



Smart Power Company
(is the main dealer in Kurdistan and Iraq)

BAYLAN

ENERGY METERS

**Remote Reading And
Prepaid Energy Meters**





Smart Power Company

(is the Exclusive agent in Kurdistan and Iraq of)

BAYLAN

Governorates of Iraq

- **Baghdad**
- **Basra**
- **Najaf**
- **Karbale**
- **Faluja**
- **Diwaniya**
- **Anbar**
- **Mosul**
- **Dyala**
- **Erbil**
- **Sulaymaniyah**
- **Duhok**
- **Karkuk**
- **Halabja**
- **Kalar**
- **Xanaqin**



- *BAYLAN started its operations in 1955 with the repair, maintenance and calibration of water and electricity meters and added its designer identity to more than half a century of experience and technological advantages.*
- *Baylan has been the pioneer of Turkish brands in metering industry.*



- *With its qualified and expert staff, it has brought innovations to the counter sector and has always provided pioneering service and technology.*
- *Today, Baylan brand is used safely in thousands of projects in more than 60 Countries.*



- *60+ design engineers (Computer, Electronics & Mechanical)*
- *5+ new patent applications since 2016, about new measurement technics alternative to ultrasonic integrated circuits.*



- *7 active R&D projects registered and supported by TÜBİTAK (Turkish National Scientific Research Organization)*
- *Baylan R&D department is accredited & registered by Ministry of Industry as a «Qualified R&D Center» since September 2016.*



- *All meters have a European Type Approval and CE Certificate. Day by day, Baylan is aiming to present service to its customers with new and modern products by investing a serious amount of budget to its R&D operations and adds new products that suitable for modern technology to its product portfolio.*



- *With different types of optional communication methods, owning a large load profile, mono phase or three-phase, single or double directional active electronic electric meters are being produced.*

BAYLAN SMART
METERING
TECHNOLOGIES

LoRa

PLC

RS485

GPRS

STS

Prepaid

Optical Port

BAYLAN SMART METERING TECHNOLOGIES



BAYLAN SMART METERING TECHNOLOGIES



LoRa Remote Reading and Prepaid Electricity Meters



GPRS Remote Reading Electronic Water Meters



Three Phase Active Reactive Electronic Electricity Meters



NB-IoT

NB-IoT Remote Reading and Prepaid Water Meters



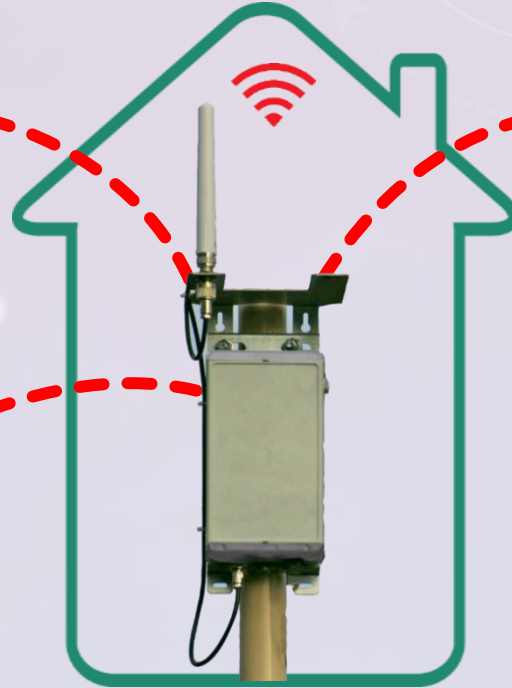
STS and Prepaid Electricity Meters



LoRa Remote Reading



LoRa™

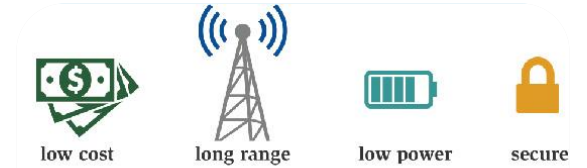


Gateway



Administration

	Local Area Network Short Range Communication	Low Power Wide Area (LPWAN) Internet of Things	Cellular Network Traditional M2M
	40%	45%	15%
	Well established standards In building	Low power consumption Low cost Positioning	Existing coverage High data rate
	Battery Live Provisioning Network cost & dependencies	Low data rate	Autonomy Total cost of ownership
	Bluetooth 4.0, ZigBee, WiFi	LoRa	GSM, 3G, H+, 4G



