



HOPE.TEE
ENERGY

Company Profile



Table Of Contents

Analyze and optimize
your energy management



01. About Hope Tee Energy

05. Solutions Offered

02. Vision & Mission

06. Contact Us

03. Our Values

04. Products Offered



About Hope Tee Energy

Hope Tee Energy (Pty) Ltd. is a 100% Black owned company founded by dynamic high-skilled professionals who are driven by entrepreneurship, innovation, passion, integrity, and professional excellence.

We are a multi-disciplinary company whose primary interests are in Utility Metering, Production of Smart Meters, Implementation and Management of Utility Systems with embedded Technologies, as well as Infrastructure Services.

Products:

- Smart Meters
- Prepayment Meters
- LPU Metering
- Three Phase LV/CT Prepayment Metering
- Meter Box Series

Solutions:

- AMI Solution
- Head-end System (HES)
- Meter Demand Management (MDM)
- Prepayment (Vending) Solution
- Cluster Metering AMI System



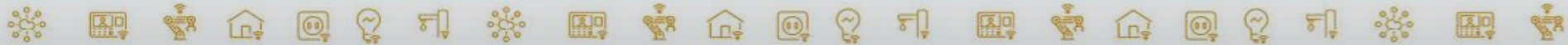
OUR VISION

The Vision of Hope Tee Energy is to be the number one trusted partner in the utilities industry.



OUR MISSION

Through hard and software products we provide efficient and effective solutions to our clients.



Complementary to our vision and mission, our intensive market penetration niche is to deliver seamless and cost-effective utility services, ensuring timely and secure delivery and deployment of products and services to foster strong client partnerships. The products and solutions are positioned to catalyse utility-scale projects, thus helping to navigate complexities.



Our Values



Integrity

Transparent operations and ethical business practices.



Customer-Centricity

Delivering solutions aligned with client needs.



Innovation

Leveraging technology to enhance efficiency.



Excellence

Striving for superior service quality.



Sustainability

Committed to eco-friendly practices.



Collaboration

Building strong relationships with clients and partners.

Our Products

Utility metering products, like smart meters and prepaid meters, offer numerous benefits including accurate billing, reduced disputes, and enhanced energy management. These systems enable customers to monitor their consumption in real-time, promoting energy conservation and helping them budget for utility expenses. For private utilities (landlords and property managers), submetering simplifies billing, reduces administrative burdens, and minimizes disputes with their direct customers.

There is a strong alignment between our products, solutions and the requirements of the industry. We take pride in packaging solution-driven and value-impacting project deliverables that are techno-centric and relevant to providing solutions for efficient supply of utility resources capable of answering questions on the knowledge of who is using **WHAT** utility, **WHERE, HOW** and at **WHAT** quantity.



Energy Meters

Main Features & Functionalities

- ▶ Adapts dual measurement and raises the bar on tamper detection.
- ▶ Measurement of active, reactive and apparent energy at a high accuracy.
- ▶ Switchable between prepaid and postpaid mode.
- ▶ Compatible with multiple local communication ports: IR/RS485/Wired M-bus/P1 port/current loop/etc. port and optical compliant with IEC62056-21.
- ▶ Compliant with DLMS/COSEM.
- ▶ Modular design for the hardware and firmware.
- ▶ With built-in relay, support local and remote connection/disconnection.
- ▶ With plug and play, interchangeable module: GPRS/3G/4G/NB-IoT/CAT-M/PLC(G3-PLC)/RF (LoRa/Wi-SUN), supports combo/Hybrid communication.
- ▶ Product Certificate: KEMA, MID, IDIS, G3-PLC.
- ▶ Meet the requirements of Directive 2014/32/EU.

01 DDS26D Single Phase



HIGHLIGHT



HIGH
PROTECTION
DEGREE



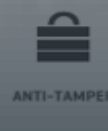
MULTI-
COMMUNICATION



DLMS/COSEM



STS
COMPLIANCE



ANTI-TAMPER



TIME OF USE



SUPPORT
AMI FUNCTIONS

02 DTS27 Three Phase



Main Features & Functionalities

- ▶ Adapts dual measurement and raises the bar on tamper detection.
- ▶ Measurement of active, reactive and apparent energy at a high accuracy.
- ▶ Switchable between prepaid and postpaid mode.
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HIGHLIGHT



HIGH PROTECTION DEGREE



MULTI-COMMUNICATION



DLMS/COSEM



STS COMPLIANCE



ANTI-TAMPER

TOU

TIME OF USE

AMI

SUPPORT AMI FUNCTIONS

Main Features & Functionalities

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- ▶ Switchable between prepaid and postpaid mode.
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- ▶ With plug and play, interchangeable module: GPRS/3G/4G/NB-IoT/CAT-M/PLC(G3-PLC)/RF (LoRa/Wi-SUN), supports combo/Hybrid communication.
- ▶ Product Certificate: KEMA, MID, IDIS, G3-PLC.
- ▶ Meet the requirements of Directive 2014/32/EU.

