

Smart command center Audiovisual overall solution

Empowering Your Businesses Through Innovative IT Solutions

UNI-X

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PART 01

Industry Background

问题思考

Which industries have command centre?

**Emergency Centre, Fire Centre,
Public Security, City Brain, Traffic
Department, 120 First Aid Centre**



Command center construction background



- Command centre **refers to** a new type of infrastructure that is oriented to supporting economic and social digital transformation, intelligent upgrading, and integration and innovation, with **5G, industrial Internet, cloud computing, artificial intelligence** and other application needs as the traction, aggregating **diversified data resources**, applying green and **low-carbon technologies, having safe and reliable capabilities, providing efficient arithmetic services**, and empowering thousands of applications, and integrating with the network and cloud computing.
- Compared with the traditional command center, the smartcommand center has the characteristics of **high technology, high arithmetic, high energy efficiency and high security**, etc. In today's increasingly popular digitalisation, the smart city operation centre can better support the accelerated innovation of new-generation information technology and accelerate the construction of a strong manufacturing country and a strong network country.



Smart command center dispatch requirements

Audio and video dispatch

Meet the **fast and diversified audio and video dispatch**, compatible with three-party video sources, video display images clear

Agent collaboration

It can effectively realize the **cross-screen and multi-screen segmentation operation** of one person and multi-computer mouse, meet the cooperation and management of agents, so as to improve the **efficiency** of operators, office, command and dispatch

Command center dispatch requirements

Stable and safe

The application of the system is stable, the information security is high, the function is rich and practical



PART 02

Solution

VR rendering of command center:

<https://www.720yun.com/t/2baknyibrfl>



Command center master plan

The command center includes the **command center hall**, **press conference hall**, **consultation room**, **decision-making room** and **duty room**. Each office is relatively independent, through the network image, video, information interactive display and control, to ensure that each office can independently complete their own business, and can carry out the aggregation of relevant information content.

Operation
support room

machine room

General emergency
meeting room

consultation room

command
center hall

press conference hall

duty room

decision-making room



**Emergency
command center**

**Public Security
Command
Center**

**Traffic command
center**

**Judicial
Prosecution
Command
Center**

**Force Command
Center**

- Command center solutions for various industries, including: **LED large screen, Visual Management System, central control system, digital conference system, remote video conference system, paperless conference system, professional sound system and other systems**, is currently our fast-growing industry, covering emergency command center, monitoring center, big data center, public security command center, airport, high-speed railway station, exhibition halls and other scenarios of the solution.

PART 03

Product application

PART 03-1

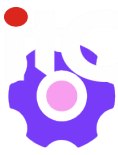
Smart command center hall

Command hall scene configuration

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- **Usually:** used as an overall monitoring room, the large screen mainly displays the **security system monitoring screen**, **video conference screen**, **image display of meeting information** and other content
- **Wartime:** As the command center of events, mainly as the leader's **decision-making**, **command and dispatch center** in the case of major events, to ensure 7×24 hours uninterrupted operation, and with **rapid response**, **remote reporting** and other functions. The main image sources are: security monitoring, **video conference screen**, **agent operation screen**, **Internet of Things big data visual operation interface**, etc.