	LoRaWAN	Wireless MBus
Center Frequency	868 MHz	868 MHz
Data Rate	0.3-10 Kbps	100 Kbps
Modulation	LoRa	FSK
Protocol	LoRaWAN	wM-Bus
Range	3000 m	600 m
Communication	Bidirectional	Bidirectional
Bandwidth	125 kHz	100 kHz
Transmit Power	14 dBm	14 dBm
Gateway Capacity	+3000	250

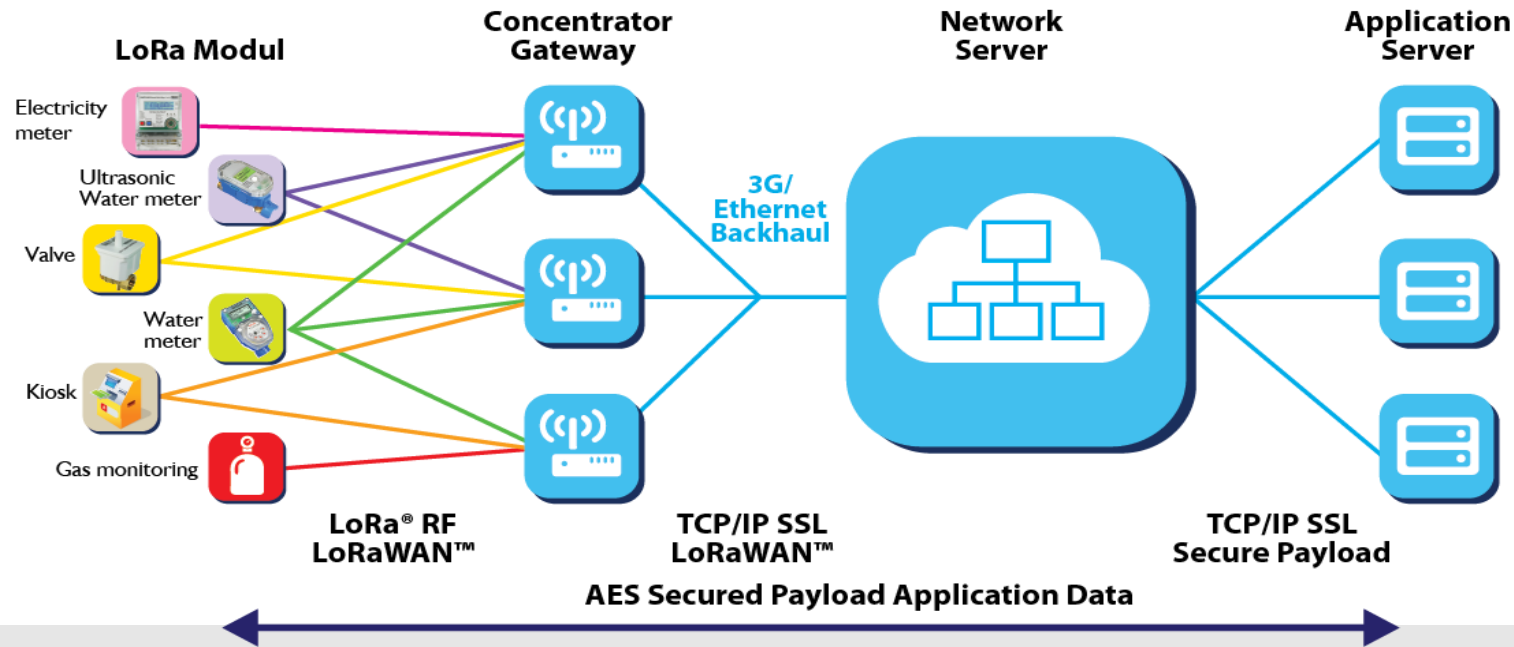
Gateway Capacity	+3000	250
Transmit Power	14 dBm	14 dBm
Bandwidth	125 kHz	100 kHz
Communication	Bidirectional	Bidirectional

➤ The Internet of things is the internet working of physical devices, vehicles (also referred to as "connected devices" and "smart devices"), buildings, and other items embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data.

