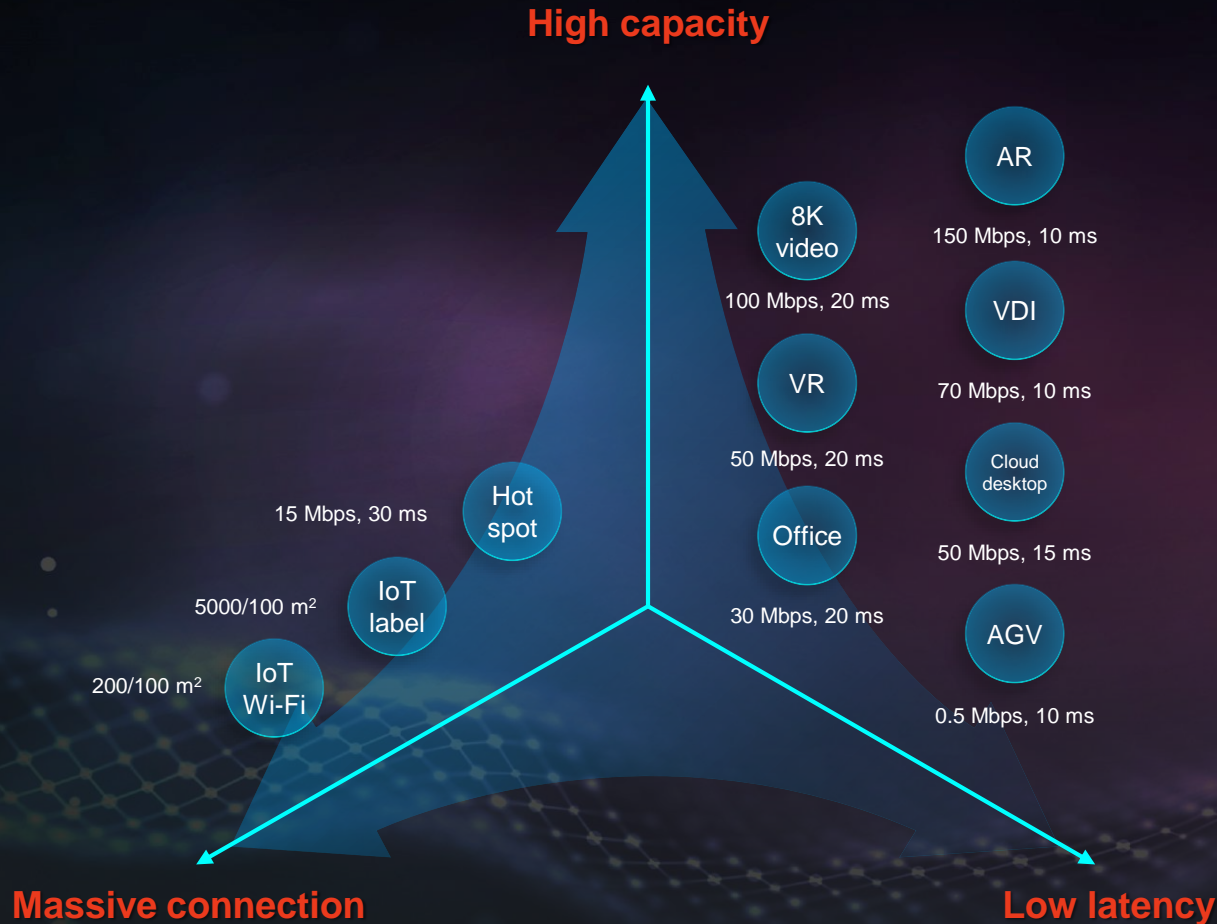# Huawei's Next-Generation Wi-Fi 6 Solution

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Product Manager
Huawei Enterprise Business Group

What Wi-Fi 6 Can Bring: Addressing Major Pain Points in Enterprise Wireless Applications, Delivers a Breakthrough in Core Technologies for New Applications and Scenarios, and Evolves from Best Effort to Guarantee

