

MODERN COMMUNICATION TECHNOLOGY

# Smart Hospital Solution



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# Smart Hospital



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01

# Project overview

Guangdong Jieyuan Electronics Co., Ltd.



# Project overview

- Resources are unevenly distributed, can't make full use of doctor experts. 30% big cities concentrate 80% of high-quality medical resources.
- Difficulties in collaboration across departments
- Low efficiency of medical assistance in emergencies



**Government:**  
Uneven distribution of resources

- Shortage of medical practitioners and shortage of high-quality expert resources
- Difficulties in clinical teaching and seminars in hospitals, teaching between hospitals and schools.



**Hospital:**  
Urgent need in cultivating experts

- Long time queuing for registration, for medical treatment and payment, short time for seeing the doctor
- High-quality medical resources in underdeveloped areas are in short supply, and hospitals cannot keep patients with serious diseases, which increases the cost of medical treatment for patients.



**Patients:**  
Difficult to see a doctor, especially famous doctor

Due to the imperfection of the public medical management system, it brings a lot troubles to people. Especially " **low-efficiency medical system, poor-quality medical services, difficult and expensive medical treatment**" are the main focus of social attention. Large hospitals are overcrowded, community hospitals are unattended, and patients have cumbersome medical procedures. These problems are all caused by poor medical information, polarization of medical resources, and incomplete medical supervision mechanisms. These problems have become important factors affecting the harmonious development of society. Therefore, we need to establish a smart medical platform system to **enjoy safty, convenience and high-quality diagnosis and treatment services**. Fundamentally solve the problems of "difficult to see a doctor and expensive to see a doctor".



## Industry status

**【Current situation of medical information industry】** -Definition and driving factors to build an interconnected medical information platform

**External forces :** The government policies on "Opinions on Promoting the High-quality Development of Public Hospitals".

**Internal forces :** Driven by refined operation management. Hospitals above the third level accelerate the deployment of full-scenario informatization, and hospitals below the third level increase their investment in basic applications and information systems year by year.

**【Development status】** -Started late, the threshold of information technology in hospitals is relatively low, and the market concentration is low

**【Industry pain points】** -Poor experience, high learning cost, and difficult in data exchange

**Poor experience, high learning cost, and difficult data exchange :** At present, the medical system is difficult to meet the needs of "employee experience" and "patient experience".

**high learning cost :** The learning cost of information technology is high, and the poor implementation of supply-side products prevents users from effectively perceiving it.

**Difficult in data exchange :** The data standards of different departments and systems are not unified and the data security issues cause "data islands".

02

# Design concept

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# Design concept

## Public area

- Public address system
- Meeting management system
- Information release system
- Smart building system
- Queuing management system



## 120 command center

- LED screen system
- Sound system
- Digital audio conference system
- Visual Management System
- Video conferencing system



## Lecture hall/multi-function hall

- LED screen system
- Sound system
- Digital audio conference system
- Central control & matrix system
- Stage lighting system
- Stage machinery, stage curtain system
- Simultaneous interpretation system



## Party Committee meeting room

- LED screen system
- Sound system
- Digital audio conference system
- Central control & matrix system
- Paperless conference system
- Video conferencing systems



## Meeting room

- LED screen system
- Sound system
- Digital audio conference system



## Outpatient department and inpatient department

- Guide medical triage
- Nurse call system
- Ward IPTV
- Master clock system
- ICU visitation system
- Queuing management system

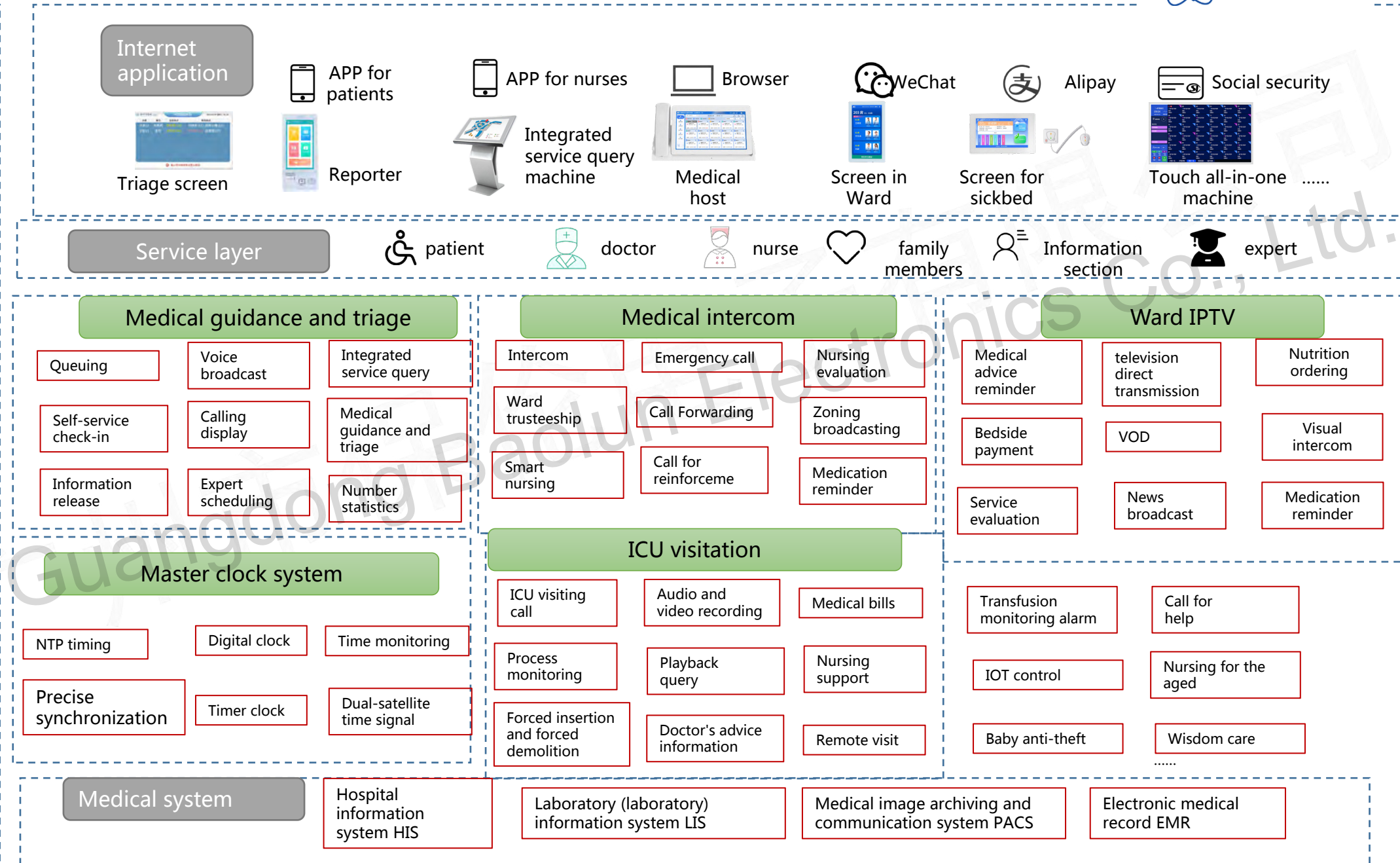


Other construction sites also include surgical teaching classrooms, remote consultation rooms, training rooms, etc.

# System Structure

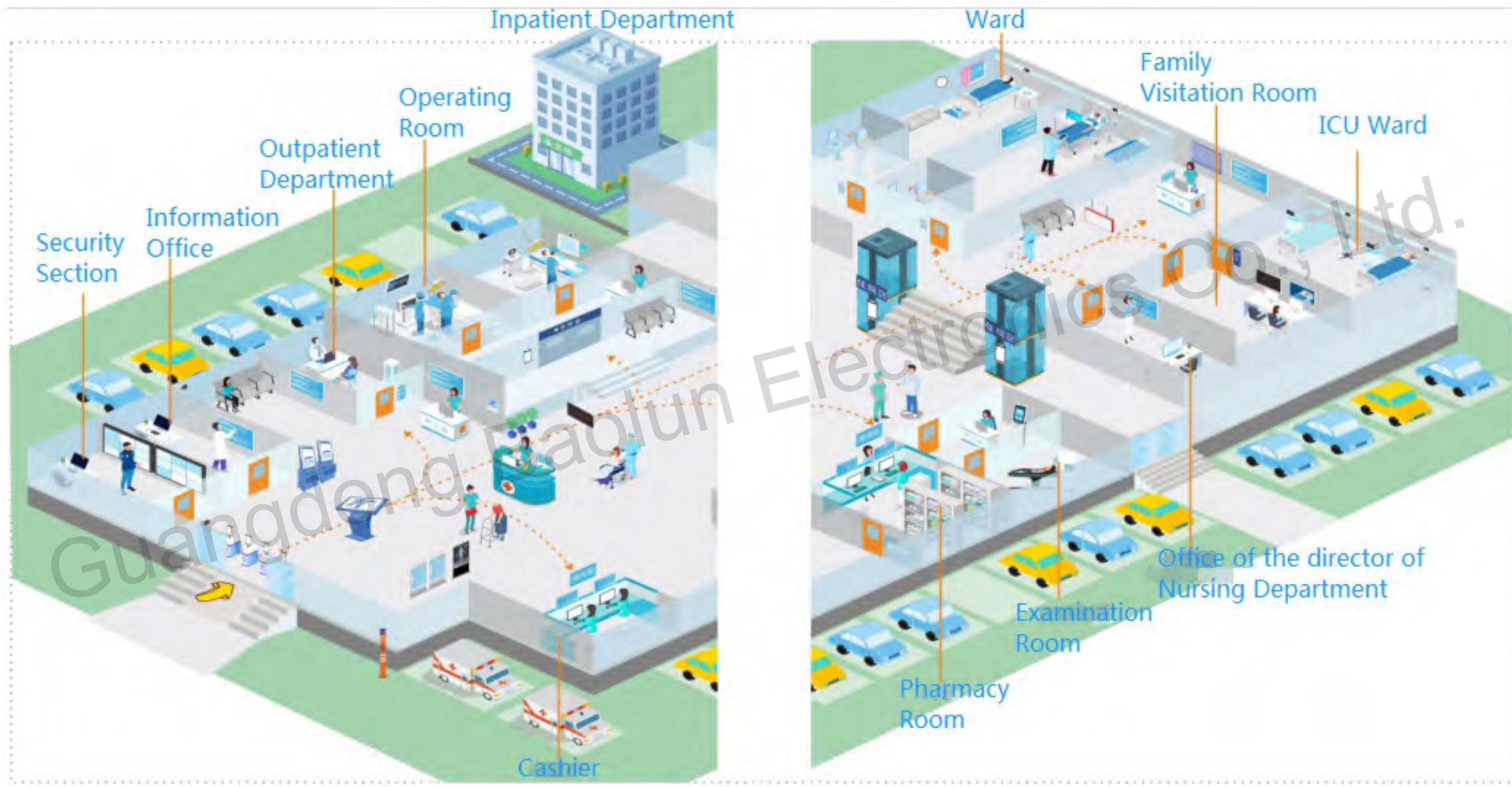
Relevant laws and regulations policy, specifications

Safety management system





# Application



03

# Solution

Guangdong Baolun Electronics Co., Ltd.



# Medical guidance and triage system

# Construction goals

- The construction of smart outpatient service includes lobby information propaganda system, medical guidance and triage system, floor 3D navigation system, self-service terminal management system, outpatient queuing system, medical technology queuing system, pharmacy queuing system, physical examination queuing system, inter-clinic payment system, etc. After the construction, it can effectively solve the "Long time queuing for registration, for medical treatment and payment, short time in seeing the doctor" problems of patients before, during and after diagnosis, optimize outpatient medical order, reduce doctors' work pressure and improve patients' sense of medical experience.



- Orderliness**
- Wisdom guidance
- Map navigation
- Wisdom triage call
- Intelligent information release

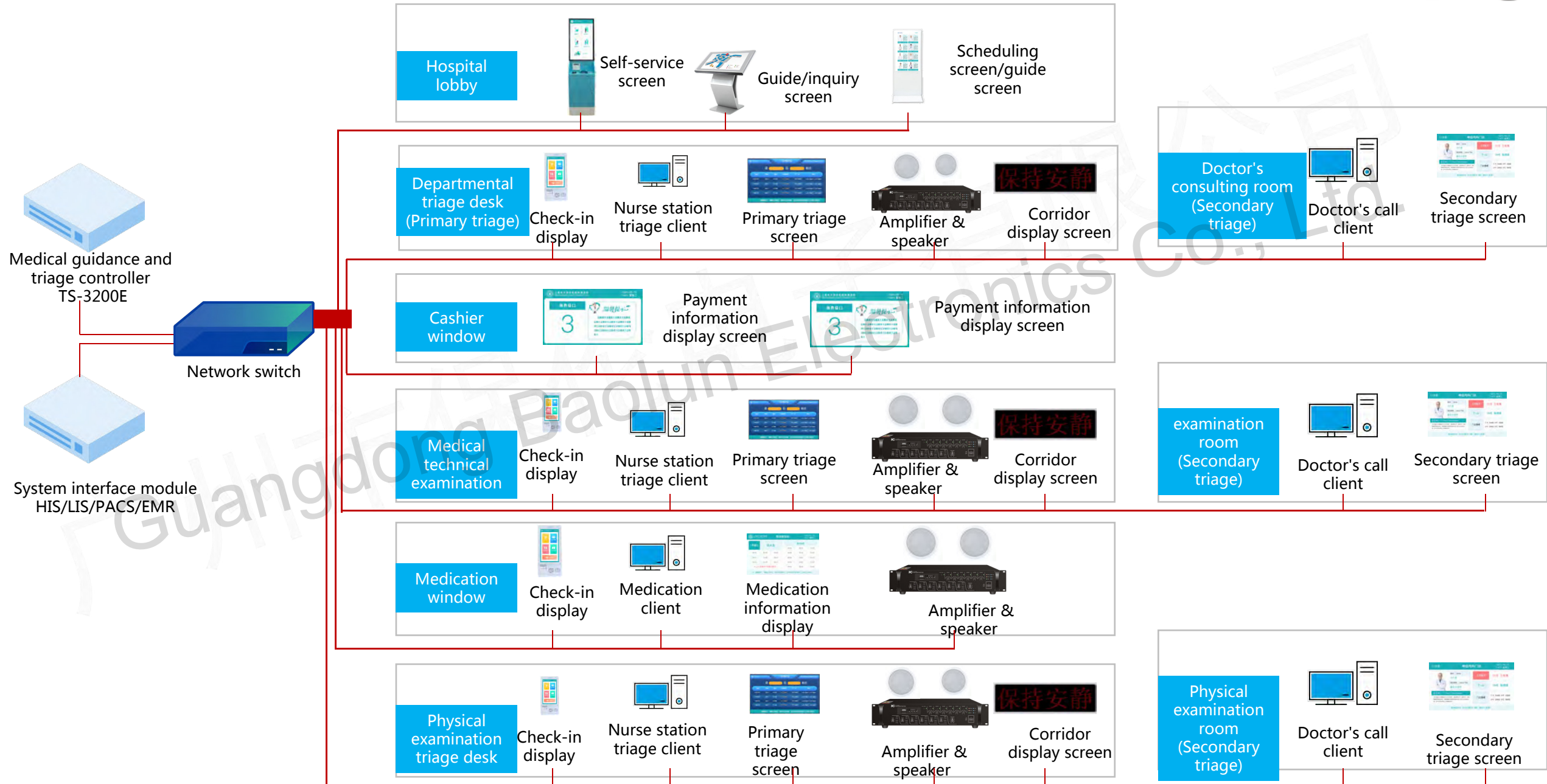


- Work efficiently**
- One person, one number, order calling.
- Environmental improvement and efficiency improvement
- Diversion of wisdom and improvement of quality
- Orderly medical treatment