➤ LoRa is a modulation technique that provides significantly Long Range than competing technologies. LoRa is a popular Internet of Things (IoT) technology.

➤ System includes LoRa based meters, LoRa Gateways and Central Service System via Internet. LoRa Gateways collect LoRa modulated meter data and send them to the Central Service System via Internet.

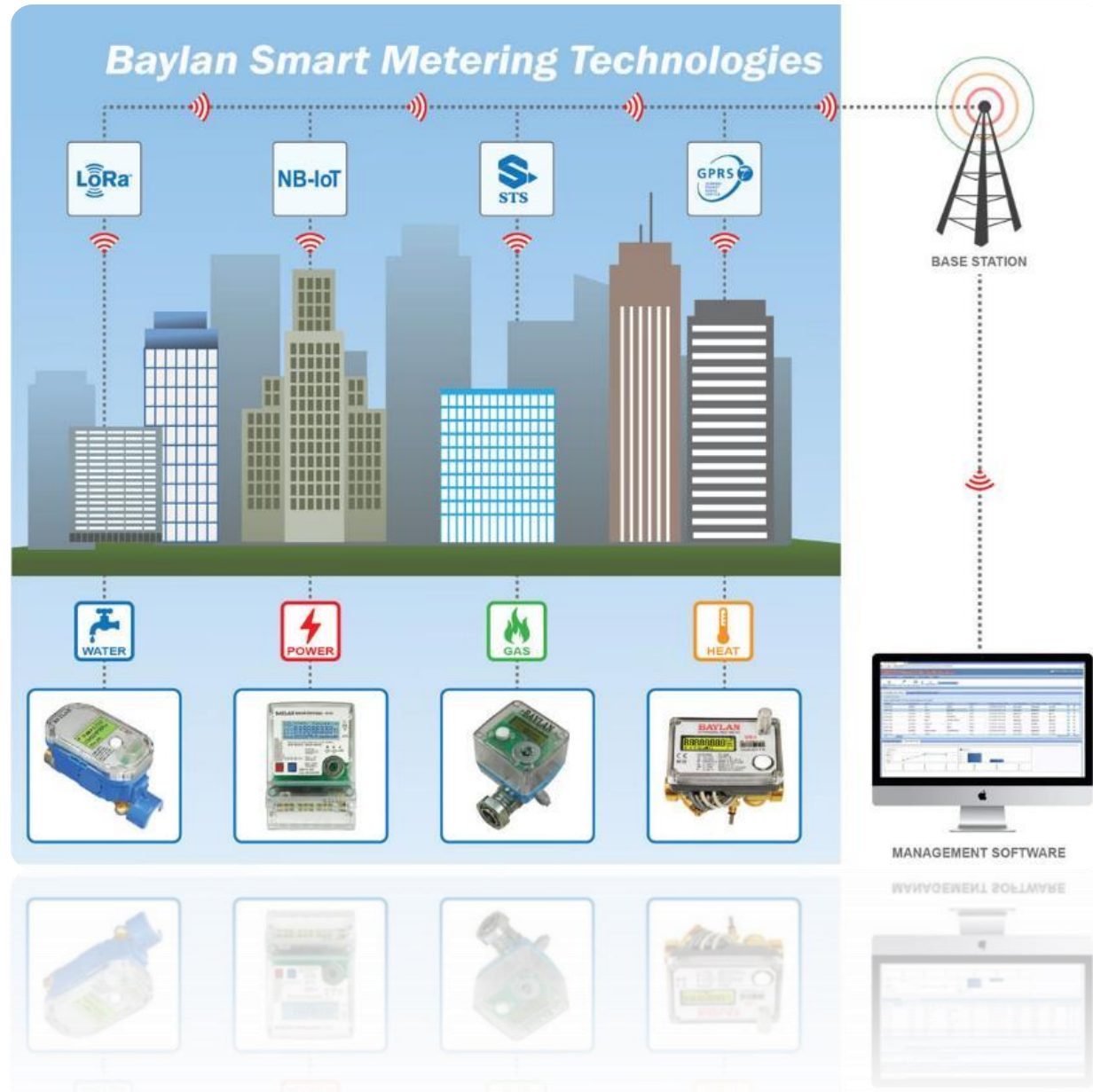
LoRaWAN Technology Based Remote Meter Reading (Amr) System



