



SMART WATER SOLUTIONS.

SMART WATER

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ADDRESSING THE MOST IMPORTANT CHALLENGES OF MODERN WATER UTILITIES.

Every drop of water is precious for the planet and for the future of life as we know it. Water demand is increasing as the population grows.

Iskraemeco Smart Water Solutions address the most important challenges facing water utilities: reduction of Non-Revenue Water (NRW), improvement of consumer services, efficient water metering and consumption billing, asset and workforce management.

We have chosen a holistic approach to tackle these modern utilities' pain-points. To ensure a sustainable technical and financial operation of water utilities, we offer a variety of technological components and services tailored to today's and tomorrow's needs.

Rest assured, end-to-end security requirements are integrated in the entire communication chain on all levels. The whole metering and data environment is delivered as a secured unity.



Solution portfolio.



CORE SOLUTIONS



Smart Metering and Billing

Accurate metering using different types of measuring technologies, precise water consumption billing, customer portal and app (consumption, invoices, payments, price lists and additional services).



Active Water Leakage Detection

Water leakage control and reduction of Non-Revenue Water (NRW) using the District Metered Areas (DMA) approach.



Smart Prepayment

Remote prepayment, automated meter reading and meters control functionalities are enabled through the use of STS prepayment water meters, cards and vending systems, which are integrated into AMI infrastructure.



ADD-ON MODULES



Analytics

Analytics focuses on performance-based data and statistical methods for NRW management and billing.



Asset management

Achieving minimal cost at minimal risk in assets operation while meeting customer's needs.



Mobile Workforce Management

A field staff mobile app and back-office software covers the entire process from work orders creation to it's completion.

Solution components.

**ACTIVE LEAKAGE
DETECTION**

**SMART METERING
AND BILLING**

**PREPAYMENT
SOLUTIONS**



ACTIVE LEAKAGE DETECTION

Detect, locate and control water leakages, monitor water flow, and reduce NRW using a District Metered Areas (DMA) approach.

Utilities can use DMA to track the following: flow and pressure graphs, leakage data, leak locations, illegal connection locations, pressure data. The solution consists of flow, pressure and temperature sensors, mechanical and ultrasonic water meters, battery-powered data loggers, and software.

Flow sensors

The design of the sensor allows easy installation into the pipe under pressure for quick and efficient water flow measurement. The sensors can be installed into plastic or metal pipes. The measurement range is from 0.025 m/s up to 5 m/s at DN80. The sensor measures the flow in both directions with the same resolution and can be installed into pipes from DN80 up to DN500.

Digital pressure and temperature sensors

The pressure sensor with an integrated temperature sensor can measure pressure up to 30 bar and temperature from -20 to 85°C. Sensor is meant for active monitoring at water mains, water supply networks, hydrants and DMA zones.

Ultrasonic water meters

Ultrasonic water meters are available in sizes from DN50 (Q_3 25 m³/h) to DN200 (Q_3 400 m³/h), all with R500. Available with PN10/16 and different flange connections (ISO, BSI, ANSI). Meters are MID 2014/32/EU certified, conform to ISO 4064, and are approved for use with potable water. Having no mechanical moving parts, they are wear-resistant, guaranteeing a long-term operation with 10+ years of battery service life. Meters are class IP68 and can be installed in any position. Meters support various communication technologies (pulse output, M-Bus, wM-Bus, LoRaWAN, NB-IoT).

Woltmann water meters

Improved Woltmann water meters are available in sizes from DN50 (Q_3 40 m³/h) to DN200 (Q_3 400 m³/h), with R250 as the highest-certified type. Meters are certified under MID 2014/32/EU, compliant with ISO 4064, and approved for use with potable water. The register is hermetically sealed to IP68 and ensures continued readability. Meters can be installed in horizontal, vertical, or inclined positions. Meters support various transmission technologies (pulse output, M-Bus, wM-Bus, LoRaWAN, NB-IoT).

Data Loggers

The device is battery-powered. It uses the following communication technologies: GSM/GPRS/SMS. Data transfer is easily configurable (reading resolution/transmission intervals). Allows long-lasting storage of data. Local battery replacement.

Software

The software solution for water data acquisition and analytics for continuous improvements in water network efficiency is easy to install and integrate with the utility systems in place. The software provides advanced functionalities for water consumption monitoring: meter reading, advanced dashboards, daily/weekly/monthly/yearly consumption profiles, advanced customized reports. It also includes water efficiency functionalities: specific efficiency performance indicators (KPIs), leaks and illegal connection locations; NRW analytics and event reporting, consumption forecasts, flow and pressure data.



SMART METERING AND BILLING

The solution package combines an array of coordinated smart meters and advanced sensors through communications up to data management and software services for metering, billing, customer engagement, and network optimization.

Residential water meters with communication

Multi-jet water meters

Available sizes are from DN15 (Q_3 2,5 m³/h) to DN50 (Q_3 25 m³/h) with $R \leq 200$ H, $R \leq 150$ V. The pulsed version can be equipped with an M-Bus or radio module (wM-Bus, LoRaWAN, NB-IoT). Meters are certified under MID 2014/32/EU, compliant with ISO 4064, and approved for use with potable water. Multi jet water meters are robust, long lasting and suitable for the most challenging environments.