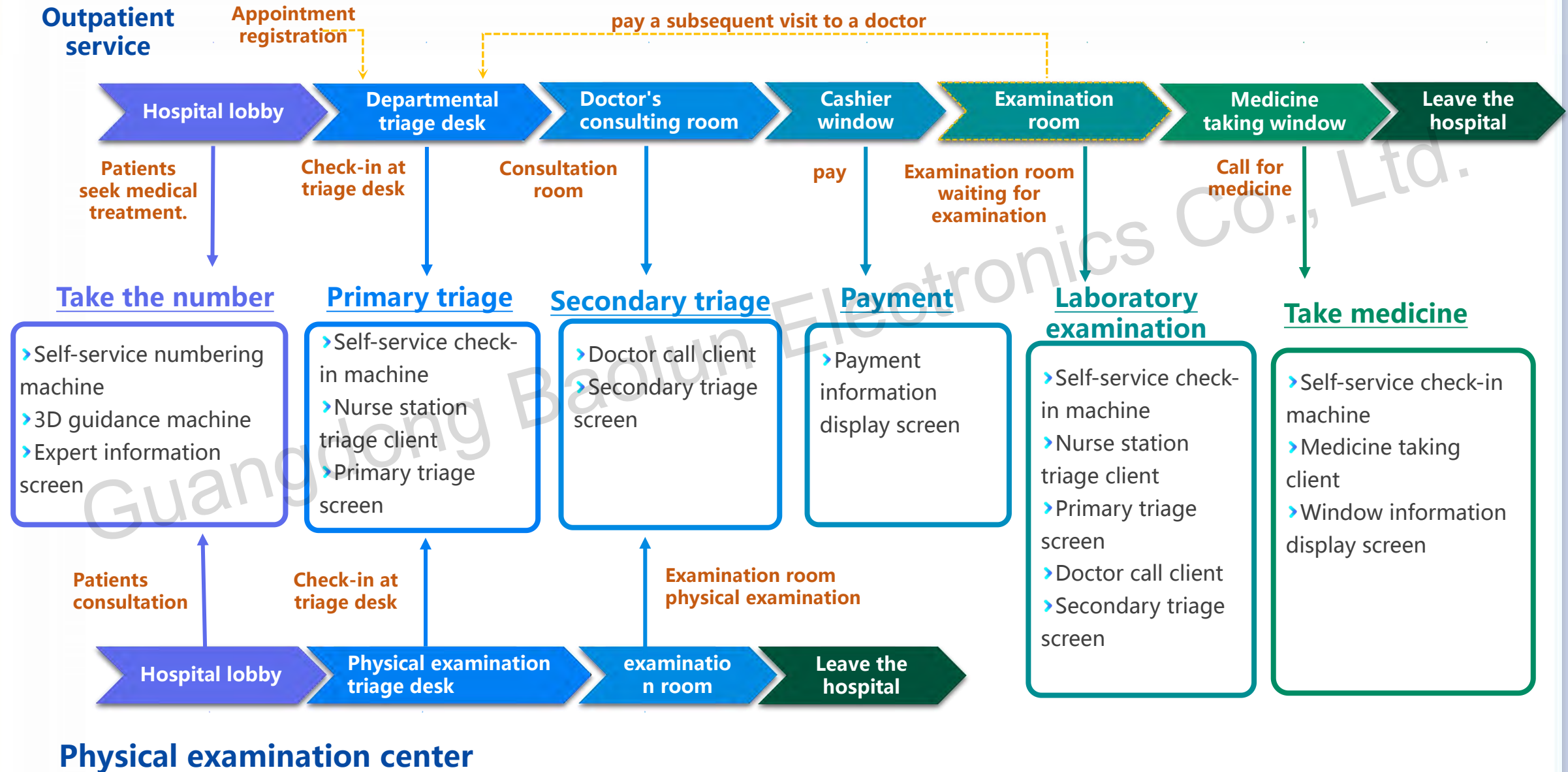


- Diversification of information propaganda**
- Diversification of display forms
- Diversification of information release
- Information transmission and timely update
- Diversified information.

# Architecture diagram



# Application overview





# Function



Self-service registration, self-service payment, appointment registration and self-service number retrieval



Dynamic 3D map navigation, touch query



Multimedia information display, hospital dynamic real-time update



Medical guidance and triage functions: information scrolling, voice-to-text playback, warm tips, etc.



Self-service sign-in, automatic numbering, queue query, etc.



Call-in function: call again/call over/stop diagnosis/reception, waiting queue query, etc.



Nurse triage client functions: manual key signature, manual triage, etc.



The guidance and triage system support to intergrate with HIS system, PACS system and EMR system.

## Online registration time-saving

Patients can register remotely online in advance, and the system will automatically generate the registration sign-in triage code.

After arriving at the hospital, the patients go directly to the registration screen of the corresponding department to sign in, without queuing in the hospital lobby to get the number.



## A variety of sign-in methods to avoid queuing congestion.



Online check-in can save offline queuing time, shorten the process of seeing a doctor and improve the efficiency of seeing a doctor.



# Highlights



## 3D map navigation

The hospital's 3D visual guidance screen uses 3D map and indoor positioning technology to present the layout of the hospital in a three-dimensional way, and quickly establish spatial perception for hospital patients. Provide medical navigation for patients to quickly find specific locations such as outpatient clinics; Support destination search, the system automatically plans the shortest path for patients, and scans the code to get the navigation route with one click.



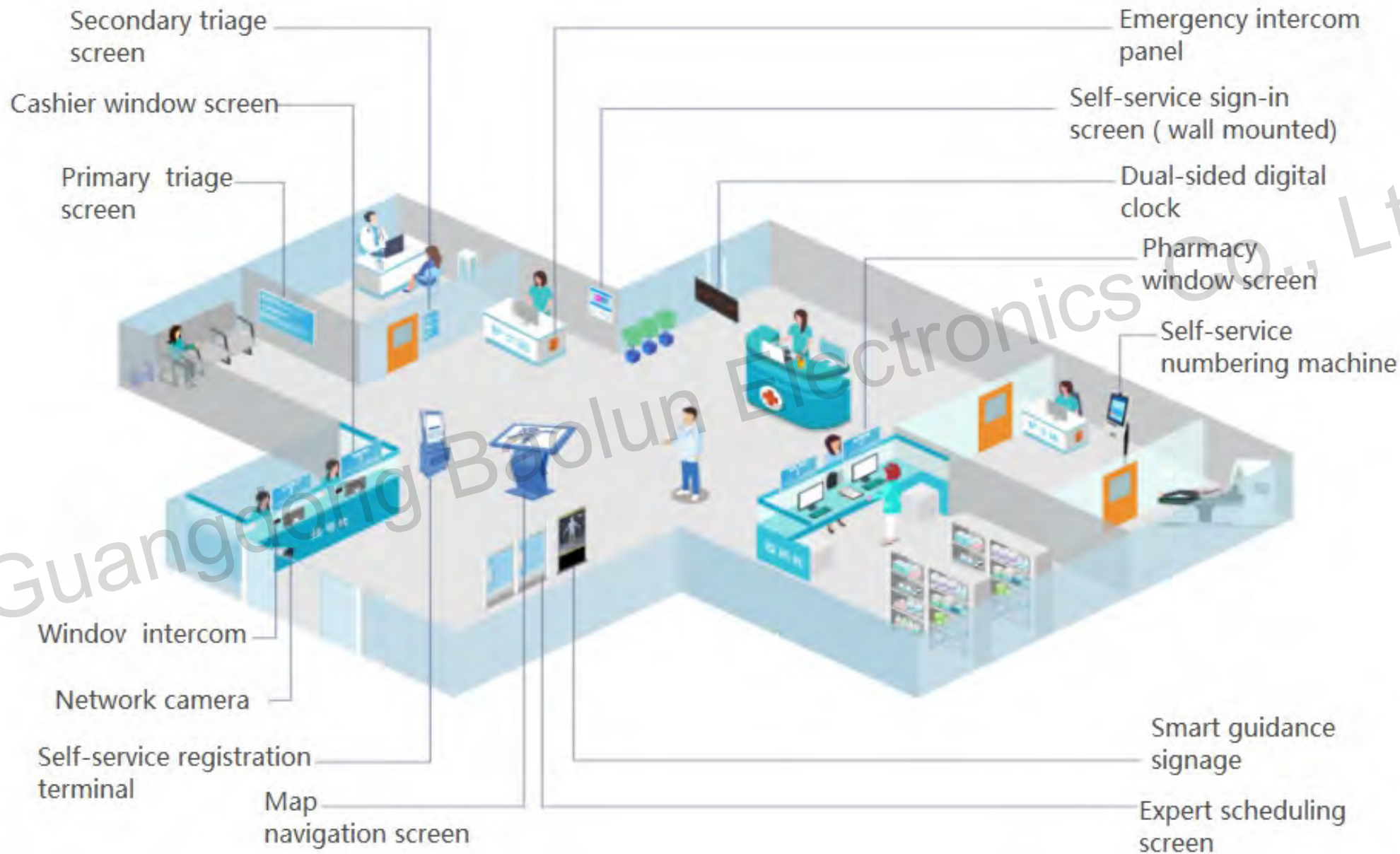
## Layout customize editing

Support to customize the color, layout style and font size of equipment templates (primary triage screen, secondary triage screen, payment window screen, etc.). Realize free shift and drop of components, reduce development and layout quickly.





# Application renderings



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# Medical intercom system

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# Demand Analysis for Smart Ward Construction



The medical intercom system is based on IP network communication technology, which realizes the paging and intercom of patients, nurses and doctors. By intergrating with HIS system, it realizes the information interaction functions such as ward information display, patient information display and hospitalization expenses inquiry.

## Hospital management

- Understand hospital flow and set up posts scientifically.
- Visualize data presentation to improve management efficiency.
- Unified management of hospital equipment.
- Improve service quality and reduce the contradiction between doctors and patients.

## Patients/relatives and friends

- Meet the needs of medical care in time.
- Improve the experience of medical treatment and hospitalization.
- Improve the efficiency of medical treatment and reduce the cost of medical treatment time.
- Convenient digital medical treatment, reducing learning costs.

## Healthcare workers; medical staff

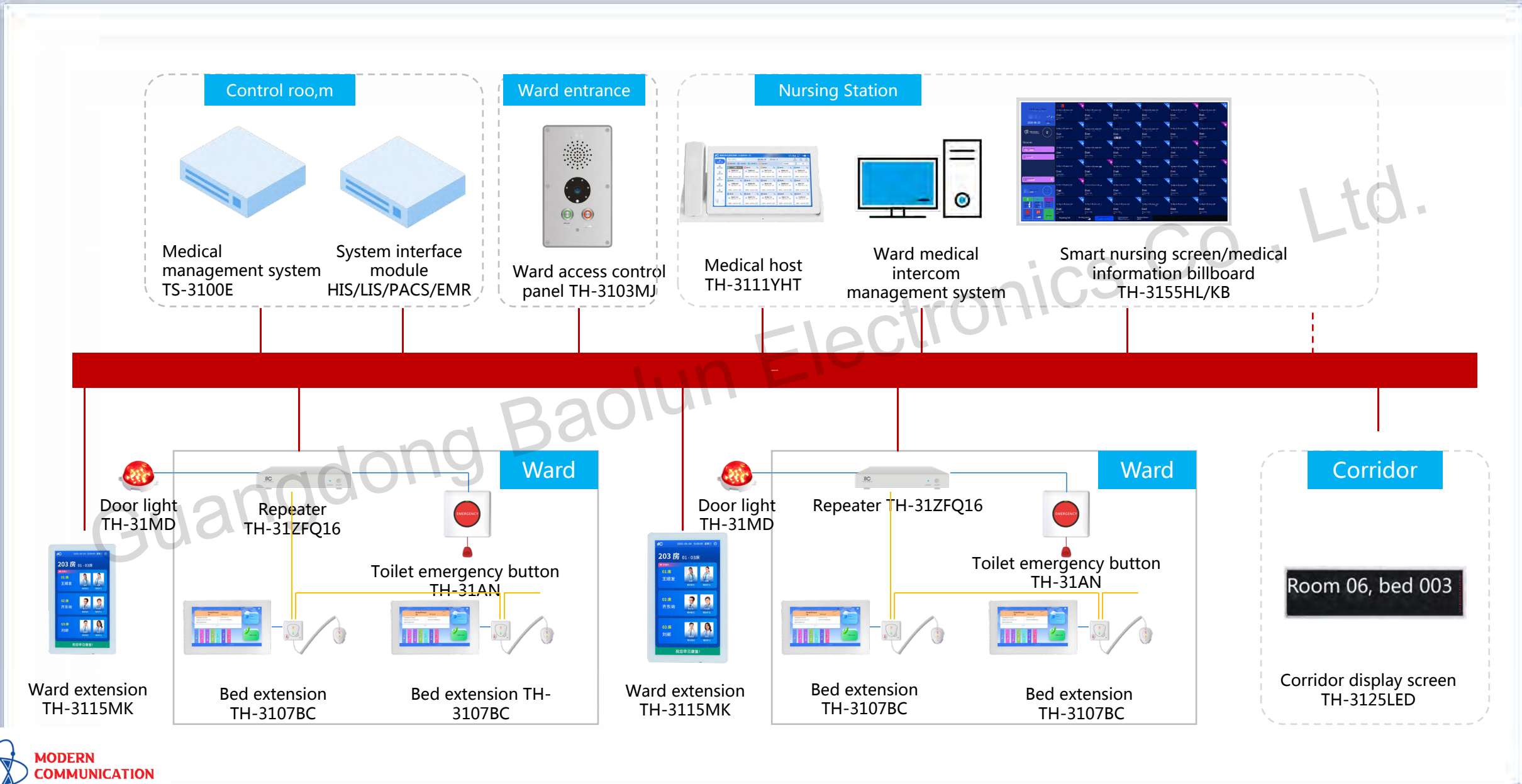
- Effectively communicate between doctors and patients and improve the relationship between doctors and patients.
- Facilitate work docking and communication.
- Improve nursing quality and efficiency.
- Reduce the labor loading.