- *LoRa (Long Range) technology has a range of approximately up to 5 km depending on the position of the meter and gateway. It does not affected by noise. Each LoRa Gateway has capacity of 1000 meters depending on transmission period. They are designed to be used in long range star topology architecture.*

- *Gateways has capable of adjusting power consumption according to the distance between gateway and meter.*
- *LoRa does not depend on any other system. System is cost competitive when compared to other other loT technologies. Gateways have IP68 protection class.*

- *General Packet Radio Service (GPRS) is a packet-based mobile data service on the global system for mobile communications (GSM) of 3G and 2G cellular communication systems. It is a non-voice, high-speed and useful packet-switching technology intended for GSM networks.*
- *In theory, GPRS packet-based services cost users less than circuit-switched services since communication channels are being used on a shared-use, as-packets-are-needed basis rather than dedicated to only one user at a time.*





*BM.24L LoRa
Single Phase Prepaid
Electronic Electricity Meter*

- *Integrated Lora module-chipset allows both LORA and FSK modulation*
- *Supports LoRaWAN™ - Class C Protocol*
- *Selectable Frequency Band EU 863-870 Mhz*
- *Latching relay (100A)*



*BT.14L LoRa
Three Phase
Electronic Electricity Meter*

- *Integrated Lora module-chipset allows both LORA and FSK modulation*
- *Supports LoRaWAN™ - Class C Protocol*
- *Selectable Frequency Band EU 863-870 Mhz*
- *Latching relay (100A)*

LoRa Regional Frequency Bands

LoRa operates in license-free frequency bands such as 915 MHz, 868 MHz, and 433 MHz. In Turkey, it operates in the 868 MHz band. These frequency bands are internationally designated as ISM (Industrial, Scientific, and Medical) bands for industrial, scientific, and medical use.





Wide Coverage Area and High Connection Capacity

The LoRaWAN protocol is an excellent choice for electricity meters. With its high penetration rate, there is no signal loss even inside buildings. Its long-range capability enables easy access to all meters in densely populated cities with a large number of subscribers.



Low Power Consumption

Unlike other protocols, LoRaWAN protocol offers long-term usage and energy savings with its low power consumption.

It enables long years of communication when used with batteries.



Safe Connection

The LoRaWAN protocol defines two encryption layers:

- It uses a unique 128-bit network session key shared between the device and the network server.
- At the application level, it uses a unique 128-bit application session key (AppSKey) shared end-to-end.



Low Investment Cost.

The LoRaWAN protocol is a more suitable option for electricity meters compared to other protocols. It stands out with its lower cost, long range, high penetration rate, and security.

LoRa Advantages

Baylan LoRa-enabled electronic electricity meters enable effective remote meter management.

They allow remote access and management of meter data.

Enabling remote reading of meters reduces reading costs.

It allows for instant remote power disconnection through the use of a disconnect relay.

It helps in combating unauthorized interventions by providing illegal tampering detection alarms, thereby ensuring immediate notification to the authorities for effective action.

Different products from independent manufacturers can be used on the same LoRa network, thanks to internationally defined standards.

Any LoRaWAN certified product can be managed with LoRaWAN certified LoRa Gateway devices.

LoRaWAN™ Class C support allows direct access to the meter, enabling communication with the meter at any time.

LoRaWAN protocol is an excellent choice for electricity meters, as it enables high connectivity for data collection from the field and allows recording of subscribers' consumption habits. This data collection facilitates pre-analysis of investment decisions.

With its high penetration rate, LoRaWAN ensures reliable connectivity even within buildings, minimizing signal loss.

It offers a flexible network architecture and high network capacity.

AES128 encryption is used to ensure secure communication, providing protection against illegal manipulation.

It offers the possibility of both one-way and two-way communication.

It provides fast solutions in integration processes with its application and applicability versatility.

There is the possibility of communication within the existing LoRaWAN network.