03 DDSY23S Single Phase



HIGHLIGHT



HIGH
PROTECTION
DEGREE



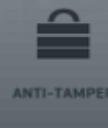
MULTI-
COMMUNICATION



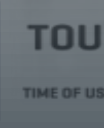
DLMS/COSEM



STS
COMPLIANCE



ANTI-TAMPER



TOU

TIME OF USE



AMI

SUPPORT
AMI FUNCTIONS








04 DTSY23S Three Phase



Main Features & Functionalities

- ▶ Adapts dual measurement and raises the bar on tamper detection.
- ▶ Measurement of active, reactive and apparent energy at a high accuracy.
- ▶ Switchable between prepaid and postpaid mode.
- ▶ Compatible with multiple local communication ports: IR/RS485/Wired M-bus/P1 port/current loop/etc. port and optical compliant with IEC62056-21.
- ▶ Compliant with DLMS/COSEM.
- ▶ Modular design for the hardware and firmware.
- ▶ With built-in relay, support local and remote connection/disconnection.
- ▶ With plug and play, interchangeable module: GPRS/3G/4G/NB-IoT/CAT-M/PLC(G3-PLC)/RF (LoRa/Wi-SUN), supports combo/Hybrid communication.
- ▶ Product Certificate: KEMA, MID, IDIS, G3-PLC.
- ▶ Meet the requirements of Directive 2014/32/EU.

HIGHLIGHT

 HIGH PROTECTION DEGREE	 MULTI-COMMUNICATION	 DLMS/COSEM	 STS COMPLIANCE	 ANTI-TAMPER	 TIME OF USE	 SUPPORT AMI FUNCTIONS
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05 Split-type DIN Rail

Main Features & Functionalities

- ▶ DIN rail mounted.
- ▶ Compliant with STS standard.
- ▶ Switch between prepaid and postpaid modes via token / remote.
- ▶ Support optical port / RS485 (optional).
- ▶ Support built-in module RF / PLC.
- ▶ Compliant with DLMS / COSEM
- ▶ Support CIU communication with meter via RF / PLC / current loop.
- ▶ Protect from fraud or tampering, alarm and events record.



HIGHLIGHT



HIGH
PROTECTION
DEGREE



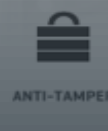
MULTI-
COMMUNICATION



DLMS/COSEM



STS
COMPLIANCE



ANTI-TAMPER



TOU
TIME OF USE



AMI
SUPPORT
AMI FUNCTIONS

06 Smart Terminals: DCU / HHU / PAD / POS



Main Features & Functionalities

- ▶ With plug and play, interchangeable WAN / LAN communication module.
- ▶ Both PLC and RF communications are supported simultaneously.
- ▶ RF communication: Supported Wi-SUN.
- ▶ PLC communication: BPLC/BPLC hybrid/G3-PLC/G3-PLC hybrid.
- ▶ Local communication: RS485/USB/Ethernet/Fibre.
- ▶ Protocol: Support DLMS/COSEM, IDIS, FTP, FTPS, SFTP, Webservice, Https.
- ▶ Wide range of power supply: 3x57.7/100V 3x240/415V is flexible for various grids.
- ▶ CE certification.

HIGHLIGHT

HIGH PROTECTION DEGREE	MULTI-COMMUNICATION	DLMS/COSEM	STS COMPLIANCE	ANTI-TAMPER	TIME OF USE	SUPPORT AMI FUNCTIONS
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T.C21



HHU / PAD Win10 /Android EM-T62 / EM-I62H



POS Vending TPS550

Main Features & Functionalities

LV/CT Meter Cabinets:

- ▶ Metering Cabinet for CT connected customer with private transformer 250A / 400A / 630A / 800A / 1000A / 1600A / 2000A.
- ▶ Current Transformer.
- ▶ Wiring terminal block.
- ▶ Three Phase CT connected meter.
- ▶ Circuit breaker.
- ▶ Auto recloser (in case of prepaid solution).
- ▶ Compatible AMI system and Customer Portal APP.
- ▶ Optional CIU/UIU for credit recharge (prepaid).

Meter Boxes:

- ▶ Wall / Pole-mounted.
- ▶ Flame resistant, anti-ageing



Bp103



BP302

06 Three Phase LV/CT Prepayment Metering



HIGHLIGHT



HIGH
PROTECTION
DEGREE



MULTI-
COMMUNICATION



DLMS/COSEM



STS
COMPLIANCE



ANTI-TAMPER

TOU

TIME OF USE

AMI

SUPPORT
AMI FUNCTIONS

Water Utility Meters

Our smart STS prepaid water meter solution helps water utilities increase the income greatly and assist in process of digital transformation. The solution offers greater control for the end user, through a flexible prepayment mode, and a greater control for the utility, enabling real-time data on water demand across the supply area, and supporting a shift from reactive firefighting to preventative planning.

