, mechanical wood, food industry, metal industry and others.

COMPANY

Senfit is a world-leading design and manufacturing company specializing in industrial microwave and millimeter wave measurement instruments.

REFERENCES

Customers we serve include Emerson, Valmet, Raute, Metso-Outotec, Berthold and Microtec.

CONTACT

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ONLINE METAL ANALYSIS OF PROCESS LIQUIDS



OUR SOLUTION

Sensmet has developed a unique patented measurement technique that allows for fully automated online analysis of multiple metals in industrial hydrometallurgical processes. Instead of time-consuming laboratory analysis, you can monitor multiple metals in industrial liquid processes in real time using Sensmet's μ DOES[®] online analyzer. The solution analyzes up to 30 metals, starting from the lightest weight lithium up to heavy metals, such as cadmium, lead and mercury.

BENEFIT FOR THE CUSTOMER

- Real-time metal concentration data allows increased process yield.
- This data also allows for improved product quality with the detection of impurities.
- The fully automated 24/7 solution is cost effective.

COMPETITIVE ADVANTAGE

Sensmet offers the first fully automated and robust solution to measure multiple metals 24/7 for the hydrometallurgical process industry.

CUSTOMER SEGMENT

Lithium-ion battery metal production and recycling.

COMPANY

Based in Finland, Sensmet Ltd pioneers online metal analytics of industrial process liquids, such as the production and recycling of battery metals.

REFERENCES

Our longest-term customer, a global steel manufacturer, has used the Sensmet online analyzer for 24/7 metals monitoring in their process since 2019.

CONTACT

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CLEANER WATER WITH LESS ENERGY

OUR SOLUTION

Waterix's key products are COOLIT coolers, AIRIT floating aerators and MIXIT mixers for water and wastewater treatment. COOLIT is a floating cooler designed for hot industrial process water. It can manage industrial wastewater, process liquids or power plant condensed water. Based on the evaporation of water into the air, COOLIT is a real option for industrial cooling towers with a higher initial cost. Cooling towers are more expensive to maintain and usually require chemicals for the prevention and removal of scaling. Our floating spray cooler is a premium product on the market.

BENEFIT FOR THE CUSTOMER

- Waterix devices are characterized by lower energy consumption than competing technologies.
- Installation and servicing is easy, as the structure is virtually maintenance-free.
- It is affordable, as overall costs through the product's lifecycle bring genuine benefits to clients.

COMPETITIVE ADVANTAGE

The wide intake pipe prevents clogging and reduces the need for maintenance. No complex infrastructure is needed. Our floating technologies are used for retrofitting, replacing and upgrading existing aeration and cooling systems.

CUSTOMER SEGMENT

Industrial customers, especially from pulp and paper, petrochemical, food and beverage and power plants.

COMPANY

Waterix Ltd has technologies for the treatment of industrial wastewater and process water with an eye to the overall costs over the entire lifecycle.

REFERENCES

Waterix applications are successfully in use in mining industry as well as in several pulp and paper mills, for example, at UPM-Kymmene and Stora Enso.

CONTACT

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SOLUTIONS FOR CHALLENGING WATER TREATMENT

OUR SOLUTION

WatMan Engineering is a Finnish manufacturer of customized water treatment systems. Since being established, our primary focus has been to design, manufacture and supply innovative water treatment equipment of the highest quality to customers who demand more. Our team's experience helps us design the most suitable process for each purpose. We manufacture and test each piece of equipment individually to constantly maintain high quality and to ensure customer satisfaction. Reverse osmosis, desalination, demineralization, ultrafiltration – whichever water treatment is required – we know how to do it.

BENEFIT FOR THE CUSTOMER

- Tailored solutions for each purpose.
- High energy efficiency.
- Plug-and-play containerized solutions available.

COMPETITIVE ADVANTAGE

We design processes and equipment for a purpose. We combine everything from process design to production and commissioning under one roof to make sure project schedules and quality are under our control. We use only high-quality European- and US-made components.

CUSTOMER SEGMENT

Industry, farming (irrigation), marine.

COMPANY

WatMan Engineering Ltd Oy is located in Lahti, Finland. Established in 1995, the company employs 15 people. It is part of the Vestum Group, listed on Nasdaq Stockholm. The company has obtained ISO 9001 and ISO 14001 certification.

REFERENCES

Over 50 seawater desalination units delivered to 24 cruise vessels since 2008. Customers include Meyer Werft, Meyer Turku, Royal Caribbean International and Norwegian Cruise Line. Other references include Wärtsilä and Teollisuuden Voima.

CONTACT

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CHEMICAL MIXING FOR IMPROVED SUSTAINABILITY

OUR SOLUTION

Wetend Technologies provides an extremely fast injection mixing technology to optimize chemical usage in water treatment and sludge applications. Our main products are Trumplet® chemical mixers, which efficiently inject and flash mix additives and chemicals into the process flow, improving production sustainability. The solution makes it possible to gain better results with less chemicals. Our patented and innovative solution has earned its stripes serving the paper industry with more than 600 Trumplet® systems supplied to over 30 countries. In the paper industry, chemical savings are often between 30–60%.

BENEFIT FOR THE CUSTOMER

- Chemical savings.
- Improved and more homogeneous treatment result.
- Easier process control.

COMPETITIVE ADVANTAGE

Our unique injection mixing technology is thorough and fast. It improves the efficiency of the chemicals used, leading to savings in chemical usage. Customers can achieve significant savings of around 50% in chemicals.

CUSTOMER SEGMENT

Water treatment, pulp and paper industry, mining.

COMPANY

Wetend Technologies Ltd is the global technology leader in mixing additives to process streams. The company is based in Finland.

REFERENCES

References can be provided upon request.

CONTACT

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5. WATER KNOW-HOW AND CAPACITY BUILDING

team
FINLAND

Geological Survey of Finland



INSTITUTIONAL CAPACITY BUILDING

OUR SOLUTION

Geological Survey of Finland (GTK) offers institutional capacity-building expertise to increase the capabilities of our counter partners in supporting the sustainable use of water resources in a target country. Capacity-building projects focus on knowledge transfer through training according to the on-the-job concept and are supported by tailor-made courses on selected topics.

BENEFIT FOR THE CUSTOMER

- State-of-the-art knowledge based on long, independent research.
- Unique methodologies and equipment for field and laboratory studies.
- Broad and versatile experience.

COMPETITIVE ADVANTAGE

GTK has a comprehensive competence portfolio in geosciences. We are an experienced impartial operator in international markets.