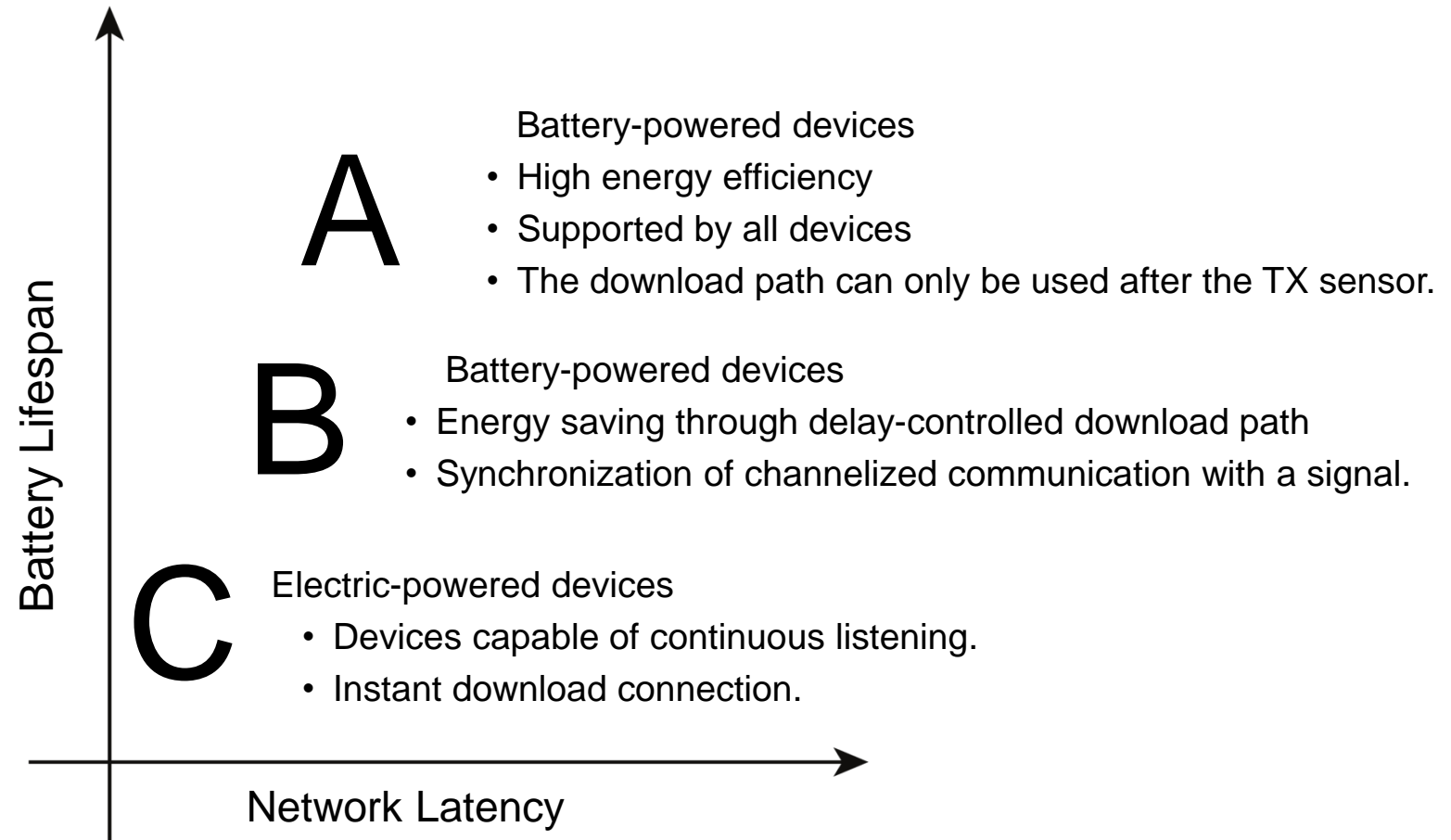
It supports wide coverage area with high penetration rate.



Waiting : 0.92 VA

LoRa Broadcast: 2.86 VA

LoRaWAN uses different device classes to optimize device profiles.



BMS

Baylan Metering System

All of our meters with remote communication feature that we produce could be managed on web-based common platform.