Smart command center-visual management platform



Shaping the world-class brand



Visual management platform

Centralized control · interconnection

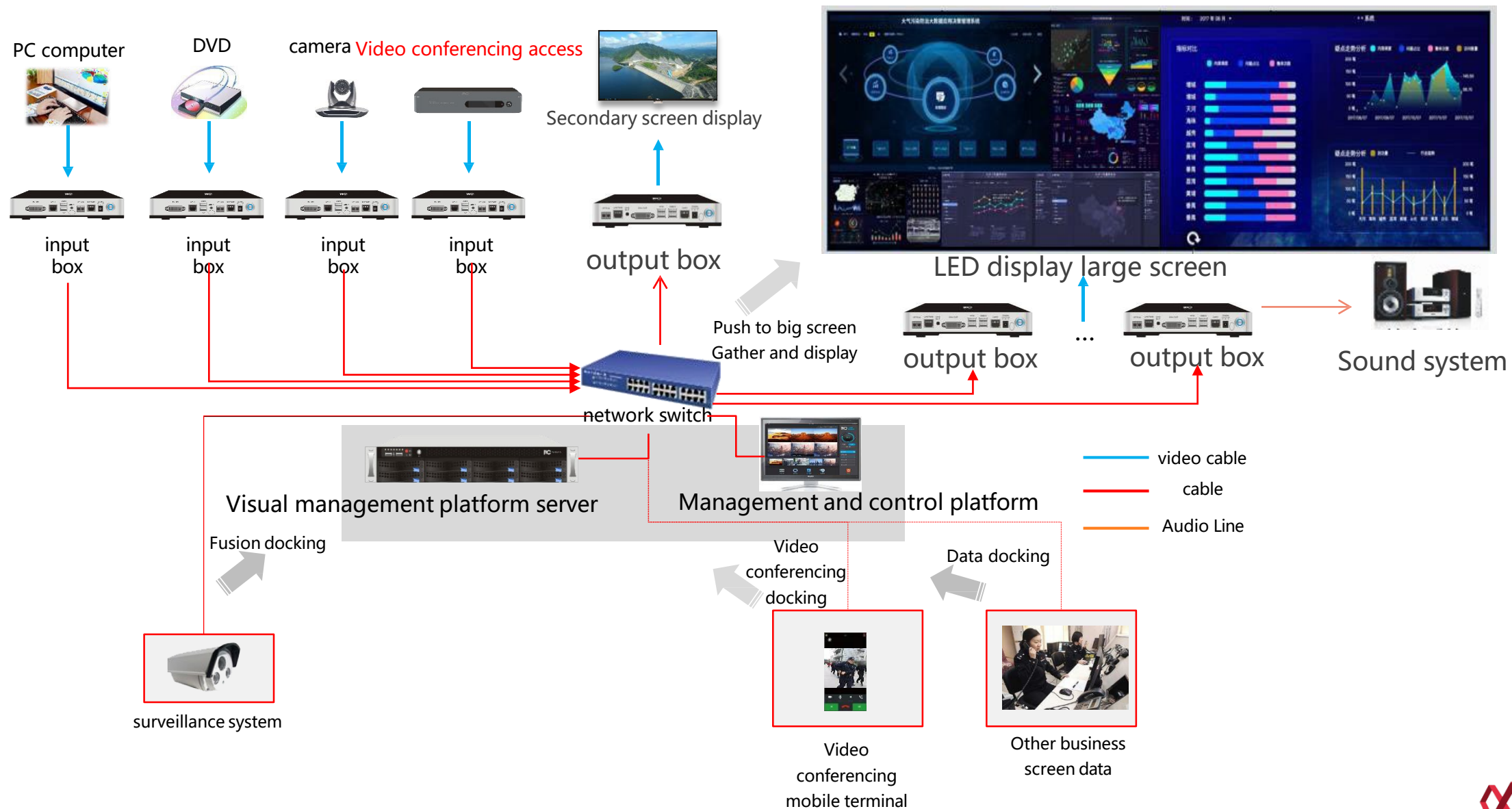
Visual management platform, integrated **KVM seating management, LED screen display dispatching, IOT equipment control, audio integrated management, video recording management** of five major system applications. Visual Management System, with rich video screen processing functions can achieve **remote monitoring, office systems, mapping systems and** other information fusion and push and LED display.

- Easy to deploy
- Screen stitching
- KVM agent
- Integration and interoperability
- Centralized control
- System hot standby
- Secure encryption
- Bidirectional mutual control
- 4K HD quality
- Screen recording and storage
- Status data statistics
- Monitoring retrieval





Smart command center - visual management platform





Interface:

	T-711C / 711C4K
Video input interface	3HDMI interface
Video output interface	3HDMI interface, 1DP interface
Audio input interface	2 3.5mm audio interface
Audio output interface	2 3.5mm audio interface



[General scheduling scenario]



[Emergency dispatch scenario]

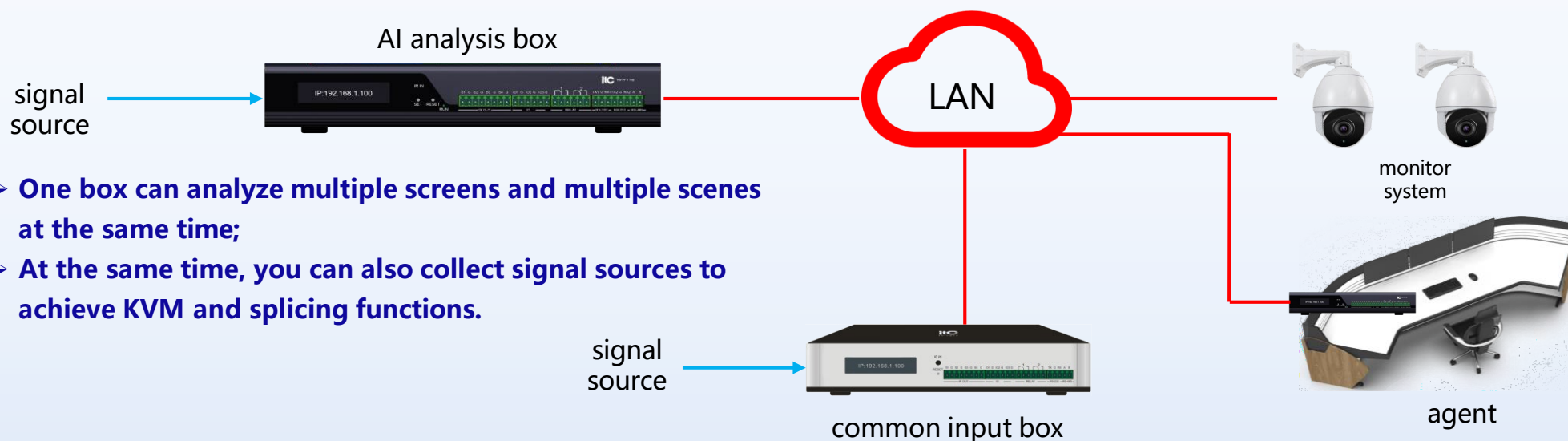


Double input and output box

- Input and output integration
- 4K ultra-clear image processing
- Supports 4:4:4 image format
- KVM visual management
- Transmission delay ≤ 16 ms
- Role permission assignment
- Video splicing synchronization algorithm
- linux system architecture
- Optical network double backup
- 10% anti-packet loss recovery
- Support multi-stream transmission
- Support custom programming



itc visual management platform has a variety of AI algorithms, and the system supports real-time analysis of 16 scenarios with an accuracy rate of 95.3%!

