ELECTRONET EQUIPMENTS PVT LTD


SMART WATER METERING
MEASURE WATER FLOW | SENSE WATER QUALITY | PRE-PAID WATER METERING
FOR SMART CITIES

SMART CITY REQUIREMENTS

WHAT ELECTRONET IS OFFERING ?

SMART WATER METERING OBJECTIVES

1. Reduce non revenue water
2. Effective water and waste water management
3. Customer awareness on conservation of water
4. To know the water leakages
5. Uniform supply at times of scarcity
6. Efficient billing
7. Improve efficiency of equipment's
8. Reduce maintenance cost

SMART WATER METERING FEATURES

Accurate billing with detection and prevention of theft

Remote cut off water supply, in case a consumer exceeds the overdue limit

An integrated system of smart meters, communications networks, and data management system

Include Mobile App, Communication Networks, Energy Management Systems

Two-way communication between utilities and customers

Reduction and saving in overall water consumption

Enable smart functions in Residential and Commercial facilities

Real time monitoring

ITS TIME TO CHANGE

Electricity Meters changed from Mechanical to Electric

Taxi Fare Meters changed from Mechanical to Electronic

Why Not Water Meters ??

DRAWBACKS OF MECHANICAL WATER METERS

1. Moving Parts so regular maintenance required
2. Lesser Accuracy : 5% to 10 % of measured value
3. Limited life of 2 to 3 years Maximum
4. Not good for Low Flow Rates
5. Meter with obstruction so more chance of chocking

BENIFITS OF ELECTRONIC WATER METERS

1. No Moving Parts so low maintenance
2. Better Accuracy : Class 2 of OIML R49-2
3. Expected life of 10 years Maximum
4. Good for Low Flow Rates and Reverse Flow Monitoring
5. Better connectivity to digital networks for control

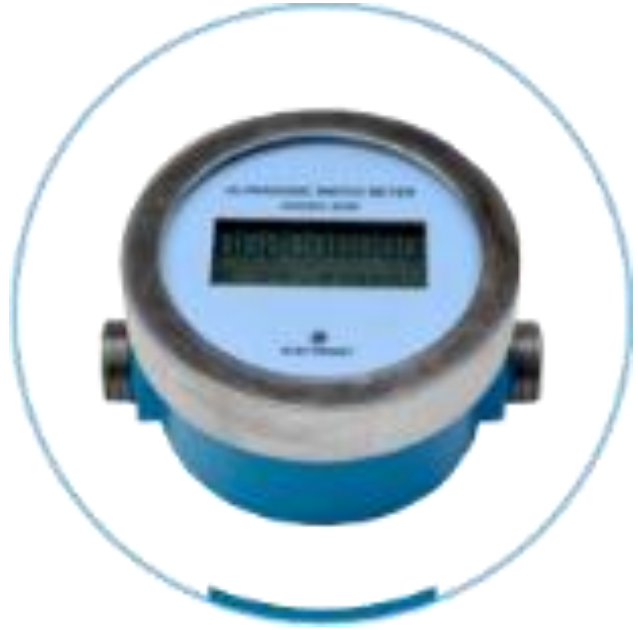
SMART WATER METER MODELS

ULTRASONIC WATER METER

ASIONIC 400S

DIGITAL WATER METER

ASIONIC 400SW



ULTRASONIC WATER METER

ASIONIC 400W

SMART WATER METERS : TECHNICAL DETAILS

Minimum Flow Rate

0.01 LPM (0 to 60 LPH)

0.1 LPM (6 LPH)

Accuracy Class

For Temp : 30 to 90 ° C

Q1 to Q2 = 6 %
Q3 to Q4 = +/- 3.5 %

Accuracy Class

For Temp : 0.1 to 30 ° C

Q1 to Q2 = 6 %
Q3 to Q4 = +/- 2.5 %

Environmental Classification

CLASS B – FOR BUILDINGS

CLASS C – FOR OUTDOORS

IP Protection

IP 65, 66, 67, 68

Temperature Class

T90

Flow Tube

SS 304, 316
MS
Plastic

Housing

Plastic,
Aluminium Die Cast

ON DISPLAY FEATURES

- Reverse Flow Indication
- Tamper Indication
- Burst Indication
- Reverse Number Indication
- Overflow Totalizer Bit saved in settings
- Battery Status Indication
- Reverse Totalizer Saving
- Leak Indication
- Totalizer Units Available in Gal, Cubic Feet, Liter, Meter Cube etc.
- RF / GSM Indication