CUSTOMER SEGMENT

Public sector.

COMPANY

GTK is an internationally oriented research agency. We are a leading European competence center on the assessment of geological resources.

REFERENCES

Several projects in Africa, Europe and Asia –
www.gtk.fi/en/research-project/neas-towards-arsenic-safe-drinking-water-in-nepal

CONTACT

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6. OTHER

BioSO4 – Mining reagents

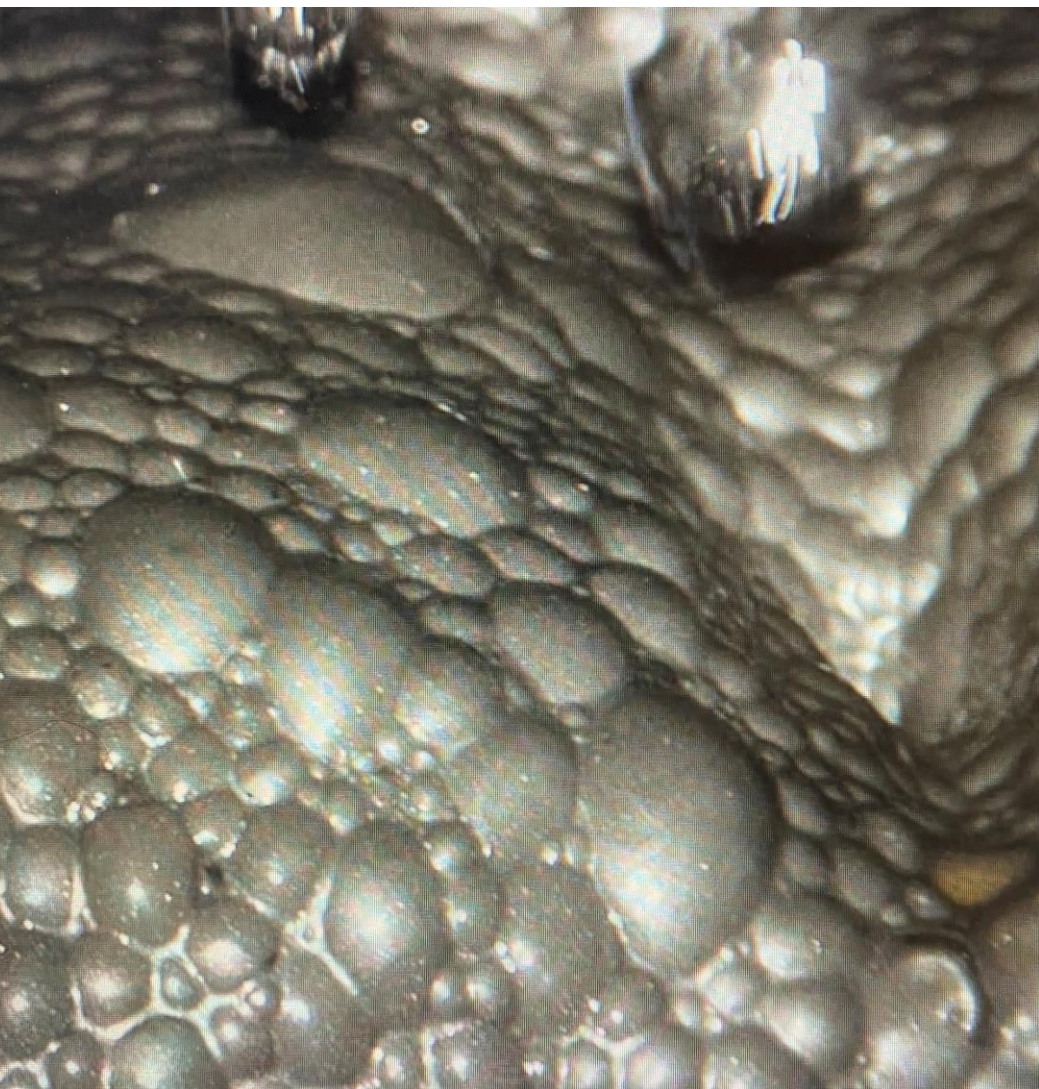
Deep Scan Tech – Leak and defect investigation

Ekolet – Waterless sanitation

Kemira – Polymer innovation

SansOx – Gas dissolving and chemicals mixing into the water

Watermaster | Aquamec – Maintenance of water bodies



HIGH-QUALITY REAGENTS AND GRINDING MEDIA

OUR SOLUTION

BioSO4 Oy is a distributor of global mining reagents. We offer products with high purity in addition to products and information related to the use of flotation chemicals. We work closely with our customers to monitor the quality of the products offered, their impact on the environment and a cost-effective door-to-door logistics service. We cooperate with our customers from the start, offering planned production. Together with our extensive global network, we are able to help select cost-effective chemical solutions for mining customers.

BENEFIT FOR THE CUSTOMER

- High-purity mining chemicals.
- Environmentally friendly and cost-effective chemical solutions for mining projects, even before the production begins.
- Global cooperation network.

COMPETITIVE ADVANTAGE

Our competitive strength with mining reagents is our large portfolio, excellent knowledge and expertise in mining reagent chemistry and its environmental effects. Together with our customers, BioSO4 has solved many flotation and mining reagent challenges.

CUSTOMER SEGMENT

We specialize in supplying mining reagents and grinding balls for concentrators in mines globally.

COMPANY

BioSO4 began its commercial activities in 2018 and is one of the quickest-growing mining reagent suppliers in Europe. Our annual turnover is EUR 3.4 million today, and this is estimated to reach EUR 10 million in 2025.

REFERENCE

BioSO4 currently has chemical sales to 12 mining countries. We are able to serve all countries with mining capabilities through our large global cooperation network. Inquiries are welcome.

CONTACT

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3D SCANS TO INVESTIGATE PIPES AND EARTH

OUR SOLUTION

Deep Scan Tech provides unprecedented 3D underground views through non-invasive surface scans, eliminating the need for digging or destructing surface structures. Our technology gives a complete view of internal structures, materials, soil types, moisture and pollutants. The 3D scans are easy to apply, scanning large areas quickly, reliably and staying within budget. New areas planned for construction can be pre-examined, or you can inspect the condition of existing infrastructure and even see what lies beneath existing buildings.

BENEFIT FOR THE CUSTOMER

- 3D visibility – create views of underground pipes, structures, materials, soil types and moisture.
- Non-invasive – no need to dig or damage structures with measurements performed from the surface.
- Quick and easy – scan large areas quickly, reliably and within budget.

