SERVICES - SCADA Systems

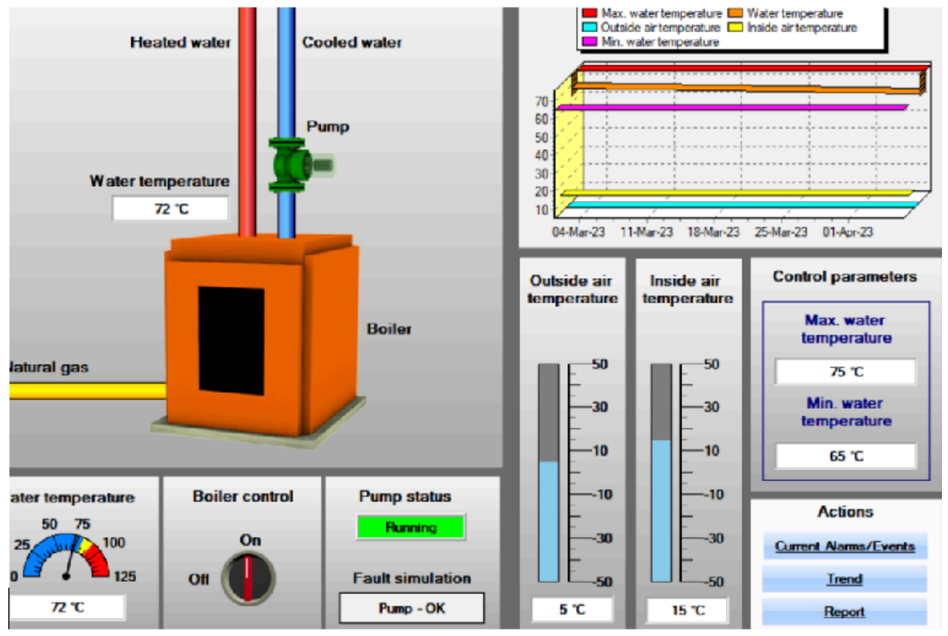
We have used SCADA (Supervisory Control and Data Acquisition) systems in different projects in order to monitor and control remotely industrial equipment.

The remote units and sensors in site can be collected by gateways using hybrid communication with data center that can monitor the site in real-time and control the nodes based on automatic or manuals triggers and actions.

Our SCADA system can be monitored from one or multi locations at the same time and can be integrated with external systems such as CRM, mobile Apps, web portals and more.

SCADA solutions are very important for monitoring systems to guarantee proper and smooth running on any system based on the preset protocols. It can monitor the thresholds and values based on macro and micro readouts.

SCADA readings and analytics of machines can secure the security and safety on site, in addition to that, it can report all the logs and customized reports about the whole system.



SCADA is widely used in:

Oil and Gas

Pipeline monitoring and control

Remote read of pumps, and storage locations

Offshore platforms and onshore wells

Refineries, petro-chemical stations

Plant/factory automation

Water and Wastewater

Water treatment centers and distribution

Wastewater collection and treatment facilities

Utilities

Electrical power distribution from gas-fired, coal,

Electrical power transmission and distribution

Agriculture / Irrigation

Manufacturing

Food and Beverage

Pharmaceutical

Telecommunications

Transportation

Our Product

Split Type STS Prepaid Water Meter with AMR/AMI function

LAISON Split Type STS Prepaid Water Meter consists of two parts namely Prepaid Water Meter, optional for Velocity type or Volumetric type which complies to STS standard IEC 62055-41,51.

The solution comes with a Customer Interface Unit (CIU), supporting RF Wireless Communication and Dot matrix Type LCD to support local language for Remote Meter Recharge and Data Query.

In addition, it supports Walk-by AMR (Automatic Meter Reading) function and Fixed Data Concentrator Unit (DCU) AMI (Advanced Metering Infrastructure) function for remote meter data collection.