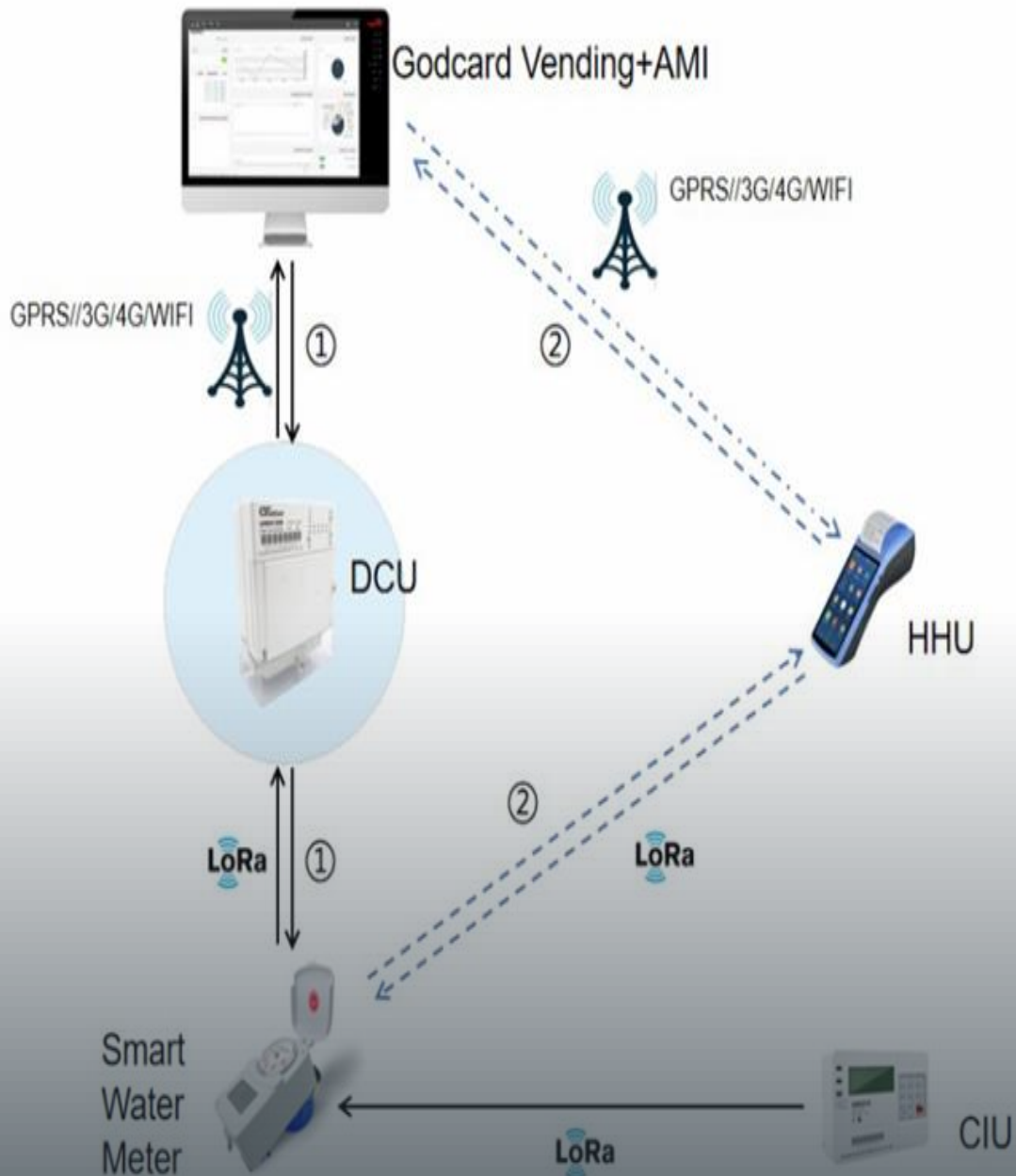
Main Functions:

- Recharge locally via CIU or online via mobile phone;
- Pre-programmable low credit warning;
- Automatically shut off valve once any tamper or fraud occur;
- Emergency water (overdraft);
- Pre-programmable Social Amount (Monthly Free Consumption)
- Non-switch off during holidays, weekend & off-duty time;
- Data auto-save when battery off;
- 10 Years monthly consumption data record.

Key Features

- STS (Standard Transfer Specification) IEC62055-41, 51 Compliant;
- Support LoRa RF radio Frequency communication;
- AES/3DES Encryption to ensure the data security;
- Support the meter with multi-jet (Brass) or Volumetric (Plastic);
- Anti external magnetic interference.





Solution Communication Architecture

Hope Tee Energy Smart Water Metering Solution includes three main functions:

STS Prepaid Function

Confirms to STS (IEC62055-41,51) standard, a well-known Standard Transfer Specification with advantages of compatibility and easy data transfer. End-user could buy and get 20 digits meter recharge token either at Vending Points (appointed vendors) through PoS or Online via smart phone if the solution is with fixed DCU (Data Concentrator Unit) AMI function.