COMPETITIVE ADVANTAGE

Current investigation methods commonly require breaks in service, temporary arrangements, digging and sampling, cutting traffic and other costly measures. Deep Scan Tech can perform 3D scans for inspections quickly and easily from the surface.

CUSTOMER SEGMENT

We serve infrastructure owners, builders and operators.

COMPANY

Deep Scan Tech is a 3D scanning company with a unique patented approach for water infrastructure inspections that can be performed from the surface.

REFERENCES

Deep Scan Tech's 3D scans can be used in sewer and water pipe inspections to find contaminants and reservoir leaks and for environmental monitoring.

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WATERLESS TOILET SOLUTION

OUR SOLUTION

Ekolet Bag Loo is an odorless, easy-to-use and easy-to-maintain toilet. It does not need electricity, water or additives to function. Water and toilet paper can be used in the system. The waste drops into a filter cloth bag inside the toilet. When full, the toilet container can be wheeled to an emptying site. The full bag is dumped out of the container and replaced with a new bag. The full bag is left at the emptying site for after-composting. After a suitable period of time, the bag contents will be transformed into fertilizing soil. The bags are reusable. See video at www.youtube.com/watch?v=B5EeygfXqKQ

BENEFIT FOR THE CUSTOMER

- The toilet does not need water or additives to function.
- The toilet is odor-free – no sewage network is needed.
- Waste is transformed into 100% fertilizing soil.

COMPETITIVE ADVANTAGE

Ekolet toilet does not need water or additives to function, but water may be used for cleaning, if desired. The toilet is simple to use and service. After-composting is easy because of the replaceable bags. It is truly an odor-free solution.

CUSTOMER SEGMENT

Ekolet offers a toilet solution for private and public use.

COMPANY

Ekolet Oy has been a pioneer in designing waterless eco-toilets for indoor and outdoor for over 30 years, since 1990.

REFERENCES

Ekolet toilets are widely used in Finland. We also have a few test toilets throughout the world.

CONTACT

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NEXT-GENERATION SLUDGE TREATMENT

OUR SOLUTION

Kemira Superfloc® SD-7083 is a newly developed cationic polymer for wastewater flocculation and sludge treatment applications, mainly sludge thickening and dewatering of digested and secondary sludge. The high-performing structured emulsion polymer helps increase sludge dryness and decrease sludge volumes. This leads to cost savings and minimizes environmental impact. In combination with iron-based coagulants, this technology has led to significant process performance improvements and process efficiency gains, allowing for more efficient chemical dosing in treatment processes.

BENEFIT FOR THE CUSTOMER

- Higher sludge dry solids.
- Clean centrate.
- Cost savings through higher product efficiency.

COMPETITIVE ADVANTAGE

The Kemira Superfloc® 7000 series is a next-generation cationic emulsion flocculant for wastewater treatment. Superfloc® SD-7083 is a medium-high structured polymer, delivering high performance and significant process efficiency gains in sludge treatment.

CUSTOMER SEGMENT

Municipal wastewater treatment plants.

COMPANY

Kemira is a global leader in sustainable chemical solutions for water-intensive industries, providing the best-suited products, expertise and services.

REFERENCES

The wastewater treatment plant in Arnhem Zuid, the Netherlands, increased process performance significantly. The plant size is 327,000 population equivalents (PE) with a throughput of 6,400 m³/h.

CONTACT

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IMPROVING WATER QUALITY AROUND THE WORLD

OUR SOLUTION

SansOx's OxTube is a pipelike solution that dissolves gases and mixes chemicals into the water that flows through it. The dissolving takes place in seconds or fractions of a second, creating chemical reactions to improve water quality. OxTube strips radon and carbon dioxide from potable water and precipitates iron and manganese from borewell water. OxTube removes pharmaceutical residues from wastewater and prevents the formation of hydrogen sulfide. It also removes any formed, dissolved hydrogen sulfide from water. Additionally, OxTube increases dissolved oxygen in lakes, ponds and other bodies of water.

BENEFIT FOR THE CUSTOMER

- Efficient dissolving with an extremely low need for energy.
- Fast dissolving, with no need for reaction pool or tank.
- Light solution, without need for infrastructure.

COMPETITIVE ADVANTAGE

Our unique dissolving technology creates fast chemical reactions that improve water quality. It is easy to install as part of any pipeline and treats all water that flows through it, regardless of water depth.

CUSTOMER SEGMENT

Industry and municipalities, natural water systems.

COMPANY

SansOx is a Finnish water company that specializes in improving water quality at all stages of natural water circulation around the world.

REFERENCES

Our solutions include removing radon, disinfecting water at fish farms, precipitating iron and manganese and increasing dissolved oxygen in lakes.

CONTACT

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THE AMPHIBIOUS MULTIPURPOSE DREDGER

OUR SOLUTION

The amphibious multipurpose Watermaster dredger is a versatile machine for all shallow water applications from dry ground to 6 meters depth. Watermaster cleans and maintains waterways by dredging, removes trash and invasive aquatic vegetation by excavating and raking, and develops riverbanks and seashores by pile driving. The first Watermaster was launched in 1986 and we have systematically developed the excellent concept ever since. Watermasters help keep rivers, lakes, canals, and other shallow waterbodies in good condition in over 80 countries around the world.

BENEFIT FOR THE CUSTOMER

- Watermaster excels alone in tasks that are conventionally handled with multiple separate machines.
- Watermaster is a self-propelled, fully amphibious vessel. It enables quick and easy mobilization.
- Watermaster is reliable; a fully tested and documented serial product that ensures high quality.

COMPETITIVE ADVANTAGE

Watermaster is easy and economical to transport and mobilize. Alone, it can do the work of many separate machines. With a large selection of quickly changeable attachments, Watermaster adapts to all your sites' requirements.

CUSTOMER SEGMENT

Governments, municipalities, dredging and water construction companies, mining and industrial corporations.

COMPANY

Aquamec Ltd. develops, manufactures and markets Watermaster multipurpose machines. Watermasters are made in Finland.

REFERENCES

We have more than 350 references in over 80 countries around the world. Our smart Watermaster technology helps keep shallow waters cleaner and healthier worldwide.

