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T@ENERGY ENERGY MANAGEMENT SYSTEM

FROM: COMPERE

MAKE ENERGY BENEIFT MORE SIMPLE

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CONTENT

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MAKE ENERGY BENEFIT MORE SIMPLE

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Founded in 2013, Henan Compere Smart Technology Co., Ltd. is a subsidiary of Henan Xuji Information Co., Ltd. and a high-tech enterprise integrating R&D, production and sales.

Compere has always focused on the field of power IOT, forming three main business lines: smart energy management, power maintenance, and prepayment.

Compere uses self-developed smart meters, communication gateways and software to provide the "turnkey" service including solution design, system integration, implementation delivery, and maintenance.
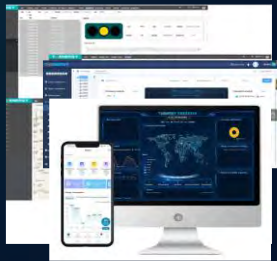
With the mission "Make energy benefit more simple", we provide systematic solutions to help users improve energy efficiency.

Hardware: Smart power meters, digital protection relay, communication gateway, low-voltage motor protector, etc.

Software: Energy management system, power maintenance system, prepayment system, etc.

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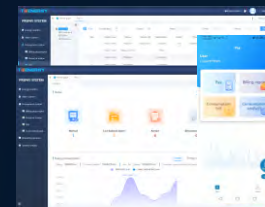
Software：

T@Energy T@Power CPZ8000 T@Motor T@Prepay

Hardware：
Power quality improvement

Capacitance compensation, power regulator, thyristor regulator

Hardware：
Power monitor

KPM83 KPM60 KPM200 Digital panel power meter DIN rail energy meter

Save energy and increase efficiency is the key for development!
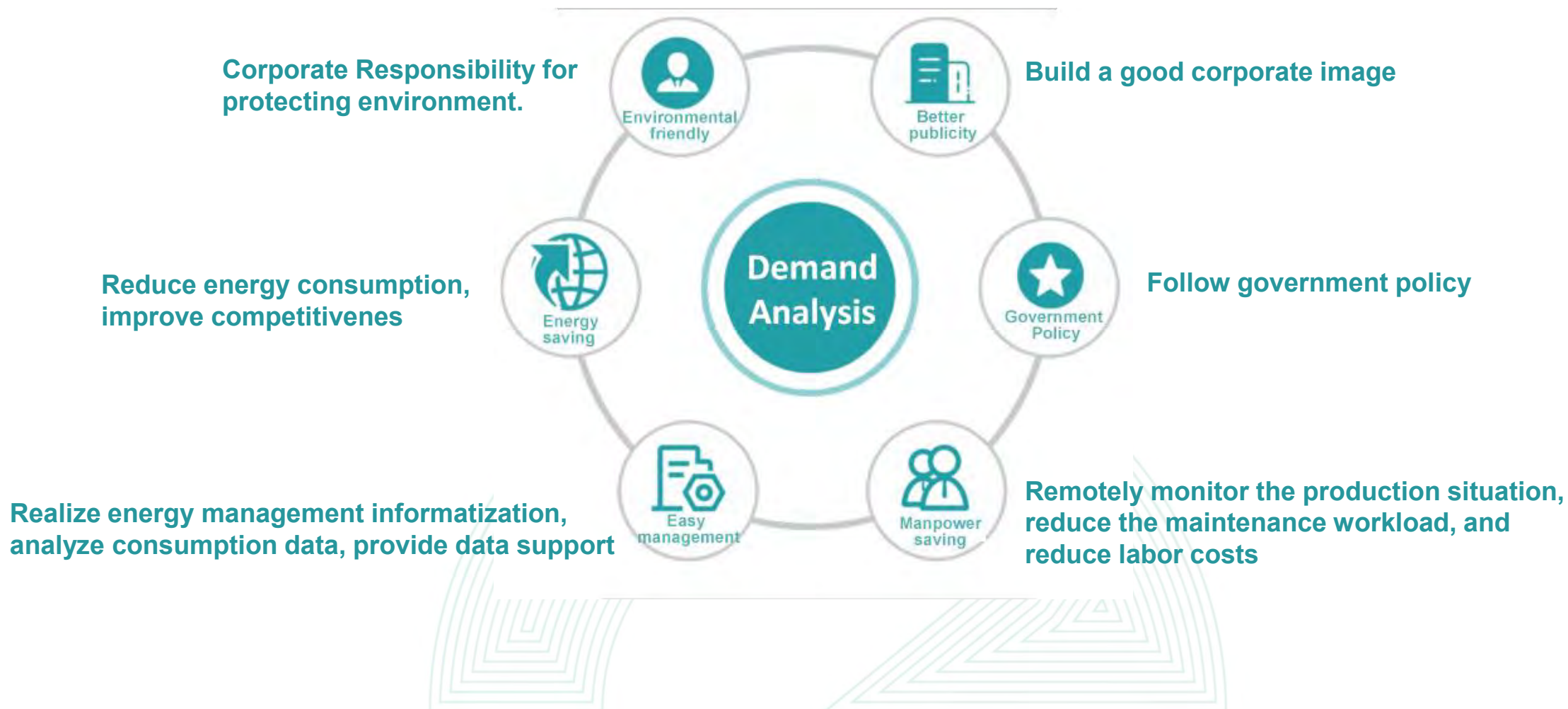
II. DEMAND

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Corporate Responsibility for protecting environment.

Build a good corporate image

Reduce energy consumption, improve competitivenes

Follow government policy

Realize energy management informatization, analyze consumption data, provide data support

Remotely monitor the production situation, reduce the maintenance workload, and reduce labor costs

Environmental friendly — Better publicity — Energy saving — Government Policy — Easy management — Manpower saving — **Demand Analysis**