Walk-by AMR Function

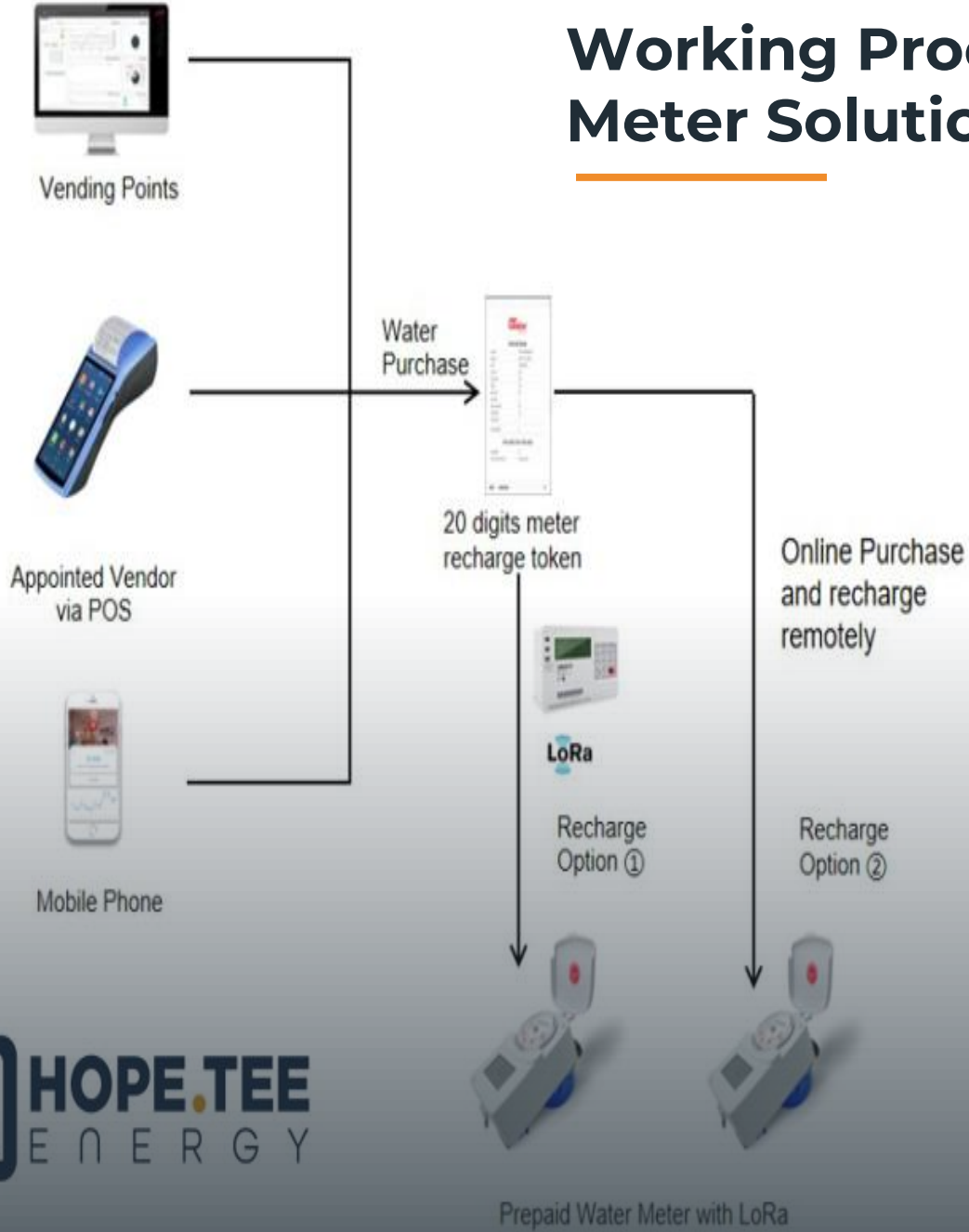
By taking Hope Tee Energy HHU equipped with Pocket Energy APP, the appointed Maintainer could remotely and automatically get the meter data while walking/driving along the street.

Fixed DCU AMI Function

By establishing DCU to cover the meters nearby in around 500 meter radius, all the meters in coverage shall automatically upload the corresponding data into AMI (Automated Metering Infrastructure) system at defines time interval 9every day/week/month).

Note: Walk-by AMR Function and Fixed DCU AMI Function can be used in combination or independently according to different application scenarios.

Working Process of Smart STS Prepaid Water Meter Solution



Water Purchases, recharge and system composition of Hope Tee Energy Prepaid Solution

Vending Channels

Vending Points | PoS Machines | Mobile Devices

Recharge Options

Option 1: Use of CIU via LoRa

Option 2: Online (remotely) via Fixed DCU AMI Function.



Our Solutions



01

AMI SOLUTIONS

Our AMI solution is a hallmark for utility operations' efficiency, accuracy and customer service.

We present comprehensive utility-specific solutions optimising core competencies for managing smart meters, uninterrupted communication network and data management system.

02

HEAD-END SYSTEM (HES)

Through this solution we enable end-to-end efficient management of smart metering infrastructure, leading to improved billing accuracy, reduced energy theft, enhanced customer service, and better overall resource management.

A HES acts as the central communication hub for smart meters, facilitating two-way communication and data collection for various applications.

03

METER DEMAND MANAGEMENT (MDM)

By leveraging smart metering data, municipalities can optimize resource allocation, identify and address inefficiencies, and implement targeted conservation programs. This leads to financial savings, better service delivery, and a more sustainable environment.

04

VENDING SYSTEM

We manage the sale of prepaid electricity, water, and gas tokens to consumers, typically using a Standard Transfer Specification (STS) compliant system. These systems handle various aspects, including meter management, tariff design, consumer management, and secure token generation. They also often integrate with payment channels and provide reporting and management tools for the utility provider.