Features

*** STS Prepaid Working Mode, Meter Recharge & Data Query via CIU**

*** Multiple Water Purchase Ways available (Vending points, Vendor, Customer self-service)**

*** AMR Functions:**

- Meter Installation Location (GIS) info. Collection
- Meter Reading Task Download from LAPIS Server
- Meter reading path optimization
- Automatic Meter Data Collection and upload to Laison Meter Data Management System (MDM)
- Remote Meter Parameter Checking & Valve Control

*** AMI Functions:**

-Automatic Meter Data Upload like Hourly/Monthly Consumption Data Record, Battery Voltage, Meter Alarm Event etc. Automatic Real Time Clock (RTC) Calibration - Remote Meter Parameter Checking & Valve Control

*** 10 years historical meter data storage**

*** Prepaid and Postpaid Working Mode switchable**

Walk-by AMR

Fixed DCU AMI

Prepaid

Model	DN (mm)	LL	1	WH		H1	Connection Thread	
		mm					d	D
LXSZ-15(S)	15	165	255	92.5	132.5	207.6	R1/2G	3/4B
LXSZ-20(S)	20	195	295	92.5	136	211	R3/4G	1B
LXSZ-25(S)	25	225	341	92.5	137	212	R1/2G	G1 1/4B

Our Product

Split Type STS Prepaid Water Meter

LAISON Split Type STS Prepaid Gas Meter with AMR/AMI function can realize prepayment function and remote semi-automatic/automatic meter data collection through integrated LoRa RF wireless Comm. Module inside.

For Prepaid Function, it complies with International STS Standard IEC 62055-41,51 and gets the STS certification.

Customers can purchase gas through multiple methods (Vending Points, Agency, Customer Self-service, etc.), and obtain a 20 digit recharge token. By inputting the recharge token through CustomerInterface Unit (CIU), the Gas Meter will be recharged successfully.

- Prepaid
- Data Security
- Antiexternal magnetic interference
- Step Water Tarif
- Consumption Data Record
- Insufficiency Alert

AMI Functions

Meter Installation Location (GIS) info. Collection Meter Reading Task Download from LAPIS Server Meter reading path optimization

Automatic Meter Data Collection and upload Remote Meter Valve Control

AMI Functions

Automatic Meter Data Upload

like Hourly/Monthly Consumption Data Record, Battery Voltage, Meter Alarm Event etc.

Automatic Real Time Clock (RTC) Calibration

Real Time Communication, Remotely Control Valve Open/ Close

Massive Data Storage

10 years' Hourly/Monthly Consumption Data Record

Meter Event Record during whole meters' lifespan, such

as meter re-start, valve operation failure, magnetic interference, etc.

Anti-magnetic interference

If external magnetic interference happens, the meter shall close the valve and record this event

with exact time and event type.

Low Battery Detection & Warning

2 Levels of Low Battery Warning

Data auto-save & Valve Close when battery low

MODEL SIZE	A	H	W	D	E
G1.6	130	224	201	167	67.5
G2.5					
G4.0					

SERVICES - Smart Grids

Single Phase

Technical Specifications
1 phase 2 wire single phase meter
Active-Reactive / Import-Export
Active: B/C – Reactive: 2 class
Direct connected
5(100)A current
230VAC – 240VAC
1000 imp/kWh – 1000 imp/kVArh
-40°C...+85°C temperature range
IP54 protection class
188 segments LCD screen

Optional Features
RS485 comm. port
PLC comm. module
GSM comm. module / RF
Prepaid
RF-ID module option
DLMS-COSEM / OSGP support
Anti magnetic (AML)
Magnetic intervention
Latching relay (100A)
LCD backlight

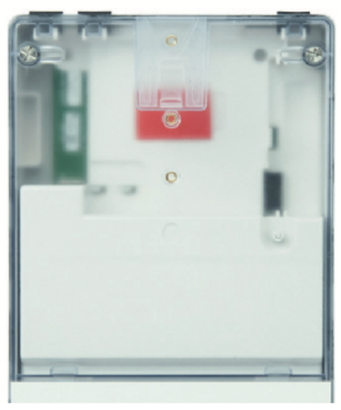
Three Phase

Technical Specifications
3 phase 4 wire three phase meter
Active-Reactive / Import-Export
Active: B/C – Reactive: 2 class
Direct connected
5(100)A current I CT: 1(6)A current
3×240/416VAC I CT: 3×63/110VAC
1000 imp/kWh – 1000 imp/kVArh
-40°C...+85°C temperature range
IP54 protection class
188 segments LCD screen