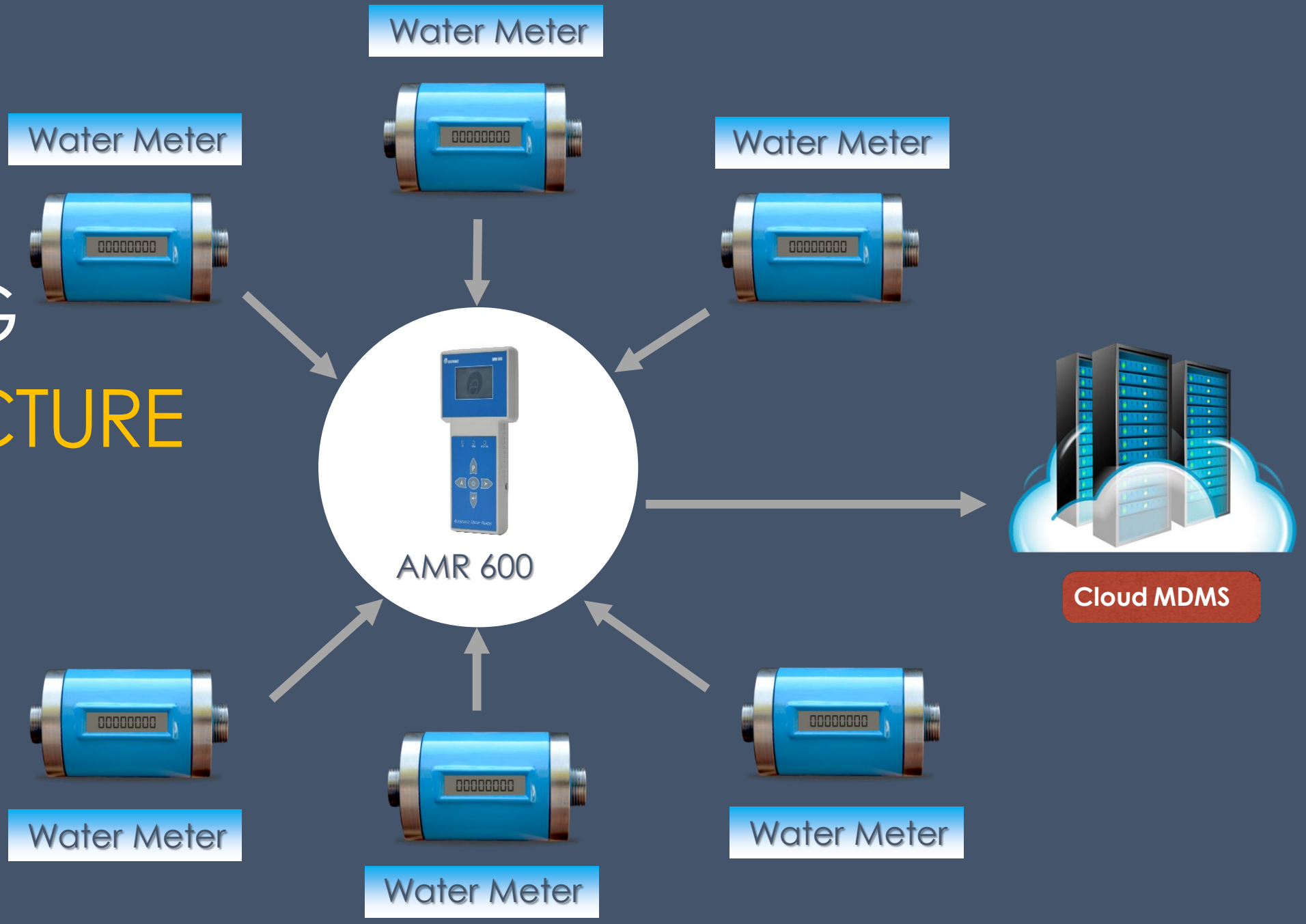
Water Meters – Comparison Chart

SR. NO.	Model / Features	ASIONIC 400S	ASIONIC 400SW
1	Type of flow meter	Ultrasonic Flow Meter	Ultrasonic Flow Meter
2	Line Size	15 to 40 NB	15 to 40 NB
3	Power Supply	Battery Powered	Battery Powered
4	Battery Life	10 Years	10 Years
5	Media	Water	Water
6	Min. Conductivity	No Constraint	No Constraint
7	Display	Segmented LCD display	Segmented LCD display (Display Toggle after every 3 seconds)
8	Accuracy	Class 2 of OIML R49-2	Class 2 of OIML R49-2
9	Process Temperature	0.1 to 90^0 C	0.1 to 90^0 C
10	Process Pressure	10 Bars Max	10 Bars Max
11	Auto Shut-Off Valve	NA	Yes
12	**Communication**	1) RF - 100 Mtrs. 2) RF - 2.5 Kmtrs 3) GSM	1) RF - 100 Mtrs. 2) RF - 2.5 Kmtrs. 3) GSM

Water Meters – Metrological characteristics

Nominal Diameter (DN)		mm	15	20	25	40
Minimal Flow Rate	Q1	L/H	19.88	35.31	55.20	142
Transition Flowrate	Q2	L/H	31.80	56.5	88.33	227
Permanent Flow rate	Q3	m3/H	3.18	5.65	8.83	23
Overload Flowrate	Q4	m3/H	3.81	6.78	10.6	27
Dynamic	Q3/Q1		100	100	100	100
Standard Ratio	Q3/Q1		100	100	100	100
Q2/Q1		L/H	1.6	1.6	1.6	1.6
Accuracy Class			2	2	2	2
Temperature Class	C		T50	T50	T50	T50
Max working Pressure	Bar		0.3 TO 10	0.3 TO 10	0.3-10	0.3 to 10

SMART WATER METERING ARCHITECTURE



AUTOMATIC METER READER
AMR : 600 FEATURES

★★★★★

Offers Walk by & Drive by automated reading solution for efficient data collection

★★★★★

Eliminates the errors which are present in manual meter reading system

★★★★★

Integrated RF transmitter with water meters makes it more reliable and cost effective

★★★★★

Eliminates the need for physical access or visual inspection of water meters

AUTOMATIC METER READER
AMR : 600
TECHNICAL SPECIFICATIONS

★★★★★

Display : LCD

★★★★★

RF frequency Band:
865 MHz – 867 MHz

★★★★★

Data Output :
CSV file over USB

★★★★★

Handheld memory Size
: 16 MB Flash
(1,00,000 Records),
Expandable (Optional)