High capacity

AR
150 Mbps, 10 ms

8K video
100 Mbps, 20 ms

VDI
70 Mbps, 10 ms

VR
50 Mbps, 20 ms

Cloud desktop
50 Mbps, 15 ms

Hot spot
15 Mbps, 30 ms

Office
30 Mbps, 20 ms

IoT label
5000/100 m²

AGV
0.5 Mbps, 10 ms

IoT Wi-Fi
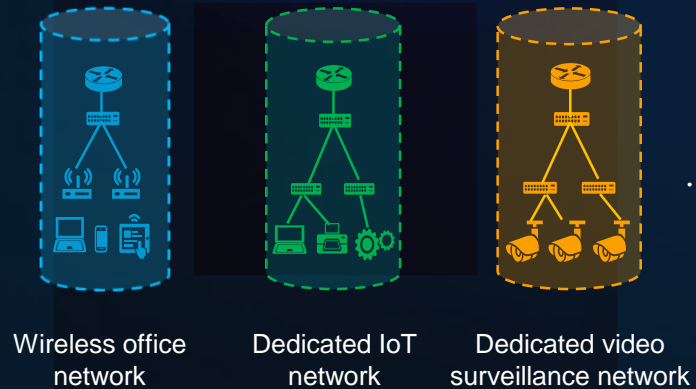200/100 m²

Massive connection

Low latency

Wi-Fi 6 solves inherent Wi-Fi problems (regarding roaming, latency, continuous networking, etc.) in traditional applications and innovates standards for enterprise WLAN construction and experience.

Wi-Fi 6 meets the requirements of new applications for ultra-low latency, high-density connections, and high-bandwidth continuous networking, leading the all-wireless transformation of enterprise networks.

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What Wi-Fi 6 Can Bring: Converging Wi-Fi and IoT Networks to Reduce Network Construction and Maintenance Costs

AS-IS

Campus network

Wireless office network

Dedicated IoT network

Dedicated video surveillance network

...

- Dedicated networks carrying different services, resulting in high network construction and maintenance costs
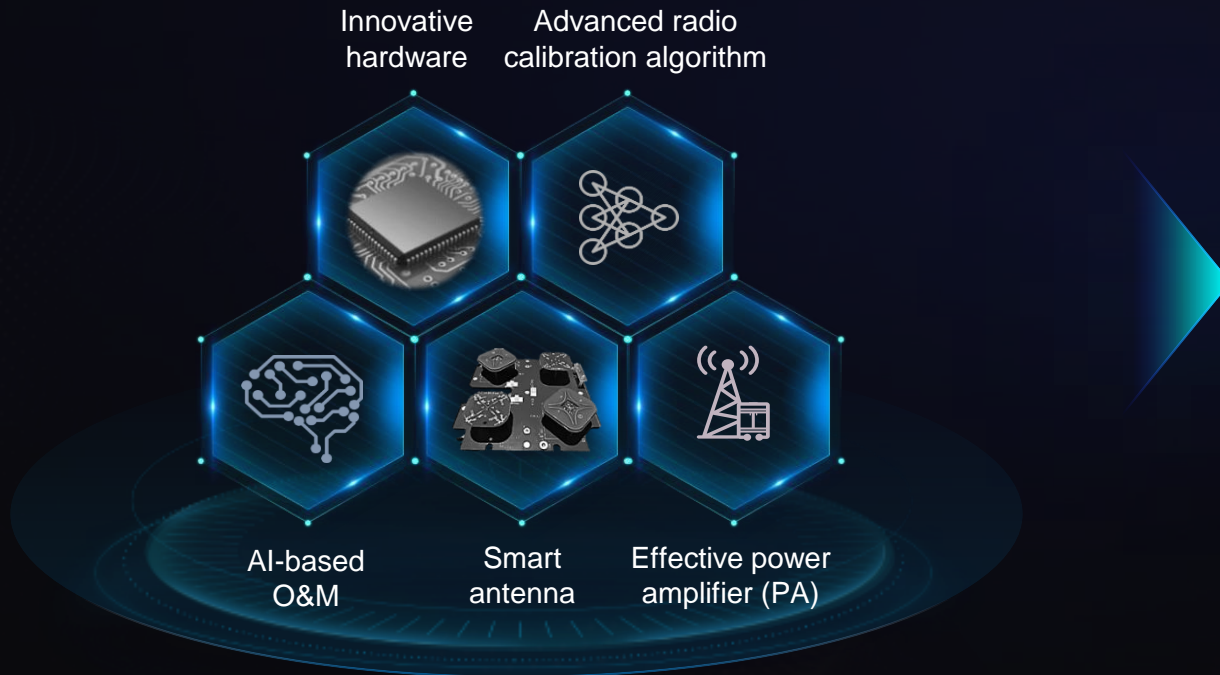- Interference between different wireless environments