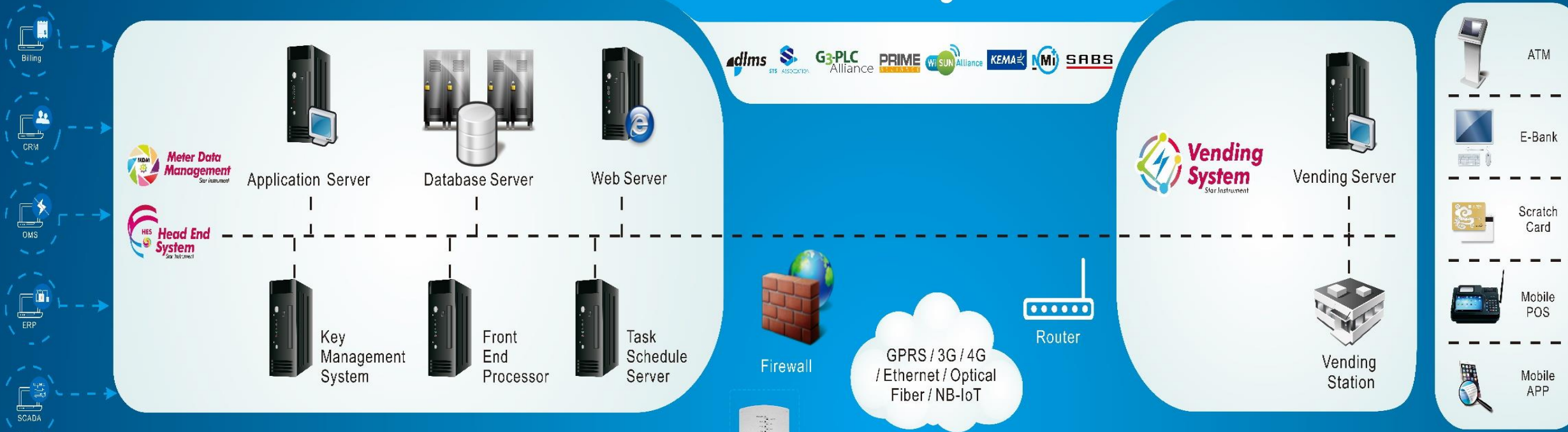
05

CLUSTER METERING AMI SYSTEM

We house highly capable cluster metering in the context of AMI (Advanced Metering Infrastructure).

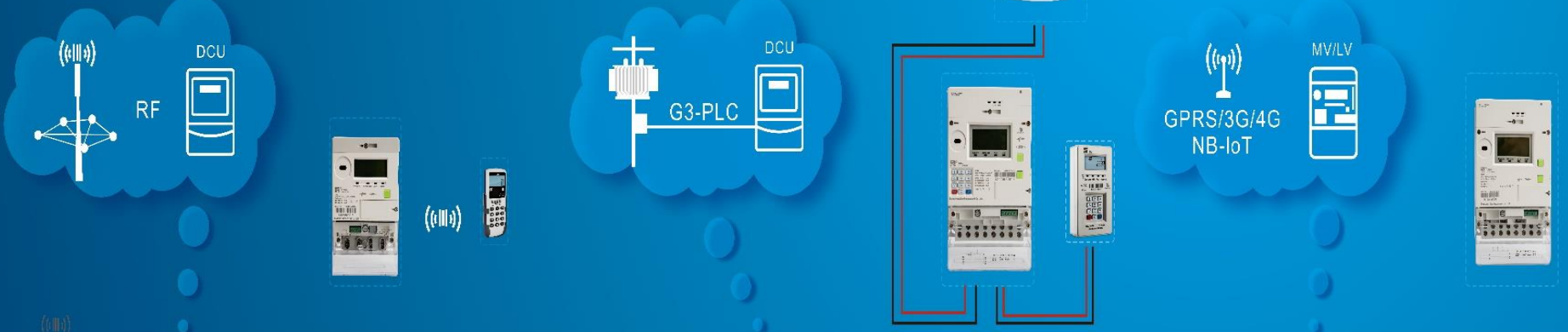
Utilities benefit from our solutions through improved operational efficiencies, reduced costs, enhanced revenue collection, and better customer service. AMI enables remote meter reading, real-time data analysis, and two-way communication, leading to better management of resources and increased revenue.

Advanced Metering Infrastructure



dlms IEC 61851 G3-PLC Alliance PRIME Wi-SUN Alliance KEMA IMI SABS

Product



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 Industrial City, Longgang District,
 Shenzhen, China
 TEL: +86-755-89926888
 FAX: +86-755-89926999
 E-mail: info@szstar.com



AMI : GPRS / 3G / 4G / NB-IoT

AMI Solution:

Data is communicated to Utility via GPRS / 3G / 4G / NB-IoT.

Smart Meter:

GPRS / 3G / 4G / NB-IoT plug & play module, communication protocol compliant with DLMS/COSEM.



AMI : G3-PLC/G3-Hybrid/BPLC/ BPLC Hybrid

AMI Solution:

Data is collected via G3-PLC/G3-Hybrid/BPLC/BPLC Hybrid and communicated to Utility via GPRS / 3G / 4G / Ethernet / Optical Fiber.