Volumetric water meters

Ensures high metrological performance within a wide range of flow rates and accuracy at low flow rates. Available sizes: DN15 (Q_3 2,5 m³/h) to DN40 (Q_3 16 m³/h), $R \leq 800$ (DN15 to DN32) and $R \leq 500$ (DN40). Meters are MID 2014/32/EU certified, meet EU Standard ISO 4064 and are also approved for use with potable water. The register is hermetically sealed to IP68 and ensures continued readability. The meter supports various communication technologies (pulse output, M-Bus, wMBus, LoRaWAN, NB-IoT).

Ultrasonic water meters

Available sizes are from DN15 (Q_3 2,5 m³/h) to DN50 (Q_3 50 m³/h) all with R500. Wear-resistant, no mechanical moving parts, long-term operation with 10+ years of battery service life. Meters are certified under MID 2014/32/EU, compliant with ISO 4064, and approved for use with potable water. The built-in radio module supports both short-range and long-range technologies.

Bulk and zone meters with communication

Ultrasonic water meters

Ideally suited for bulk metering, commercial and industrial applications. Ultrasonic water meters are

available in sizes from DN50 (Q_3 25 m³/h) to DN200 (Q_3 400 m³/h), all with R500. Available with PN10/16 and different flange connections (ISO, BSI, ANSI). Meters are certified under MID 2014/32/EU, compliant with ISO 4064, and approved for use with potable water. Wear-resistant, with no mechanical moving parts, the meters guarantee long-term operation with 10+ years of battery service life. Meters are class IP68 and can be installed in any position. Meters support various communication technologies (pulse output, M-Bus, wM-Bus, LoRaWAN, NB-IoT).

Woltmann water meter

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Software

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PREPAYMENT SOLUTIONS

Iskraemeco Smart Prepayment solutions is designed for residential facilities to help them control prepaid water consumption units. Water consumption is calculated, and consumers are charged for water use in advance.

Solution functionalities: remote prepayment, automated meter reading, remote control, etc. The system consists of the following components: STS or Smart Card Prepayment Water Meters, IC Card, Vending System, and Software.

STS or Smart Card Prepayment Water Meters

Water meters provide consumers with the following information: loaded and remaining credit, amount of used water, tariff level and rate, and alarms (e.g. low battery).

IC Card

Smart Card Prepayment Water Meters have their own smart card which may only be operated on the assigned meter.

Software

All the data from devices are transferred to the software, where they are analyzed and displayed graphically. The feature set includes: remote meter reading; Walk-by/Drive-by readings, billing, customer portals and apps, analytics.



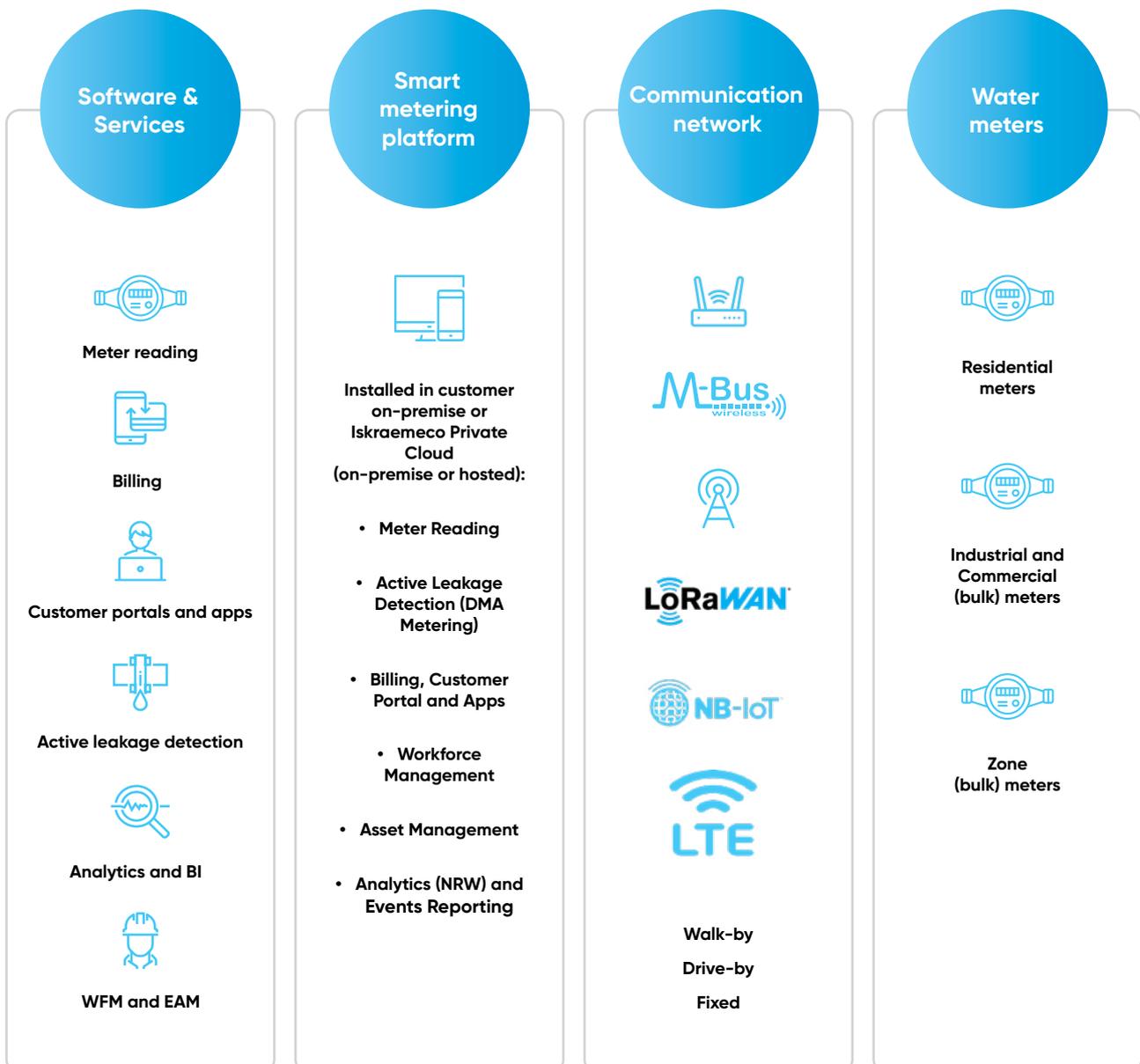
Solution architecture.