CONTACT

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NEW, EMERGING PRODUCTS

Team
FINLAND

1. DIGITAL TECHNOLOGIES FOR SMART WATER MANAGEMENT

KaukoInternational
Kemira
Operon
Planora
Viimatech Digital

2. RESOURCE RECOVERY AND ENERGY EFFICIENCY / CIRCULAR WATER ECONOMY

Biobros
Fiskarsin Kiertotalous
Nanopar

3. WATER UTILITIES AND CLIMATE-RESILIENT WATER SERVICES

Alva
FimusKraft
Hurja Solutions

4. WATER IN INDUSTRIAL USE AND MINING

3AWater

5. WATER KNOW-HOW AND CAPACITY BUILDING

Natural Resources Institute Finland,
Luke

6. OTHER

Scantarp
EOD

1. DIGITAL TECHNOLOGIES FOR SMART WATER MANAGEMENT

team
FINLAND

KaukoInternational
Kemira
Operon
Planora
Viimatech Digital



DIGITAL DAM SAFETY SOLUTION

OUR SOLUTION

KaukoInternational's digital dam safety solution provides customers with real-time and structured information on the state of risks in a dam basin. Our solution identifies site-specific and monitored risks in advance and in a timely manner. We enhance dam safety to combat climate and environmental changes by cooperating with our partners. Our customers receive valuable information to assist them with their risk management planning and investment prioritization, so they can take preventive measures before any disasters occur.

BENEFIT FOR THE CUSTOMER

- Digital solutions to monitor all dam reservoir conditions, not only the constructional safety of the dam.
- All data from one or several dams is collected into a single dashboard to provide a good overall picture of the entire dam basin.

COMPETITIVE ADVANTAGE

We provide a comprehensive solution to dam safety, rather than focusing only on constructional dam safety.

COMPANY

KaukoInternational is a Finland-based company and a modern trade and project house with almost 70 years of experience in international trade.

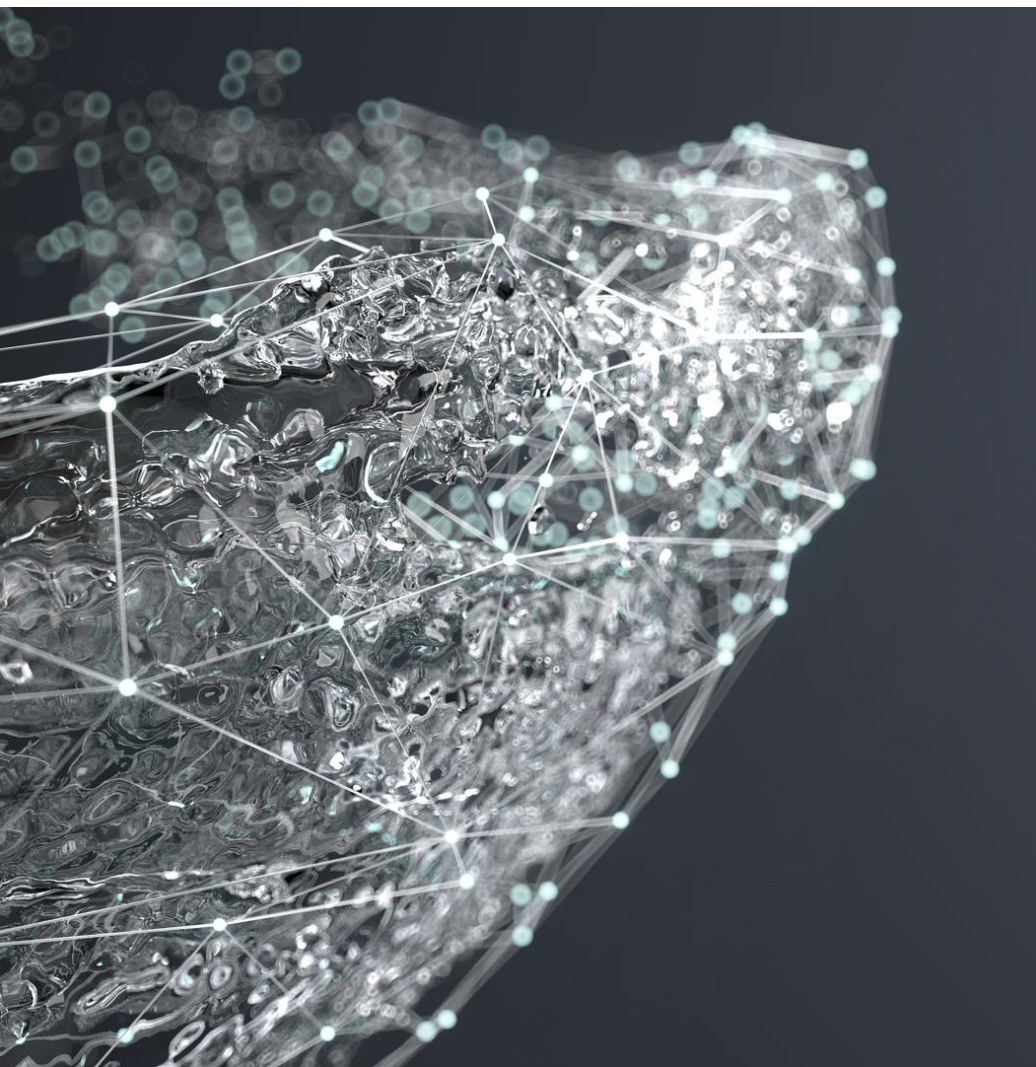
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HARMONIZING WATER TREATMENT

OUR SOLUTION

Kemira KemConnect™ Harmonizer is a digital service for increasing the efficiency and sustainability of wastewater treatment processes in industrial production plants, such as pulp and paper mills. Utilizing automated machine learning and predictive analytics, KemConnect™ Harmonizer monitors process stability and discovers deviations that can impact treatment performance. The service uses real-time process and performance data – from inlet to outlet – and from upstream production units. It enables operators to mitigate emerging disruptions and helps mills stay compliant with environmental regulations.

BENEFIT FOR THE CUSTOMER

- Improved operational efficiency and stable treatment process.
- More sustainable operations and effluent quality that complies with environmental permit limits.
- 24/7 predictive transparency to the entire treatment process – from the inlet to the outlet.

COMPETITIVE ADVANTAGE

KemConnect™ Harmonizer is a unique combination of automated machine learning, data and chemistry and application expertise. By monitoring the system as a whole, our solution creates transparency that helps ensure a stable and efficient treatment process.

CUSTOMER SEGMENT

Industrial wastewater treatment, such as pulp and paper production processes.

COMPANY

Kemira is a global leader in sustainable chemical solutions for water-intensive industries, providing the best-suited products, expertise and services.