COMPERE ®
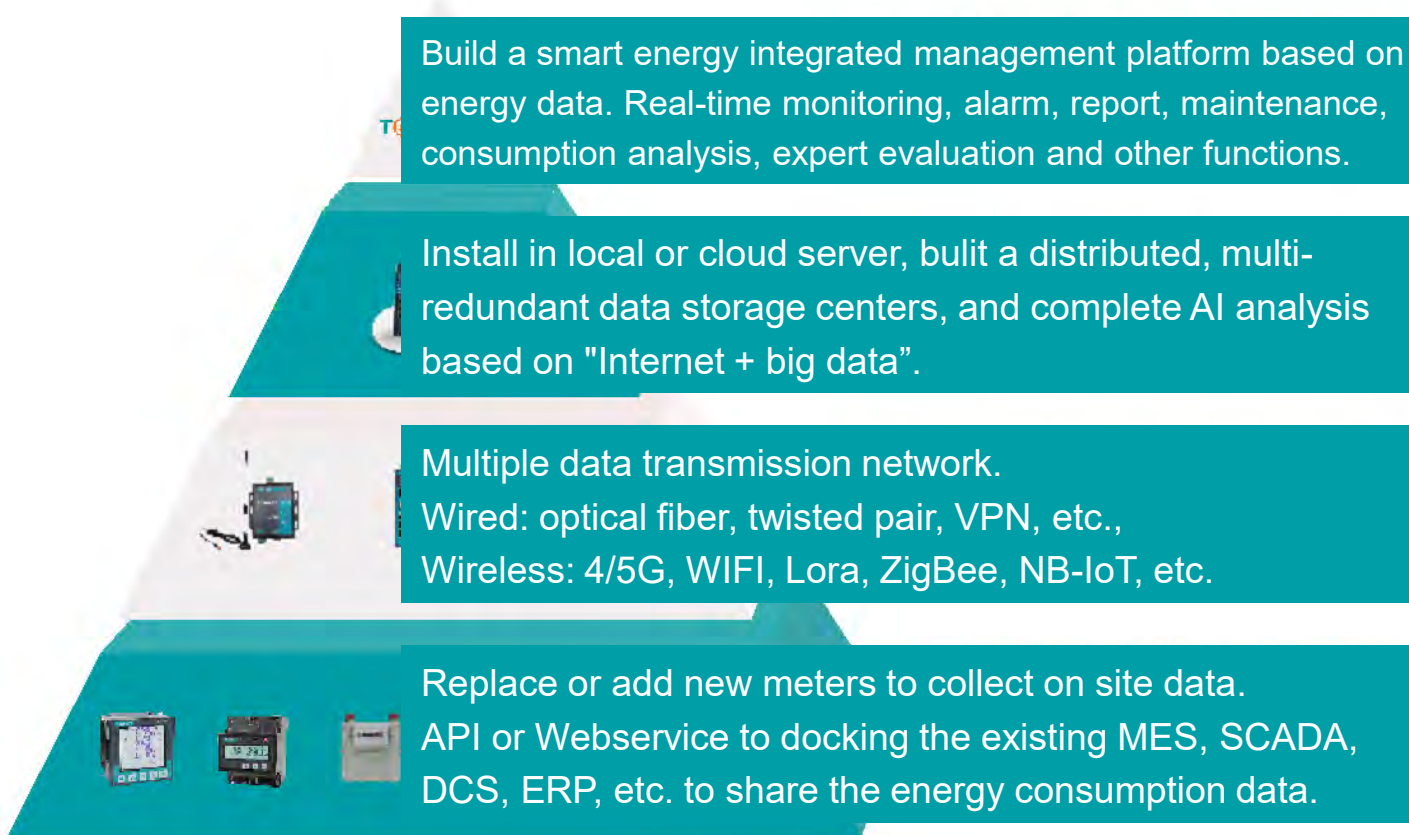康 派 智 能

T@ENERGY includes centralized monitoring, management and decentralized control of energy usage management such as water, electricity, gas, cooling, and heat, as well as pressure, temperature and humidity, CCTV, and biometric identification.

Based on data of smart sensors, combined with "Internet + big data", it can be freely combined into multiple "consumption units", and realize real-time monitoring, unit consumption index, comparative analysis, expert evaluation, and energy forecasting through T@ENERGY.
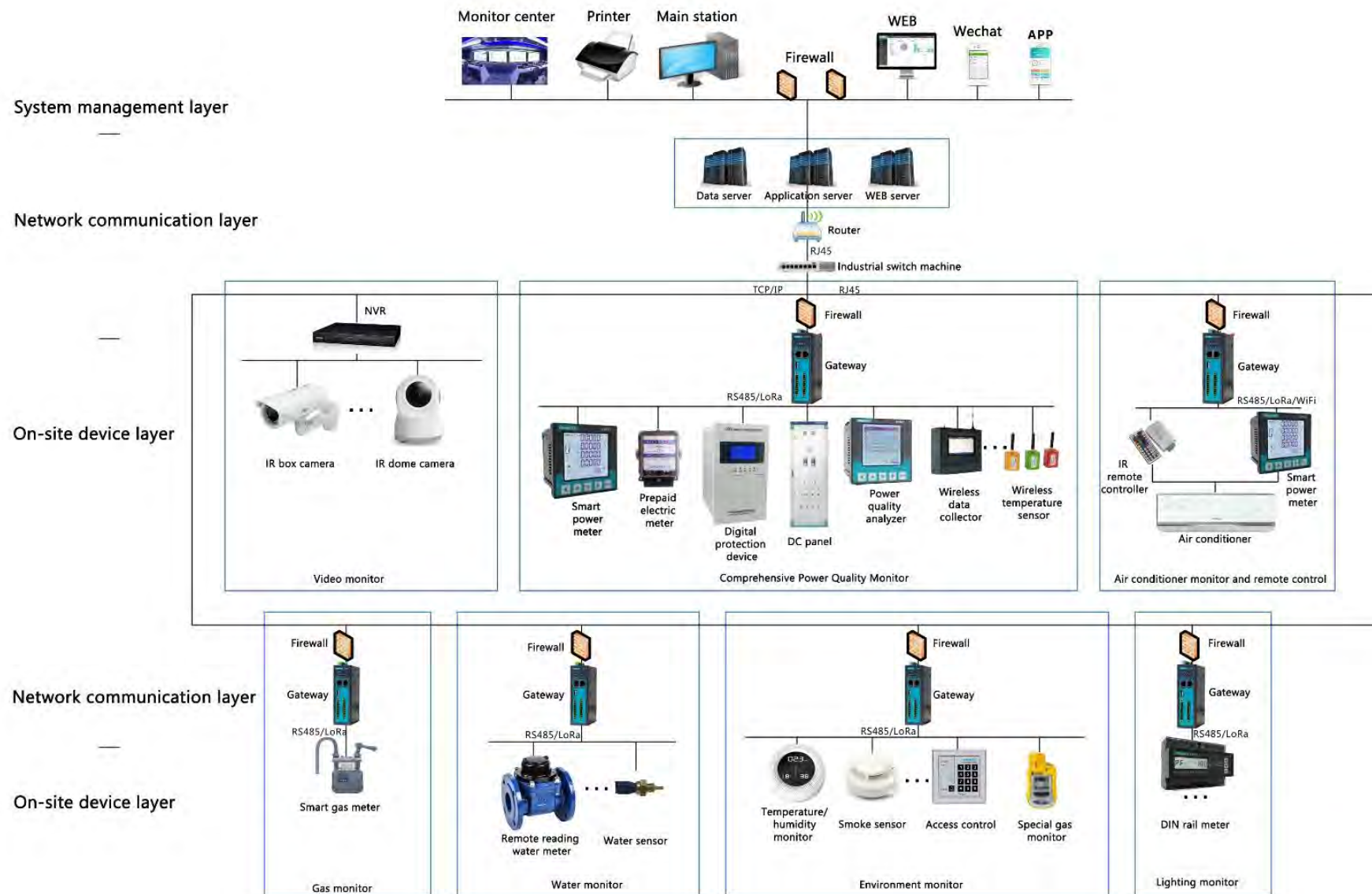
Build a smart energy integrated management platform based on energy data. Real-time monitoring, alarm, report, maintenance, consumption analysis, expert evaluation and other functions.