Smart Meter:

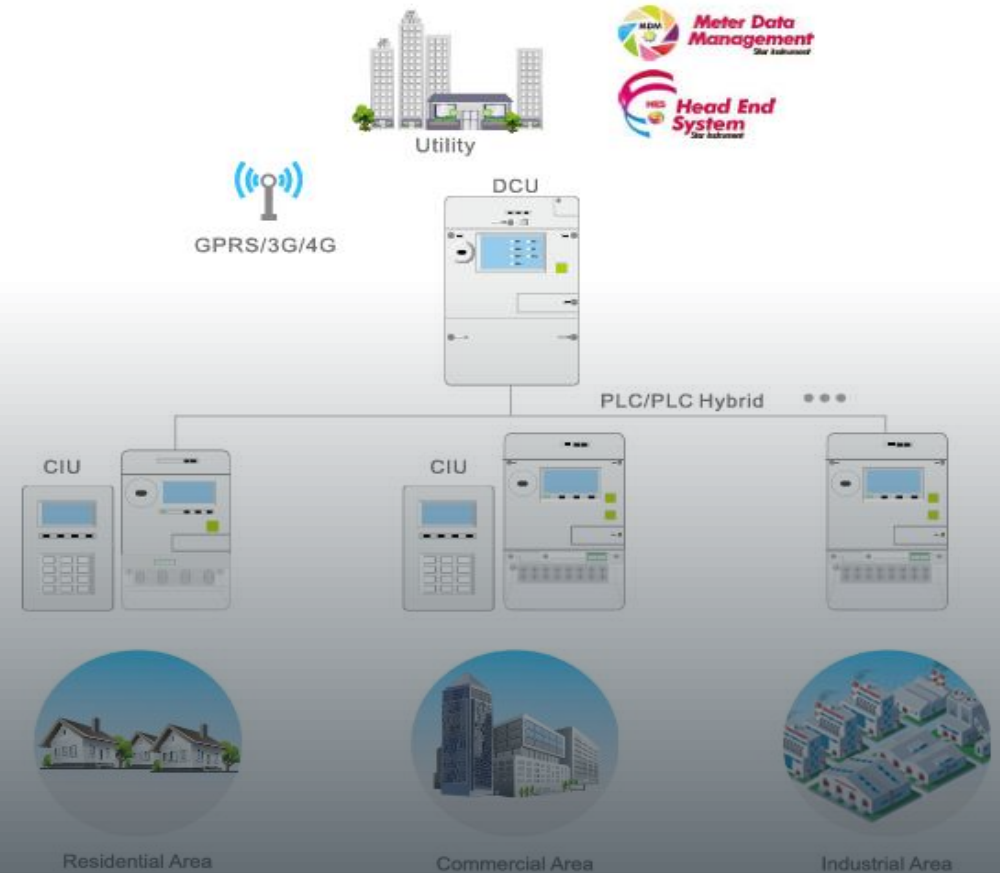
G3-PLC/G3-Hybrid/BPLC/BPLC Hybrid plug & play module.

DCU:

PLC to meter, maximum 2048 units of energy meters per Data Concentrator Unit (DCU).

CIU:

Customer Interface Unit (CIU), connection to meter.



AMI : RF / Wi-SUN

AMI Solution:

Data collected via RF, and communicated to Utility via GPRS / 3G / 4G / Optical Fiber.

Smart Meter:

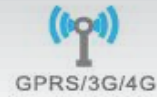
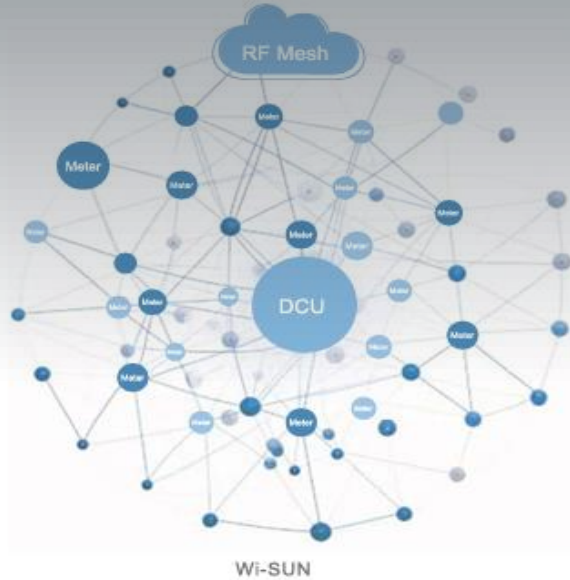
RF: Wi-SUN.

DCU:

RF to energy meter, approximately 1000 units of energy meters per concentrator.

HHU / PAD:

Hand Held Unit, an auxiliary meter reading unit.



