登昌恆興業股份有限公司
UPMOST TECHNOLOGY CORP.
ADD 11167 台北市士林區承德路4段220號2樓
2F., No.220, Sec. 4, Chengde Rd., Shilin District, Taipei City 11167, Taiwan
TEL (02) 2883 7222
FAX (02) 2883 7145
URL www.upmostgroup.com

AV over IP is a "digital audio-visual signage system" characterized by "high definition, long distance, and scalability." It can transmit 4K60 high-definition signals up to 240 kilometers and allows the number of screens to be flexibly expanded based on actual needs.

The system's scalability meets the requirements of various venues, including large concerts, sports arenas, shopping malls, transportation stations, corporate meeting rooms, and hotels. It enables the easy setup of multiple screens in different locations to display the same high-quality audio-visual content, offering an optimal solution for multi-screen video walls and multi-location playback.

Why use AV over IP?

Type	Traditional Audio-Visual	AV over IP
Delay	≤ 1,000 Millisecond	≤ **30** Millisecond
Distance	HDMI Cable: ≤ 15 m Extender: ≤ 100 m	**Network Cable: ≤ 200 m** **Fiber Optic Cable: ≤ 240 km**
Expansion	Difficult to	**High Elasticity**
Cost	Higher ↗	**Lower** →
Maintenance	On-site Setup	**Web Management**

※1 second = 1,000 milliseconds

※Expansion: Traditional Audio-Visual: Replace or add matrix switchers, extenders, video walls, splitters, etc., based on requirements.
AV over IP: Simply add encoders, decoders, and network switches.

High-quality transmission of 4K ultra-high-definition audio and video

Using Motion JPEG and SDVoE encoding and decoding technologies, this system enables uncompressed transmission of 4K high-definition audio and video, ensuring that every detail displayed on the screen remains sharp and clear. This technology maintains excellent picture quality even in large-scale displays and long-distance transmission, offering a more detailed and realistic visual experience.

Technology	H.264	H.265	M-JPEG	SDVoE
Bandwidth	24 Mbps	20 Mbps	300 Mbps	9 Gbps
PSNR	30 dB	35 dB	45 dB	70~100 dB
Latency	160~250 ms	160~250 ms	16~30 ms	0.03~0.12 ms

PSNR

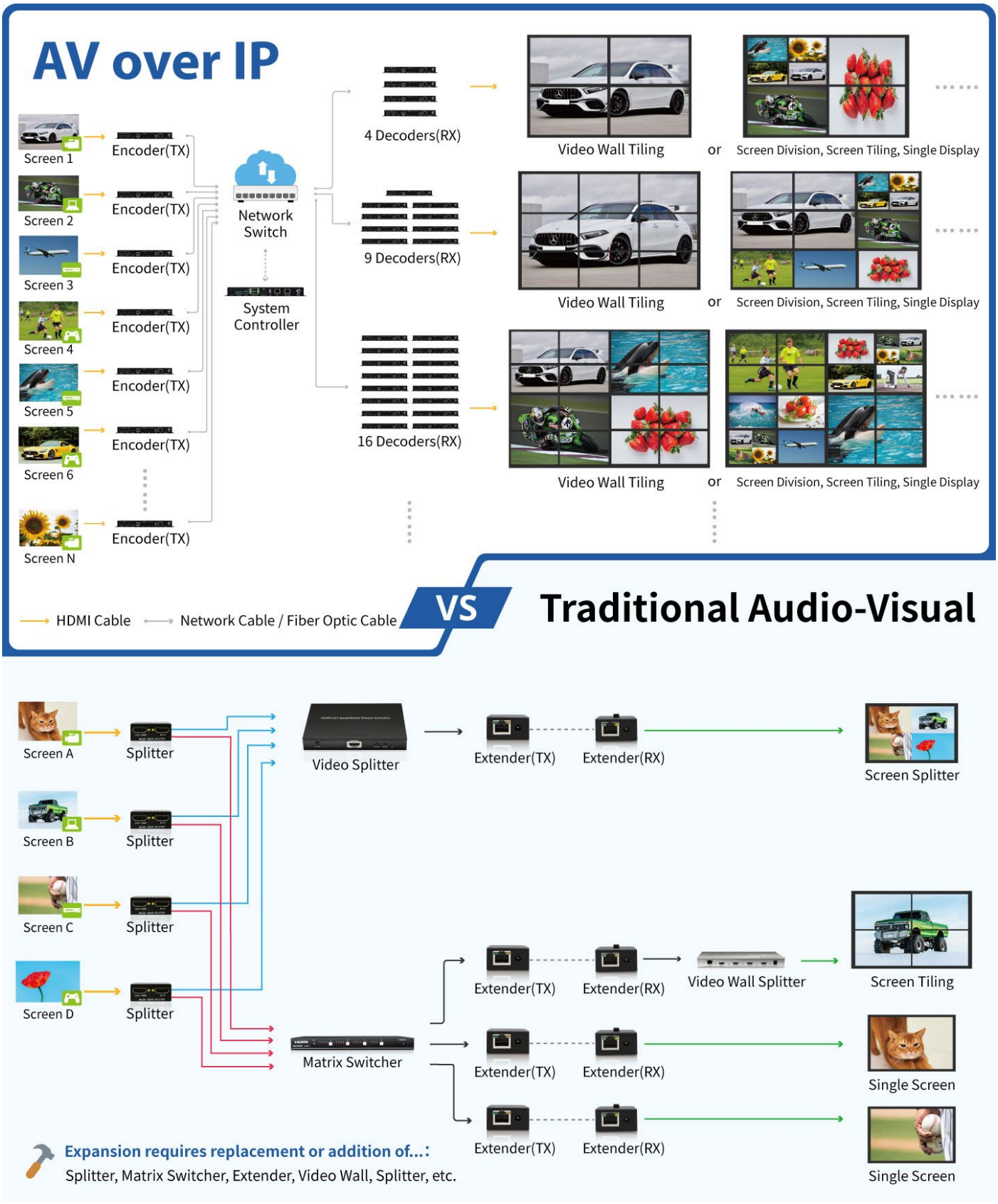
Uncompressed original image

≃ 50dB：There is almost no difference from the original image.