VALVE ON-OFF OPERATION THROUGH AMR 600

1

Auto Shut-Off Valve operation possible with AMR, Mobile APP, RF & Gateway

2

Valve operated on 3 V DC

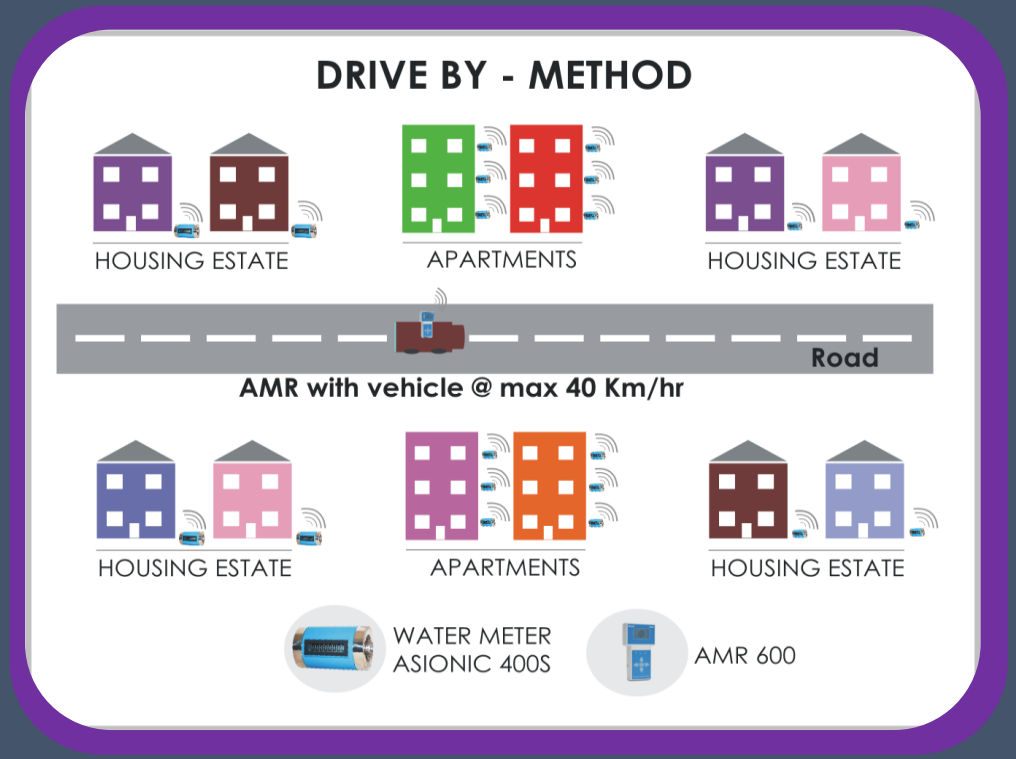
3

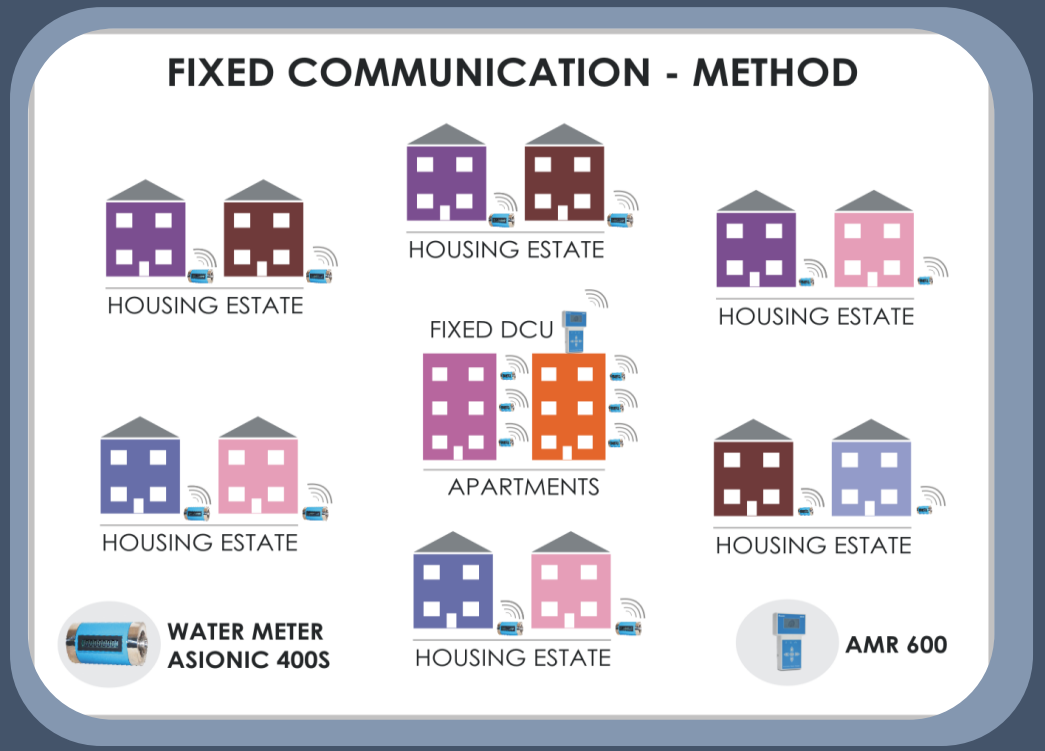
Valve ON-OFF Operation Possible within 2.5 KM With clear LOS (500 Mtr To 800 Mtr)