## Operation and maintenance

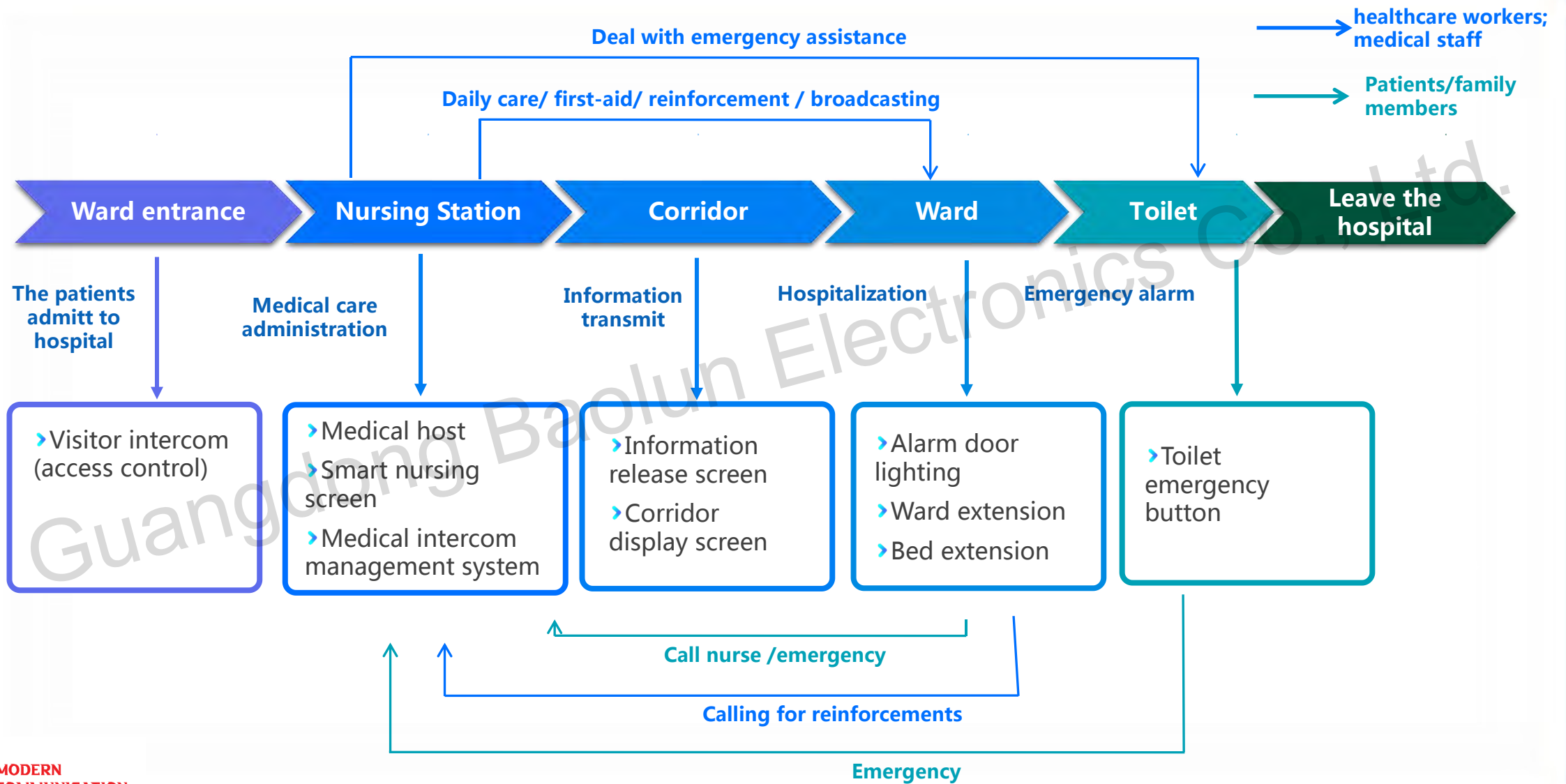
- Equipment maintenance is convenient.
- Can locate and remove obstacles in time.
- The system has strong anti-interference ability and perfect interactive information, reduces the operation and maintenance cost.



# Architecture diagram of ward medical intercom system



# Overview of the application of ward medical intercom







## Paging & intercom/ward trusteeship

- Patients and their families talk to nurses at the nurse station;
- The medical host supports ward trusteeship;
- Cross-ward paging, the call of the ward can be hosted to the adjacent ward to answer the intercom if necessary;
- Statistical summary of call data;



## Emergency call

- Patients in the bathroom or bathroom accident, can make an emergency call;
- Different ringtones can be customized for nurses;



## Calling for reinforcements

- When the nurse is nursing but needs the assistance of other nurses or the patient has an emergency, he can call for reinforcements.



## Information display/video education

- Display the patient's basic information, call information, medical staff information, doctor's advice content, expense list and other contents on the display terminal;
- Support health education content such as pictures and videos;



## HIS system Intergration

- Support to integrate with hospital HIS system, which can record and manage the information of doctors, nurses and patients in the hospital.



## Authority management

- The super administrator can choose any ward to operate, and users in other roles except the super administrator can't choose other wards by default.

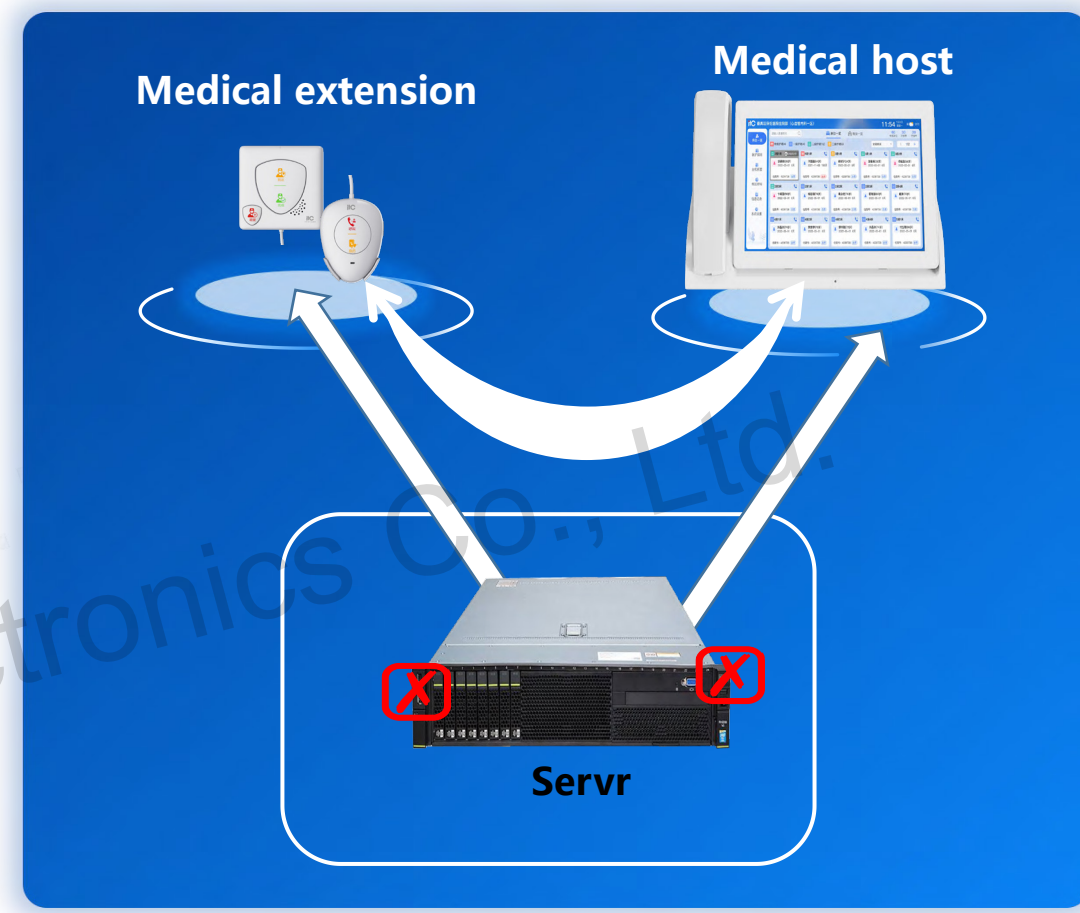
# Highlights of medical intercom function



- Information display
- Lighting reminder ( Three colors, always on, flashing )
- Pop-up reminder
- Call interface
- Pop-up reminder
- task list
- Smart nursing screen
- Scrolling display
- Corridor information screen
- Call information reminder

**Fiberhome linkage**

To solve the problem of paging to medical staff, medical staff tend to ignore the pain point of call signal. It can respond at the same time through the door screen, the alarm door light, the medical host, the smart nursing screen and the corridor information screen, and inform the medical staff in a multi-dimensional and all-round way through the pop-up, task list, lighting state, etc., thus forming the trend of bonfire linkage, so that patients can get timely assistance from the medical staff.



## Off-line intercom

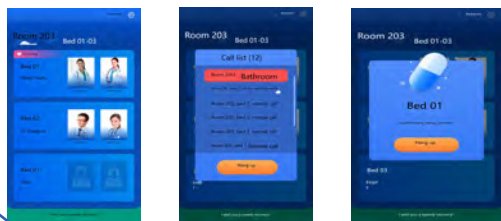
Solve the pain point of communication interruption caused by unstable server operation. When the server is disconnected, it supports the offline intercom function to ensure that patients can call medical care at any time and ensure the safety of patients.



# Highlights of medical intercom function

## Initial UI style

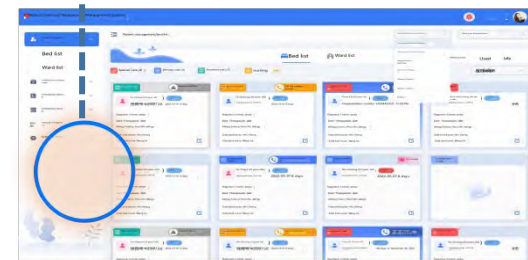
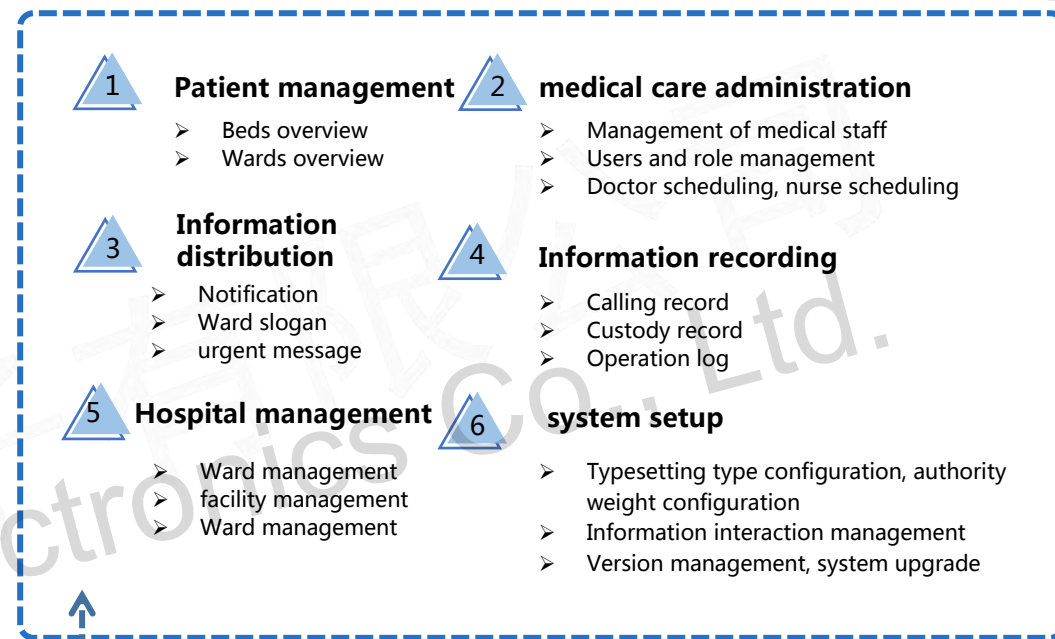
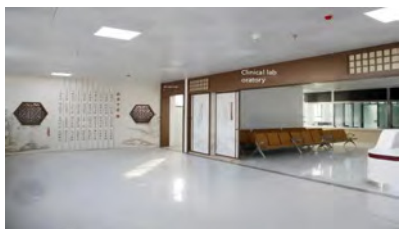
Main color: blue and white



**Maternal and Child Health Hospital**

**Pediatric hospital**

**Traditional Chinese Medicine Hospital**



**Centralized control**

Solve the pain point that managers have to log in to different accounts every time they operate different functions. Managers can flexibly operate the management of the hospital without switching accounts many times.

