IoT Smart City Solutions

博高信息

创新型智能电网服务专家

Catalogue

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Company Introduction

–Property：private company

–Founding time：in 1999

–Old name：Chengdu Boost Technology Co., Ltd

–Registered capital：RMB 60.91 million

–Total assets：RMB 180 million (in 2016)

–Listed in the NEEQ in Oct. 2015　Stock code：833884

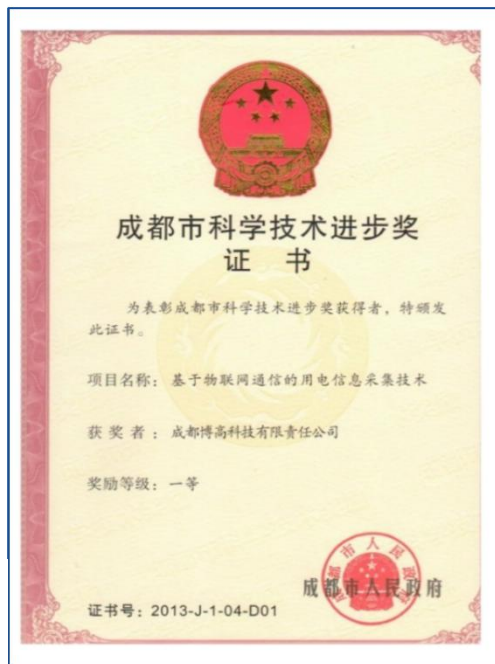–Subsidiary：Chengdu Boost Electric Engineering Co., Ltd

◆ new high-tech company

◆ provincial enterprise technology center

◆ innovation and practice base for postdoctors

Company Honor

– **Leading company of electricity consumption acquisition in southwest area.**

– Main participators of State Grid dual mode communication technology standard founding.

– In 2015, sales department of Sichuan electric power corporation organized joint test of Power Meter Remote Parameter Modification and Real-time Power Charge Issue. Over ten domestic chip company participated in it and Boost take the lead in finishing the test with self-developed the VI generation carrier communication technology, and were among the best companies in reaching the standard of both acquisition success rate and power charge issue.

– In 2017, becoming the fist domestic IoT supplier of integrated solutions for water, electric and gas meter energy management and on-site construction based on LoRaWAN standard.

◆ **Power consumption information acquisition technology based on IoT communication**

◆ First Prize of Chengdu Scientific and Technological Advancement (2013)

◆ Third Prize of Sichuan Scientific and Technological Advancement (2015)

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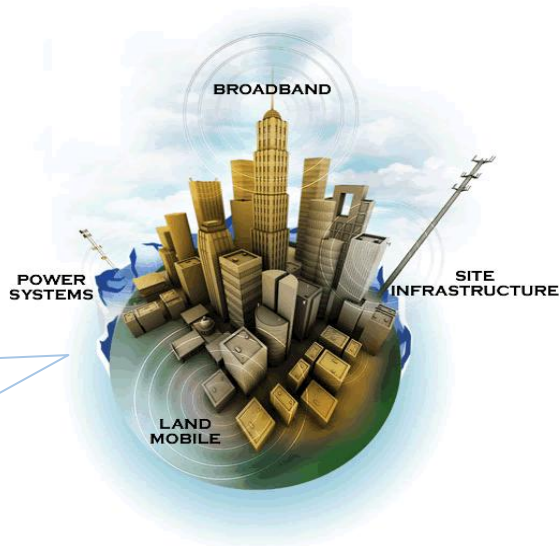
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What is Smart City?

● Based on diversified network combination of Internet, IoT, telecom network, TV network, wireless WBN, etc.
● The networked, information-based, smart and modern city with technology integration, comprehensive application and high-tech development.
● The new model of city development with content of smart technology, industry, culture, service, management and life.

large coverage of Wi-Fi
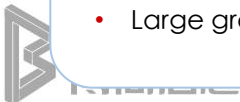
- available in most areas
- good signal coverage

abudant termianls and low cost

- abundant terminals match with multiple bussiness application
- low cost of terminal upgrade

large information resources

- complete political and commercial information, conveniet for on-line work
- Large group of customer

BROADBAND

POWER SYSTEMS

SITE INFRASTRUCTURE

LAND MOBILE

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Current Status of Smart City

Repeated construction, lack of effective plan

Lack of effective plan in informatization integration leads to some repeated construction.