4

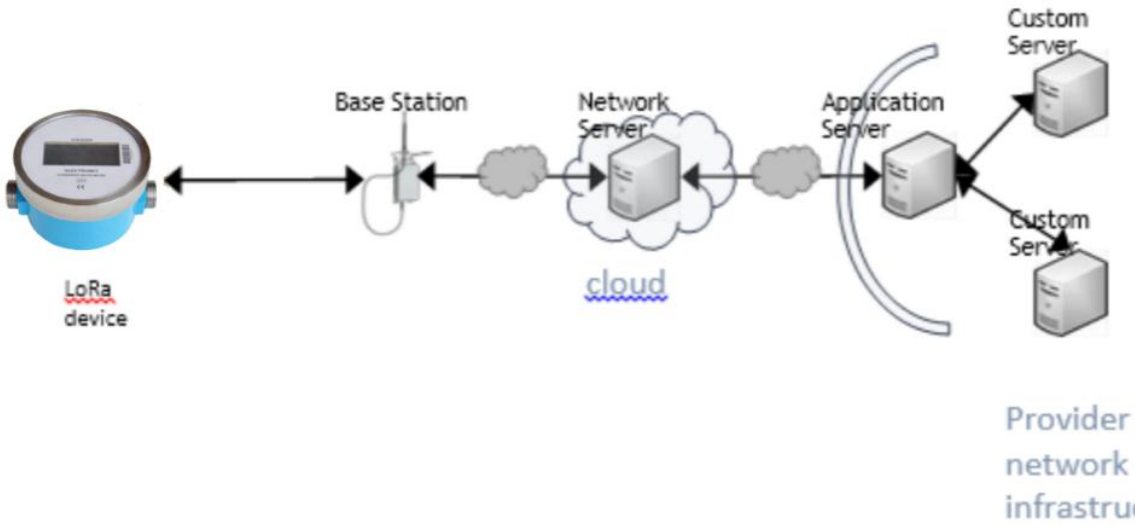
Batch operation can be possible with the help of AMR 600