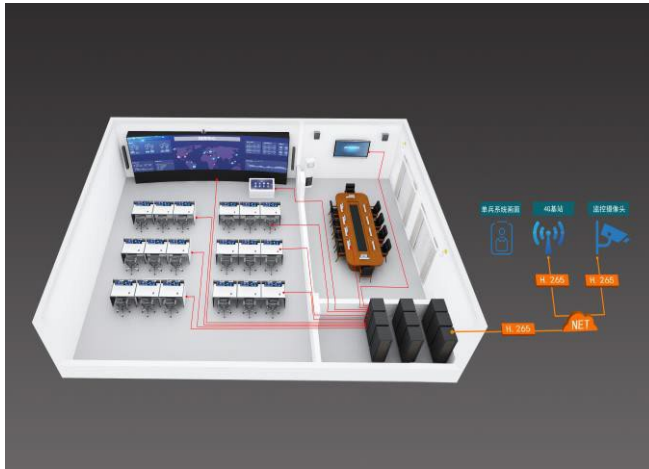


- One box can analyze multiple screens and multiple scenes at the same time;
- At the same time, you can also collect signal sources to achieve KVM and splicing functions.

- No special AI server is required, these **AI algorithms are integrated in the AI analysis box**, whether it is IPC or ordinary conference cameras, as long as the picture is given to the box of our distributed system, you can analyze, monitor and alarm. In this way, it can not only be used as a conventional signal source collection, but also can be connected to other video images for AI analysis to achieve the effect of **two functions** in a box
- If there is no monitoring system with AI analysis built on the project site, it can fully utilize our visual management platform, which can **reduce construction costs** and **add value to customers**.



Smart command center - visual management platform



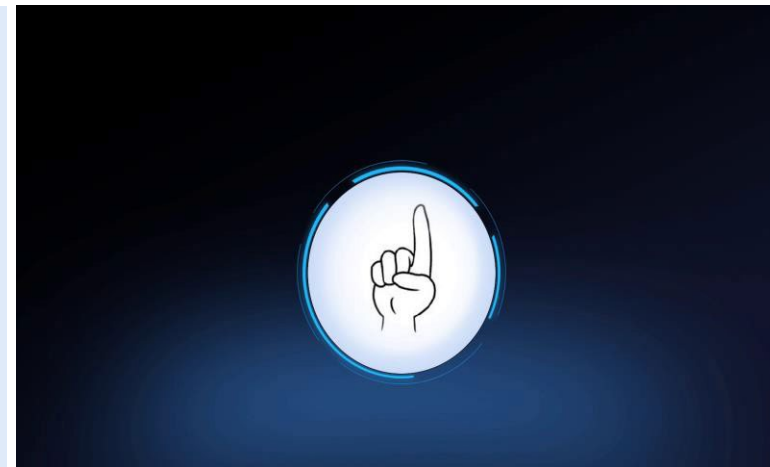
🔥 IP network cloud architecture design, to meet **ONVIF**, **RTSP**, **GB/T28181**, **SIP** protocol of Hikang, Dahua camera access
🔥 Support docking **monitoring platform**, **access control system**, **4G network** and **mobile individual soldier system**



🔥 Center control system
Supports control of command center devices such as **power supply**, **large screen**, **lighting**, **speakers**, **microphones**, and **air conditioners**



🔥 AI- Voice control



🔥 AI- Gesture control

In SUMMARY:

- itc VMS distributed integrated management platform = **central control system** + **matrix system** + **splicing system** + **KVM agent system**, to achieve rich command and scheduling control and audio and video interconnection.
- It has a powerful AI algorithm, support **voice control**, **gesture recognition** and other applications, most manufacturers in the industry do not have such a rich AI application, we are still expanding expression, behavior recognition and other AI applications



How to choose the LED screen in the command center?