Serious information isolated island phenomenon

Combined effect cannot be achieved with seperated informatization

Lack of completed and scientific standard sys.

Lack of unified city informatization standard sys.
Discordance of different dept. informatization standard.

Lack of suitable operational mgmt. mode

Lack of general framework of scientific and practical city informationalized construction
Lack of construction and operation mode for different type of cities.

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Problems of Smart City Construction

report break down and power cut events for special institutions demanding 24 hours continuous power supply

difficult to centralized reading of water, electric and gas meter in residential estate, schools, factories, office buildings

difficult to monitor city pollution, air condition, sewage turbidity, height, depth, pipeline flux

complex and difficult to wiring energy meter in different industries

lack of mgmt. sys. of operational efficiency, quality, energy consumption monitoring and track for different industries

difficult to monitor and schedule kinds of vehicle, leading to traffic jam, theft and other loss

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Common IoT Communication Technology

Carrier
district as unit, without expansibility

LoRaWAN
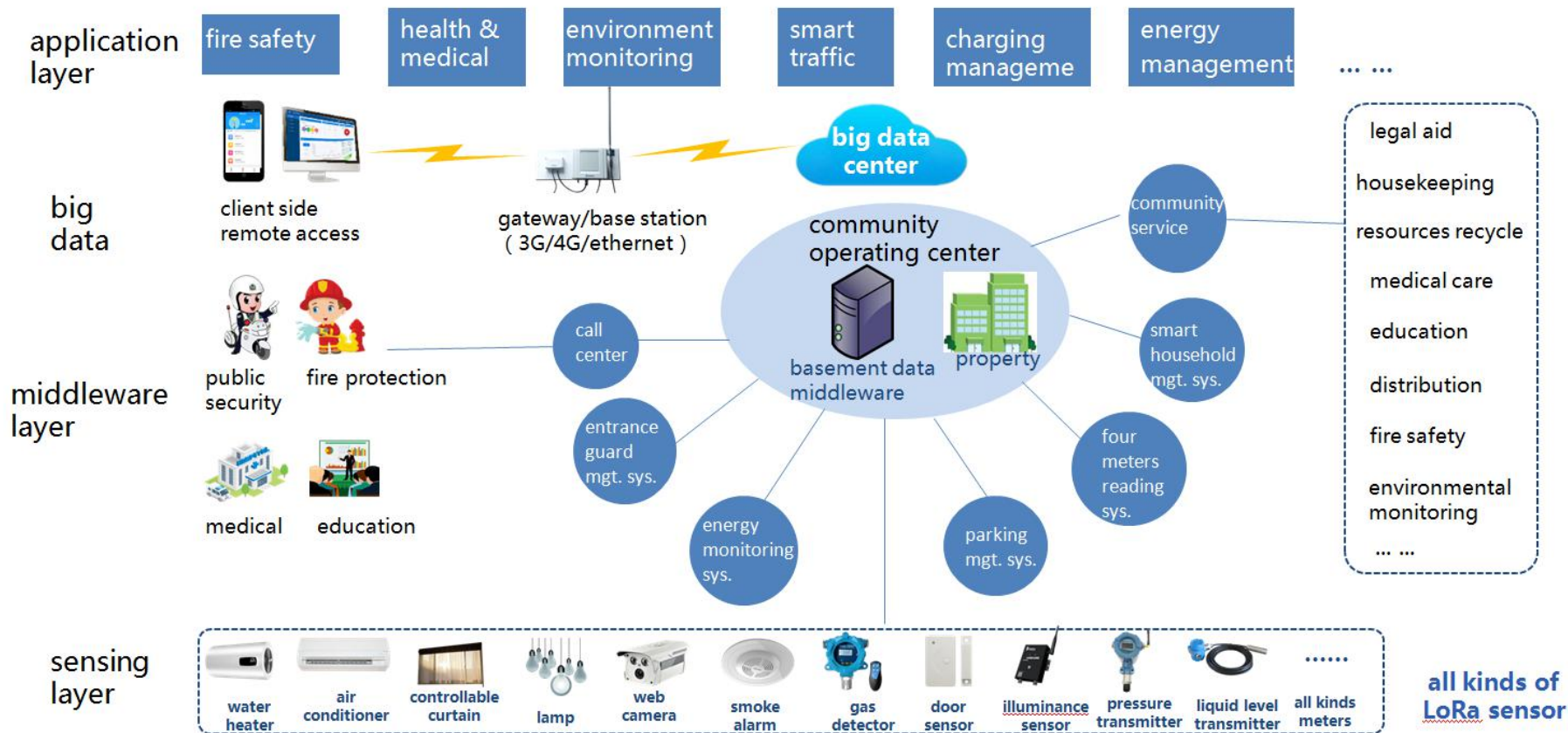large expansibility, low power, good penetrability, long distance