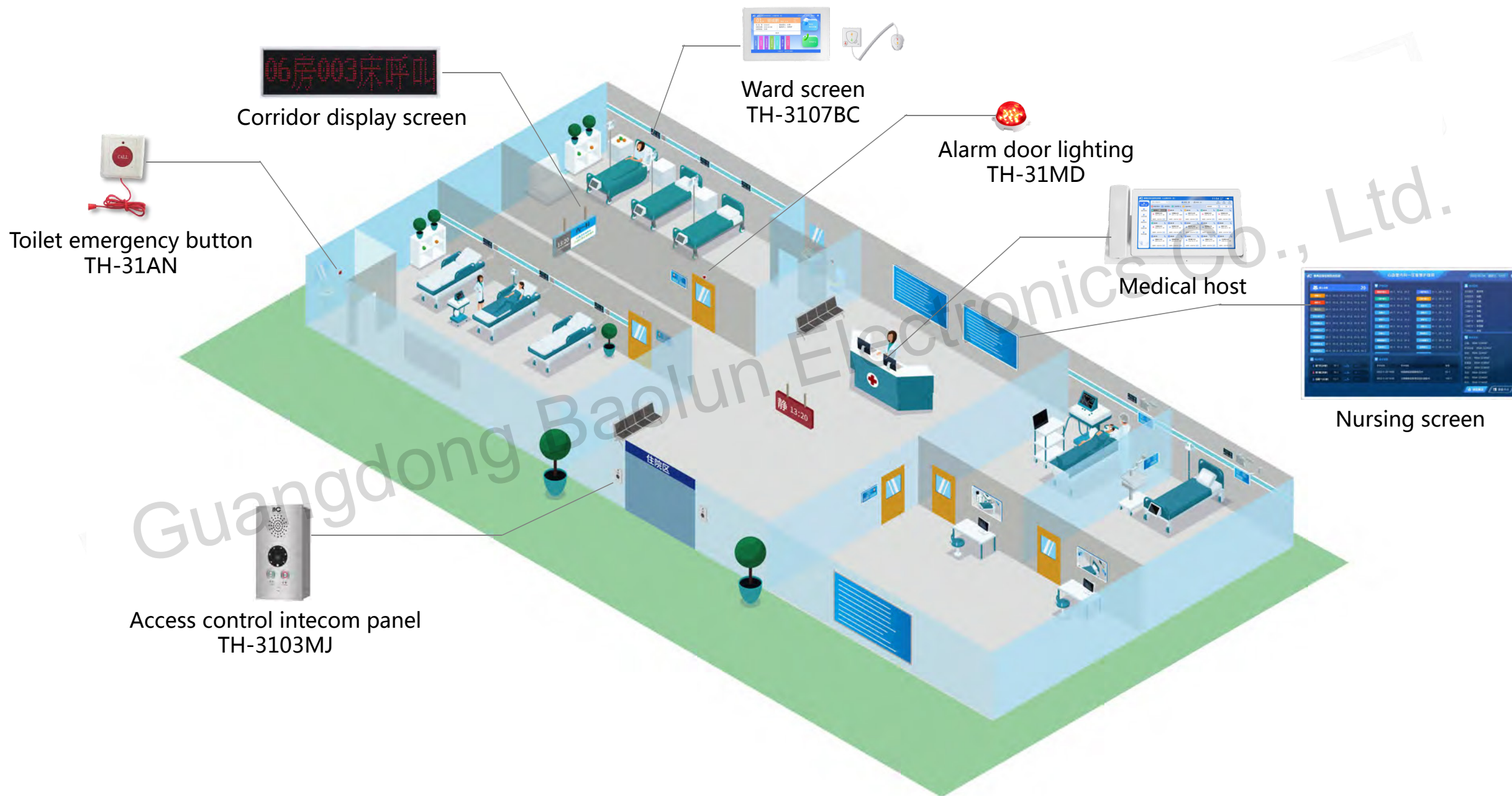
**Diversification of UI interface**

Solve the pain point of the color and style of the UI interface of the medical intercom system. Personalized layout style can be set according to the hospital category or department.



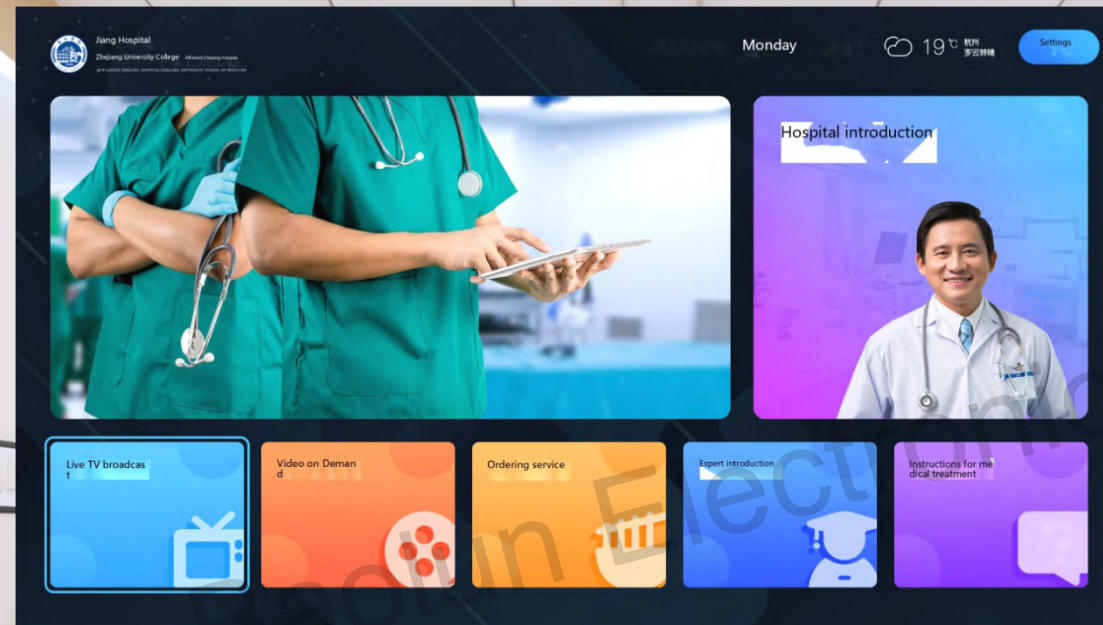


# Application renderings



# Ward IPTV system

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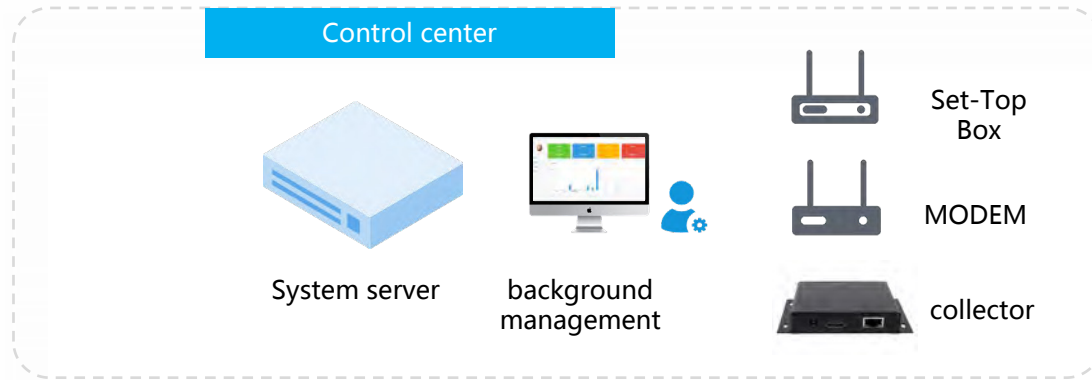
## Ward IPTV

- Provides live TV, video on demand, hospital introduction, meal ordering service, expert introduction, medical notice and other services.
- Support the live broadcast and on-demand functions of the hospital's own programs.
- Provide emergency information insertion function, support scrolling subtitle pop-up screen, emergency announcement, picture, video and other notification functions.
- Connect with the medical and nurse call system in the hospital, and provide patients with self-service services such as bill inquiry, drug price inquiry, doctor's order inquiry, and meal ordering.

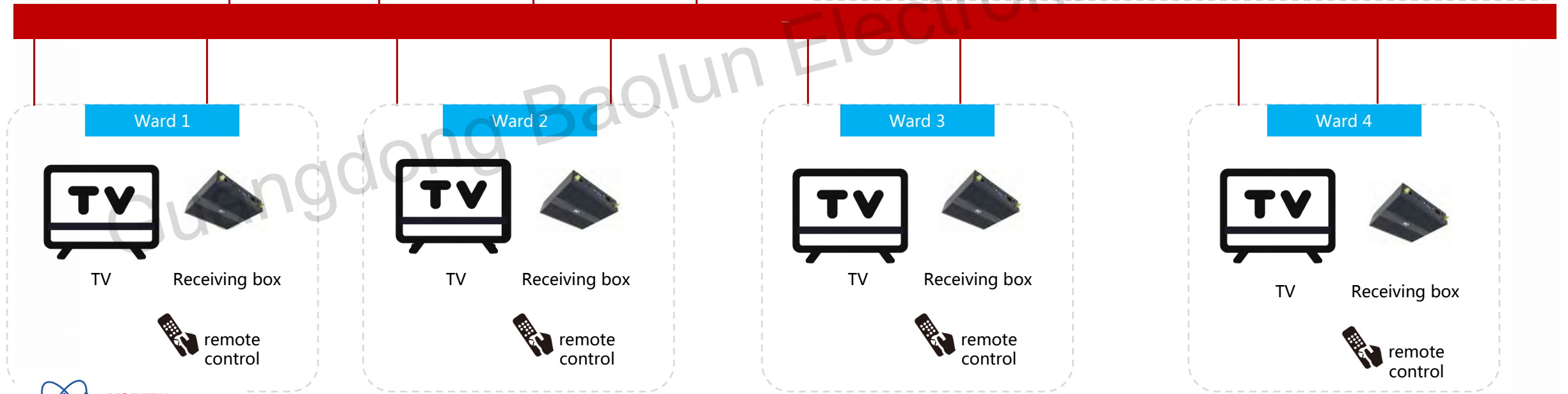




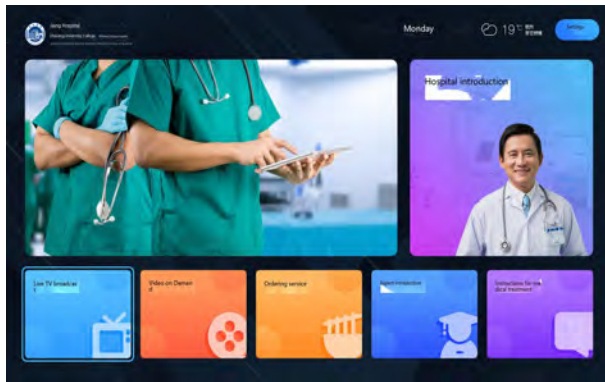
# Ward IPTV system solution-system architecture



1. Upload the VOD to the system background server through the streaming media system;
2. The system background server converts the video format into the one that meets the requirements of the client through transcoding service to ensure that each video can be played normally
3. Synchronize the video on demand to the storage server;
4. Docking the IPTV client and synchronizing the on-demand video to the IPTV client;
5. IPTV VOD can be playback TV



# Function Application

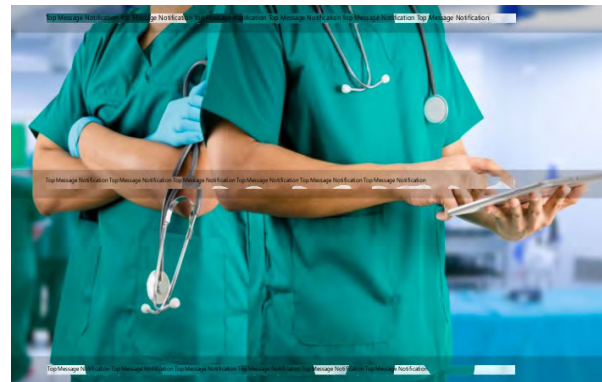


## Home page display

Provide live TV broadcast, video-on-demand function, hospital introduction, ordering service, expert introduction, just to know.

## Own program

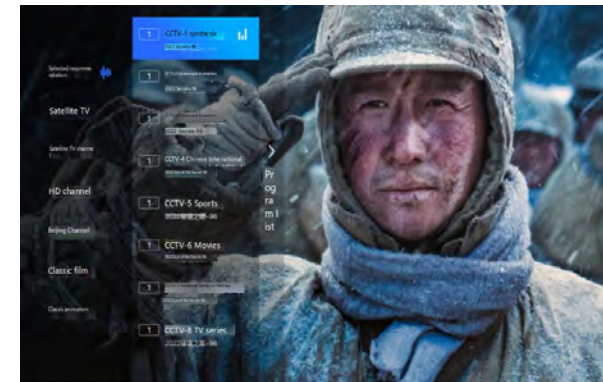
Support the live broadcast and on-demand functions of hospital own programs.



## Emergency information insertion

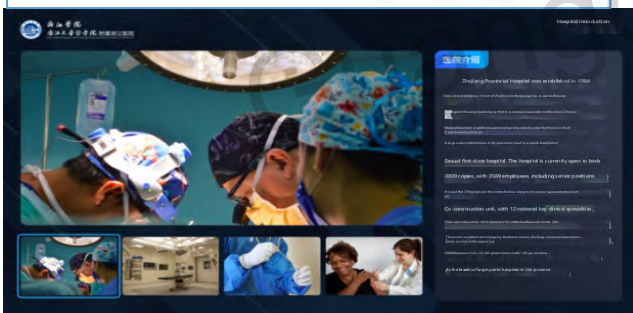
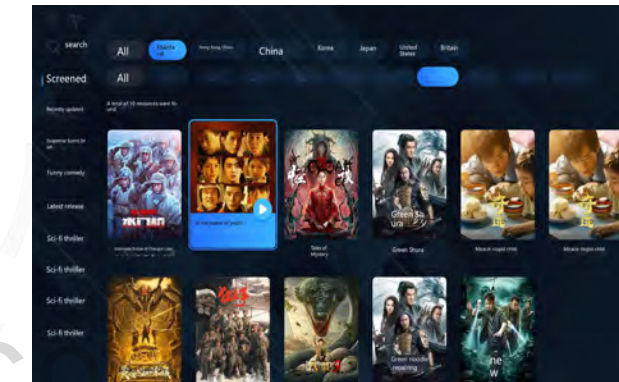
Provides the function of inserting emergency information, and supports the notification functions such as scrolling subtitles, emergency announcements, pictures and videos. The playback mode supports one-time and daily scheduled insertion;

The insertion position can be selected from top, middle and bottom; The playback speed can be set



## Video function

Provide live TV, audio and video on demand functions, support pause and fast forward during playback.



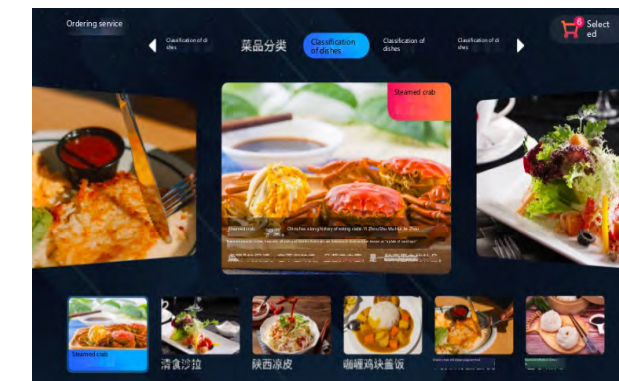
## Hospital characteristic display

Support the presentation of information such as hospitals, medical teams in departments, disease treatment and rehabilitation guidance.