TO-BE

Cloud-based management

RFID

zigbee

ESL

Asset label

Energy management

Infant abduction prevention

Fluid leakage detection

Student management

- Co-site and co-backhaul of Wi-Fi 6 and IoT networks, reducing TCO by 50%
- Interference detection association, increasing the IoT network capacity by 100%

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Huawei Wi-Fi 6, Powered by 5G and AI-based SDRA: 100Mbps@Everywhere Fully Wireless Campus, Maximizing Performance of Each AP

Key Wi-Fi technology innovation and breakthrough
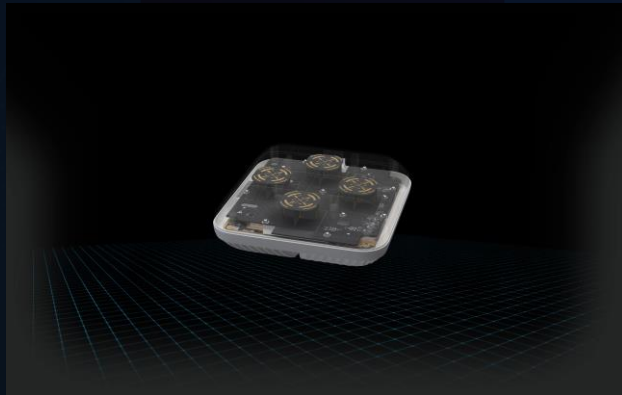
Innovative network enables ultimate experience

Innovative hardware

Advanced radio calibration algorithm

AI-based O&M

Smart antenna

Effective power amplifier (PA)

Intelligent networking, proactive O&M

Lightning speed, industry-leading performance

Always-on experience, service assurance

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Industry's "More Stable" Wi-Fi 6: Huawei's Three Game-Changing 5G Technologies, Delivering Optimal Experience

Smart Antenna

Smart Antenna
More stable Wi-Fi coverage,
without coverage holes

- Signals following users and optimized coverage directions at any time
- **20%** more coverage distance

Dynamic Turbo

Dynamic Turbo
More stable applications
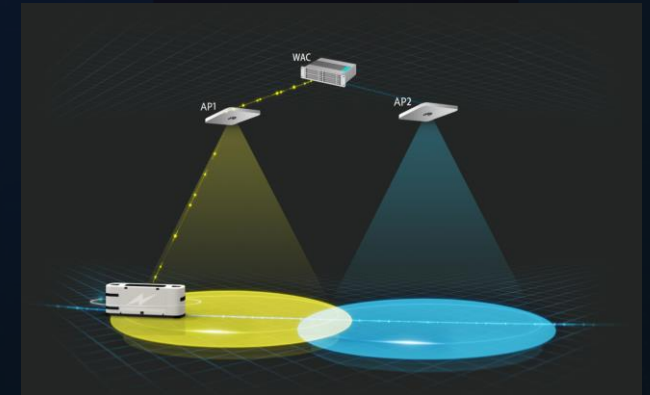**with low latency**