01

High definition, high restoration: The command center LED system needs high definition display effect to ensure the clear display of big data or video surveillance

02

Long-term viewing is not dazzling: the command center large screen 7*24 hours running display, staff for a long time to watch too high brightness will be dazzling, visual fatigue

03

Support for a variety of shapes and sizes: A variety of sizes and shapes are required to accommodate different decoration styles or different sizes of command center sites

04

Low heat, energy saving: Due to the long opening time of the command center large screen, the small spacing will generate a lot of heat. Therefore, when using the LED display system, it is necessary to pay attention to its power consumption and cost

05

Moisture-proof, product stability: in the rainy season, LED affected by humid air is easy to cause short circuit of the lamp bead

06

Easy installation and maintenance: LED installation is a huge project, requiring professional and technical personnel to install, debug and test. Whether to support non-professional operation in emergencies



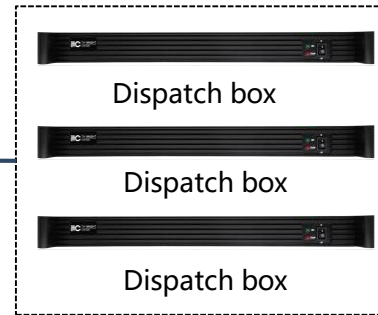
LED显示系统组成架构



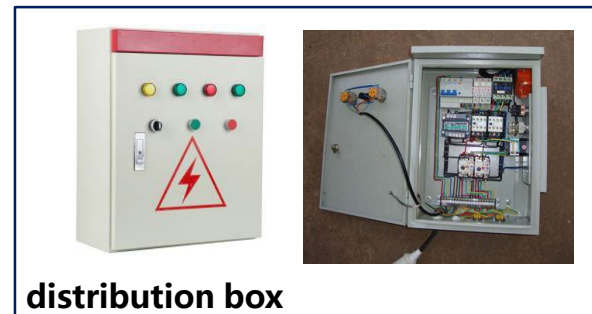
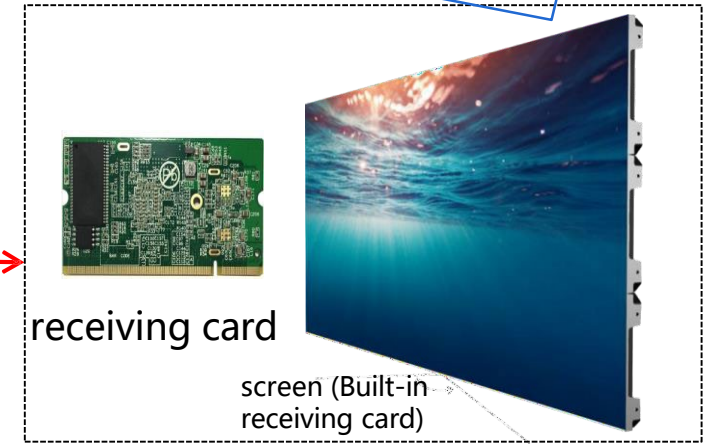
video signal cable