## Self - service

Support the docking of the hospital medical service system, and provide patients with self-service such as bill inquiry, drug price inquiry, doctor's advice inquiry and ordering food.



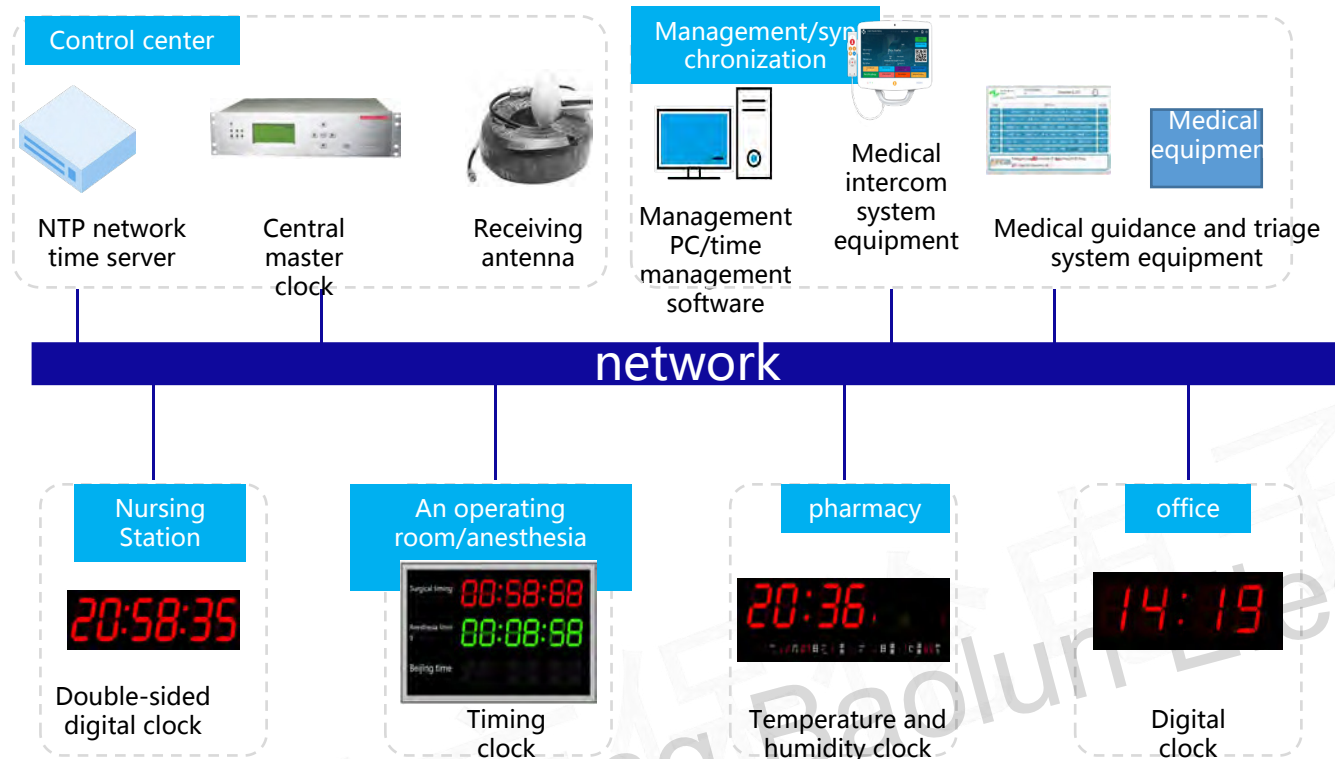
# Master Clock System

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# System Function



Corridor, nurse station



Lobby



Waiting area



Duty room, control room and operating room



meeting room



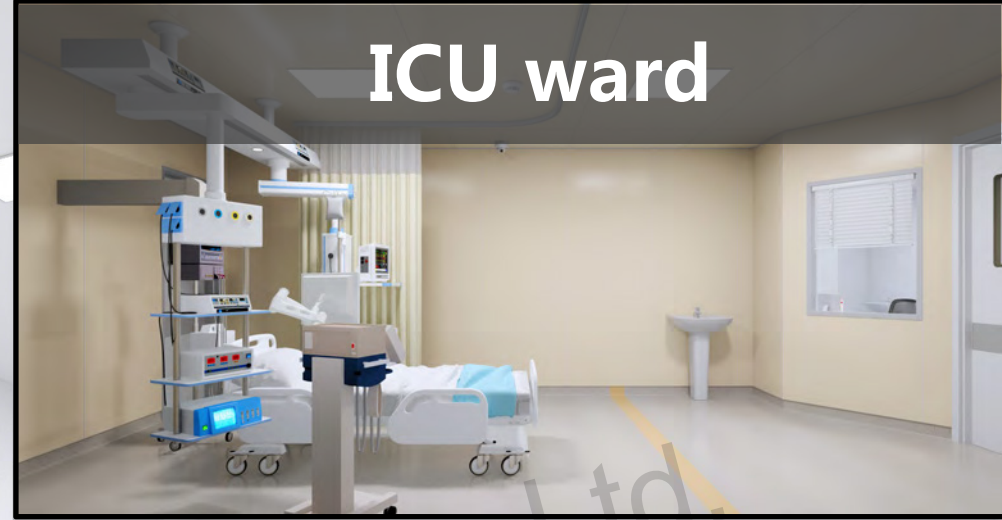
Other places

•As a time display unit, the display clock can be configured in the halls, corridor, offices and functional departments of the hospital.

•The slave clock receives the time signal of the master clock by network NTP or serial port message, and provides time display, timing, temperature and humidity display and other services for ICU, CCU, DSA, operating room, imaging center, emergency room, rescue room, hemodialysis room, anesthesia room, recovery room, observation room, ward nurse station and other medical places.

# ICU visitation system

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## ICU visitation

- Interconnected with ICU wards, family members initiate visits, nurses transfer visits, and family members and patients conduct real-time visual intercom.
- Interconnect with hospital HIS system, and automatically update patient data and doctor's advice information.
- Medical staff can monitor, force in and force out the whole process, reducing the burden of hospital visit management.
- The remote visiting service can be expanded, and the hospital can charge by time/per visit to realize the operation of remote visiting.



# Surgical Teaching

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## Surgical demonstration classroom

- Interconnect with the operating room in audio and video, carry out school-based training and teaching observation, meet the attention and medical discussion.
- Conduct remote surgical teaching and guidance, and deepen medical staff's cognition of standardized operation through simulated training and teaching of surgical scene.
- All-in-one teaching device meets various needs such as PPT playing, medical data display and teaching review.
- The teaching process can be recorded, for review and playback, and it can be watched remotely online.



# Remote Consultation

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## Teleconsultation room for experts in higher-level hospitals



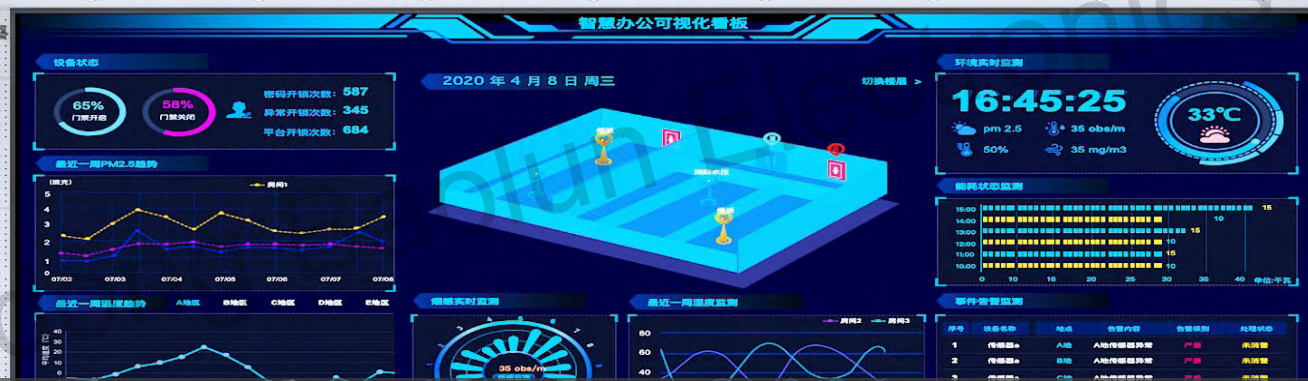
## Remote consultation for subordinate hospitals



- Experts from hospitals with high-quality resources help their subordinate hospitals through remote consultation and create a medical community operation model.
- Non-destructive presentation of medical images, face-to-face consultation effect, and efficient solution of patients' pain.
- Doctors conduct remote consultations for critically ill patients who are inconvenient to move, connect with medical imaging and data systems, and record and query various information of patients at any time.
- Remote video docking with mobile ambulances, command and respond to emergency patients , improving the rescue rate of patients, and providing timely and effective hospital resources for emergency patients

# Medical Operation and Maintenance Data Center





## Integrated operation and maintenance command and dispatch center

Remotely communicate with external mobile ambulances to conduct remote emergency rescue and improve medical emergency services.

- Joint drills on emergency management, command, and rescue plans for virtual emergencies
- Unified command and dispatch of various first aid resources to resolve emergencies quickly, efficiently and accurately.
- Scheduling, display and efficient management of all operation and maintenance data in the hospital.





# Medical Operation and Maintenance Data Center



## Solution of medical operation data center

“Data collaboration and one screen unified management”

Doctors remotely communicate with external mobile ambulances to conduct remote emergency rescue and improve medical emergency services.

Manage the data of medical operation center with "one screen of medical management", visualize audio and video data through intelligent computing, command and dispatch various emergency resources in a unified manner, and solve emergencies quickly, efficiently and accurately.

● **LED screen system**  
4K Ultra HD Seamless Splicing Display

● **VMS system**  
Command and dispatch, visual management and control

● **HD video conference system**  
Remote command conference, interconnection

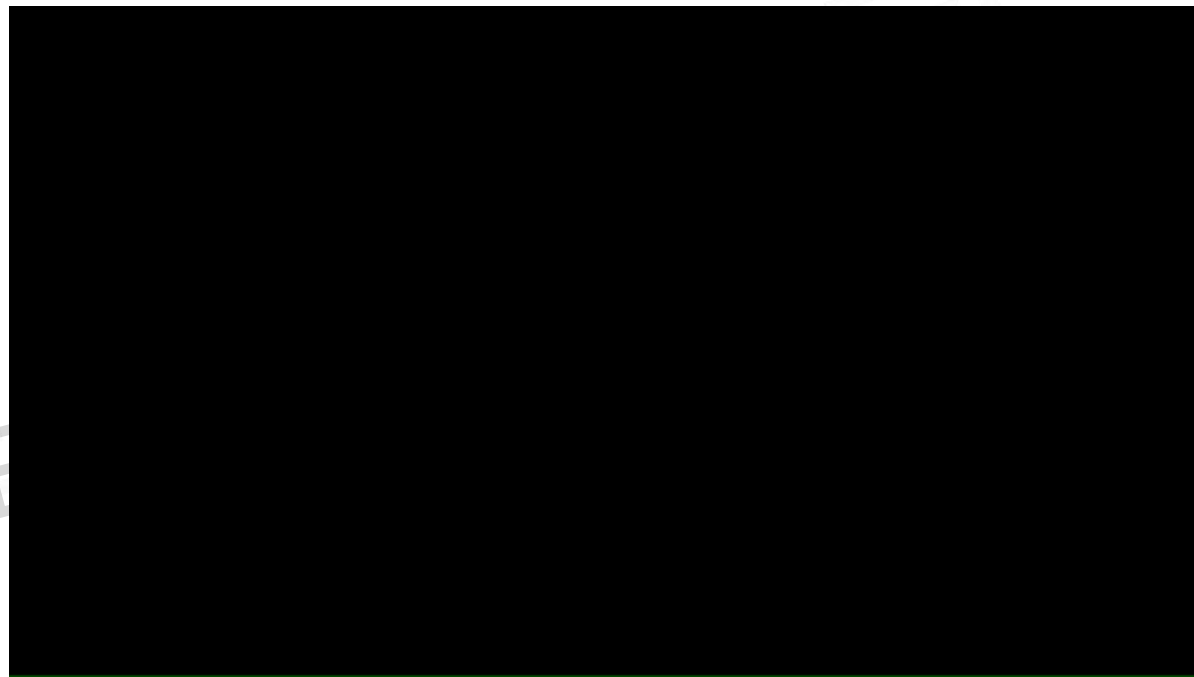
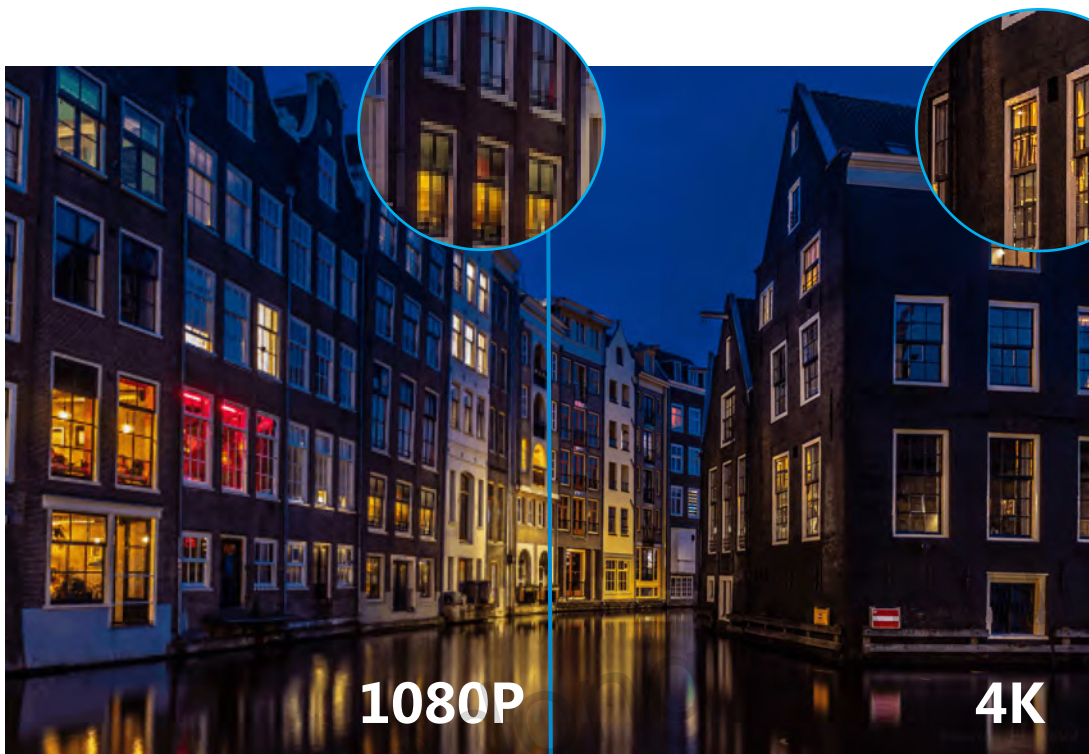
● **Professional sound reinforcement system**  
HD sound quality

● **Digital conference system**  
Long pickup distance and high sound reproduction.

