



## **PUBLIC NOTICE FOR EXPRESSION OF INTERESTS AND REQUEST FOR PROPOSALS**

1. Water and Sanitation Corporation Group Limited (WASAC Group Ltd) is the national utility provider for water and sanitation services in Rwanda. In alignment with its commitment to enhancing service delivery, WASAC Group, through its subsidiary, WASAC Utility Ltd, is looking to pilot both **prepaid smart water meters** for residential households, public tap and **postpaid smart water meters** for commercial, government and industrial buildings.
2. The pilot project will serve as a Proof of Concept (PoC) to evaluate the feasibility, effectiveness, and scalability of smart meter solutions for different water consumption needs. The goal is to identify reliable, efficient, and scalable solutions for smart water metering to improve both revenue generation and customer satisfaction.
3. This initiative is part of WASAC Utility's ongoing efforts to modernize water metering systems and enhance operational efficiency. The pilot will focus on testing smart water meters, with a particular emphasis on prepaid smart meters for residential use and postpaid smart meters for commercial and industrial buildings.
4. Also, in order to improve the efficiency and availability of domestic water meters for individual household connections, WASAC Group, through its subsidiary, WASAC Utility Ltd, is shifting from direct procurement to a private sector driven model. Under this new approach, licensed private suppliers will be authorized to import and sell domestic water meters directly to individuals in need of household connections. This initiative aims to reduce delays, increase access, and ensure quality compliance, while maintaining WASAC Utility's oversight in safeguarding service standards and preventing non-revenue water.
5. With this, WASAC Utility Ltd indicates the technical specifications for the required meters, and only suppliers whose meters meet these standards will be considered. Licensed importers shall be ranked based on their proposed selling price per unit of the domestic water meter, from the lowest to the highest. Preference shall be given to importers offering the lowest unit prices for meters that meet defined technical specifications and compliance standards in this RFPs.



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6. Proposals for domestic meters must be submitted in **sealed envelopes** clearly marked: "RPFs for Licensing of Suppliers for Domestic Water Meters - Reference No.: 11.07.053/~~697~~/ RFPs/PROC/24-25/CEO/rjp and delivered to the address below **no later than** ~~17.07~~/2025 at 09:30 AM Local time and will be opened in the presence of bidders or their representatives **no later than** ~~17.07~~/2025 at 10:00 AM Local time.
7. Expressions of Interests for smart meters must be submitted in **sealed envelopes** clearly marked: "EOI for Pilot Smart Water Meters - Reference No.: 11.07.053/~~697~~/ EOI/PROC/24-25/CEO/rjp and delivered to the address below **no later than** ~~18.07~~/2025 at 09:30 AM Local time and will be opened in the presence of bidders or their representative **no later than** ~~18.07~~/2025 at 10:00 AM Local time.
8. More **details** on requirements for the request for proposals and the expressions of interests are annexed to this and available at WASAC Group website: [www.wasac.rw](http://www.wasac.rw).
9. For further inquiries or clarifications, contact:
  - E-mail: [uprocurement@wasac.rw](mailto:uprocurement@wasac.rw) and [info@wasac.rw](mailto:info@wasac.rw)
  - Tel: +250 788 401 152

Done at Kigali on ~~12.06~~/2025

Sincerely;

**Gisele UMUHUMUZA**  
Managing Director





## REQUEST FOR EXPRESSION OF INTEREST (EOI) FOR PILOTING BOTH PREPAID SMART WATER METERS AND POSTPAID SMART WATER METERS

REFERENCE No.: 11.07.053/~~698~~/EOI/PROC/24-25/CEO/rjp

### 1. Introductory background

Water and Sanitation Corporation Group Limited (WASAC Group Ltd) is the national utility provider for water and sanitation services in Rwanda. In alignment with its commitment to enhancing service delivery, WASAC Group, through its subsidiary, WASAC Utility Ltd, is looking to pilot both **prepaid smart water meters** for residential households, public tap and **postpaid smart water meters** for commercial, government and industrial buildings.