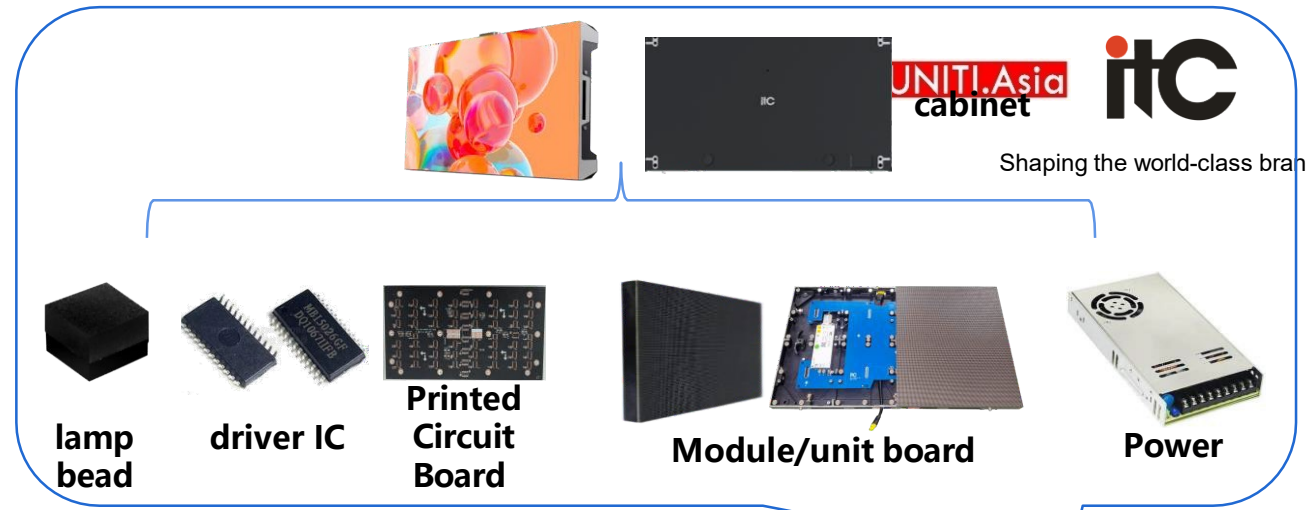
video signal cable



Network Cable



power cord





Smart command center - display system comparison



LED
no visual seams

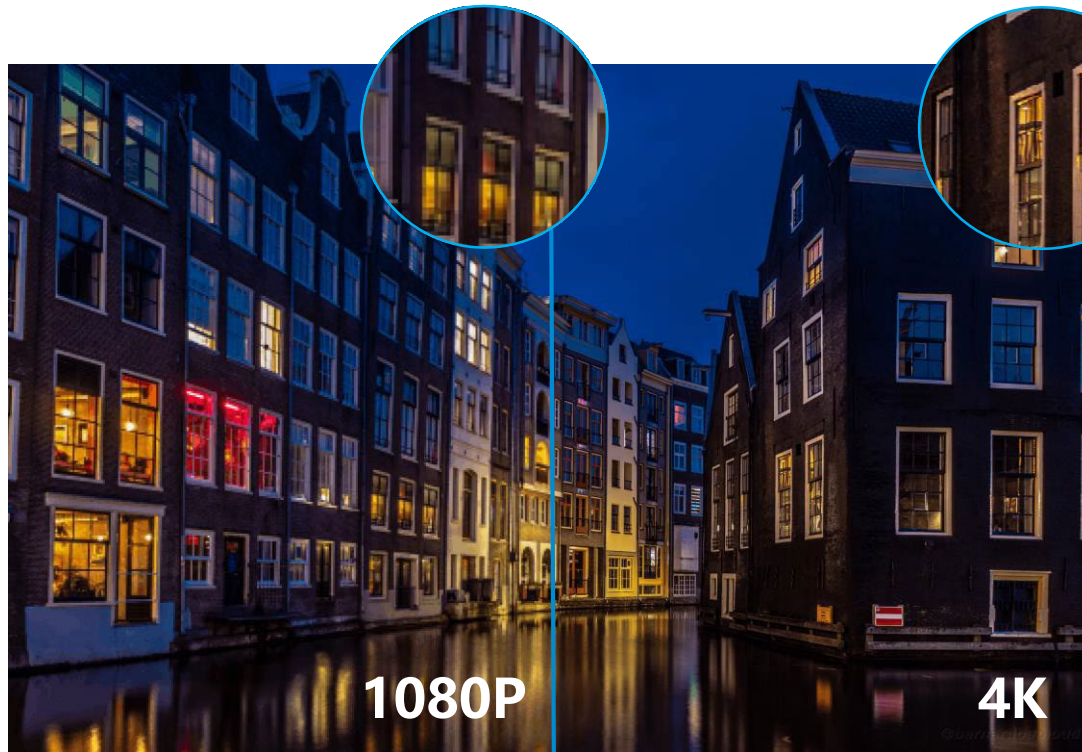


LCD /DLP
with physical seams

Comparison Type	advantage	disadvantage
LCD screen (Single screen <100 inches)	· High physical resolution	· High cost · Not enough brightness
Projector	· Low cost · Easy to install and flexible to use	· Low brightness, requiring a low-light environment · There should be no obstructions in front, which will affect the display effect. · Poor contrast and severe color deviation
DLP video wall	· High pixels at the same size · Mature products · Lower cost	· With visual seam · High maintenance costs · The display brightness is uneven after long-term use · Insufficient color reproduction
LCD video wall	· High pixels at the same size · Product maturity · Low cost	· With large splices · The display brightness is uneven after long-term use · The color reproduction is average
Fine spacing LED screen	· No visual seams, complete picture · Adjustable brightness, suitable for different scenes · Good color reproduction and perfect reproduction · Free combination of sizes	· High cost · Low resolution under the same area