● **HD recording and broadcasting system**  
Command high-definition recording and storage



# Video scheduling



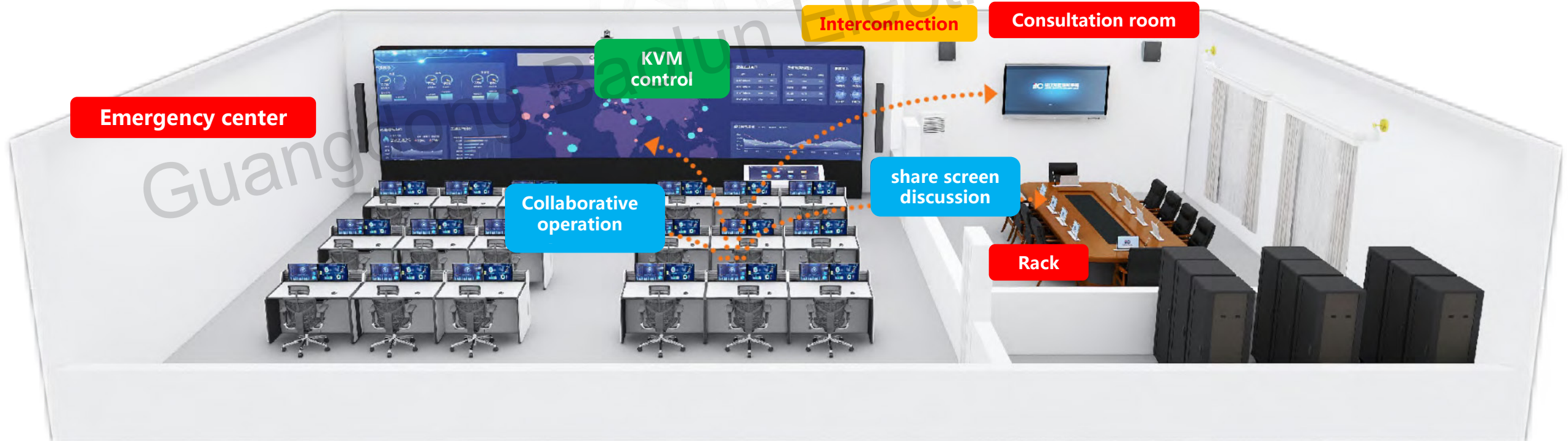
◆ Unique cabinet detection technology, wireless cabinet connection

- Seamless splicing
- Ultra-high refresh
- Ultra-high grayscale
- Image correction
- Wide viewing angle
- 3D display
- Brightness adjustment
- Silent design
- Light weight
- Fast heat dissipation
- Low power consumption
- Stable and reliable



## Collaborative scheduling interconnection

Through a set of keyboard hotkeys, agents can capture information from any display or LED screen to the local display, and can also push information from the local display to any display or LED screen.







## Separation of human and machine, one person operate multiple machines

KVM can switch and manage multiple computer devices through a set of keyboard and mouse monitors, bringing real-time all-round management and control experience to the operators



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## Centralized control of scene calls

The distributed central control system is deployed through the network, and multiple conference rooms are controlled and managed separately and uniformly through the management platform; The system supports custom programming, and the conference room equipment is intelligently and uniformly controlled through control terminals such as PC and IPAD.





# Comprehensive Operation and Maintenance



Annual comprehensive statistics



Online consulting statistics



High-incidence event handling



今日挂号统计



Daily registration statistics

人员管理



Personnel management

科室医生统计



Statistics on duty

Department doctor statistics

- The distributed operation and maintenance monitoring platform can make statistical analysis of all kinds of information data in the hospital and display it as data information. For example, annual comprehensive data statistics, online consultation data statistics, high-incidence event handling information data, daily registration data statistics, personnel management information, on duty information statistics, department doctor statistics and other data information are displayed.



# Multifunctional lecture hall

Guangdong Daolun Electronics Co., Ltd.



## Multifunctional academic lecture hall

- Small-pitch LED display system to meet various needs such as PPT playback, conference data display, performance background, etc.
- Professional venue sound reinforcement, high-fidelity sound quality, clear sound, meeting the needs of training, conferences, performances, etc.
- Easy meeting speaking, meeting functions such as meeting voting, voting, election, etc., can meet various large-scale report meetings, speeches, academic exchanges, etc.
- The recording of the meeting process is convenient for review and playback, and at the same time, it can be watched live online remotely
- Intelligent management and control of lecture hall equipment and multi-signal switching can meet the needs of different scenarios of the lecture hall.
-



# Lecture Hall



Professional  
sound system



LED screen



Meeting  
management



Stage lighting



Environmental  
control system



Wireless  
microphone  
system



5G WIFI digital  
conference



Live broadcast &  
recording system



Video conference  
system



## LED display system

The lecture hall uses a small-pitch LED display as the main display system, which can be used as the background wall of the performance to enhance the performance atmosphere; the LED display system can more clearly display and explain the PPT content and video effects in the usual academic reports and event performances, with pictures and texts.

### ● LED main display

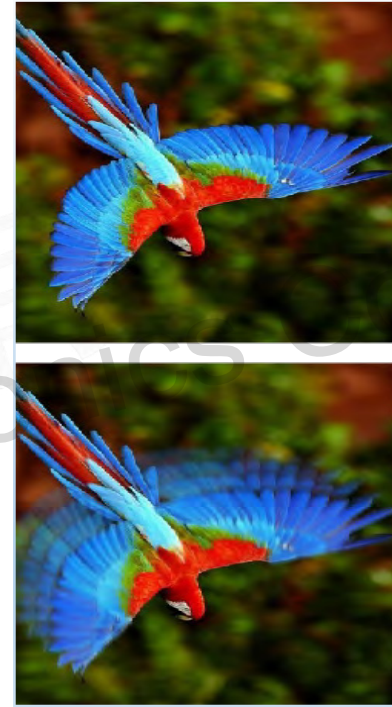
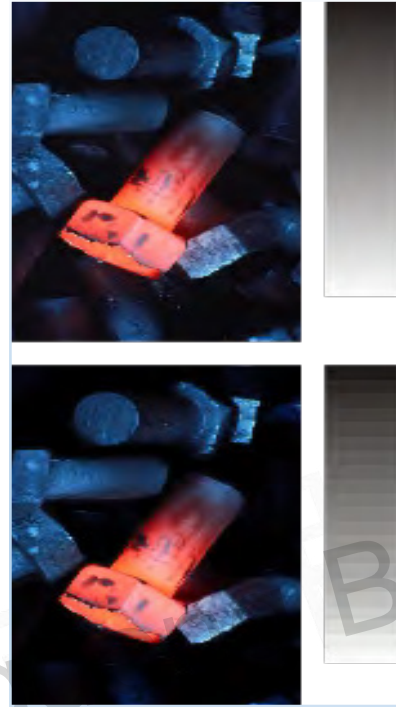
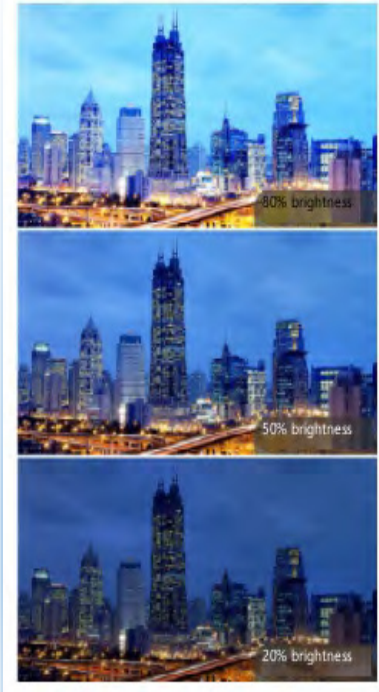
- Function: to play conference video content, PPT images and background wall images.
- **Installation:** Located right behind the stage, floor-mounted installation



### ● LED logo design

- Function: used to display the conference theme and title display.
- Installation: Located above the stage entrance, it is mainly designed with a dual-color screen.

## LED display system



Intelligent brightness adjustment  
Automatic adaptation environment

Low brightness and high grayscale  
Ultra-clean nondestructive technology

Natural color reduction  
The industry leading point-by-point correction technology which can completely adapt to the human eye's feeling habit of color.

High refresh rate  
Improve visual comfort.  
The nanosecond display technology is adopted to eliminate the tailing and ghost superposition of LCD and DLP.

Good uniformity  
Improve visual comfort.  
no dark corners, bright and dark lines



## Stage lighting system

The design, configuration and layout of the stage lighting system of the lecture hall can meet the requirements of daily meetings and cultural performances, and the lighting of the whole stage is scientific, reasonable and beautiful.

The lecture hall can meet all kinds of large-scale report meetings, summary meetings and other kinds of meetings; In the performing arts mode, the stage lighting can make different stage lighting effects according to the content of the performing arts.



- High-brightness and ultra-quiet meeting, with no strobe and glare.
- Meet the needs of daily summary meetings and emergency meetings.

Meeting mode



- Make the stage beautiful, and the interaction of main lighting and auxiliary lighting will render the atmosphere.
- Meet the needs of festivals, anniversaries, awards ceremony performances, etc.

Performing arts mode



## Stage lighting system



Surface light

As the front main light of the performance area, surface light is mainly used to illuminate the performance area in front of the stage, which plays the role of front lighting for the performers on the stage, and is used for character modeling or to make the objects on the stage present three-dimensional effects.



Top light

The role of the top light is to provide necessary lighting for the performance space in the depth of the stage.



Side light

The role of sidelight is to create a sense of direction of the light source from the side of the stage, and to shape the level and three-dimensional sense for the actors in the starring area. It can be used as an auxiliary lighting to illuminate the actor's face, and can strengthen the level of the scenery and render the characters and the stage space environment.



follow spot

The follow spot light is thrown into the stage performance area from the side as the modeling light in the front oblique direction of the stage, which is used to strengthen the three-dimensional sense of people and scenery and form the lighting effect of the front side.

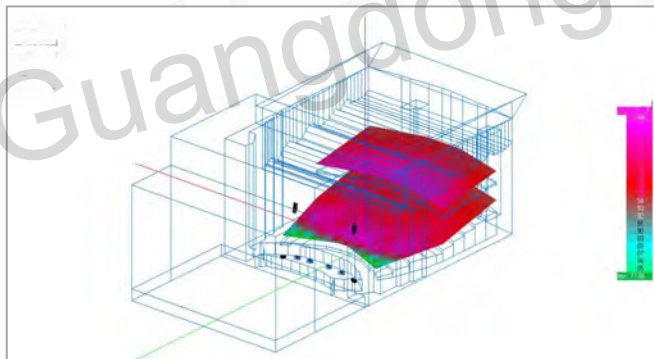


Effect smoke machine

The effect smoke machine is mainly used to spray smoke and light, create a sense of atmosphere and highlight the effect of stage lighting.

## Professional sound system

- **Acoustic index**
- The design refers to the index of Code for Design of Public Address System in Auditorium and Stadium (GBT 28049-2011), and is designed according to the first-class standard of acoustic characteristic index of multi-purpose public address system in auditorium.



**EASE4.4 sound field simulation**

Grade	SPL(peak)	Transmission frequency characteristics	Audio Ggain	Non-uniformity of stable sound field	System Noise Level
class 1	Rated passband $\geq 103\text{dB}$	Taking the average sound pressure level from 100 Hz to 6.3 kHz as 0dB, the allowable range in this frequency band is: $-4\text{dB} \sim +4\text{dB}$	The average value of 125Hz~6.3kHz is $\geq -8\text{dB}$ .	$\leq 6\text{dB}$ at 1kHz; $\leq +8\text{dB}$ at 4kHz	NR-20
class 2	Rated passband $\geq 98\text{dB}$	Taking the average sound pressure level from 125 Hz to 4 kHz as 0dB, the allowable range in this frequency band is: $-4\text{dB} \sim +4\text{dB}$	The average of 125Hz~4kHz is $\geq -10\text{dB}$ .	$\leq +8\text{dB}$ at 1kHz and 4kHz.	NR-20
Early and late acoustic energy ratio	Average value of 1/1 octave band analysis in 500Hz~2kHz $\geq +3\text{dB}$ (optional item)				

Adequate sound pressure level

Good sound field uniformity

Smooth transmission frequency characteristics

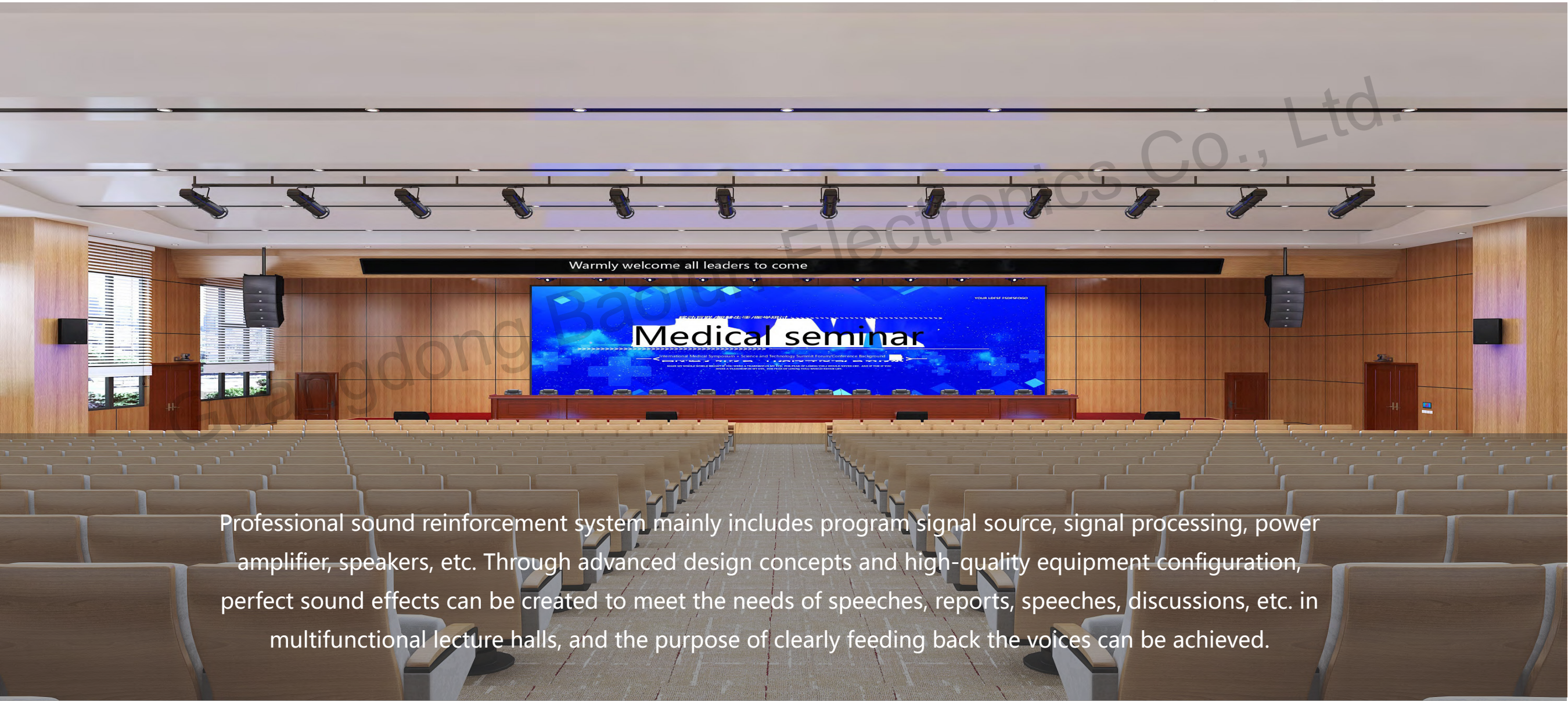
Good sound transmission gain

strong adaptability and convenient expansion.