WASAC Utility Ltd seeks to streamline its procurement process and engage vendors/suppliers through a transparent and fair opportunity. This pilot project will serve as a Proof of Concept (PoC) to evaluate the feasibility, effectiveness, and scalability of smart meter solutions for different water consumption needs. The goal is to identify reliable, efficient, and scalable solutions for smart water metering to improve both revenue generation and customer satisfaction.

This initiative is part of WASAC Utility's ongoing efforts to modernize water metering systems and enhance operational efficiency. The pilot will focus on testing smart water meters, with a particular emphasis on prepaid smart meters for residential use and postpaid smart meters for commercial and industrial buildings.

### 2. Objectives

The purpose of this EOI is to invite qualified suppliers/vendors to submit proposals for the **deployment of a smart water meter pilot project**. The pilot will focus on the following types of meters:



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### 2.1 Pre-paid Smart Water Meters for residential and public tap

The meters will be installed in residential homes and public tap to evaluate the feasibility of prepaid metering, focusing on ease of use, customer experience, and overall effectiveness in reducing revenue losses.

### 2.2 Post-paid Smart Water Meters for commercial, industrial and government buildings

This initiative will test the functionality, installation processes, integration capabilities, and performance of the proposed meters under different usage scenarios. The meters will be tested in commercial and industrial buildings to assess the potential for postpaid smart metering solutions, including their compatibility with existing billing systems and operational workflows.

### 3. Eligibility requirements

To participate in the pilot project, interested vendors/suppliers must meet the following requirements:

1. **Company profile** : To provide a brief overview of the company, including experience in deploying smart water meter solutions and any relevant certifications or credentials ;
2. **Product specifications**: Detailed technical specifications for both prepaid and/or postpaid smart water meters, including performance requirements, compatibility with existing infrastructure and other systems/software evaluated and approved by the competent authorities in Rwanda, and expected life cycle as indicated in annex to this EoI;
3. **Previous experience**: Evidence of previous projects involving the deployment of smart water meters, particularly in similar environments or markets, will be an added value



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#### 4. Compliance with standards and Regulatory Requirements:

- a. Type Approved Model with type approval report from OIML Certification System (OIML-CS) issued by a competent authority
5. Verification report from the Rwanda Standards Board (RSB) confirming that the meters meet the standards applicable in Rwanda
6. **Proof of financial capacity:** Financial statements or proof of financial capacity to undertake the pilot project and bear all related costs;
7. **Timeline and support:** A detailed implementation timeline, including delivery, installation, and testing phases, along with post-installation support and maintenance during the pilot phase.

#### 4. Submission requirements

- **Submission letter:** Expressing interest in the project and confirming the company's willingness to participate and bear all related costs during a period of **Six** months;

- **Detailed proposal:** Including all required documents as outlined under eligibility requirements, with clear details on the proposed solution, hosting details and implementation timelines,

- **Detailed solution pricing model:** Including all the solution component pricing model; such as the smart meter devices, connectivity, data management software and all related license subscriptions - Detailed address of potential proposed manufacturers of water meters (prepaid and or postpaid smart water meters) solution with the following:

- a) Address of company
- b) Type of meters
- c) Model type approved with type approval report from OIML Certification System (OIML-CS) issuing authority International standards' certification (ISO4064, ISO 9001, etc...)



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- **Sample meters:** Each supplier/vendor to provide **50 sample meters** accompanied model type approval certificates and type approval tests reports to be deployed during the pilot phase for each type (prepaid and postpaid) for inspection, calibration and verification.

## 5. Evaluation criteria

The selection of suppliers for the pilot will be based on the following criteria:

- **Technical quality of the proposed smart meter solution:** The quality and innovation of the proposed meter solutions where quality, mechanical, metrological, network connectivity requirements and software requirements approved by the competent authorities in Rwanda;
- **Experience :** each interested supplier to provide a proven track record in the smart metering industry, especially in prepaid and postpaid solutions. This will be an added value
- **Cost-effectiveness and value for money :** While this is a pilot, pricing models will be evaluated for cost transparency and further feasibility.
- **Local footprint:** to provide ongoing technical support with local presence during the pilot.