Smart command center -LED display system



Front maintenance



Back maintenance

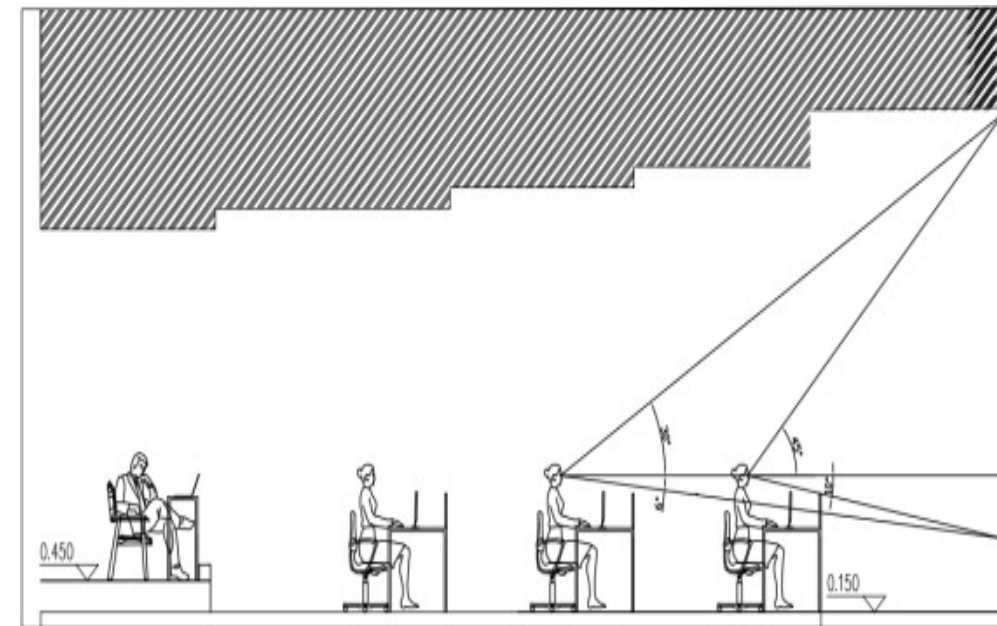
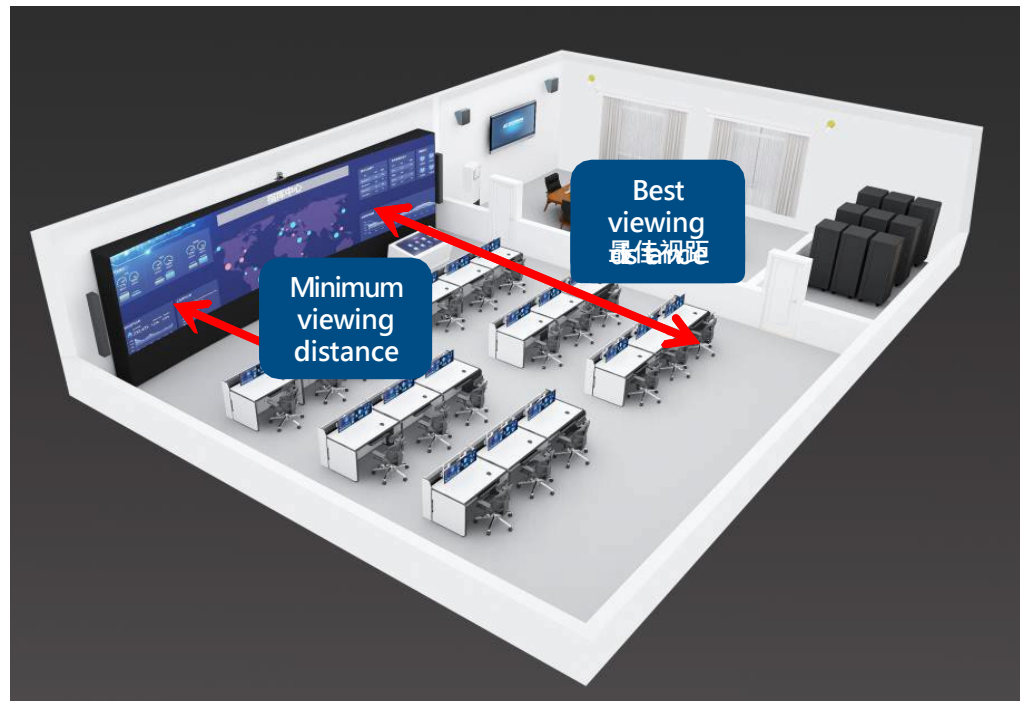


- ◆ Unique box detection technology , no exposed wire connections between cabinets

- Seamless splicing
- Ultra high refresh
- Ultra high grayscale
- Picture correction
- Extra large viewing angle
- 3D display
- Dimming
- Silent design
- light weight
- Fast heat dissipation
- Low power consumption
- Stable and reliable



Smart command center -LED display system



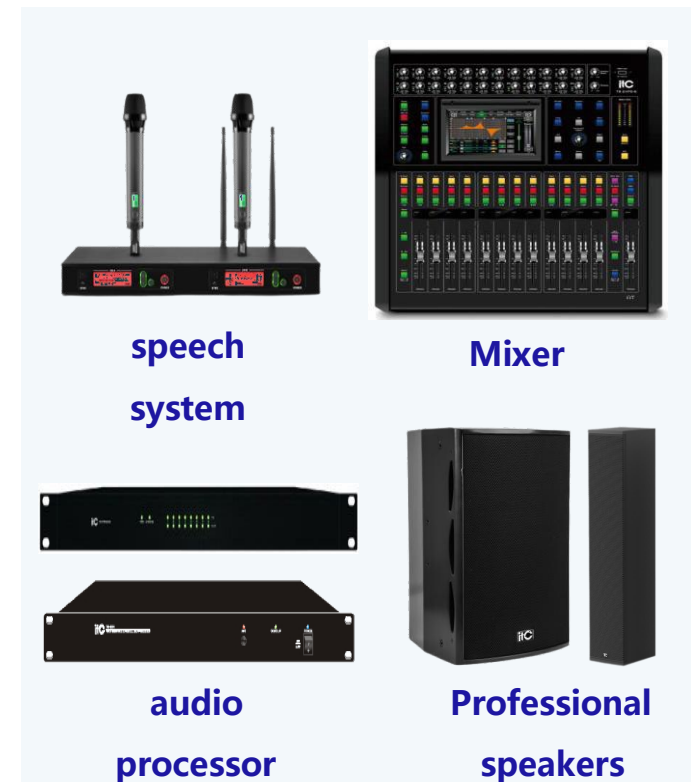
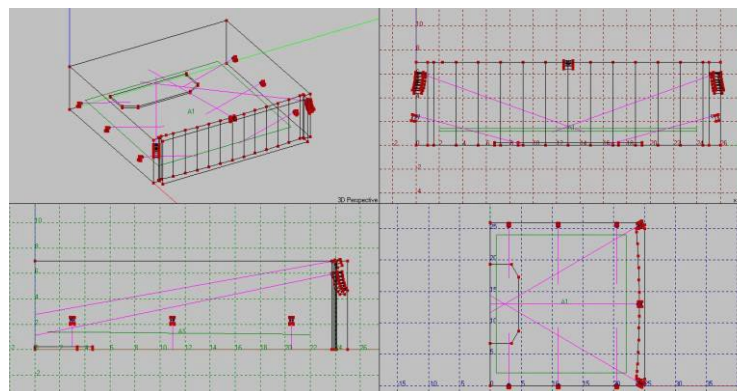
Large screen side vertical perspective view