The solution package is composed of an array of coordinated smart meters, through communications up to data management and software services for metering, billing, customer engagement, and network optimization.

Iskraemeco provides an end-to-end solution from deliveries of sensors, rollout and solution operation in **3 models of managed services: SaaS, SMaaS and IaaS.**

As water utilities increasingly evolve into subscription-based business models, our Smart Water solution is a perfect tool to fit the trend. We excel at water solutions from Software-as-a-Service (SaaS) to more comprehensive service agreements of Smart Metering-as-a-Service (SMaaS) and Infrastructure-as-a-Service (IaaS).

Smart water meters with Low-Power Wide-Area (LPWA) technologies and advanced analytics have become the solution's key focus.



Project execution.

Planning and integration

- Audits
- Workshops
- Customized Solution Design
- Quality Assurance Plan

System installation

- Installation Planning
- Deliveries and Installations
- Workforce Management
- Cleanup

System operation

- Maintenance
- Private Cloud
- Customer Support 24/7
- Troubleshooting

Benefits.

+ ACCURATE METERING

in all water sources, end consumption points and DMA

- Deploying different types of measuring technology: ultrasonic, electromagnetic and mechanical (multi jet, single jet, positive displacement, Woltmann).
 - All meters are equipped with intelligent communication modules (wM-Bus, LoRaWAN, NB-IoT).
-

+ IMPROVED REVENUE

through NRW reduction

- Reduction of real losses: leakage detection.
 - Proactive monitoring and pinpoint of small leaks before significant damage is caused.
 - Reduction of apparent losses: detection of meter under-registrations, data-handling errors, theft of water.
-

+ CUSTOMER SATISFACTION

for enhanced customer experience

- Greater billing accuracy.
 - Portal and apps for utility customers
 - No supply interruptions.
-

+ OPERATIONAL EXCELLENCE

through mobile workforce and asset management

- Better maintenance and faster repairs via workforce management.
- Achievement of higher levels of operational efficiency and productivity for utility assets.
- Optimisation of daily maintenance.

A circular image showing a hand holding a small amount of water, with a single drop falling into a stream of water, creating ripples. The background is a blurred green landscape.

Sustainability.

Clean and affordable water is of the highest importance for the people. We need water to sustain our lives, for sanitation and hygiene, and for food production.

Water conservation and reduction of Non-Revenue Water (NRW) are the key concerns of water utilities across Europe and worldwide. The growth of residential static metering (ultrasonic) remains one of the most interesting technology stories to follow. Today, more than 80 percent of residential water meters are still mechanical. IoT communication has become the key focus of smart water meters. Low Power Wide Area Network (LPWAN) technologies are widely being explored for it.

Water utilities are increasingly adopting digital analytics platforms enabled by smart water meters and metering platforms. The data gathered are used to detect leaks, assess and predict consumption patterns in real-time, and optimize water resources.

Knowing and understanding technologies and market demands, we are designing our Smart Water Solutions to contribute to the sustainable financial and technical operation of water utilities.

Iskraemeco views sustainability as a philosophy that must be lived and embedded, not as a set of routines and guidelines to be followed as an afterthought.

It is high time for drastic measures and Iskraemeco holds itself, its supply chain, its partners, and the industry as a whole accountable for sweeping progress. The water issue is one of the areas where we can contribute to a better world.

Ensuring availability and sustainable management of water is also UN SDG (sustainable development goal) No. 6 and Iskraemeco is an active member of UNGC (United Nations Global Compact). With our Smart Water solutions, we aim to contribute to managing and sustaining water resources.

SMART WATER.

Every drop of water is precious for the planet and for the future life as we know it.



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