VIP User
Ordinary User

- Multi-queue packet scheduling acceleration algorithm
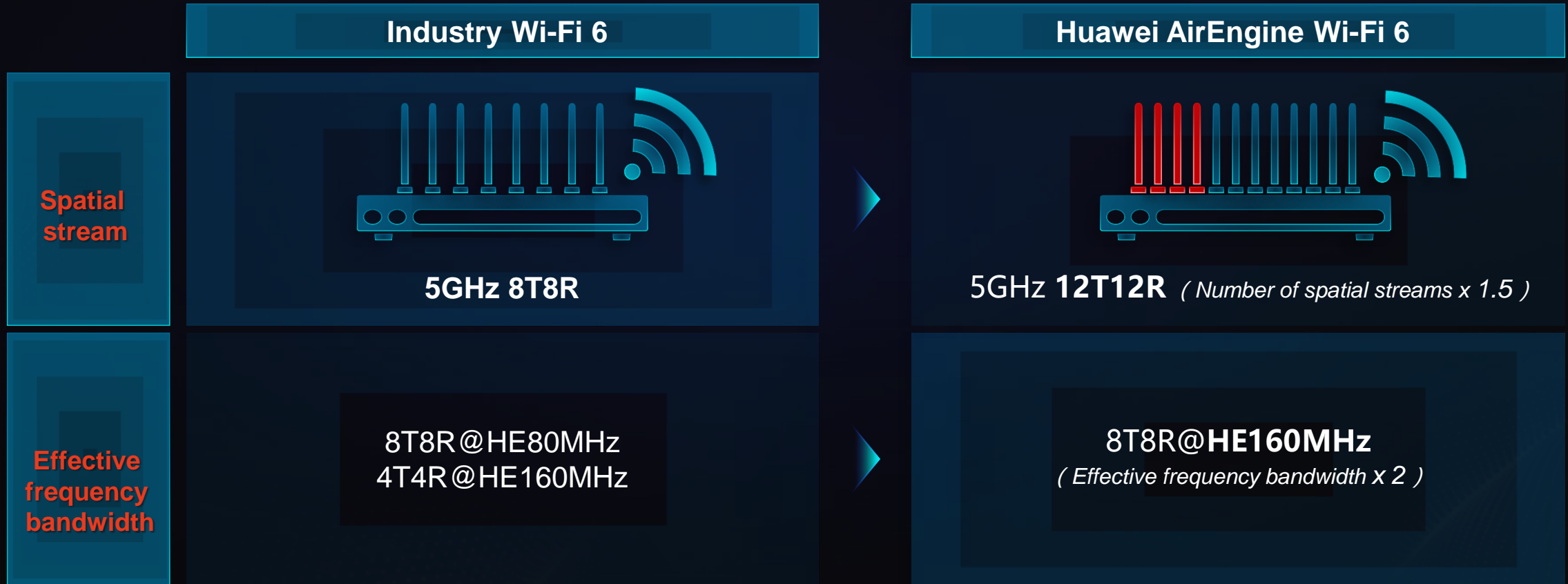- Latency for high-priority applications as low as **10 ms**

Lossless Roaming

Lossless Roaming
More stable roaming
with "zero" packet loss

WAC
AP1
AP2

Edge intelligence, device-pipe synergy, and lossless resumable transmission, implementing **Zero packet loss** during AGV roaming

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Industry's "Faster" Wi-Fi 6: Supporting Industry's More Spatial Streams and Higher Effective Frequency Bandwidth

	Industry Wi-Fi 6		Huawei AirEngine Wi-Fi 6
Spatial stream	5GHz 8T8R	→	5GHz **12T12R** *(Number of spatial streams x 1.5)*
Effective frequency bandwidth	8T8R@HE80MHz 4T4R@HE160MHz	→	8T8R@**HE160MHz** *(Effective frequency bandwidth x 2)*

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Wi-Fi 6 Transforms Office Spaces: Improving Office Efficiency and Transforming Office Experience of Employees

Digital office

All-wireless access, office at anytime and anywhere, one-click conference scheduling using an app, and automatic adjustment of light and temperature

Huawei builds Wi-Fi 6-based global digital office spaces, supporting 15,000 HD smart screens and allowing for 7.25 billion instant messages, 4.56 billion emails, and 15 million IP or video conferences per month.

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Wi-Fi 6 Transforms Production: Improving Self-Operation Efficiency and Transforming End User Experience

Digital production

A large number of always-on terminals and sensors, production data collection in real time, and precise AGV control