- **Minimum viewing distance:** the closest acceptable viewing distance, the estimation method is $L_{min} = P \text{ value} \times 1000$;
- **Optimum viewing distance:** that is, the distance at which the human eye cannot see the graininess of the screen. The estimation method is $L = P \text{ value} \times 3000$;
- **Farthest viewing distance:** the farthest distance at which the screen can be viewed normally. The estimation method is $L_{max} = \text{screen height} \times 30$;

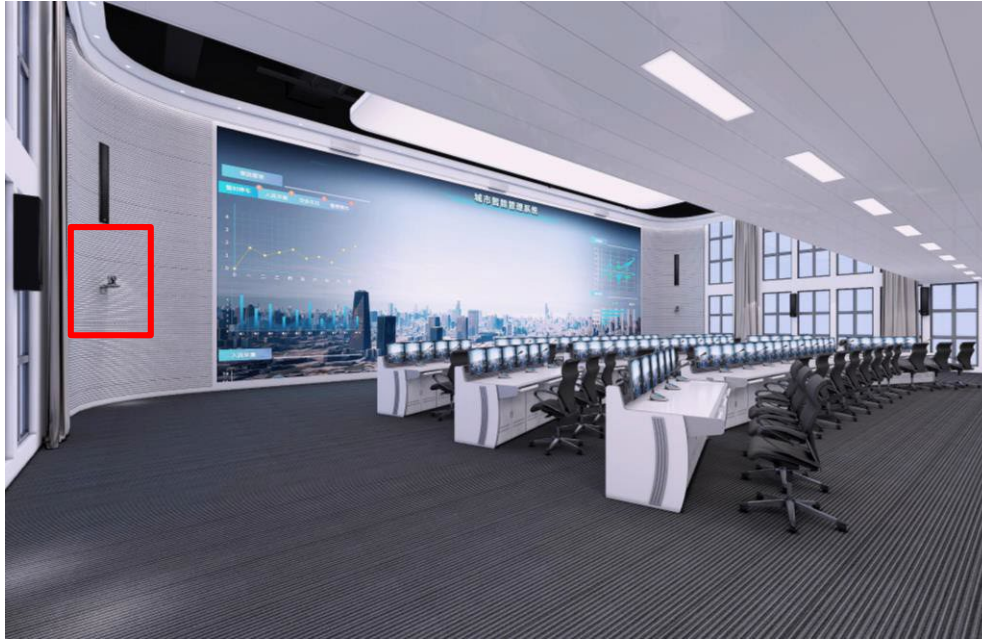
Considering the height of the command hall, it can be seen from the vertical perspective that the elevation angle from the nearest to the farthest viewing point during work is **within 30°**, and the **depression angle is within 15°**, that is, the height meets the optimal viewing requirements.



Smart command center - Professional sound system



When designing a professional sound reinforcement system , **the smart city operation command center** must fully consider the sound f ield environment of the venue and the decoration environment. It uses **EASE5** system software and based on **the "Acoustic Characteristics Standard for Hall Sound Amplification System"** and **"Measurement Method for Hall Sound Amplification Characteristics"** 》 Standard design ; select appropriate speaker equipment to ensure the best sound amplification effect , without affecting the aesthetics and satisfying the command center sound amplification should be able to achieve clear speech, no distortion, sufficient sound pressure margin, uniform sound f ield distribution, and silence Feedback howl.



Smart City Operation Command Center



HD video conference system

Multi-scenario linkage·Remote interconnection

The HD video conference system integrates high-definition and smooth audio and video technology, supports **seamless connection** and **data sharing between different platforms**, and realizes remote video interconnection meetings. Rich conference management functions, It can meet the needs of real-time information exchange between the city operation command center and superior and subordinate units, transfer of tasks and instructions, and realize remote command and other functions for subordinate grassroots units.