CONTACT

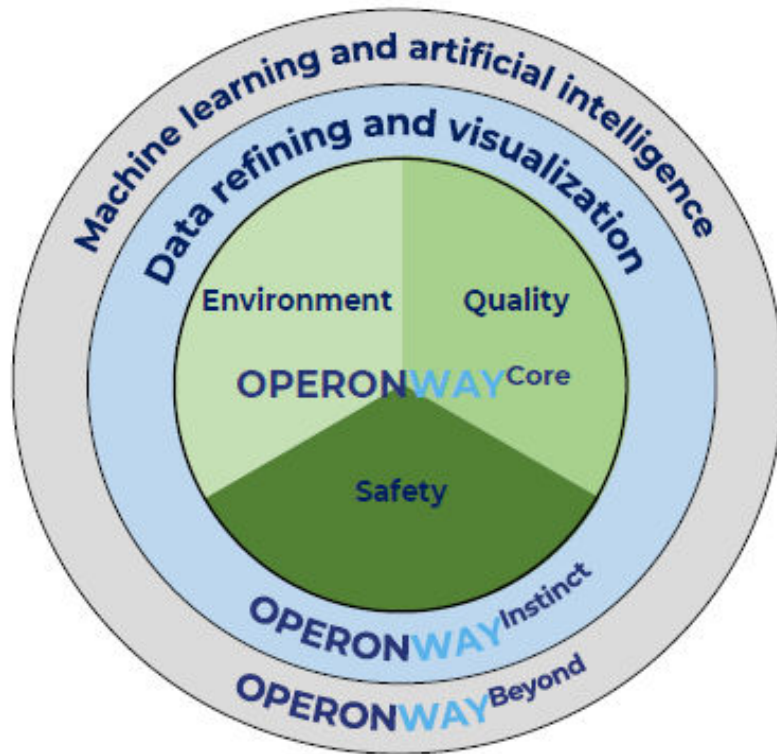
Anders Ånäs

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<https://www.kemira.com/pulp-paper/digital-services/>

OPERONWAY

*Combining people, processes
and knowledge*



DIGITALIZATION CONCEPT FOR BETTER DATA USE

OUR SOLUTION

Operon offers a comprehensive concept – the OperonWay – for the management of data in water and wastewater utilities. The concept includes the OperonWayCore, which is a centralized way to collect and store data. The OperonWayInstinct is an intuitive way to refine and visualize centralized data. The OperonWayBeyond is a platform for the development of artificial intelligence and machine learning solutions. The OperonWay digitalization concept's goal is to digitalize our water know-how in an intuitive and modern way. It is based on experience gathered from operations.

BENEFIT FOR THE CUSTOMER

- Better use of collected big data, enhancing fact-based decision-making.
- Learning platform for new operators in the water and wastewater sector, with experience and learnings from the past made available to all.
- Optimization of the total supply chain for water and wastewater treatment processes – from lake to lake.

COMPETITIVE ADVANTAGE

There is a lack of products for intuitive process monitoring and organized data collection methods related to water and wastewater utilities. Over the past several years, the amount of data gathered has grown, but few tools have been implemented for the intuitive and easy interpretation of available data. The OperonWay fulfills this function.

CUSTOMER SEGMENT

Water and wastewater utilities, industrial water-intensive factories.

COMPANY

Operon Group is a Finnish water and wastewater treatment service provider with 20 years of experience from water and wastewater utilities operation, construction, design and sludge handling.

CONTACT

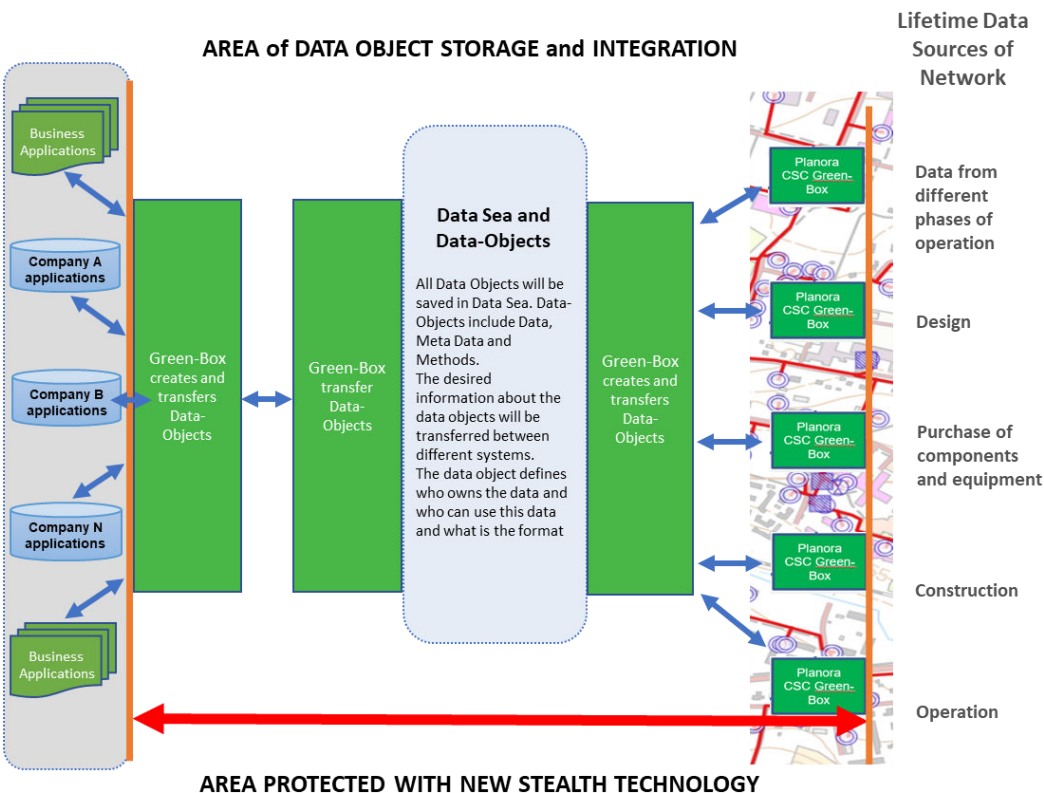
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Hybridplatform = Company applications + Green Box + Data Sea



PLANORA OY
HIGH TOUCH - HIGH TECH - CLEANTECH COMPANY

HYBRID PLATFORM FOR SMART OPERATION

OUR SOLUTION

Planora's OperonWay – for the management of data in water and wastewater utilities, enabling comprehensive knowledge-based management. Our hybrid platform is suitable for all industries. With more than 35 years of experience, Planora has extensive expertise in the district heating and water supply sectors. The latest technical ICT implementation has made it possible to form new services for professional use. These include different data sources, including IoT devices, integration and analysis of available data as well as asset and maintenance data management.