Install in local or cloud server, bulit a distributed, multi-redundant data storage centers, and complete AI analysis based on "Internet + big data".

Multiple data transmission network.
Wired: optical fiber, twisted pair, VPN, etc.,
Wireless: 4/5G, WIFI, Lora, ZigBee, NB-IoT, etc.

Replace or add new meters to collect on site data.
API or Webservice to docking the existing MES, SCADA, DCS, ERP, etc. to share the energy consumption data.

System management layer

Monitor center Printer Main station WEB Wechat APP Firewall

Network communication layer

Data server Application server WEB server

Router
RJ45
Industrial switch machine
TCP/IP RJ45

On-site device layer

NVR
Firewall
Gateway
RS485/LoRa

IR box camera   IR dome camera

Smart power meter Prepaid electric meter Digital protection device DC panel Power quality analyzer Wireless data collector Wireless temperature sensor

Firewall
Gateway
RS485/LoRa/WiFi
IR remote controller Smart power meter
Air conditioner

Video monitor

Comprehensive Power Quality Monitor

Air conditioner monitor and remote control

Network communication layer

Firewall Gateway RS485/LoRa
Firewall Gateway RS485/LoRa
Firewall Gateway RS485/LoRa
Firewall Gateway RS485/LoRa

On-site device layer

Smart gas meter

Remote reading water meter Water sensor

Temperature/humidity monitor Smoke sensor Access control Special gas monitor

DIN rail meter

Gas monitor

Water monitor

Environment monitor

Lighting monitor

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Wireless solution is used to save costs

for whole project.

Communication:

RS485 by MODBUS RTU

WIFI by MQTT

4G by MQTT

III. SOLUTIONS

NAME	Series	Features
APP	TOUCH ENERGY (Android/IOS)	Real-time display, analysis, and alarms on mobile
EMS	T@Energy	Real-time energy data display, analysis, alarm, device maintenance, user management and other functions
DATABASE	T@Data	Server cluster architecture, data interface drive, big data forwarding, protocol analysis, real-time sorting and storage for 3 million data
GATEWAY	KPM200	Protocol converter, data logger, edge computing
PQM	KPM75	Monitor and analyze power quality of grid
POWER METER	KPM	Digital power meter, motor protector
OTHERS	Water、gas meter, etc.	Modbus RTU / TCP/IP protocol with RS485

Display

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KPM31C Single phase 4G DIN rail prepaid energy met

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KPM31 Single phase wireless WIFI 4G DIN rail prepa

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KPM33 Three-phase DIN rail smart energy meter

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KPM10 Three phase multi-function digital power mete

Contact Us · Send Inquiry

KPM73 Multifunction power meter

Contact Us · Send Inquiry

KPM75 Power Quality Analyzer

Contact Us · Send Inquiry

KPM312 Three Phase Multi Channel Energy Meter

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KPM37 Wireless 4G WiFi LoRa Din Rail Three Phase E

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KPM53 Three phase smart digital power meter

Contact Us · Send Inquiry

KPM201 4G WIFI MQTT Modbus gateway

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KPM202 4G WIFI MQTT Modbus communication...

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KPM204 MODBUS gateway

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Core Tech		Software structure	B/S
		Programming language	Java
		Network technology	Web crawler, digital twin, AI prediction
		Database	MySql
		System	Linux, Windows
		Language	CN/EN
System perfermance		Accessed nodes No.	50000
		Historical data storage	≥5 years
		Telemetry and telesignal frequency	Minimum 5s
		System average uptime	10000h
		Mission success rate	500 users concurrently, 100%

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| APP | WEB | Third party interface |

Display

API interface

API

Service registration

| Aggregation service | Aggregation service | Aggregation service |
| Basic service | Basic service | Basic service |

Service fault tolerance

Monitor alert

Service

| Database | Database | Database |

Log processing

Data

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T@ENERGY V2.0

Personnel center
- Account setting
- Business management
- My focus

Homepage

System management
- User management
- Role management
- Dictionary management

Corporation management

Scheduling tasks

Report service

Alarm center

Consumption unit
- Consumption unit management
- Unit object management
- Consumption unit test
- Consumption unit statistics
- Consumption unit analysis
- Consumption plan

Device model

Real device
- Marketing management
- Marketing management
- Operation maintenance and inspection management
- Marketing management

Large screen

Operation ticket management

Energy Management Visualizing FIG

■Integrate whole unit energy information, combine static data and dynamic data

■Real-time monitoring energy performance inex

■Flexible filter, choose the required module any time

■Personalized exclusive page
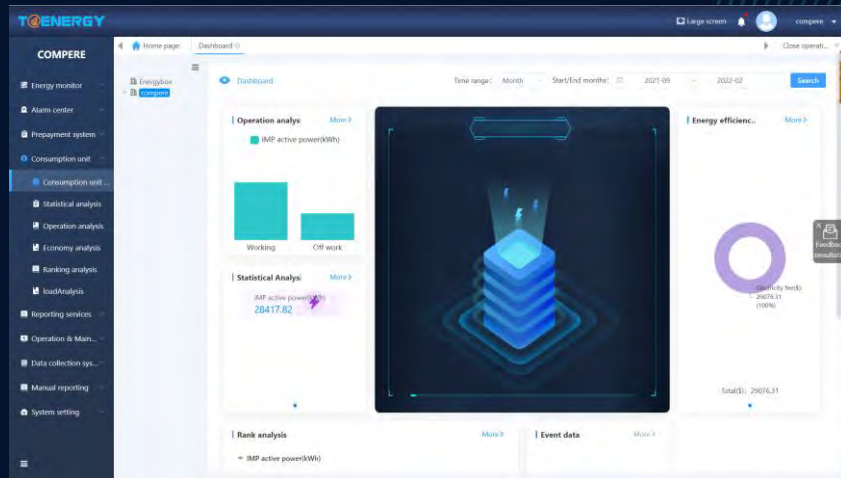
Smart consumption unit