Huawei works with Quicktron to build a highly reliable AGV system. When 1000+ AGVs move at a speed of 2 m/s in a space of 20,000–30,000 m², a Wi-Fi 6 network reduces the number of disconnections from the original 100 times every week to zero, maximizing transport capacity of AGVs.
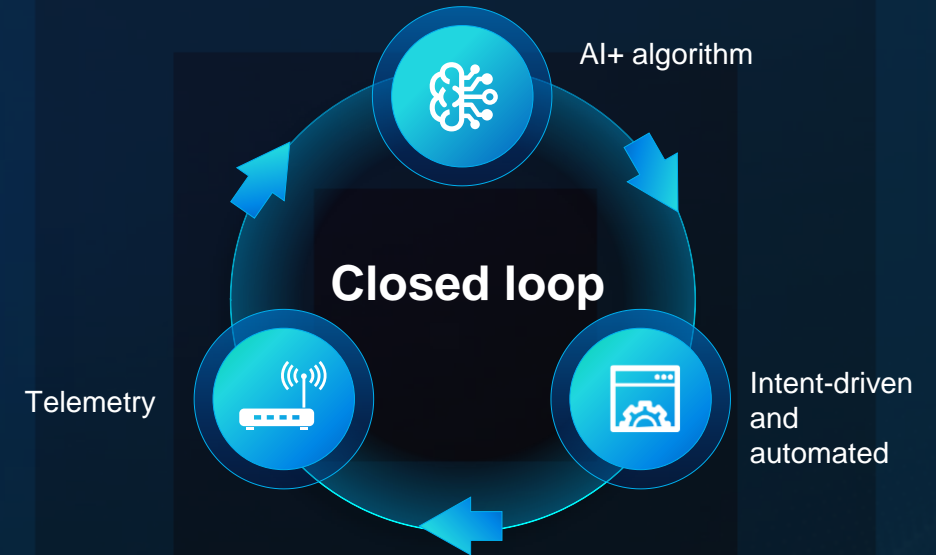
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What Wi-Fi 6 Can Bring: Constructing a "Proactive O&M" Platform That Integrates Management, Control, and Analysis to Implement Fault Locating Within Minutes

AS-IS

- Passive response and maintenance, 90% faults driven by complaints
- Fault location and demarcation in days or hours, and fault rectification in days
- Manual network optimization

TO-BE

AI+ algorithm

Closed loop

Intent-driven and automated

Telemetry

- Preventive and predictive maintenance
- Real-time SLA awareness, and demarcation and location for 85% faults in minutes
- AI+ algorithm–based automatic optimization

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"Proactive O&M" Platform That Integrates Management, Control, and Analysis, Implementing Intelligent Large-Scale Networking

4 in 1

"Proactive O&M" platform that integrates management, control, and analysis, reducing TCO by 60%
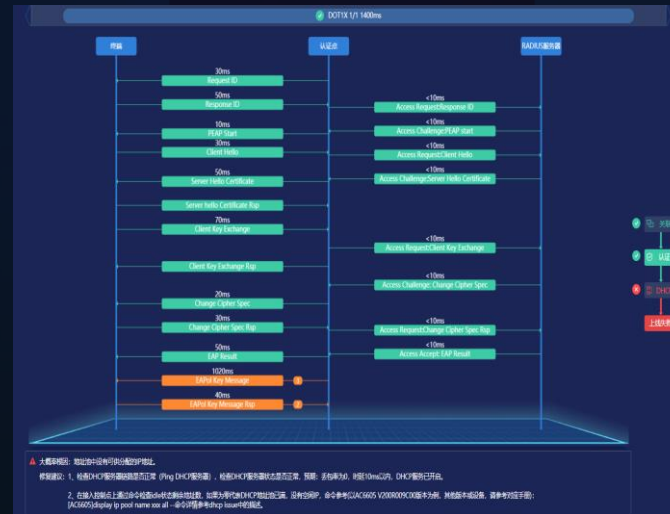

iMaster NCE

Huawei All in one O&M

Other Vendors

Fault locating **within minutes***

Industry-unique protocol tracing (802.1X/Portal/MAC address authentication) and fast demarcation and location for **85% issues** within minutes

*Expert experience + AI learning: continuously building a *fault knowledge base*

Intelligent network optimization

Industry-unique intelligent radio calibration, achieving 58% better network-wide performance

Neural network algorithm + real-time simulation
神经网络算法实时仿真计算

100M@Everywhere

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Next-generation Huawei AirEngine Wi-Fi 6 Products

AirEngine 5760-51	AirEngine 5760-22W AirEngine 5760-22WD	AirEngine 6760-X1 AirEngine 6760-X1E	AirEngine 8760R-X1 AirEngine 8760R-X1E AirEngine 6760R-51 AirEngine 6760R-51E	AirEngine 8760-X1-PRO
6T6R	**6T6R**	**10T10R**	**16T16R 8T8R**	**16T16R**
Retail, Supermarket	Hotel, Dormitory	Hall, Waiting Room	Stadium	E-Classroom, Meeting Room

HUAWEI