BENEFIT FOR THE CUSTOMER

- The hybrid platform and green code bring cost savings in ICT-related investments and operations.
- The hybrid platform and green code make different data integration possible.
- The hybrid platform and green code improve system security and data transfer.

COMPETITIVE ADVANTAGE

The hybrid platform made by green code provides the best possible solution for all data integration from different sources. It also secures data transfer and data analysis as well as data visualization.

CUSTOMER SEGMENT

All types of organizations, such as towns, municipalities, energy and water companies.

COMPANY

Planora Oy offers a wide range of technical engineering solutions and service packages as well as secure hybrid platform services.

REFERENCES

Energy and industrial planning and information management since 1987 and hybrid platform services since 2018.

CONTACT

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www.planora.fi

SMART PUMPING WITH IOT AND ANALYSIS

OUR SOLUTION

Viimatech Digital offers a way to optimize pumping in water utilities and industry. Our solution is based on optimized data collection devices, digital twins of motors and pumps and predictive algorithms based on electrical signal analysis (ESA). Our easy and cost-effective IoT and predictive analysis tools help save energy and optimize maintenance.

BENEFIT FOR THE CUSTOMER

- Easy to use.
- Low total cost of ownership.
- Open for integration with other digital solutions.

COMPETITIVE ADVANTAGE

- Total cost of ownership is one-third of our competitors' cost level.
- Suitable for any pump manufacturer or model.
- Scalable – a fast mass deployment is driven by design simplicity, making it intuitive for installers, technicians and users.

CUSTOMER SEGMENT

Water utilities, the process industry and maintenance service companies.

COMPANY

Viimatech Digital was founded in 2017 as a startup with deep knowledge of industrial rotating equipment, software and hardware development. We offer standard and customized solutions to optimize pumping.

REFERENCES

Flowplus Oy – remote pump monitoring
ABB – digitalized energy audit service
Kymen Vesi – water utilities
Alavieska – pumping optimization

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2. RESOURCE RECOVERY AND ENERGY EFFICIENCY / CIRCULAR WATER ECONOMY

Biobros
Fiskarsin Kiertotalous
Nanopar

ELECTROCOAGULATION TECHNOLOGY FOR WATER PURIFICATION

OUR SOLUTION

Biobros Electrocoagulation (EC) water purifying technology is based on a combination of intelligent electrical control and efficient use of water dynamics. The basic phenomena behind this technique are electrocoagulation and electrolysis. This new EC innovation is engineered in closed EC reactors, where hydrogen as a side stream can be collected for better energy efficiency. Power for the Biobros EC units can be produced with sustainable energy sources, for example, solar power.

BENEFIT FOR THE CUSTOMER

- No need for chemical additions in the wastewater treatment.
- No additional sulfides are added in the wastewater treatment.
- Excellent treatment efficiency for many types of water and wastewater.

COMPETITIVE ADVANTAGE

Biobros EC units are engineered so that the electrocoagulation process is extremely effective and demands very little physical space. The investment, maintenance as well as energy and electricity costs for a Biobros EC solution are relatively small.

CUSTOMER SEGMENT

Wastewater treatment.

COMPANY

Biobros Ltd is a service and supplier company specializing in water and wastewater treatment solutions based on electrocoagulation.

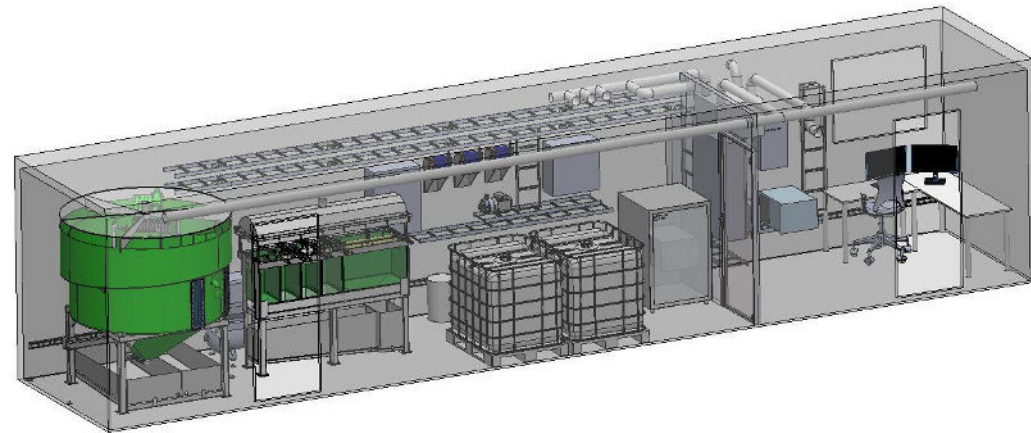
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NUTRIENT RECOVERY - AT LOWEST COST AND ENVIRONMENT-FRIENDLY

OUR SOLUTION

Fiskars Environmental Care has introduced its ReGreenMix modular composter based on a recycling composting process. Only 10% of fresh bulking agent is needed to create the compost in addition to the wastewater sludge, biowaste, biogas production residue or other organic waste fed into the process. The main bulking agent is internally recycled compost. ReGreenMix is a continuous closed reactor composter. It consists of 10 container-sized modules that are assembled in a factory environment where the process technology is integrated into the modules. ReGreenMix is automatic, remotely controlled and runs without the need for continuous operator attendance.

BENEFIT FOR THE CUSTOMER

- Low cost per ton of composted organic waste – up to 65% lower.
- Environment-friendly, closed system without dust or odor, no run-off water released to the environment
- Waste quantity is reduced significantly by about 70–80% in the process.

COMPETITIVE ADVANTAGE

ReGreenMix offers the lowest cost per ton of treated organic waste. The composter runs unmanned and

automatically. It is free from any dust, odor and run-off water impact on the environment. ReGreenMix consists of factory-made modules that can be assembled in 7 days on site at any operating unit.

CUSTOMER SEGMENT

Wastewater sludge, biowaste, biogas production residue, organic-containing waste.

COMPANY

Fiskars Environmental Care – Fiskarsin Kiertotalous Oy – is a startup company looking for investors and a first reference.