■ Customized create a virtual model- Consumption unit, monitor and analyze energy data of multiple consumption units

■ Analysis of consumption unit operation, statistical, economic, correlation, alarm, comparative of multiple units

■ Integrated IOT sensors to complete informatization and visualization

■ Combine data twins, web crawlers, and big data mining to perform AI prediction of energy consumption data
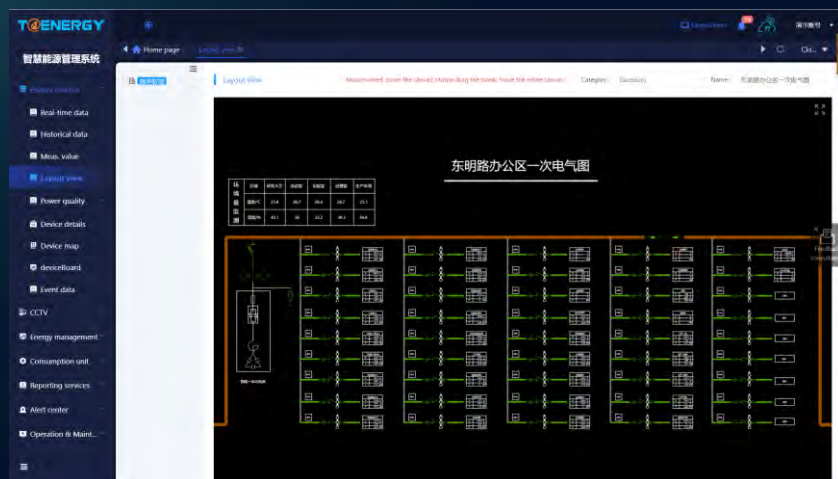
Cloud Configurator

One-stop IOT system that completes data collection, real-time control, alarm, group management, configuration design and other functions.

- Realize monitoring of real-time data, control and alarm
- Device template function make it easier for configuration
- Cloud Configuration provides a configuration editor for users, who can simply drag the configuration editor to realize the process flow diagram, binding data visual display

Energy management

- Flexible configuration of energy management plans to achieve rationalization of energy allocation by managers.
- Real-time monitoring and comparative analysis of energy allocation management to realize performance assessment of energy consumption usage of energy consumption units.
- Energy management reports can be generated and exported to assist managers' energy management decisions
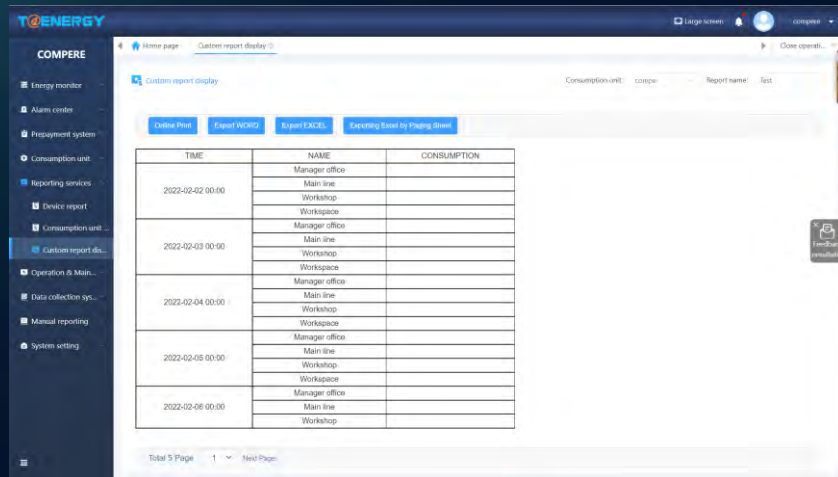
Customized report

■ Export energy consumption unit data report

■ Customize the report format and content

■ Support daily report, weekly report, monthly report, annual report, team report

Operation & Maintenance （value-added function）

■ Self-diagnosis of consumption unit health status

■ Intelligent inspection tasks, defect management, and test management

■ Patrol inspection tasks under APP, email, SMS... etc.

■ Customized management of work orders and work tickets

■ Strict steps in the maintenance process, systematic process, textual results, and intelligent reports

■ Realize the supervision, management and control of operation and maintenance actions

Carbon Emissions Management

Accounting the carbon emissions includes the accounting of the emissions of each process, process unit, key equipment, etc.

All data of the consumption unit can be configured with the expressions for calculation. The calculation expression of the data item can be freely combined to meet the different industries needs.

■ Daily / Monthly / Yearly carbon emissions

■ Line graph display

■ Carbon emissions and proportion of different energy type

Trend Forcasting

For factory and building users, the consumption forecast can help users judge the electricity consumption trends in the future, compare the deviation and evaluate the energy saving effect.

■ Predict real time data (such as power, reactive power, etc.) and consumption data
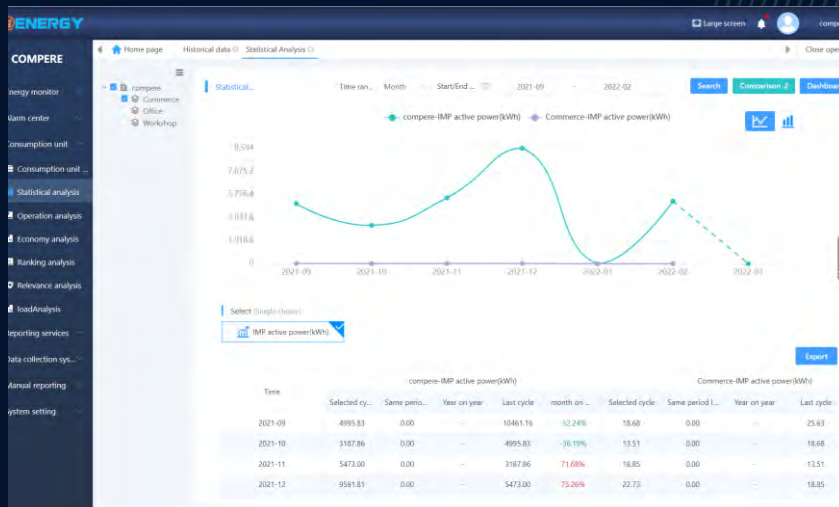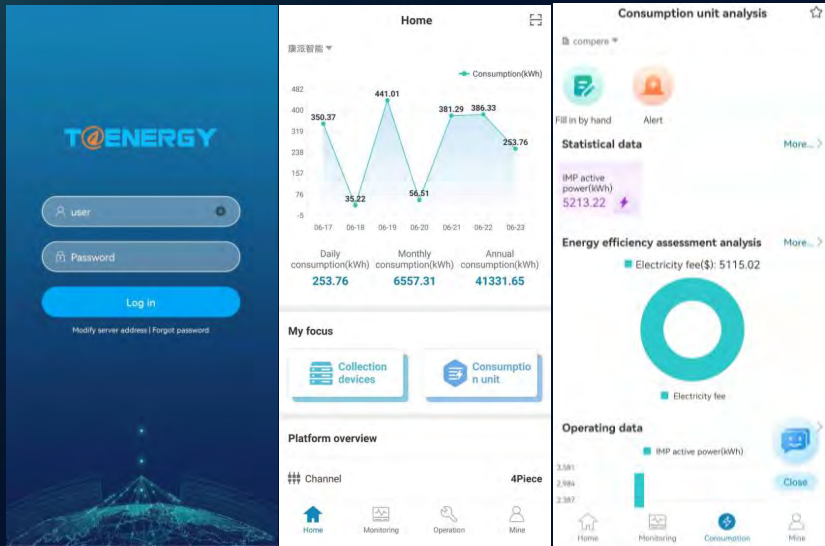
APP—Touch Energy