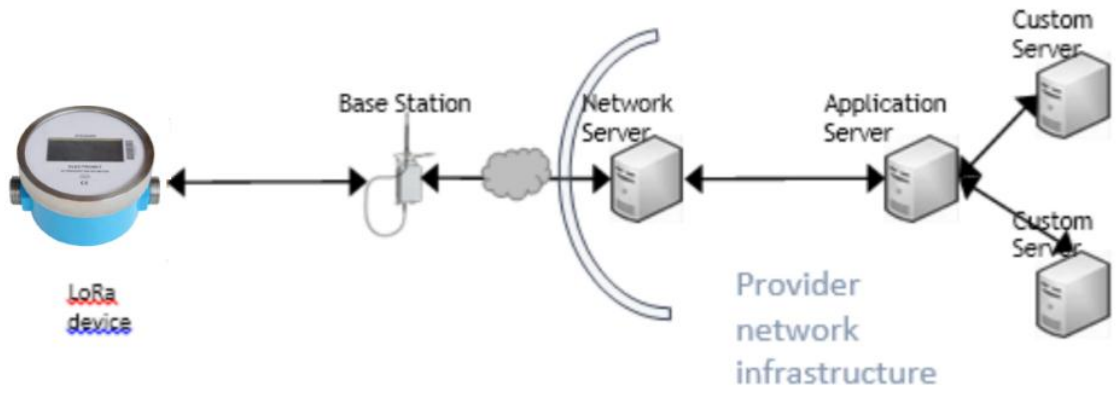
DATA COLLECTION METHODS



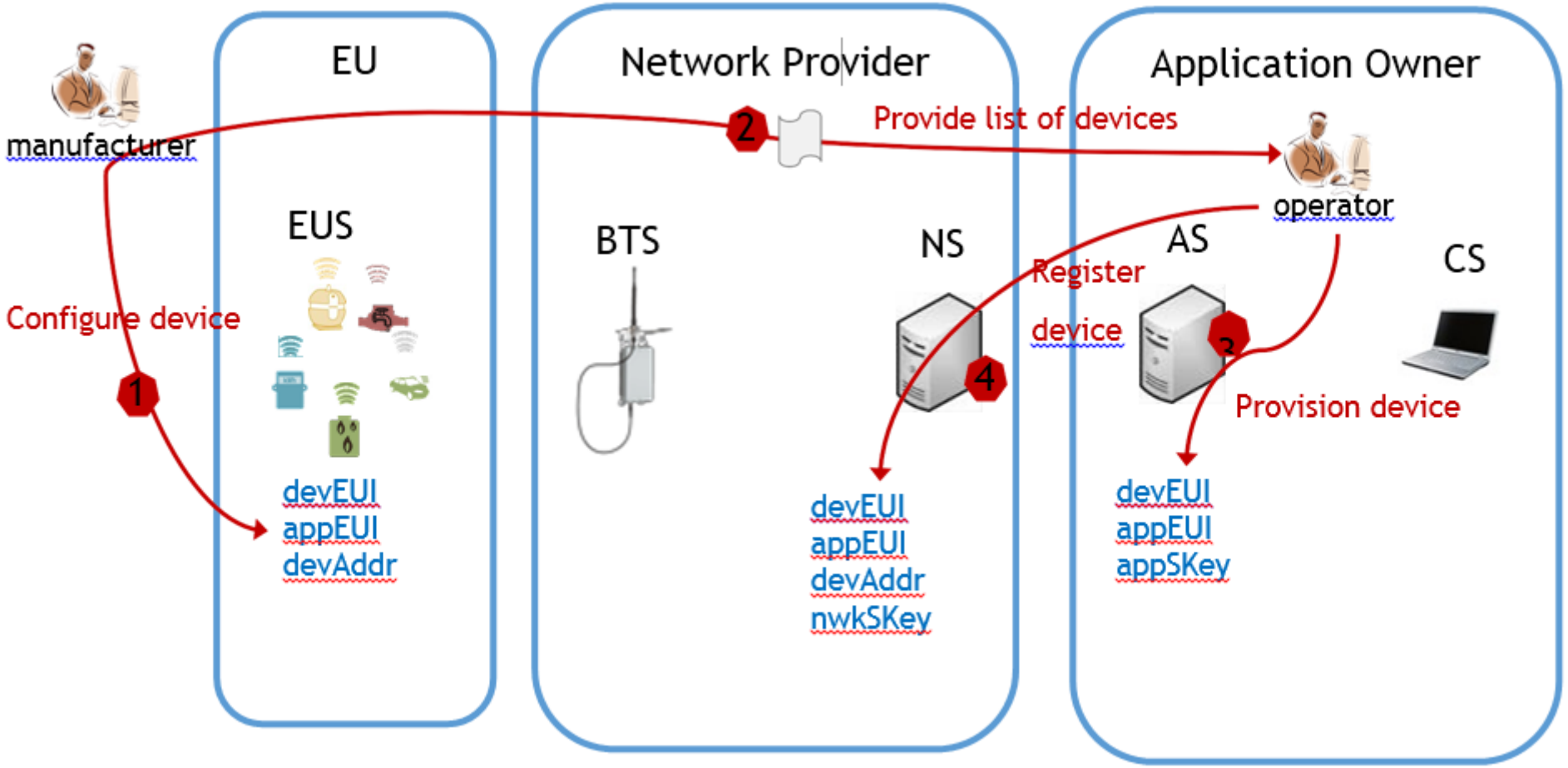


LoRa Network





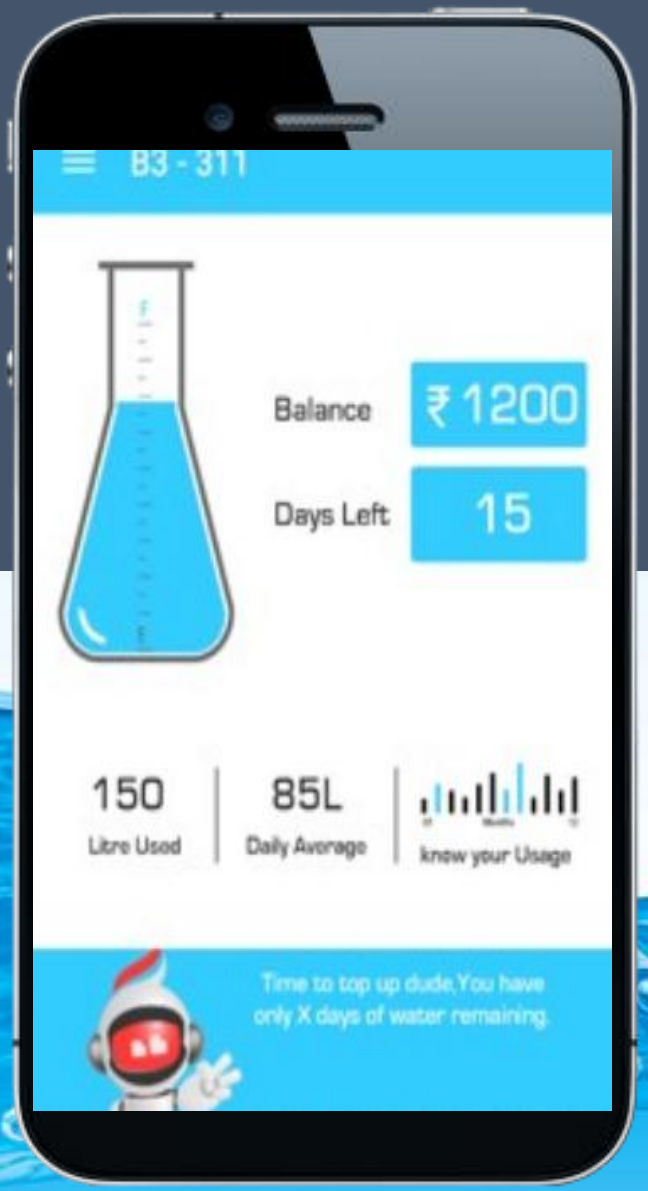
Registration of personalized EU



HOW CAN I MONITOR MY **WATER USAGE ?**

There are two ways to monitor the water usage

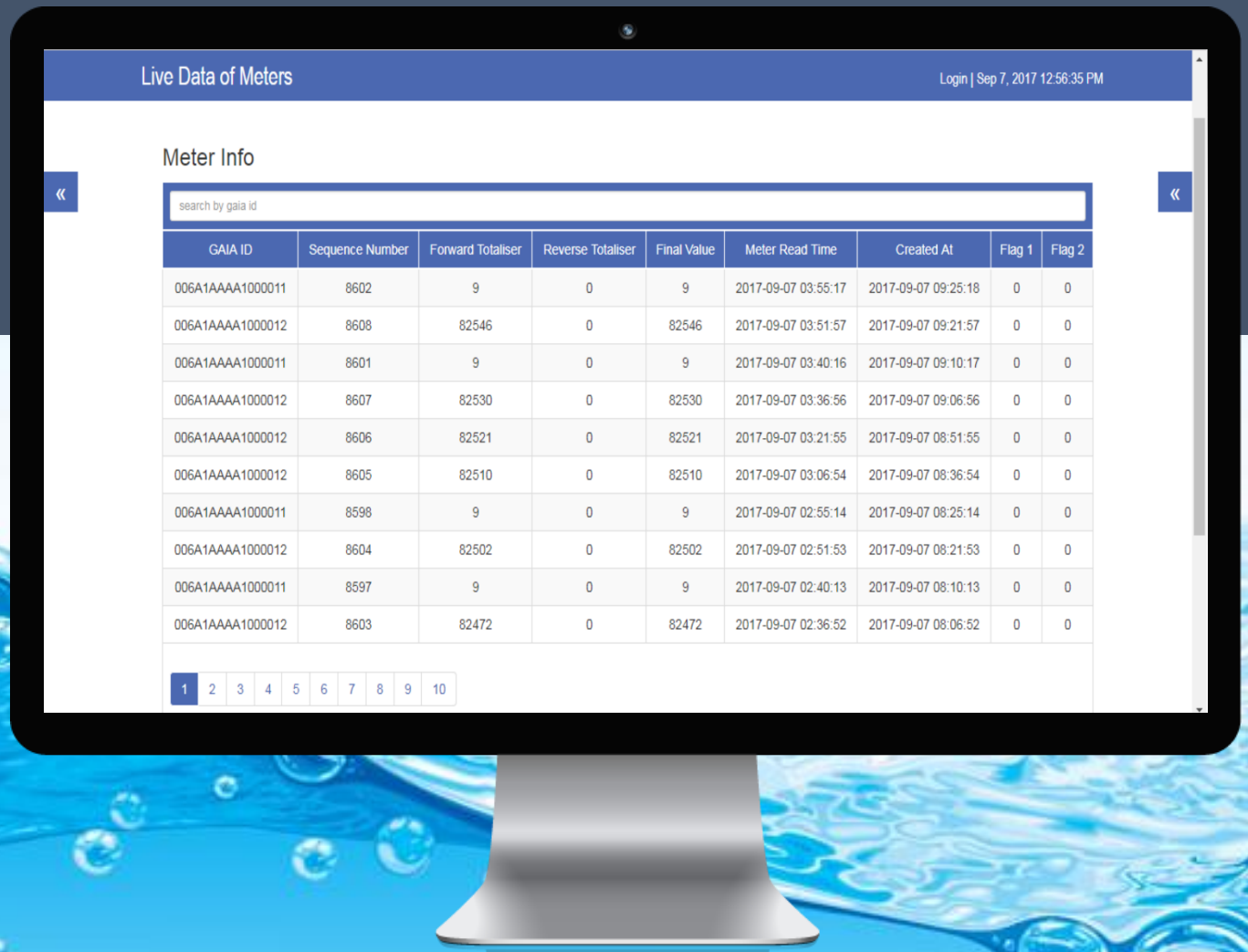
MOBILE APPLICATION



Availablele on the phone
App Store 1

This app on
App Store 2

WEB APPLICATION



METER DATA MANAGEMENT SYSTEM (MDMS)

CLOUD SECURITY

1. SECURE CHANNEL FOR DATA TRANSFER
2. TWO LAYER FIREWAL SYSTEM
3. VLAN CONNECTION POSSIBLE
4. INTERNAL COMMUNICATIONS ON TLS 1.2
5. ALL PORTS ARE CLOSED

METER DATA MANAGEMENT SYSTEM (MDMS)

STORAGE DURABILITY

1. DATA STORAGE ON ESSENTIAL BUSINESS SERVER
2. DAILY DATA BACKUP SYSTEM
3. SOLID STATE DRIVE STORAGE
4. DISK LEVEL ENCRYPTION HIGH SECURITY
5. 24X7 MONITORING BY DEDICATED TEAM