**Implementation support and local footprint:** to provide technical training and knowledge sharing to WASAC technical staff to ensure technology capacity building and continuous local support during the pilot period

- **Demonstrated understanding** of local regulatory requirements and compliance with applicable standards.

## 6. Submission details

1. Expressions of Interests must be submitted in **sealed envelopes** clearly marked: **"EOI for Pilot Smart Water Meters – Reference No.: 11.07.053/698/EOI/PROC/24-25/CEO/rjp** and delivered to the address below **no later than 18/07/2025 at 09:30 AM Local time** and will be opened in the presence of bidders or their representatives **no later than 18/07/2025 at 10:00 AM Local time**



**Address for submission:**

Purchase and Supply Chain Office

WASAC Utility Ltd

KN 4 Avenue 8, 1st Floor, Centenary House, Nyarugenge District, Kigali City

Online submission is not allowed

Late submissions will not be considered.

**7. Additional notes**

- Only shortlisted suppliers will be notified for the pilot implementation.
- WASAC reserves the right to verify the authenticity of all information provided;
- Suppliers are allowed to participate in piloting of prepaid smart water meters or postpaid smart water or on both;
- WASAC Utility Ltd will determine where the sample meters will be installed.
- Suppliers are allowed to raise any related operational concern to be attended by WASAC Group to ensure a successful pilot

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### Proposed technical specifications for the Smart Water Meters for Pilot

Solution components	Specifications	Pieces
<b>Prepaid Smart meter + data management system (MDMS)</b>	<ul style="list-style-type: none"> <li>-Type: Multi-jet or single-jet, vane wheel</li> <li>- Nominal Diameter (DN):15mm and 20mm</li> <li>- Q3 (Nominal flow): 1,6 m3/h-10m3/h (based on DN)</li> <li>- R Ratio (Q3/Q1):160</li> <li>- Minimum flow (Q1) – As per ISO4064 series standard</li> <li>- Accuracy: ISO 4064</li> <li>- Maximum permissible error: ±2% at <math>Q2 \leq \text{flow} \leq Q4</math> ±5% at <math>Q1 \leq \text{flow} &lt; Q2</math></li> <li>- Working pressure: <math>\leq 1.6</math> MPa</li> <li>- Water temperature: 0.1°C – 50°C (cold water meter)</li> <li>- Pressure Loss: <math>\leq 0.063</math> MPa</li> <li>-Measuring principle: Volumetric (mechanical)</li> <li>- Application: residential</li> <li>-Prepaid protocol: STS (standard transfer specification-IEC 62055-41/51)</li> <li>- Token input method: Keypad (typically 20-digit STS token or remote charging (optional)</li> <li>- Meter status feedback: LCD display or LED indicators (8 digits)</li> <li>- Displays: Remaining credit, total consumption, error codes/alarms, token entry status, valve status, battery status</li> <li>- Anti-tamper: Magnetic field detection, cover open detection, reverse flow detection, no flow detection</li> <li>- Connectivity type: GPRS (2G, 3G ,4G cellular network</li> <li>- Alternative connectivity: LoRaWAN, NB-IoT</li> <li>- Data encryption: AES-128 or higher</li> <li>- Battery type: Lithium battery (replaceable)</li> <li>- Battery life: 10 years minimum</li> <li>- Low power consumption – Sleep mode capability</li> <li>- Optional: external power or solar</li> <li>- Body material: Brass, brass-composite or stainless steel</li> <li>- Ingress protection: IP68(suitable for submerged environments)</li> <li>- Installation position: Horizontal or vertical</li> <li>- Integrated valve: Motorized shut-off valve</li> <li>-Functions: Auto shutoff on zero credit, remote shutoff/open, leak detection shutoff</li> <li>- Web-based meter data management system (MDMS)</li> <li>- Real-time dashboard for consumption monitoring</li> </ul>	50