- Android and IOS APP

- Real-time monitoring of energy consumption, equipment status, alarm, operation maintenance management, data reports, etc.

- Realize the high efficiency of inspection, operation and maintenance, and emergency response.

Multiple industrial communication protocols

- Support standard Modbus, OPC, IEC 104, etc.

- Support access to mainstream brands of PLC, I/O equipment, DCS system, MES system, SIS system, etc.

CONTENT

MAKE ENERGY BENEFIT MORE SIMPLE

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Visible energy consumption data

Identify energy saving opportunities

Reduce energy costs

Tapping into energy saving space

Improve energy management

➢**Energy management dashboard**

Integrating energy information, combining static data and dynamic data to make energy management intelligently

➢**Production process flow chart**

View equipment operating status and process data to help users monitor equipment operating conditions and operational efficiency

➢**Power system single line diagram**

Real-time monitoring of the use of high/low-voltage switchgear and equipment operation status

➢**Real-time / historical data monitoring**

查看智能终端的实时数据、历史数据、事件数据等。帮助用户快速溯源故障发生点，实时掌握设备运行状态

V. BENEFITS @ ENERGY MANAGEMENT

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Visible energy consumption data

Identify energy saving opportunities

Reduce energy costs

Tapping into energy saving space

Improve energy management

➢ **Load characteristics analysis**

Effectively identify enterprise load imbalances

➢ **Energy Balance Analysis**

Combining energy flow diagram, energy balance diagram and energy balance report to effectively identify energy leakage

➢ **Transformer loss analysis**

Effective identification of "transformer loss value anomaly"

➢ **Equipment status monitoring**

By monitoring the motor status of key equipment, we can effectively identify the "No load running"

Visible energy consumption data

Identify energy saving opportunities
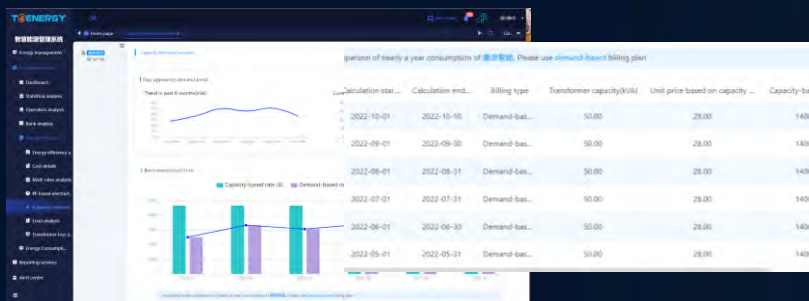
Reduce energy costs

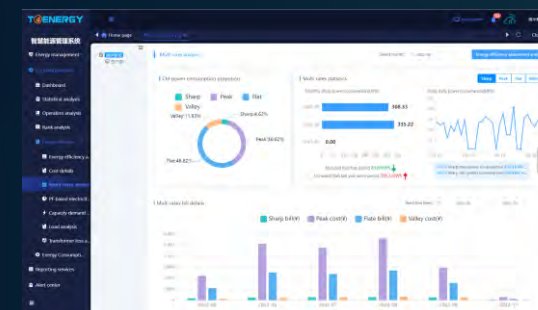**Tapping into energy saving space**

Improve energy management

➢ **Demand capacity analysis**

Compare bill for capacity-based and demand-based payments and provide advice to save money on electricity bills.
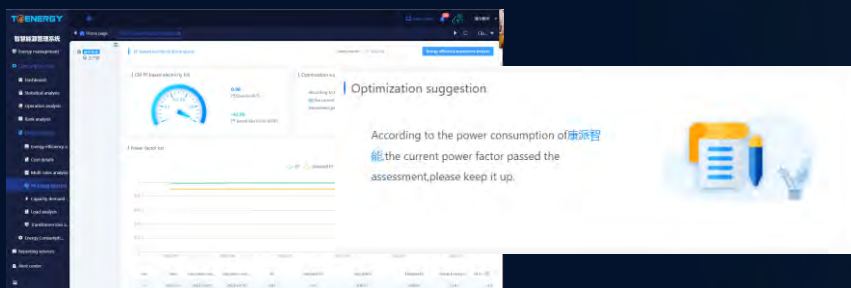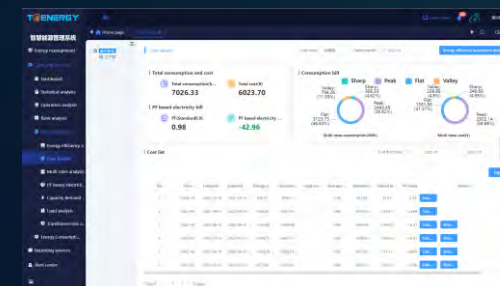

➢ **PF based bill analysis**

Compare the enterprise's monthly average power factor with the standard and give compensation suggestions, and help the enterprise to reduce the power adjustment bill.

➢ **Multi tariff analysis**

Compare the different tariffs costs and provide cost saving advice.

➢ **Cost details analysis**

View cost comparisons and trends of different energy sources. Guide customers on how to use electricity economically and reduce energy costs.