- Sound source localization
- MCU cascade
- 4K quality
- Six major services
- Fusion docking
- multi-level architecture
- virtual meeting room
- Easy to deploy
- Dual-machine hot standby
- High fidelity sound quality
- IP camera access
- Infrared transparent transmission control

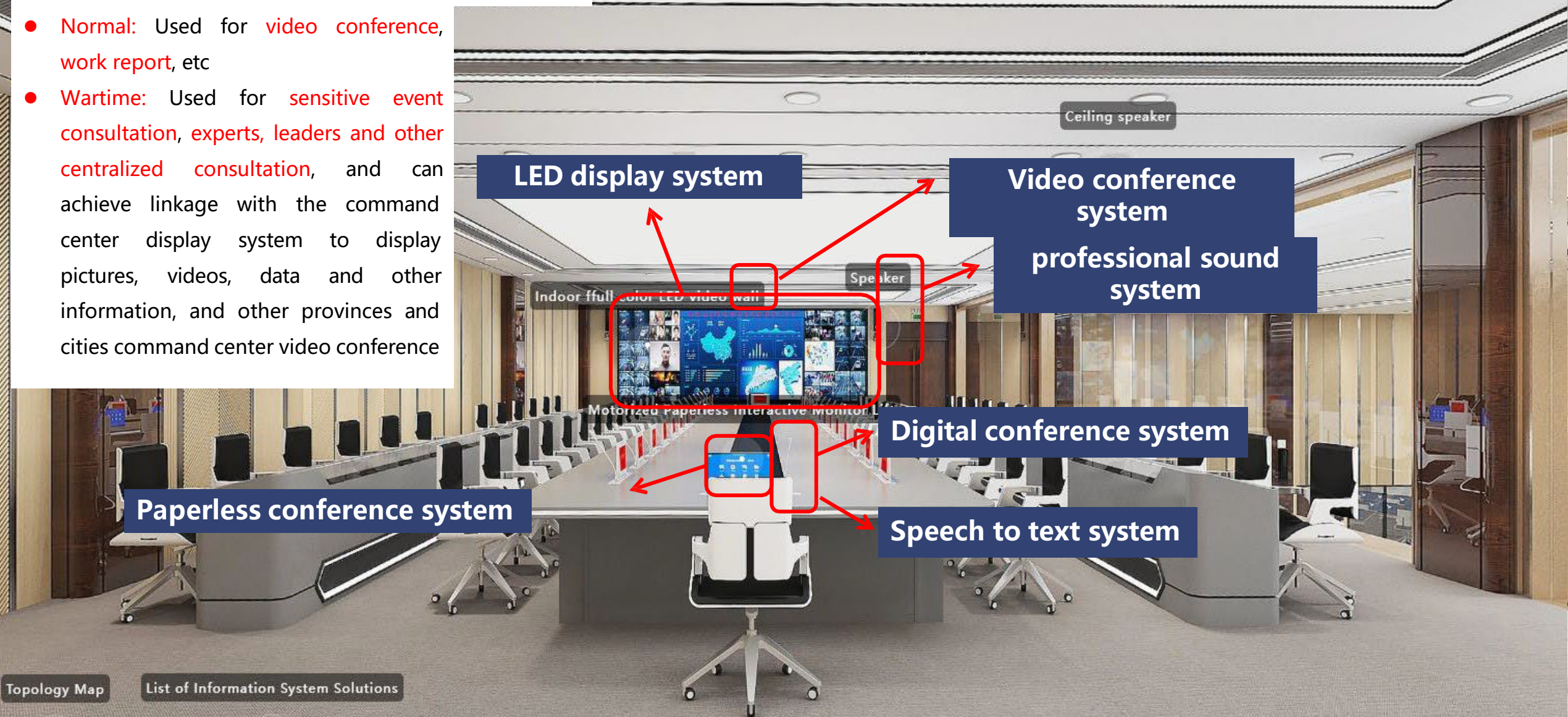
PART 03-2

Decision-making conference room

Meeting room/Decision room scenario configuration

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- **Normal:** Used for video conference, work report, etc
- **Wartime:** Used for sensitive event consultation, experts, leaders and other centralized consultation, and can achieve linkage with the command center display system to display pictures, videos, data and other information, and other provinces and cities command center video conference



Topology Map

List of Information System Solutions

PART 03-2

Press Conference Hall

Press Conference Hallscenario configuration

- **Normal time:** Meet the needs of centralized training and large meetings
- **wartime:** Release the accident situation and the progress of follow-up work, share some pictures of the command center or other offices, and connect data; The press release activities can be Live TV and webcast interactive according to the situation.



面视角

拓扑图

信息化系统解决方案清单

查看

点击查看

查看

点击查看

PART 04

Application case



Selected Cases of Command Center



**Department of
Emergency
Management of
Guangdong Province**



**Tianhe District
Emergency
Management Center**



**Shilou Town Emergency
Command Center**



**Shanghai City
Operation Command
Center**



**A command
center in
Shanghai**



**Jiading City Operation
Command Center,
Shanghai**



**Fengxian City Operation
Management Center,
Shanghai**



**Zhejiang Smart
Management
Command Center**



**Maek control center
Kazakhstan**



**Transco command
center in Abu Dhabi,
UAE**



**Ministry of
Defense, Uzbekis
tan**

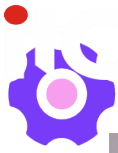


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