CONTACT

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www.regreenmix.com



NUTRIENT RECOVERY FROM SEWAGE SLUDGE

OUR SOLUTION

Nanopar has developed a novel method for drying organic sludge. Our Paskier® Process is based on vacuum-assisted, medium-wave infrared technology that dries organic sludge with an efficiency previously unattained. The Paskier® Process consists of a vacuum-assisted infrared dryer, mill, mixer, granulator, nutrient silos and packaging. The operation is fully automatic 24/7. The technology is designed to be used on site, destroying all bacteria and pathogens. The resulting processed sludge can be used as a soil improver or, with additional nutrients, as recycled fertilizer.

BENEFIT FOR THE CUSTOMER

- The most efficient thermal drying method available.
- Lower carbon-dioxide equivalent (CO₂-eq) than in any other sludge treatment process.
- Technology can be used on site.

COMPANY

Nanopar is a Finnish cleantech company that develops sustainable and economical infrared drying solutions for a zero-waste future.

CONTACT

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3. WATER UTILITIES AND CLIMATE-RESILIENT WATER SERVICES

Alva
FimusKraft
Hurja Solutions

team
FINLAND



DIGITAL WATER SERVICE

OUR SOLUTION

PISARA® Digital Water Service displays events in a water distribution network in real time, enabling operators to make proactive interventions and well-targeted and timely investments as needed. PISARA® Digital Water Service includes a 24/7 situation map service, leak detection service and water quality service.

BENEFIT FOR THE CUSTOMER

- Anticipating and streamlining operational activities.
- Optimizing the allocation of asset management resources and investments.
- Improving leakage and water quality management.

COMPETITIVE ADVANTAGE

We offer unique multitenant software as a service that combines leak detection and water quality services and is scalable worldwide.

CUSTOMER SEGMENT

Water utilities.

COMPANY

PISARA is a subsidiary of Alva, a multi-utility company that owns and maintains water, district heating and electricity networks in Finland.

REFERENCES

Municipal water utilities in Finland, Kazakhstan, Brazil and India.

CONTACT

Sakari Laitinen

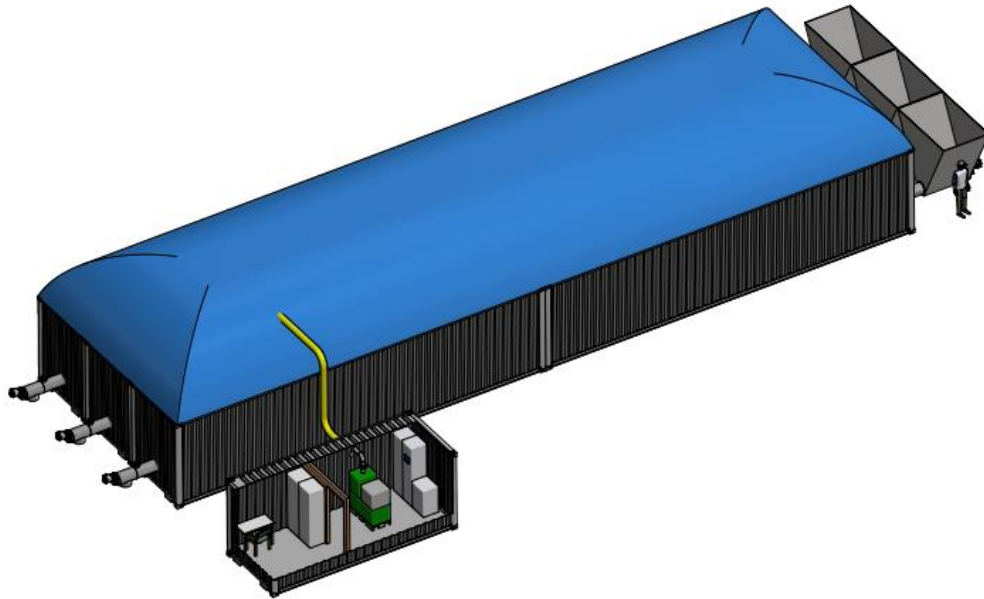
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PISARA



ENERGY AND CLEAN WATER

OUR SOLUTION

FimusKraft's modular, circular economy-based bioenergy system can be used as an energy source for wastewater or for a biologically polluted water basin. A polluted lake or river can be turned into a fresh water source by using a water hyacinth as an energy source and income to collect more water hyacinths to clean the water resource. It is possible to use other biowaste sources polluting the water basin as a source of electricity and heat or steam. The modular design makes it possible to run processes efficiently, ensuring fast and easy startup.

BENEFIT FOR THE CUSTOMER

- Waste-to-energy using circular economy means.
- Bringing polluted water basins back to life for use as fresh water sources.
- Easing the investment by creating valuable energy and raw materials.

COMPETITIVE ADVANTAGE

FimusKraft's bioenergy process produces more biogas in less time than traditional anaerobic digestion. The modular design saves space and makes it easy to expand when needs grow. This modularity also helps facilitate fast startup on site.

CUSTOMER SEGMENT

Polluted water basins, food industry wastewater and wastes, smaller wastewater treatment plants.

COMPANY

FimusKraft is a cleantech company whose products are based on truly circular economy concepts and where waste is regarded as a source of raw material.

REFERENCES

We have performed extensive testing with a full-scale prototype in agricultural and process industrial segments. We were awarded the European Innovation Council's Seal of Excellence.