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Visible energy consumption data

Identify energy saving opportunities

Reduce energy costs

**Tapping into energy saving space**

Improve energy management

➤ **Energy efficiency analysis**

Combining the analysis advice of the PF regulation, multi tariffs and demand capacity analysis, etc., giving current energy efficiency score and suggestions for improvement
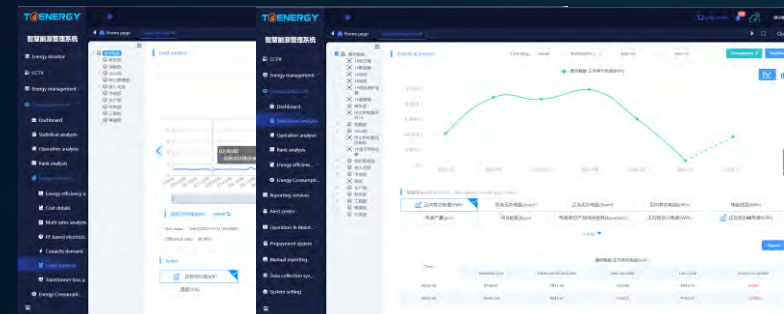

➤ **Energy efficiency benchmarking**

Compare the energy consumption per unit product, classified energy consumption and energy classification and application classification consumption.
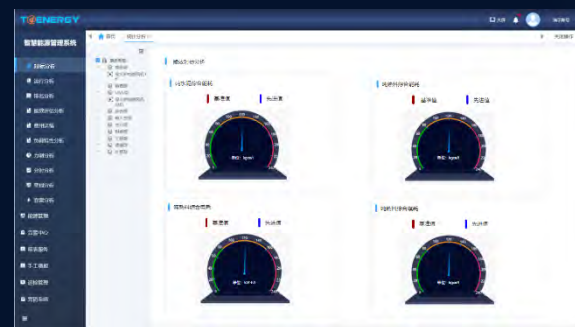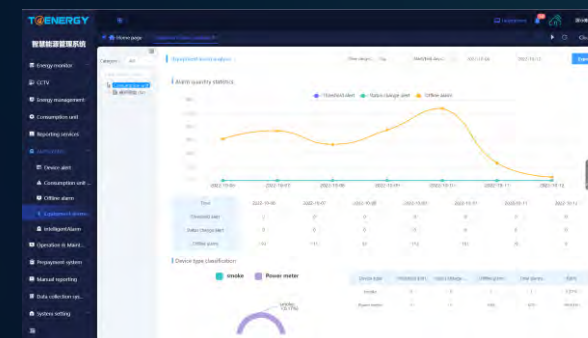

➤ **Load /energy consumption forecasting**

Forecast the energy load based on the current energy consumption and other factors.

➤ **Managing Energy Savings**

Discover energy waste points through energy data collection and alert energy anomalies through APP, SMS, platform pop-ups and other means.

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Visible energy consumption data

Identify energy saving opportunities
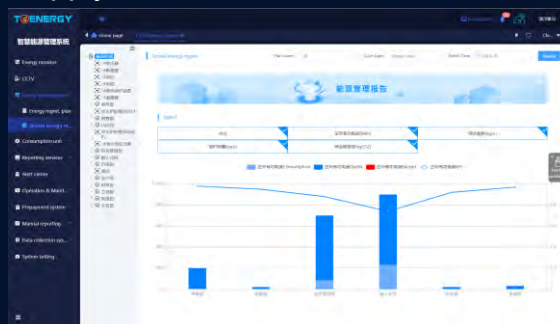
Reduce energy costs

Tapping into energy saving space

Improve energy management

➢ **Energy Program Management**

It helps users to discover the connection between planned and actual consumption, make reasonable energy plans, and ensure the balance of energy supply and demand.

➢ **Carbon Asset Management**

Provide low-carbon management, low-carbon consulting, low-carbon information and other services to help enterprises map out their carbon footprint.

➢ **Electronic equipment ledger**

Customize electronic equipment ledger to improve enterprise equipment management.
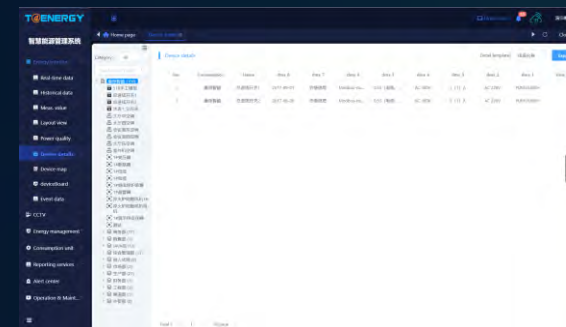
➢ **Remote Meter Reading**

Rich reporting tools such as meter reading data, equipment reports, energy consumption units, etc., and custom reports to save labor costs.

T@POWER Intelligent maintenance system

PC&APP

Patrol management

Defect management

Test management

Maintenance management

- Patrol cycle
- Patrol work text

- Defect report

- Test cycle
- Test work text
- Test report

- Maintenance cycle
- Test management

Audit

Word order

Word ticket

Notification

Monitoring sensing automation

Standardization of maintenance processes

Intelligent decision analysis

Intelligent maintenance

Mobile operation of maintenance process

Production command centralization

Lean equipment management

◆ Real-time view of operating equipment data, energy data management, historical data statistics, data comparison.

◆ Equipment alarms, fault information pushing, abnormal information management.

◆ Timely pushing of inspection plans and work orders.

◆ Rapid reporting of equipment failures.

◆ Quickly viewing equipment operating status, data indicators.

◆ Support for uploading equipment condition photos.

◆ User information management.

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Intelligent Lighting

Reduce lighting waste sources through lighting controls, energy efficient lamp retrofits, etc.

Air conditioning energy saving

Air conditioner operation efficiency optimization, air conditioning system energy saving renovation, and air conditioner energy saving.

Energy saving materials

Graphene, lubricants, insulation materials, etc.

Inverter energy saving

Reduce the waste of energy and the reduction of equipment life due to fluctuations in operating current of electric equipment.

01
02
06
03
05
04

Energy saving technologies

Equipment Retrofit

Load balancing retrofit, power factor compensation retrofit, new equipment replacement retrofit

Energy storage or distributed energy

Fuel energy storage, electrochemical energy storage, physical energy storage, preheat recycling, photovoltaic power generation, wind power, hydropower, etc.