GPRS/3G/4G



DCU



1

2

3



999

1000 Meter



HHU / PAD

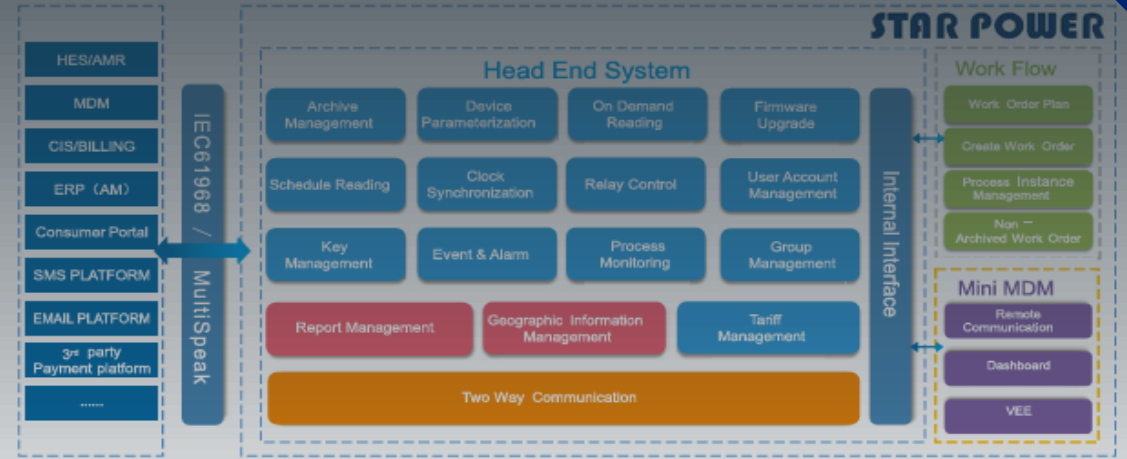


Residential Area



Commercial Area

HES



HES processes AMI data in near real-time, including for instance, billing reads, register reads, interval data, power outage notifications, meter tampering events, etc. It supports the provisioning and monitoring of endpoints, i.e. the smart meters. The HES also helps enforce cyber security measures, such as dynamic key management to protect data in flight between meters and the data center.

The HES is featured with the following:

- Star HES is an open and scalable system and based on IEC DLMS/COSEM communication protocol.
- Interoperability Interface, based on IEC61968 standard.
- Using cluster & load balance architecture, it is capable of managing at least 2,000,000 meters.
- Data can be stored for 1 year at least (Monthly, Daily, LoadProfile, Events).
- Modular and adaptable solution for different communication network system such as RS485/PLC/RF, Ethernet/ 2G/3G/4G.
- Comprehensive and friendly graphical user Interface.
- Support standard DLMS/COSEM Data PUSH operation.

HES functions include:

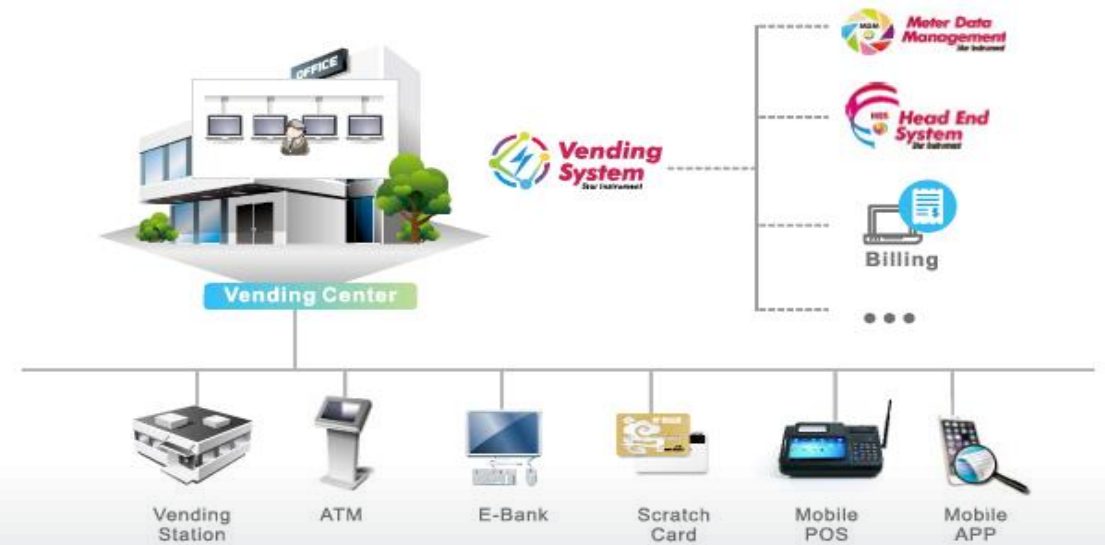
- Meter, Module and HHU management
- User and Role management
- Monitoring (Network status, servers status, meter status)
- Demand readings & Tariff planning & Meter Parameters Configuration
- Dis/Connect & Load Control & Demand Response
- Task Schedule (Data Collector Task & Meter Parameter Configuration Task)
- Reporting and Data Analysis Dashboard

- ◆ Device & Network Status Query
- ◆ Acquisition Success Rate Analysis
- ◆ Query Raw Energy Data
- ◆ Voltage qualified rate analysis
- ◆ Load Analysis
- ◆ Data Export for Billing System