NB-iot
high cost, follow-up operating charges, limited by three operators

	LoRa	Power line carrier	NB-IoT
Reliability	high	middle	middle
Anti-interference	strong	middle	middle
Penetrability	strong	—	middle
Exploitation Difficulty	high	high	middle
Early Investment	high	middle	high
Maintenance charge	low	high	high
Distance	6km（open）	500m	long
Rate	low	low	middle

Platform Archietecture of Smart City Management

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LoRaWAN City Networking Topological Graph

IoT Products of Boost

LoRaWAN gateway

communication unit (electric meter/LoRaWAN wireless)
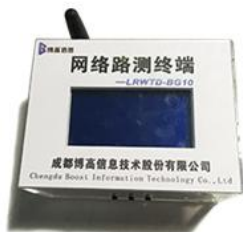
communication unit (water meter/LoRaWAN wireless)

communication unit (gas meter/LoRaWAN wireless)

acquisition unit Ⅱ (LoRaWAN wireless)

IoT Products of Boost

network road testing terminal

network communication repeater (LoRaWAN wireless)

LoRaWAN illuminance sensor

LoRaWAN temp & humid sensor

LoRaWAN wireless smoke alarm

network communication repeater (main device)

network communication repeater (slave device)

Energy Monitoring Main Station and APP

This system regards medical care, property, shopping mall, factories, schools, electricity selling companies and fire protection unit as target groups, based on remote data acquisition of varies sensors and meters, starting from meter cost management, aiming at energy management, and supporting by IoT platform, to build a professional system with nearly 20 years experience on electric power data acquisition field.

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Big Data Application Analysis of Smart City

Precision

It is the description of quality and reliability of big data. The core of any information mgmt. requires data quality, governing, metadata mgmt. and data security and legality.

Diversification

E.g., video data, voice data, image data, literal data and data logging. The diversification of data types have close relationship with data source diversification, including, phone, VCR, sensor, social platform.

Value

The value of data can only be achieved through big data analysis, that is , the process of extracting valuable data information from big data.

Quantity

All kinds of data source are within the frame of smart city. The data volume brought by multimedia, social media and other types of network presents geometric growth.

Speed

Due to the continuous growth of data quantity and data source and changing of data types, the content are in the status of continuous changing.

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2	Status and Problems
3	Platform Architecture
4	Solutions
5	Typical Application

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Typical Application of Smart City in Different Fields

Environment monitoring and electric apparatus safety
municipal service and new-type urbanization

IoT smart lighting
Low power, and simple construction transformation. No need to excavate road. With multi-logical control, convenient maintenance, smart timing and optimized management.

Community policing and integrated treatment security sys.
Video identification and big data platform comprehensive application.

Fire protection IoT
Heartbeat and real-time data monitoring. The hidden danger can be detected and alarmed in time, to minimize property loss. It is an upgrade and supplement of original fire protection management.

Smart building environmental and operational status perception
Monitoring and alarming the elevator, water, electricity, gas and air condition environment. Provide better service with higher mgmt. efficiency and lower operation cost.

IoT safety mgmt. of electric bicycle
Designed for non-motor vehicles security, owner ID, vehicle information management, traffic monitoring, joint prevention and control. Use IoT smart lock sys. for location and security. It can be guided by government to achieve multi-win with post-market development mode.

Smart City-On-site Application

street lamp control

electrombile charging and mgmt.

electric bicycle charging and mgmt.

smoke\carbon monoxide alarm

parking management

electricity acquisition of advertising and express boxes

Aerial View of Smart City

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