High reliability and mature technology



## Professional sound system



Professional sound reinforcement system mainly includes program signal source, signal processing, power amplifier, speakers, etc. Through advanced design concepts and high-quality equipment configuration, perfect sound effects can be created to meet the needs of speeches, reports, speeches, discussions, etc. in multifunctional lecture halls, and the purpose of clearly feeding back the voices can be achieved.



# Smart meeting room

Guangdong Baolun Electronics Co., Ltd.



## Smart meeting room

- Hospital internal medical seminars, Electronic annotation of meeting documents, easy and efficient.
- Realize the connection of meetings between upper and lower hospitals, and the linkage of cross-department meeting information to meet the needs of daily academic discussions, disease analysis, comprehensive consultation, and live video training display.
- The meeting initiates voting, sign-in, and discussion in real time, and automatic camera tracking function.

# System



Professional  
sound  
system



Fine pitch HD  
LED screen



Paperless  
conference  
system



Speech-to-text  
System



Environmental  
control system



Wireless  
Microphone



Full digital  
conference system



Recording  
system



HD video  
conference system



## Smart meeting room management system



Before the meeting



face recognition

Fingerprint recognition

QR code



Automatic linkage-> meeting

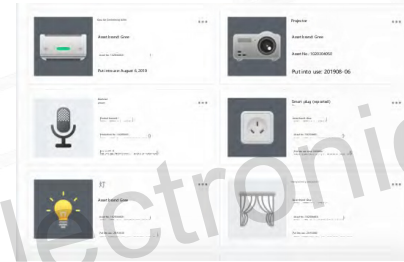
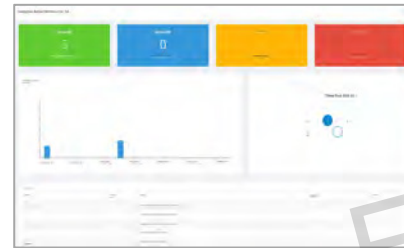
IOT meeting joining mode: automatic linkage of lighting, fresh air system, curtains, access control, power supply and other equipment

1. The screen installed at the entrance of the meeting room can display the status of the meeting room in real time
2. People can check the status of the conference room by using the mobile APP and make an appointment for the conference room.
3. Participants can apply for service at any time through the meeting service function.
4. The door screen supports the face recognition sign-in function to realize the quick sign-in of the participants.

## Smart meeting room management system



After the meeting.



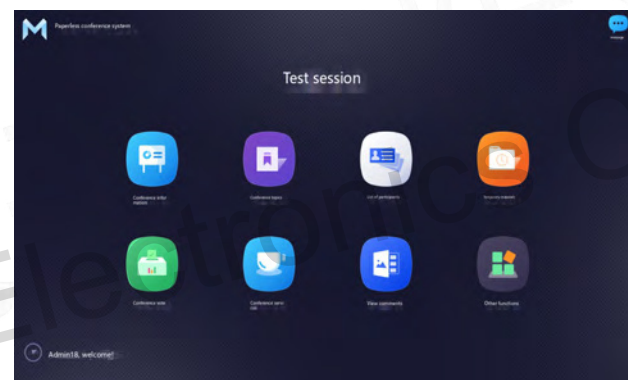
Automatic linkage-> meeting

IOT after the meeting mode: smart linkage lighting, fresh air system, curtains, access control, power supply and other equipment to shut down

1. The meeting module is linked with access control, central control and human body detection: after the meeting, the meeting room will be released when the human body detection is empty after the participants leave.
2. All equipments can be controlled after the meeting, such as automatically turning off the lighting, air conditioning and other equipment.
3. Periodic meetings can be saved as templates to initiate meetings again.
4. Various types of meeting information statistics, including meeting frequency, number of people, meeting room utilization rate, gender comparison, occupation, etc., managers can obtain real-time analysis data at any time through data statistics.

# Smart meeting room

## Paperless conference system



### Paperless conference solution

Environmental and high-efficient coordination

Realize the electronicization of case files and interconnection and scheduling of video screens; achieve the effect of rapid decision-making and efficient consultation

### Domestic version Kylin paperless operating system with high confidentiality and security

- The system responds to the policy of national independent innovation and mastering core technologies, and meets the high security requirements of government, confidential, security and other fields for application systems.
- Support domestic CPU hardware such as Godson, Mega-Core and Fit, and domestic neokylin and Galaxy Kirin operating systems, with exclusive operating interface and high security.



# Smart meeting room

## Paperless conference system



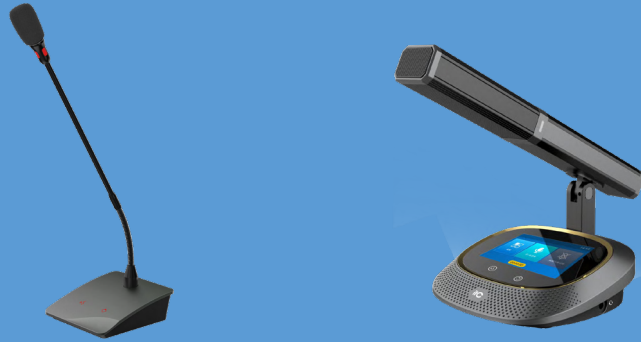
Daily meeting, annual summary meeting, group seminar, internal selection meeting, and team sharing meeting

- With the integration of office automation OA system, one key can be used to complete hospital arrangement distribution, office approval, attendance leave, collaborative data conference, docking video conference and etc.
- It helps to improve the files management efficiency, reduce paper costs, and realize paperless energy-saving and high-efficient collaborative training.

- **Biometric recognition check-in**
- **Smooth lifter**
- **Intelligent screen sharing**
- **Local remote interconnection**
- **Handwrite annotation support**
- **System security protocol**
- **System integration and dockin**
- **Energy-saving and environment**

# Smart meeting room

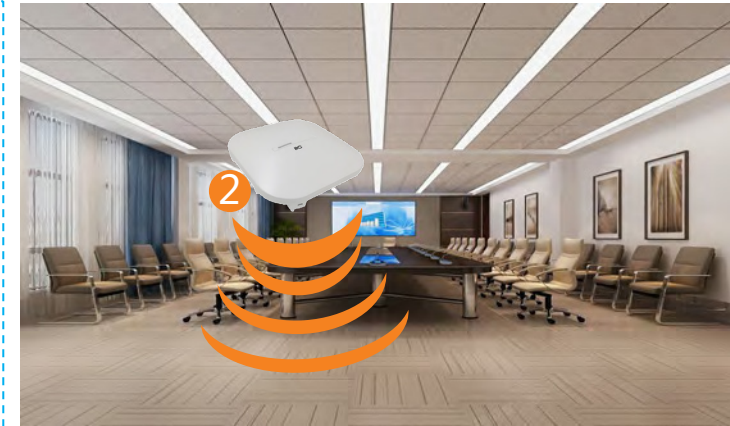
## Full Digital conference system



### Various meetings solution



- Full digital conference system is a system based on dual ARM processor platform, which has super processing ability.
- Support 16 groups of phase-controlled division sound reinforcement, simultaneous interpretation, phase-controlled output, role separation mode, and multiple audio output modes, realizing one machine with multiple functions.
- Support 5G WiFi microphone integrate Speech-to-text System, up to 128 channels of simultaneous transcription; Two chairman microphones audio won't be mixed.
- Support ring double-link backup function and digital-analog backup function to ensure the stability of system operation.



Sign-in



Discussion



Voting



Speech  
timing



Voice  
switch



Message  
notification



Meeting  
services



simultaneous  
interpretation



Camera  
tracking



Fire  
alarm  
linkage

# Smart meeting room

## Full Digital conference system



### 1. Intelligent mixing technology AMM(TS-3400MIX processor)

— Solve the howling problem of using multiple microphones at the same time.

**Presentation:** Intelligent mixing technology enables the processor to automatically identify who is speaking, thus automatically raising the sound of this microphone to the normal volume. At this time, if other microphones are also turned on, but he is not speaking, the processor will intelligently identify that it is in a silent state, thus automatically reducing its volume; If many people talk at the same time, these microphones will share the gain of one microphone, so turning on many microphone will not cause howling, which can ensure the meeting quality.

### 2. Automatic gain technology AGC(TS-3400MIX processor)

-Intelligent control of microphone volume does not require special personnel to guarantee it.

**Presentation:** Automatic gain technology can improve and compress the sound, which perfectly adapts to our conference system, and completely solves the problem of loud and small sound. No matter how far away the speaker is from the microphone, he always keeps his voice at a uniform volume. Even if he speaks close to the microphone, there will be no sonic boom and distortion, which will make everyone in the venue feel comfortable.

### 3. Avoidance sound reinforcement technology (TS-0300M)

-intelligently control the volume of each speaker to solve the howling problem.

**Presentation:** Avoidance sound reinforcement technology is an intelligent volume control technology independently developed by our company, and it is also the only avoidance technology in the industry. When open this function, it will intelligently recognize which microphone is currently being used. At this time, the conference controller will actively reduce the volume output of the speaker close to this microphone, while the voices of other speakers remain unchanged, so that the whistling problem can be solved perfectly.



# Smart meeting room

## Speech to text system



The speech to text system realizes the role separation of the sponsors, participants, chairman, moderators and secretaries during the meeting, and automatically recognizes the speeches of all parties into words, and puts the voice transcribed text on the big screen in the form of real-time subtitles.



The correct rate of standard  
Mandarin is 97%



Real-time voice  
transcription delay  $\leq$   
200ms.



Support a single audio  
file for up to 18 hours.

Real-time Voice Transcription, Phonetic Correspondence Listening, Automatic Semantic Segmentation, Key Content Tagging, Modal Word Filtering, Taboo Word Blocking

# Smart meeting room

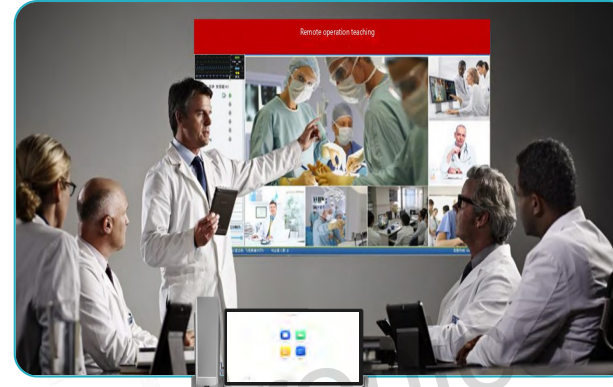
## HD video conference system



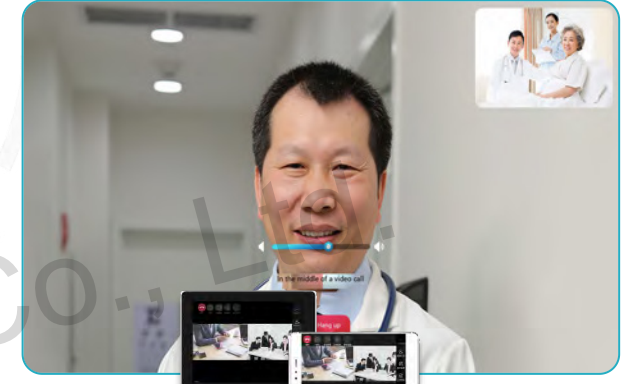
Medical training



Remote consultation



Surgical teaching

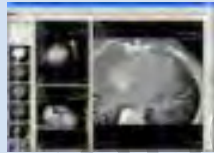


Remote visit

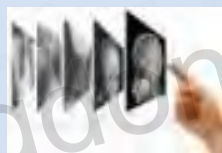
ip network



HIS system



PACS systems

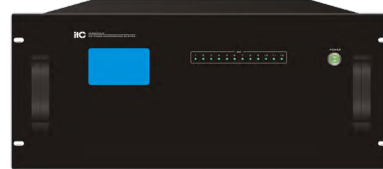


RIS system

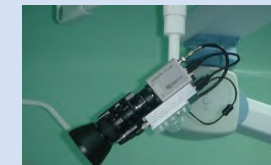


LIS system

docking



docking



Surgical field camera



Monitor



Remote consultation management system

Remote video conference system can solve the shortage of medical resources in the patient's location, and it needs the help of remote medical experts to complete multi-disciplinary comprehensive consultation.

Free connection with experts inside and outside the hospital, non-destructive presentation of medical images, face-to-face consultation effect, and high-efficient solution of patients' illnesses.