➤ Main Functionalities

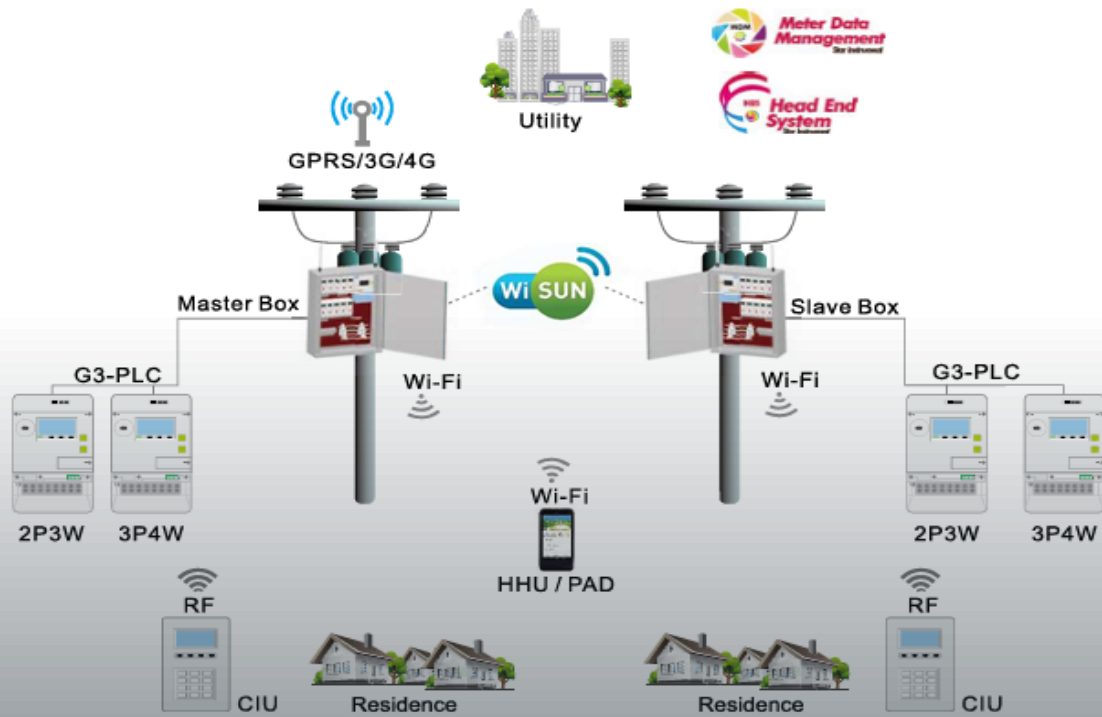
- ⊗ Powerful VEE function.
- ⊗ Line loss analysis.
- ⊗ Outage analysis and management.
- ⊗ Tamper analysis.
- ⊗ Load forecasting and load management.
- ⊗ Remote control.
- ⊗ Strong system integration capability.
- ⊗ Standard CIM interface and MultiSpeak interface.



STS Certified

▶ CLUSTER METERING AMI SYSTEM

Ⓞ METER BOX for AMI SYSTEM



▶ Main Functionalities

- ◆ Stainless steel material / plastic material.
- ◆ Corrosion resistant and weather resistance, IP54.
- ◆ Pluggable DCU and energy meter supported.
- ◆ 6 / 12 / 18 / 24 meters can be installed.
- ◆ Master-slave mode supported: master meter box communicates with master station, slave meter box communicates with master box.
- ◆ Collect meter data and set parameter remotely.
- ◆ Connect or disconnect the relay remotely.
- ◆ Upgrade firmware of the meter and DCU remotely.
- ◆ Event detection and reporting (Meter box opening, temperature over-limit, meter position removal, power down, etc.)
- ◆ Switchable between prepaid and postpaid modes.
- ◆ Remote recharge (prepaid).
- ◆ Query and recharge via CIU unit.
- ◆ Query and set data via HHU.
- ◆ GPRS / 3G / 4G / Ethernet (DCU to HES / MDM system).



Metal Meter Box 6 / 12 / 18 / 24



Large Power Users (LPU) Metering Solution



ERP



CMS

GPRS/3G/4G



GIS



Meter with GPRS/3G/4G



Commercial



Industrial



Industrial Park



DMS/
SCADA

LPU Metering- Line Loss Analysis



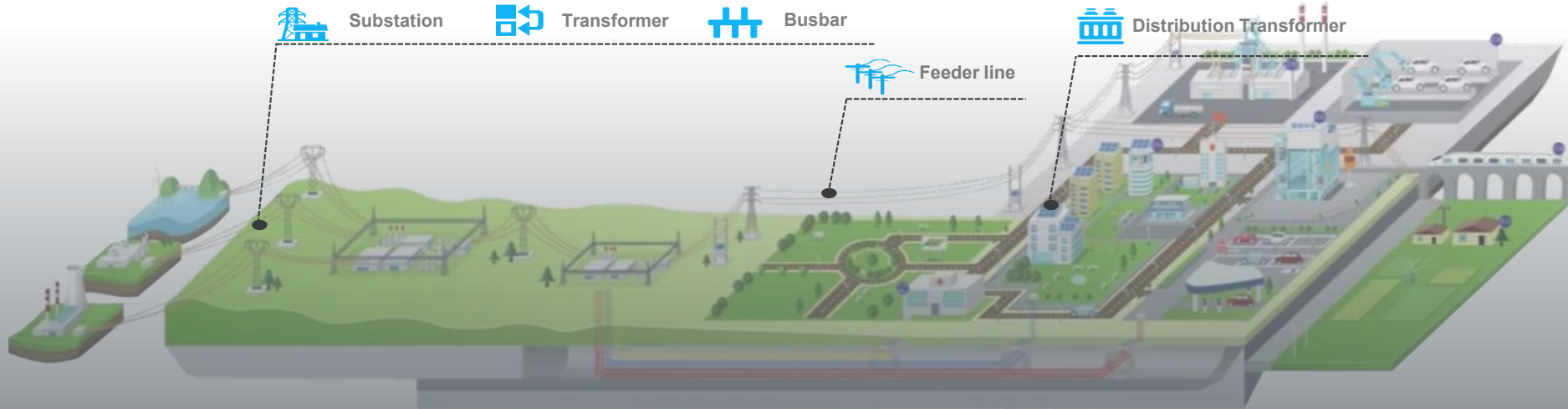
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