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Software advantage

B/S structure；
Strong scalability；

Experience advantage

20 years electric field experience；
Over 10 years power equipment manufacturing experience;
10 years system integration experience;
Years of software development and application experience;

Expert team

Joint development of enterprises and
universities, technology sharing, and
achievement sharing;

Resource advantage

ABB regional strategic cooperation relationship;
Software and hardware integrated R&D,
production and sales enterprises;
Numbers of vertical field experts guidance;
A variety of professional energy-saving enterprise
resources;

Project advantage

Provide "turnkey" service;
Rich experience in system integration project construction;
Professional electrical maintenance and test team;
Professional electrical engineering construction team;
Possess a permit for installation (repair, test) power facilities.
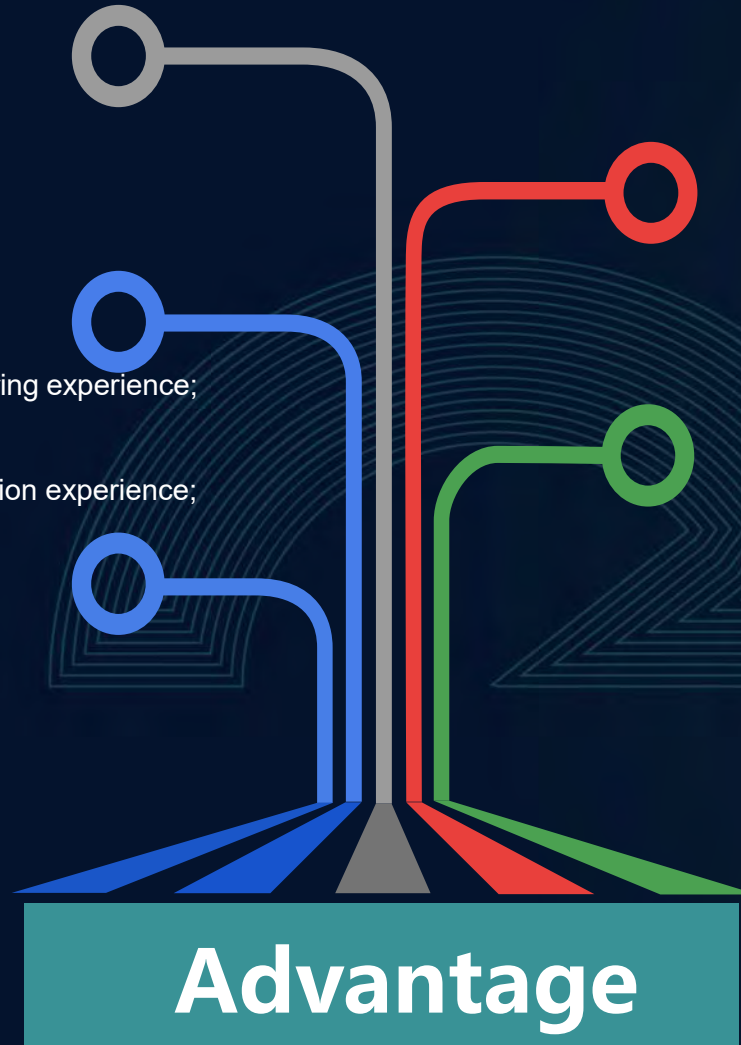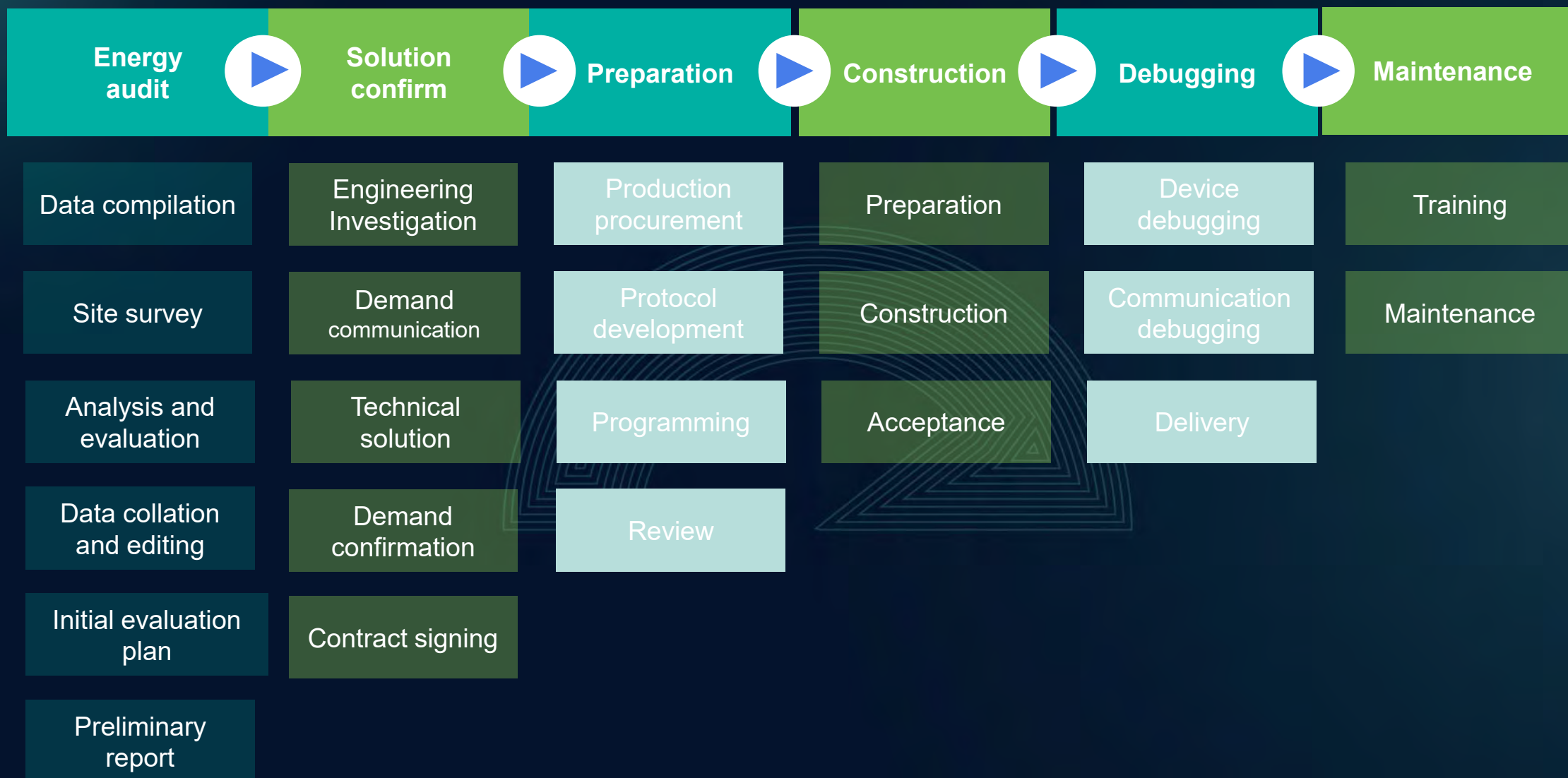
Advantage

Sales for global market

Certificate for Electricity Contracting

Professional implementation and after-sales team

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Energy audit	▶	Solution confirm	▶	Preparation	▶	Construction	▶	Debugging	▶	Maintenance