Optional Features
RS485 comm. port
PLC comm. module
GSM comm. module / RF
Prepaid
DLMS-COSEM / OSGP support
Anti magnetic (AML)
Prepaind / Post Paid
Multi Tariff - Generator Source
TP: Latching relay (100A)
LCD backlight

Data Concentrator

Quad-Band GSM/GPRS module
Software update with USB or Remote
Different communiation expansion ports
PLC, RF, Ethernet module options
Communicate with 1000+ meters
Dynamic and static IP compatible
Non-volatile memory
Ability to work without AC energy
Graphic LCD screen
Suitable for outdoor use (IP54)
EMI test approved, CE compliant



Quick and easy installation
Software remote update
Connection with alternative servers
Reading all brands of meters
Integrated
RTC
Remote control of scheduled tasks
100+ job orders
Linux Based
Notifications, Alerts and Alarms
Operating temp. range -40°C...+70°C

SERVICES - Smart Grids

Technical Specifications
3 phase 4 wire three phase meter
Active-Reactive / Import-Export
Acitve: B – Reactive: 2 class
Direct connected
5(80)A current - 3×230/400VAC
1000 imp/kWh – 1000 imp/kVArh
-40°C...+70°C temperature range
IP54 protection class
188 segments LCD screen
Optical port communication

Panel Type

Optional Features
RS485 comm. port
PLC comm. module
GSM comm. module
RF comm. module
RF-ID module option
Anti magnetic (AML)
Magnetic intervention
Latching relay (100A)
LCD backlight
Export energy measurement

Cold Water
Nature friendly, long lifetime
Digital large display, IP68 class
No magnetic influence
AMR options, suitable for optical reading
Brass and composite material options
MID approved and certificated
First class materials & production technology
Suitable up to 50 °C as a cold water meter

Water Smart Meter / Prepaid

Hot Water
Nature friendly, long lifetime
For hot waters use for up to 90°C
Suitable for drinking water installations
Electrostatic paint >120 microns
AMR options
Brass and composite material options
MID approved and certified
Wide and dynamic pressure accurate range

Technical Specifications
3 phase 4 wire three phase meter
Active-Reactive / Import-Export
Acitve: B/C – Reactive: 2 class
Direct connected
5(100)A current / 3×230/400VAC
1000 imp/kWh – 1000 imp/kVArh
-40°C...+70°C temperature range
IP54 protection class
188 segments LCD screen
Keypad / RF / Mobile App / Remote refill

KeyPad meter Prepaid

Optional Features
RS485 communication module
PLC communication module
GSM communication module
RF communication module
DLMS-CPOSEM / OSGP support
Magnetic intervention
LCD backlight
Export energy measurement
Total Harmonic Distortion
(THD) measurement

SERVICES - Smart Grids

Smart Grids Software

Smart Grid Software is the meter data management software that is installed on the top of head end system. Through the web-based interface the end users can manage the whole smart grid and the installed devices.

The smart grid software is built on robust development platform and up to the latest technological methods and best practices.

Using the smart grid software, you can do the following:

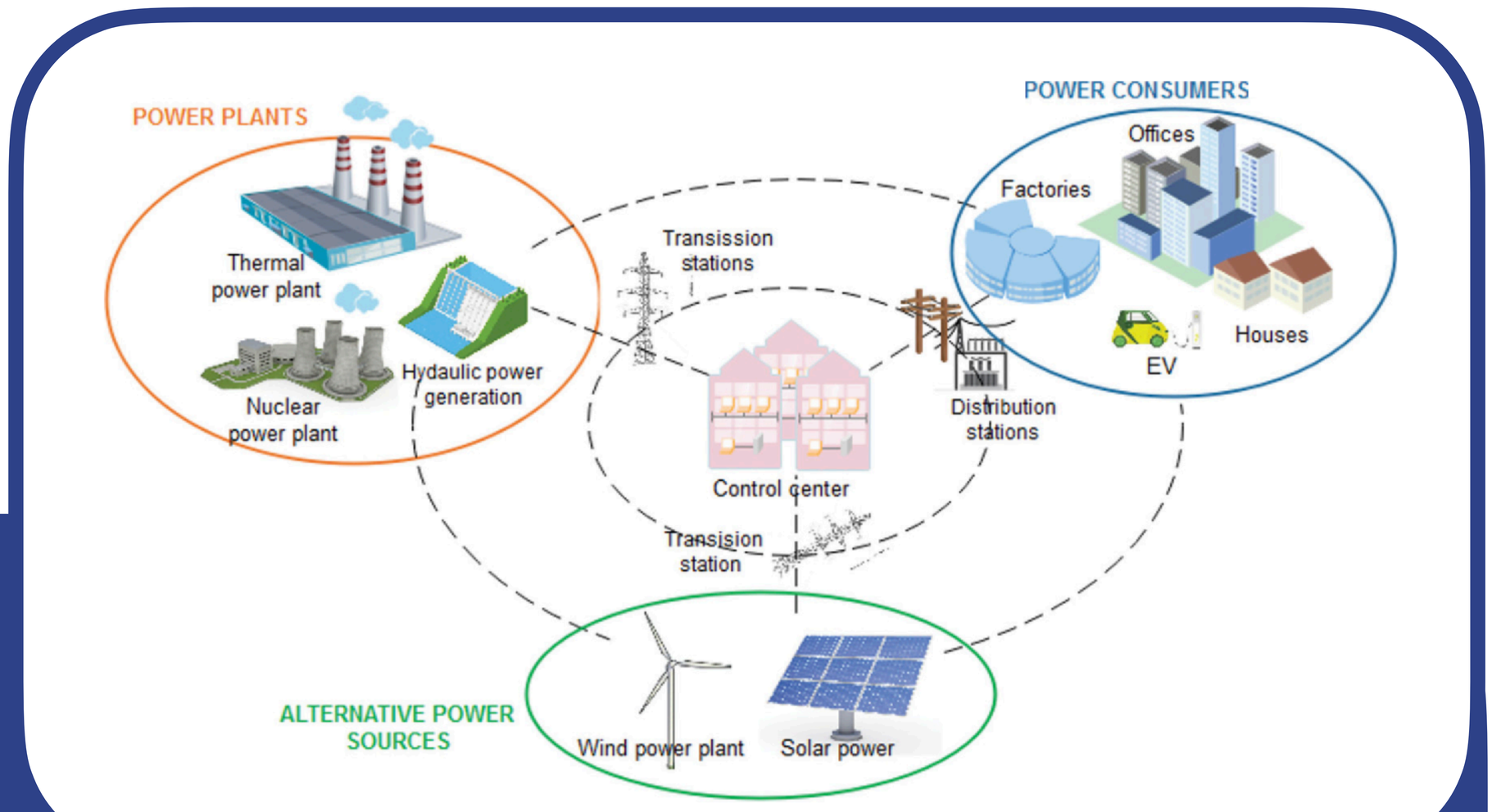
- Manage the smart gird devices, like editing, adding or auto detection of new meters & devices
- Manage the data concentrators and send commands to the grid
- Establish the communication with the devices throughout different topologies
- Update the firmware of the devices in the grid
- Maintain the security of the devices and communication
- Receive all the alerts and alarms in the grid
- Manage subscribers, groups and companies
- Manage transformers and CT meters
- Monitor, Analyze and report
- Establish API and SOAP terminals to external applications

Never compromise security!

We apply best and strongest security mea- sures and techniques in all levels of the grid, starting from hardware and communication to the smart devices in the grid.

SERVICES - Smart Grids

Grid Security



In addition to applications such as billing, CRM, prepayment, mobile Apps and smart grid software, we use also security applications, in order to protect and detect any threat in the different levels of the gird, starting from head end system and ending with the last device in the smart grid.