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	<ul style="list-style-type: none"><li>- Real time alerts access on the dashboard</li><li>- APIs for integration with ERP or billing system</li><li>- Over the air updates</li><li>- Certifications and compliance: ISO 4064, OIML R49 series, IEC 62055, CE, MID (if applicable), STS certification, EMC and R&amp;TTE for wireless communication</li></ul>	
<b>Postpaid AMR Smart meter + data management system (MDMS)</b>	<ul style="list-style-type: none"><li>-Type: Multi-jet or single-jet dry dial</li><li>- Nominal Diameter (DN):15mm and 20mm</li><li>- Q3 (Nominal flow): 1,6 m3/h-10m3/h (based on DN)</li><li>- R Ratio (Q3/Q1):160</li><li>- Minimum flow (Q1) – As per ISO4064-1 standard</li><li>- Accuracy: ISO 4064</li><li>- Maximum permissible error: <math>\pm 2\%</math> at <math>Q2 \leq \text{flow} \leq Q4</math> <math>\pm 5\%</math> at <math>Q1 \leq \text{flow} &lt; Q2</math></li><li>- Working pressure: <math>\leq 1.6</math> MPa</li><li>- Water temperature: <math>0.1^{\circ}\text{C} - 50^{\circ}\text{C}</math> (cold water meter)</li><li>- Pressure Loss: <math>\leq 0.063</math> MPa</li><li>-Measuring principle: Velocity-type multi-jet</li><li>- Application: public and commercial</li><li>- Billing protocol: Postpaid water consumption measurement</li><li>- Meter status feedback: LCD or LED indicators (8 digits)</li><li>- Displays: consumption data</li><li>- Anti-tamper: Magnetic field detection, cover open detection, reverse flow detection, no flow detection</li><li>- Connectivity type: GPRS (2G, 3G ,4G cellular network</li><li>- Alternative connectivity: LoRaWAN, NB-IoT</li><li>- Data logging: up to 12 months or more</li><li>- Data encryption: AES-128 or higher</li><li>- Battery type: Lithium battery (replaceable)</li><li>- Battery life: 10 years' minimum</li><li>- Low power consumption – Sleep mode capability</li><li>- Optional: external power or solar</li><li>- Body material: Brass, composite or stainless steel</li><li>- Ingress protection: IP68(suitable for submerged environments)</li><li>- Installation position: Horizontal or vertical</li><li>- Integrated valve: Motorized shut-off valve</li><li>-Functions: remote shutoff/open, leak detection shutoff</li><li>- Web-based meter data management system (MDMS)</li><li>- Real-time dashboard for consumption monitoring</li><li>- Real time alerts access on the dashboard</li><li>- APIs for integration with ERP or billing system</li><li>- Over the air updates</li></ul>	<b>50</b>



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	<ul style="list-style-type: none"> <li>- Certifications and compliance: ISO 4064, OIML R49, IEC 62055, CE, MID (if applicable), STS certification, EMC and R&amp;TTE for wireless communication</li> </ul>	
<b>Meter interface Unit – Postpaid</b>	<ul style="list-style-type: none"> <li>-GPRS or LoRa communication</li> <li>-Lithium battery with minimum 10 years lifespan</li> <li>- Lower power consumption – sleep mode capability</li> <li>- Meter compatibility: encoder water meters</li> <li>- Waterproof casing -IP68 protection</li> <li>-Above-ground or underground pit mounting</li> <li>- Residential, public or commercial application</li> <li>-Real time data transmission (e.g.: hourly, dairy)</li> <li>-Remote monitoring</li> <li>- Leakage and anomaly detection</li> <li>- Over the air updates</li> <li>- Compatibility with existing Wasac water meters</li> </ul>	<b>50</b>
<b>Prepaid Smart meter for Public tap + Data management system</b>	<ul style="list-style-type: none"> <li>- Type: Prepaid Smart water meter for public/communal tap</li> <li>- Meter size : DN15 or DN 20 ( Where applicable)</li> <li>- Installation orientation :Horizontal/Vertical</li> <li>- Accuracy class : ISO 4064 Class B or C</li> <li>- Metering principle : Volumetric ( multi-jet)</li> <li>- Water temperature : 0.1°C – 50°C</li> <li>- Working pressure: &lt;=1.6 MPa</li> <li>- Ingress protection: IP68(suitable for submerged environments)</li> <li>- Prepayment mode : Token based , smart card , NFC , QR code or mobile app (via GSM or alternative LORA/NB-IoT)</li> <li>- Vending system : Compatible with STS</li> <li>- Display ; LCD display ( displays balance , volume used , error codes )</li> <li>- Remote top up capability</li> <li>- Alarm notifications : low credit , tamper , leakage , and fault alerts</li> <li>- Power source : internal lithium or solar + battery backup</li> <li>- Battery life : 8-10 years ( depending on usage and communication frequency</li> <li>- Power consumption : ultra-low power design ( sleep mode supported)</li> <li>- Body material: Brass, composite or stainless steel</li> <li>- - Ingress protection: IP68(suitable for submerged environments)</li> <li>- - Installation position: Horizontal or vertical</li> <li>- - Integrated valve: Motorized shut-off valve</li> </ul>	<b>5</b>