Data compilation	Engineering Investigation	Production procurement	Preparation	Device debugging	Training
Site survey	Demand communication	Protocol development	Construction	Communication debugging	Maintenance
Analysis and evaluation	Technical solution	Programming	Acceptance	Delivery	
Data collation and editing	Demand confirmation	Review			
Initial evaluation plan	Contract signing				
Preliminary report					

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XO TEX Garment Factory (Cambodia)

Customer	XO TEX
Solution	T@Energy energy management system
Project	50 pcs power meter 15 pcs water meter 5 pcs electromagnetic flow meters 11 pcs temperature sensors
Country	Cambodia

Customer requirement

Green factory
Automatic monitoring

- Monitoring power consumption
- Monitoring environmental parameters
- Sewage treatment monitoring
- Water flow monitoring

Solution

T@Energy wisdom energy management system

- T@Energy platform
- IOS APP & Andriod APP
- 4* KPM202
- 50*KPM33
- 11*KPM910

Customer value

Energy visualization
Reduce energy costs
Safe & reliable power

- Anyone/Anytime /Anywhere
- Automatically generate reports and send fault alarms to the mobile phone APP as soon as possible to reduce the risk of sudden power outages

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Ariston Thermowatt

Customer	Ariston Thermo Group
Solution	T@Energy wisdom energy management system
Project	40 pcs power meter 2 pcs electromagnetic flow meter 6 pcs gas meter
Country	China, Italy

Customer requirement

Lean production
Save energy

- Lean management needs to digitize the energy consumption of each device to reduce waste
- Improve the overall strength of the company

Solution

T@Energy wisdom energy management system

- T@Energy
- 1*KPM204 Gateway
- 47*KPM210 Lora
- 40*KPM53 Power meter

Customer value

Energy visualization
Reduce energy costs
Safe & reliable power

- Refined management of the deviation between the company's energy use target and the actual
- Chinese / English for global factory applications
- Smart Menu function, set energy consumption indicators to realize the functions of energy consumption over-limit alarm and other functions

Longson Dormitory

Customer	Longson Öğrenci Yurdu
Solution	T@Energy energy management system
Project	425 pcs power meter
Country	Turkey

Customer requirement

Automatic meter reading
Billing

- Monitoring each room power consumption
- Less cost
- Easy to management

Solution

T@Energy
energy management
system

- T@Energy
- 425pcs * KPM31B-Wi

Customer value

Easy to management
Saving manpower

- Automatic meter reading for monitoring each room power consumption
- Wireless WIFI solution saving lots communication costs
- Different authority management, saving lots manpower

More than 1000 integration projects in the World

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Mission — Make energy benefit more simple

COMPERE

Core value — Integrity, focus, efficiency, innovation, win-win

Philosophy — Customer first, people-oriented, win-win

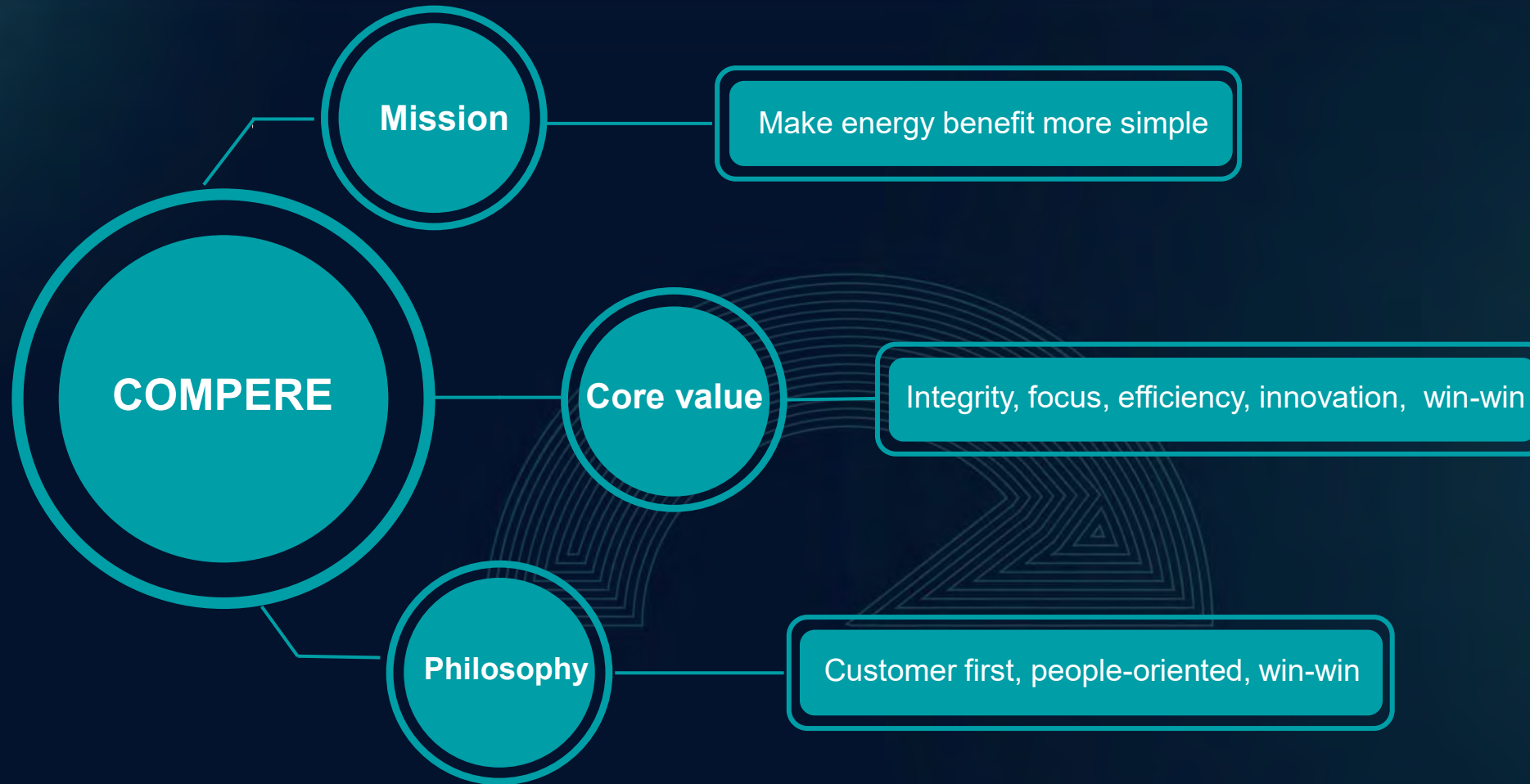**Make every city, every building, every factory benefit from using Compere products.**

THANK YOU!

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