Local teaching content (sound, image) can be recorded and saved for subsequent call and review, or for reference by superior leaders.

# Hospital public areas

Guangdong Baolun Electronics Co., Ltd.



# » Hospital public areas

## Public address system



### Public address system

**The public address system provides the hospital with daily automatic BGM, paging and fire emergency evacuation.**

Background music can play different music contents according to different environments and atmospheres in different areas of the hospital, and local people can flexibly insert spots, search for people, emergency broadcasts, etc.

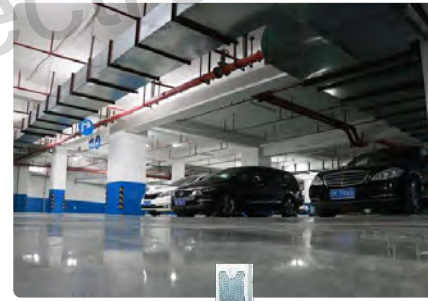
Emergency broadcast can realize automatic linkage alarm with the fire center, and guide evacuation to a safe place through broadcast in an emergency.



Service consulting front desk



Ward area

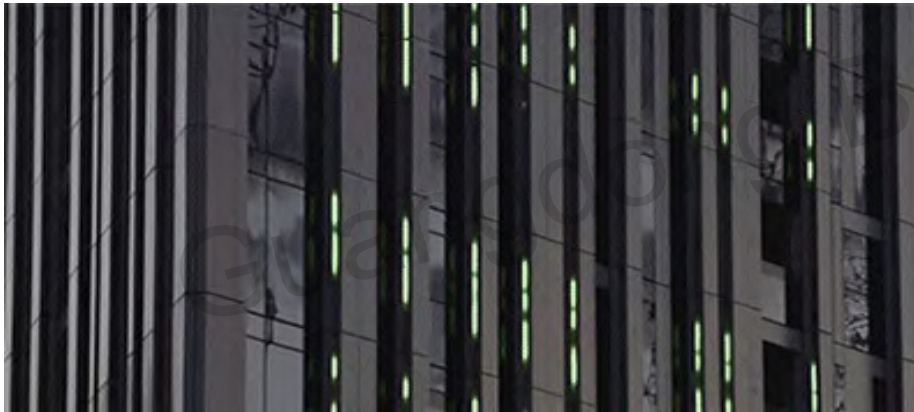


Car parking area



Third-party docking (fire fighting/CCTV)

## Landscape lighting system



## Landscape lighting system

Landscape lighting design is an organic combination of lighting science and art, and it is an inevitable requirement for people to diversify the living environment landscape after the social civilization material reaches a certain height.

Through the lighting organization of high-level lighting, low-level lighting and landscape lighting, it shows the rich space atmosphere of the hospital and creates a beautiful and pleasant night scene atmosphere.



# Hospital public areas

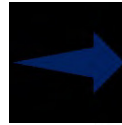
## Landscape lighting system



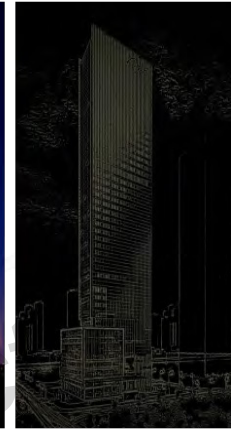
Landscape lighting



Modern factory manufacturing



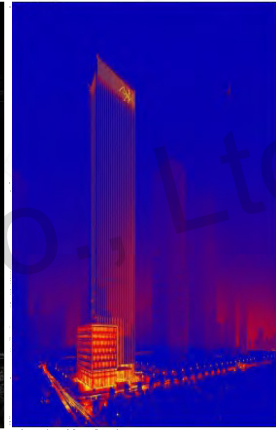
Landscape lighting design



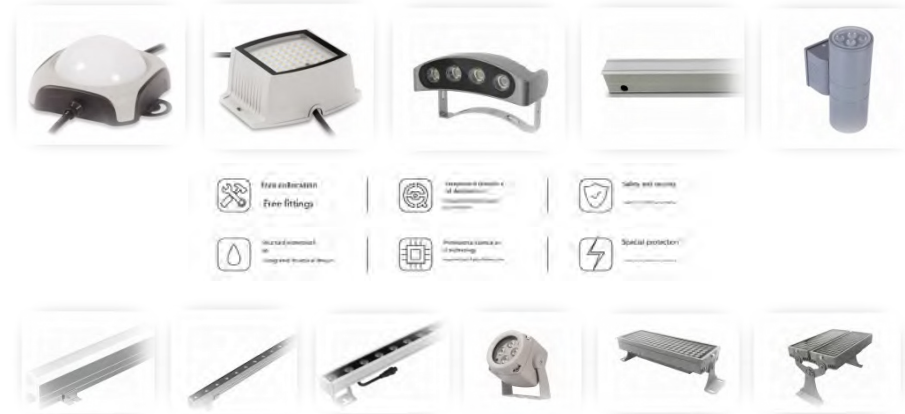
Scale design



Color temperature design



Brightness design



Selection of different lights





# » Hospital public areas

## Intelligent building system



### Intelligent building energy consumption management system

The intuitive interface and interactive chart of the system help users

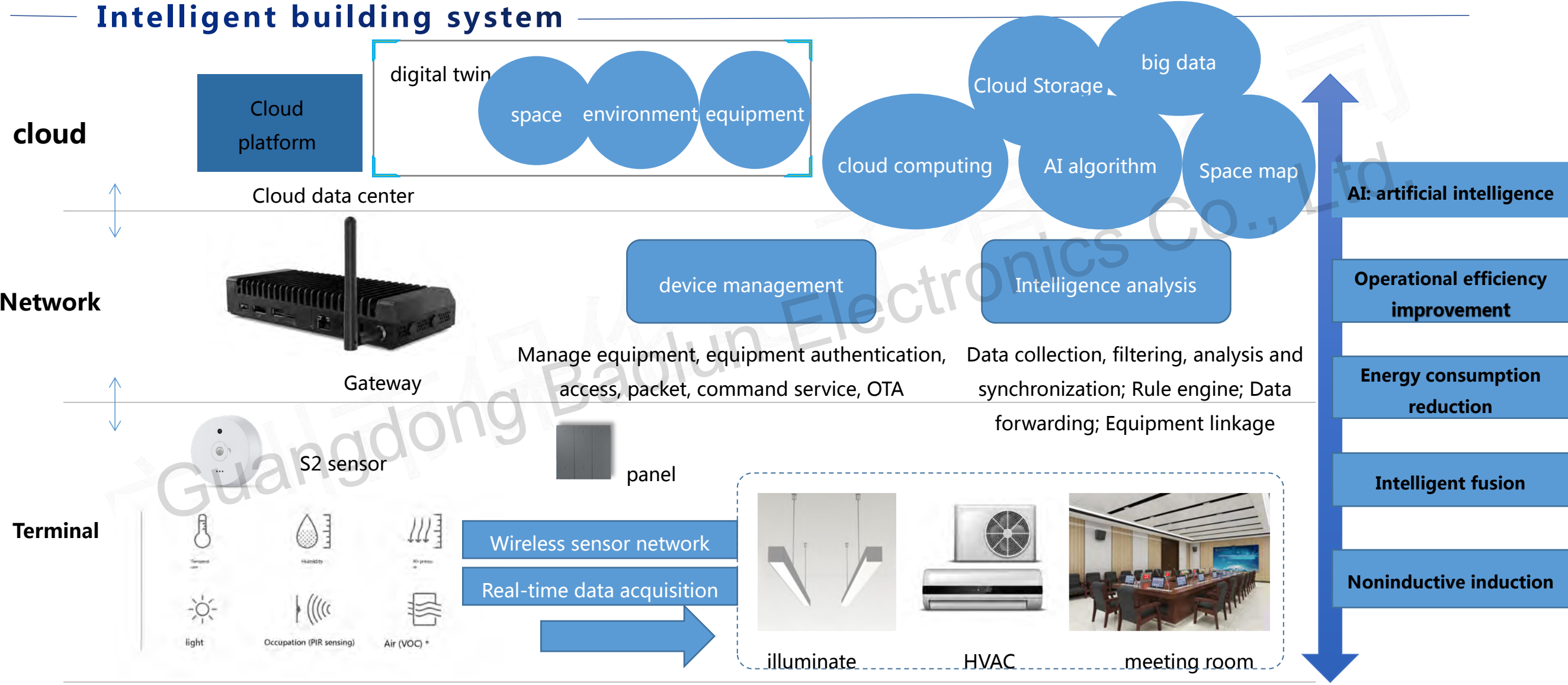
to clearly understand the energy consumption patterns of various places in the hospital and make wise decisions.

Use real-time alarm and target tracking functions to manage property energy consumption and grasp abnormal energy consumption in real time.

No need manual intervention, network access is perceived, the system AI runs intelligently, and the building environment is nice.

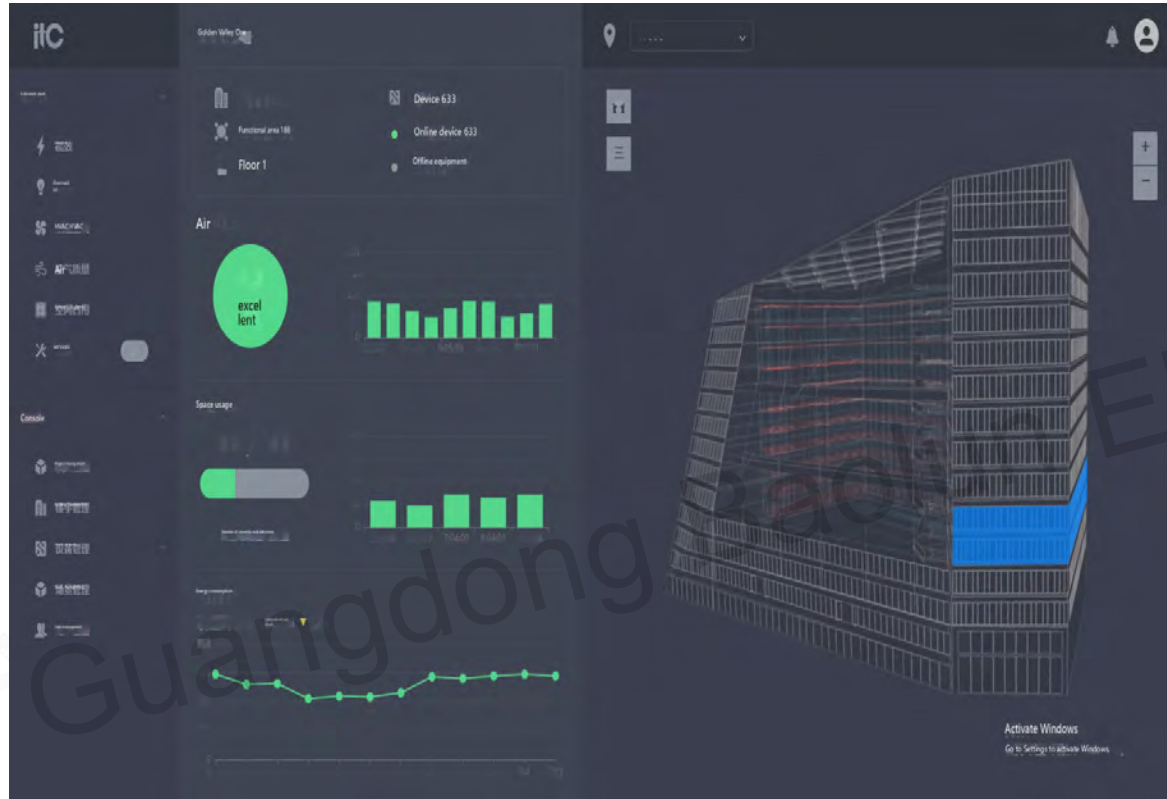
# Hospital public areas

## Intelligent building system



# » Hospital public areas

## Intelligent building system



### User WeChat applet- Temperature



### User WeChat applet- Lighting



Energy Efficiency Management, Lighting Control, HVAC, Air Quality, Space Occupancy and Perceptual Operation



04

# Application case

Guangdong Baolun Electronics Co., Ltd.



# Selected cases of hospitals



**Affiliated Hospital of Guangdong Medical University**



**Affiliated Hospital of Sun Yat-sen University**



**Chongqing Fuling Central Hospital**



**Dongguan Donghua Hospital**



**Tianjin Central Hospital Of Gynecology Obstetrics**



**Guangxi Liuzhou Hospital of Traditional Chinese Medicine**



**Shanghai Jiangqiao Hospital**



**Chengmai Ecological Software Park Hospital**



**Dr. Sulaiman Alhabib Hospital SAUDI ARABIA**



**Cancer Hospital of Inner Mongolia Autonomous Region**



**Cafam Hospital, Colombia**



**Jurong Hospital, Singapore**





# Jurong Hospital, Singapore

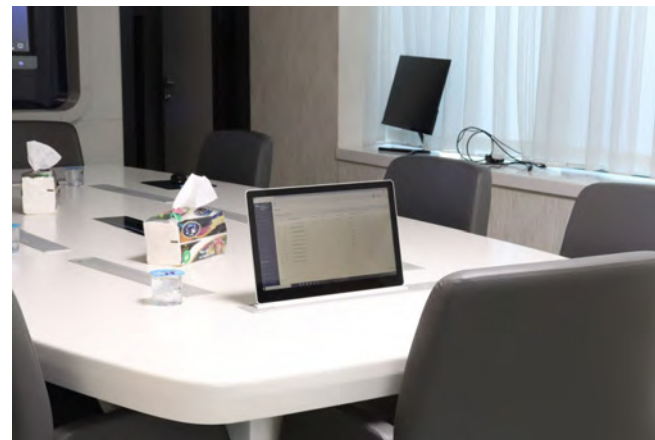






Al-safer Hospital,Iraq

video conference camera+ sound system+paperless conference system



MODERN  
COMMUNICATION  
TECHNOLOGY





# Cambodia Children's Hospital Project



MODERN  
COMMUNICATION  
TECHNOLOGY



# TAKSIM HASTANE(Hospital),Istanbul, Turkey







# DR. SULAIMAN ALHABIB HOSPITAL, THAKASSUSI, RIYADH, SAUDI ARABIA



MODERN  
COMMUNICATION  
TECHNOLOGY





# Shenzhen Hospital, University of Hong Kong







# Peshawar General Hospital, Pakistan





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# Thanks for watching

A solid green horizontal bar with a diagonal cut on the left side, pointing towards the bottom left.

• Guangdong Baolun Electronics Co., Ltd. •

<http://www.itctech.com.cn/>