BILLINGS AND PAYMENTS

Customer will be able to monitor and pay his/her water consumption bill through **Mobile** or **Web** Portal easily

1

Credit Card / Debit Card / Internet banking facility for bill payments

2

E-receipt for the payment made through **SMS** and an **E-mail**

3

Highly secured payment gateway

4

Historical billing and consumption pattern for a period of 3/6/12 months

STANDARDS WE FOLLOW

Technical FAQ'S

WATER METERS

1. How to close valve from remote?

Ans: 1) Valve can be operated by AMR 600
2) Valve can be operated by Batch Output of water meter

2. How can I do maintenance?

Ans: No servicing required. After 10 years you need to either replace batteries or meter

3. What is the failure rate?

Ans: Failure rate is 0.01%

4. How flow rate can be measured?

Ans: Flow rate is calculated using obtained velocity and line size

5. Can I change the Flow Rate?

Ans: Flow Rate can be changed through software only

6. What is the periodic interval at which it measure the flow rate?

Ans: Typically 250 ms

7. What are the pipe sizes available?

Ans: 15 , 20 ,25 ,32 and 40 NB (Nominal Bore)

8. What other fittings required for installation?

Ans: Process end connections supplied along with the meters

9. How flow rate is transmitted to server?

Ans: No need to turn on just set the RF time interval it will send data to hub according to the interval set

10. What is the Range of signal transmission ?

Ans: 500 – 1km (within buildings), 2.5km and more (with clear line of sight), 40km and more (with the help of local network)

11. What happens when the meter stops sending the signal?

Ans: Meter never stops the sending the signal

12. How easy is meter troubleshooting?

Ans: If any error occurs instrument has ability to reconfigure itself automatically , so no need of user troubleshooting.

Technical FAQ'S
AMR 600

1. Which software is used?

Ans: Alpha water meter

2. How data is transmitted from HUB to CLOUD SERVER?

Ans: 1)AMR as hub receives data from water meters. Using USB cable Data from AMR can be uploaded on server serially

2) Gateway as Hub receives data from water meters. It sends data directly to server. Data can be viewed on server using website or mobile app.

3. How does the hub keep track of data coming from various water meters?

Ans: Using the serial numbers (meter ID set by manufacturer for every water meter)

4. How easy is it to troubleshoot?

Ans: If AMR is unable to receive data just check for Ranges and Obstacles

5. How many water meters I can connect to HUB?

Ans: 4000 Water Meters

Measure Water

Save Water

Save Life

THANKS FOR WATCHING

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