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	<ul style="list-style-type: none"> <li>- Functions: remote shutoff/open, leak detection shutoff</li> <li>- Web-based meter data management system (MDMS)</li> <li>- Real-time dashboard for consumption monitoring</li> <li>- Real time alerts access on the dashboard</li> <li>- APIs for integration with ERP or billing system</li> <li>- Over the air updates</li> <li>- Certifications and compliance: ISO 4064, OIML R49, IEC 62055, CE, MID (if applicable), STS certification, EMC and R&amp;TTE for wireless communication</li> </ul>	
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### Scope of work

The supplier will be responsible for the following:

- **Supply of equipment**
  - Multi-jet or single-jet type STS prepaid water meters (DN15, DN20, as applicable)
  - Multi-jet or single-jet type postpaid AMR Smart water meter (DN15, DN20, as applicable)
  - Prepaid smart meter for public tap and accessories
  - Customer Interface Units (CIU) or user token interface devices
  - Control valves (electronic shut-off)
  - Meter boxes/covers
  - Ancillary fittings and connectors (accessories)
- **Installation and commissioning**
  - Site assessment and preparation
  - Installation of meters and accessories
  - System configuration and integration with internal billing/tariff structure
  - Undertaking calibration /configurations to ensure provision of accurate measurement
  - Testing and commissioning
- **Software and connectivity**
  - Provision of central data management software (web-based and mobile-accessible)
  - Data management should be interoperable with all industry certified smart meters, should be scalable, should be able to be hosted locally in Rwanda, and on-air updates should be achievable
  - Data management system should be able to accommodate the current WASAC tariff scheme (accessible on WASAC Group website)
  - GPRS/alternative network connectivity setup for real-time communication
  - Integration with billing system, and payment gateway (mobile money, bank, etc.)



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- User interface for consumers and administrators' access
- APIs should be available for further integrations with existing internal systems

### Training

- Training of technical staff for installation, operation, and maintenance
- Training for customer service representatives

### After-sales support

- Six months' warranty during pilot period
- Preventive and corrective maintenance support
- Spare parts availability
- **Disclaimer:**

The provided solution specifications are considered to be the baseline to guide the technical proposal, however the interested suppliers are allowed to propose the solution with more innovative and advanced specification parameters.

### Business & operational metrics for successful pilot

- Revenue impact: Measurement of increase in revenue through improved billing accuracy and reduced water losses.
- Billing accuracy rate: The percentage of accurate billing generated based on the data from smart meters.
- Dispute rate: The number of billing disputes compared to the total number of customers.
- Revenue collection efficiency: The rate at which billed customers pay their water bills.
- Customer engagement and satisfaction: customer satisfaction, and reduction in billing complaints.
- Customer usage alerts: The number of customers receiving usage notifications, such as alerts for high consumption or leaks.
- Customer satisfaction score: Feedback on service quality, ease of use, and communication.
- Operational efficiency: Reduction in manual meter reading costs, improved response time for issue resolution, and enhanced data accuracy.
- Automation efficiency: The level of automation achieved in terms of data collection, billing, and customer service.
- Field service efficiency: The efficiency of field crews in responding to issues like meter malfunctions, or installation.

Note that a monitoring and evaluation framework will be designed to assess if the proposed meters will meet the above business & operational metrics for successful piloting phase.