BMS

Hoşgeldiniz Baylan BMS

OSOS ağını yönetmek için lütfen giriş yapın

Giriş

Türkçe ▼

Mapping

All subscriber meters added to the system are positioned on the map, allowing for fast and functional use. Control times are shortened and managing procedures become easier.

İş Emri Gönder

Ürün Kodu 00224-01400083
Elektronik No 1400083
Çap

İş Emri İsmi
Kredi Yükle

Değer
10

Listeye Ekle

İş Emri Listesi

İş Emri Tipi	İş emri değeri
No data available in table	

Yenile İş Emri Gönder

Show 10 entries Search:

Oluşturulma Tarihi	İş Emri Tipi	İş Emri Verileri	Durum	Yürütülen Tarih	İşlem
09.12.2019 17:09:04	Vana Test	0	Tamamlandı	09.12.2019 17:09:25	

Showing 1 to 1 of 1 entries Previous 1 Next

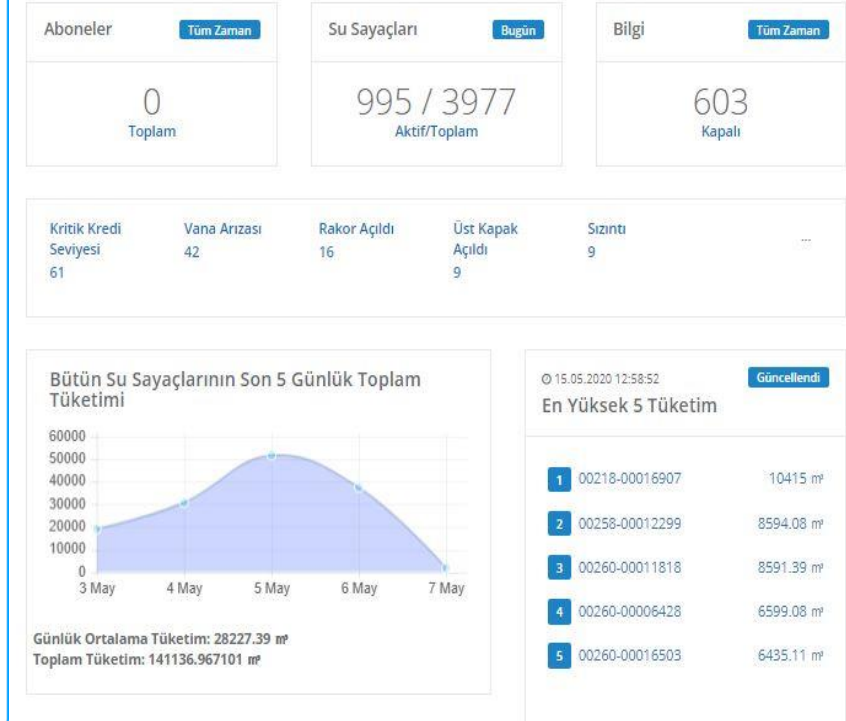
Easy to Use Home Screen

All subscriber meters' daily, weekly, monthly consumption, valve status, in case of illegal intervention, fines, warnings, alarms could be reported by system.

Remote Work Orders

It is possible to manage with remote work order for each meter included in the system. Loading credits to meters,

All operations such as valve opening / closing, penalty clearance, parameter sending could be done without going near to the meters.



BMS

Baylan Meter Management System



Maximum Security

The BMS Program installed on the administration servers is fully protected against attacks that may come from outside the organization.

D

Detailed Reporting

All detailed analysis and reports requested by the institution could be received.

M

Full Integration

Fully integrated with other local software belonging to the institution via the BMS.

F

BMS

Baylan Meter Management System



Easy Installation

Quick and simple installation steps to activate the system is fast and convenient.

F

Functionality

Provides database-independent service-based software solutions.

E

Easy Installation

Quick and simple installation steps to activate the system is fast and convenient.

M

Mobile Application Solutions

Provides PC independent field solutions with Mobile Applications.

THANK YOU FOR YOUR TIME

Measurement Technologies 50%

Communication Technologies 25%

Software Technologies 25%

60 dk

Time

Average Presentation Time

T

Technology

Different Measurement and
Communication Technologies

3

Discipline

Different Topics

S

Q&A

Institutions Rating