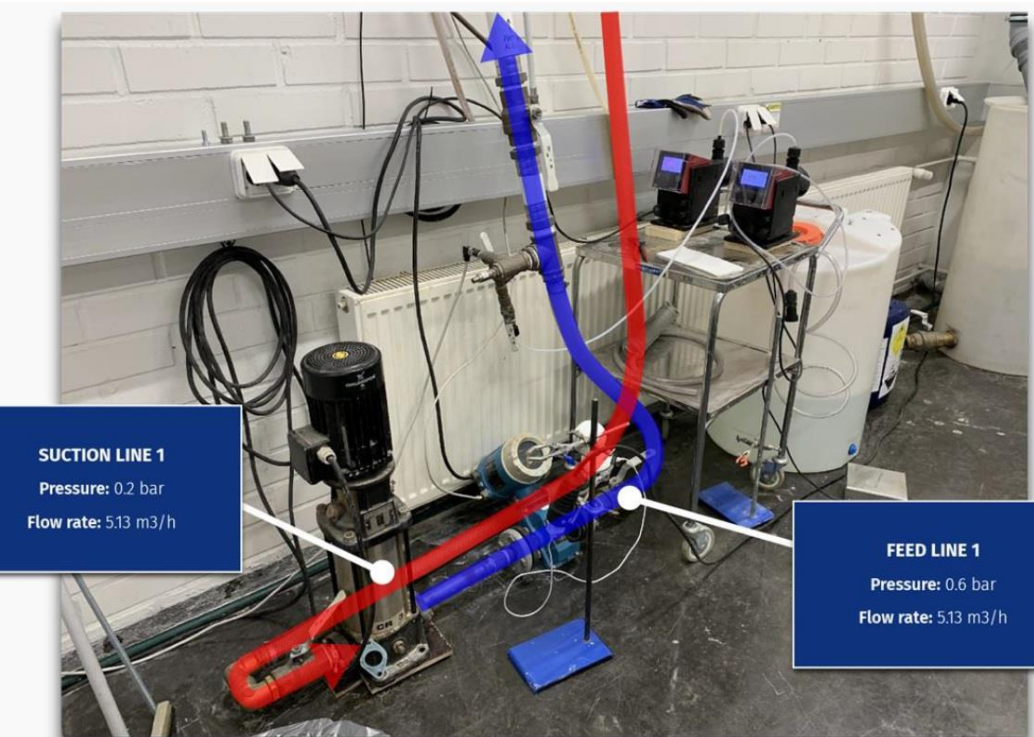
CONTACT

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AUGMENTED REALITY CREW ASSISTANCE SERVICE

OUR SOLUTION

Hurja Solutions builds augmented reality crew assistance services (ARCAS) for water utilities in smart water infrastructure management projects. The key features of our ARCAS are the following:

- Collects views of real-time data and service history and provides guidance on the spot.
- Increases efficiency and safety by freeing the hands of workers.
- Provides easy virtual access for educational and training purposes.
- Ensures secure data storage in Finland.

BENEFIT FOR THE CUSTOMER

- Cost savings.
- Increased efficiency.
- Increased safety.

COMPANY

Hurja Solutions Ltd is a software company that approaches work professionally in good spirit and in a relaxed atmosphere.

REFERENCES

Our first pilot location is Savonia WaterLab in Savilahti, Kuopio, Finland. A short demonstration video of our service can be found at: <https://youtu.be/ZvZG9YSddfK>

CONTACT

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4. WATER IN INDUSTRIAL USE AND MINING

team
FINLAND

3AWater



REAL-TIME METAL ANALYSIS OF WATER

OUR SOLUTION

3AWater's Multimet Water Analysis System measures metal contents of water anywhere in less than 10 minutes. It gives simultaneously precise ppb ($\mu\text{g/l}$) levels of six dissolved metals in real time, either on site, in the field or from any other location.

BENEFIT FOR THE CUSTOMER

- Optimize processes and water treatment for better production yields and savings in chemical and energy costs.
- Manage environmental risks by ensuring regulations compliance through analysis of discharge waters.
- Quick reaction to abnormal situations affecting water management, such as electric power outages and dam failures.

COMPETITIVE ADVANTAGE

3AWater provides fast analysis. You no longer need to deliver samples to the laboratory and wait for results. The system is easy to use. Anybody can learn to use the technology after 30 minutes of training. Our system performs reliable water measurements.

CUSTOMER SEGMENT

Mining and metal industry.

COMPANY

3AWater is a provider of smart monitoring tools for water management and helps water-intensive industries decrease their environmental impact.

CONTACT

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5. WATER KNOW-HOW AND CAPACITY BUILDING

Natural Resources Institute Finland, Luke





RESOURCE-EFFICIENT WATER SOLUTIONS

OUR SOLUTION

The Natural Resources Institute Finland (LUKE) provides assistance with water disinfection, recycling and detoxification. We offer concept development for circular water solutions, agriculture development in extreme conditions and artificial water ecosystems and nature-based solutions.

BENEFIT FOR THE CUSTOMER

- Holistic sustainability.
- Techno-economical evaluations.
- New concepts.

COMPETITIVE ADVANTAGE

LUKE offers multidimensional, non-commercial views of different water solutions. We also have the capacity to provide further development according to customer needs.

CUSTOMER SEGMENT

Water consultants and experts, research institutes and universities.

COMPANY

The Natural Resources Institute Finland provides services in agriculture, forestry, fisheries and game to secure the sustainable use of natural resources.

REFERENCES

Industrial waters, afforestation, sludge usage, fish farming, water and steam extractions.

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www.luke.fi

6. OTHER

Scantarp – Water storage

EOD – Chemical-free oxygen nanobubble technology application



WATER STORAGE SOLUTIONS

OUR SOLUTION

Scantarp specializes in the production of technical fabrics. We have over 60 years of experience in developing and producing coated technical fabrics. Among our fabric selection are airtight materials that are suitable for the temporary storage of drinking water. These materials are produced using chemicals approved for food contact and do not contain any phthalate. We would be happy to provide you with more information on our products.

COMPANY

Oy Scantarp Ab is the leading technical fabric manufacturer in Northern Europe. Our expertise comes from decades of experience.

CONTACT

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+358 44 773 5766

www.scantarp.fi/en





OXYGEN NANOBUBBLE GENERATOR

OUR SOLUTION

EOD Europe has developed the Nanoboost device to supersaturate irrigation water with oxygen. Oxygen is a key component of healthy plant growth and development in greenhouse farming. The functionality of Nanoboost is based on the existence of nanobubbles, which can hold up to 300% more oxygen than water normally can. This revolutionary innovation can help farmers maximize the potential benefits of oxygen-rich irrigation water, leading to healthier plants and better yield, and decreasing the use of pesticides and fertilizers.

BENEFIT FOR THE CUSTOMER

- Improved plant health and better yield.
- Improved productivity with less chemicals.
- Concrete action in the green transition.

COMPETITIVE ADVANTAGE

Our validated technology application, the Nanoboost oxygen generator device, is a compact and complete solution for farmers. We offer an additional online service to optimize water parameters in the user's environment.

CUSTOMER SEGMENT

Our customers are advanced technology companies delivering water solutions for greenhouses.

COMPANY

EOD Europe develops and sells chemical-free water technology applications for a sustainable and more productive food chain.

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CONTACT

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FINLAND

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In cooperation with



Ministry of Agriculture
and Forestry of Finland



**BUSINESS
FINLAND**



**WATER
ECOSYSTEM**



Centre for Economic Development,
Transport and the Environment

KUOPIO **WATER** CLUSTER