<u>Our security applications can help us to:</u>

1. Detect and illustrate threats, alerts and alarms.
2. Isolate devices based on types of events.
3. Show alarms based on device and location.
4. Give possible solution for any threat or tamper.
5. Show different levels of tamper events.
6. Heart beat security regulations in all sectors.
7. Notify admins by email, SMS, mobile Apps.
8. Monitor the firmware and software updates.

Our research and development centers commit to use the latest technology, in all our devices and apply the best practices in smart grids and software development, the build-in / always-on encryption methods and non-compromised security is a must in the grid as a whole.

1. Using the latest technology in encryption
2. Ensure the third-party audits
3. Two-ways encryption
4. Multi key levels and permissions
5. Secure application communications
6. Update and latest firmware
7. Physical indicators for alerts
8. Secure different levels in the grid
9. Outage control and isolation plans
10. Prevention of hijack or unauthorized access

REFERENCES - Smart Grids

Erbil, Iraq

- Hariri Construction contracting Co. S.A.L. offshore
  - Lebanese Village Project Power Station 20 MW
- Italian City 1 HEMN GROUP
  - Supply, installation & operation of prepaid electricity meters
- Park View
  - Supply, installation & operation of prepaid electricity meters
- World Trade Center
  - Supply, installation & operation of prepaid electricity meters
- HEMN Group of Companies, HEMN Group for Reconstructions
  - Italian Village 1 Project Power Station 9 MW
- Empire World Hariri Construction & Contracting Co. S.A.L offshore
  - Supply, installation & operation of prepaid electricity meters
- Lava Towers Residential MRF Group
  - Supply, installation & commissioning of smart electricity meters
- Atlantic City Atlantic Claremont
  - Supply, installation & operation of prepaid electricity meters
- Star Towers Residential MRF Group
  - Supply, installation & operation of prepaid electricity meters
- Waevy Avenue Towers Residential Project MRF Group
  - Supply, installation & commissioning of smart meters

Mosul, Iraq

- MRF Towers Ministry of electricity North Distribution Co.
  - Supply, installation & operation of prepaid electricity meters
- Ministry of electricity - North Distribution Co.
  - Supply & commissioning of smart meters head end system 1.250 Units

REFERENCES - Smart Grids

Sulaymaniyah, Iraq

SAIB City Project	NAZ DAIK Project	Jaff Towers JAFF Company	Darwaza Project Management
SAIB City Project Power Station 6 MW	Power Station 10 MW	Supply, installation & operation of prepaid electricity meters	Supply & commissioning of smart meters, head end system 700 Units

QAIWAN Group of Companies	Shary Dank City Management	Said City SAIB Company
QAIWAN City Project Power Station 2 MW	Supply, installation & operation of electricity smart meters 300 Units	Supply, installation & operation of prepaid electricity meters

Basra, Iraq

Ministry of Electricity - South Distribution Company	Ministry of Electricity - North Distribution Company
Supply & commissioning of smart meters, head end system (HES), 35.000 Units	Supply & commissioning of smart meters, head end system (HES), 1.250 Units

REFERENCES - Smart Grids

Baghdad, Iraq

KAR Group	Alyamamah Residential Hewa Group	Iraq Gate Residential Baghdad Gate Real Estate
Supply & commissioning of digital meters, 2.000 Units	Supply, installation & operation of prepaid electricity meters with panels, 299 Units	Supply, installation & operation of prepaid electricity meters with panels, 2.200 Units
Iraq Gate Residential Real Estate	Jawahir Dijlah Residential Al Ghadeer Real Estate Co.	Al Shaa'b Residential Project Al Ezra Company for General Contracts Ltd.
Supply, installation & commissioning of smart meters 2.200 Units	Supply, installation & operation of prepaid electricity meters	Supply, installation & operation of prepaid electricity meters

Kirkuk, Iraq

Al Sater Investment Company	Madinaty Residential Eber Almodun for Real Estate Development	Family Land Complex
Supply, installation & operation of prepaid electricity meters	Supply, installation & operation of prepaid electricity meters	Supply, installation & commissioning of smart meters