> 30dB：The difference from the original image is difficult for the human eye to perceive.

The human eye can perceive the difference in the image.

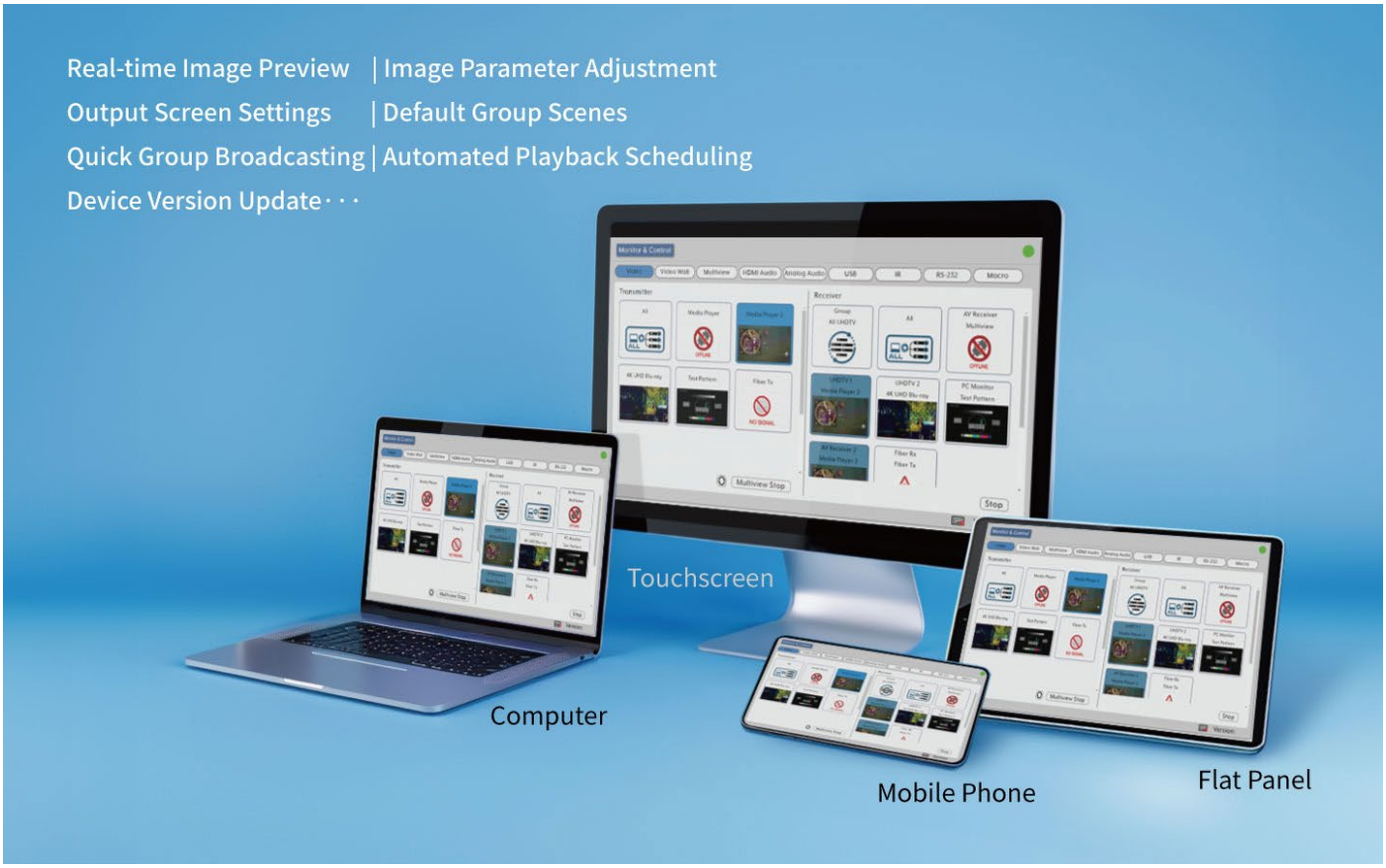
Long-distance transmission with highly flexible scalability



Compared to traditional AV architecture, AV over IP supports long-distance transmission of up to 240 kilometers. It offers flexible scalability based on actual needs; by simply adding encoders and decoders, the system can easily expand to multi-screen video walls for large venues, accommodating various scales and application scenarios.

Graphical web-based management for easy maintenance of on-site equipment

Simply connect a computer, smartphone, or tablet to the device's management webpage (WebGUI) within the same local area network to perform configurations. There’s no need to visit the device on-site, greatly enhancing the convenience of maintenance and management. This allows users to operate and manage the system efficiently.

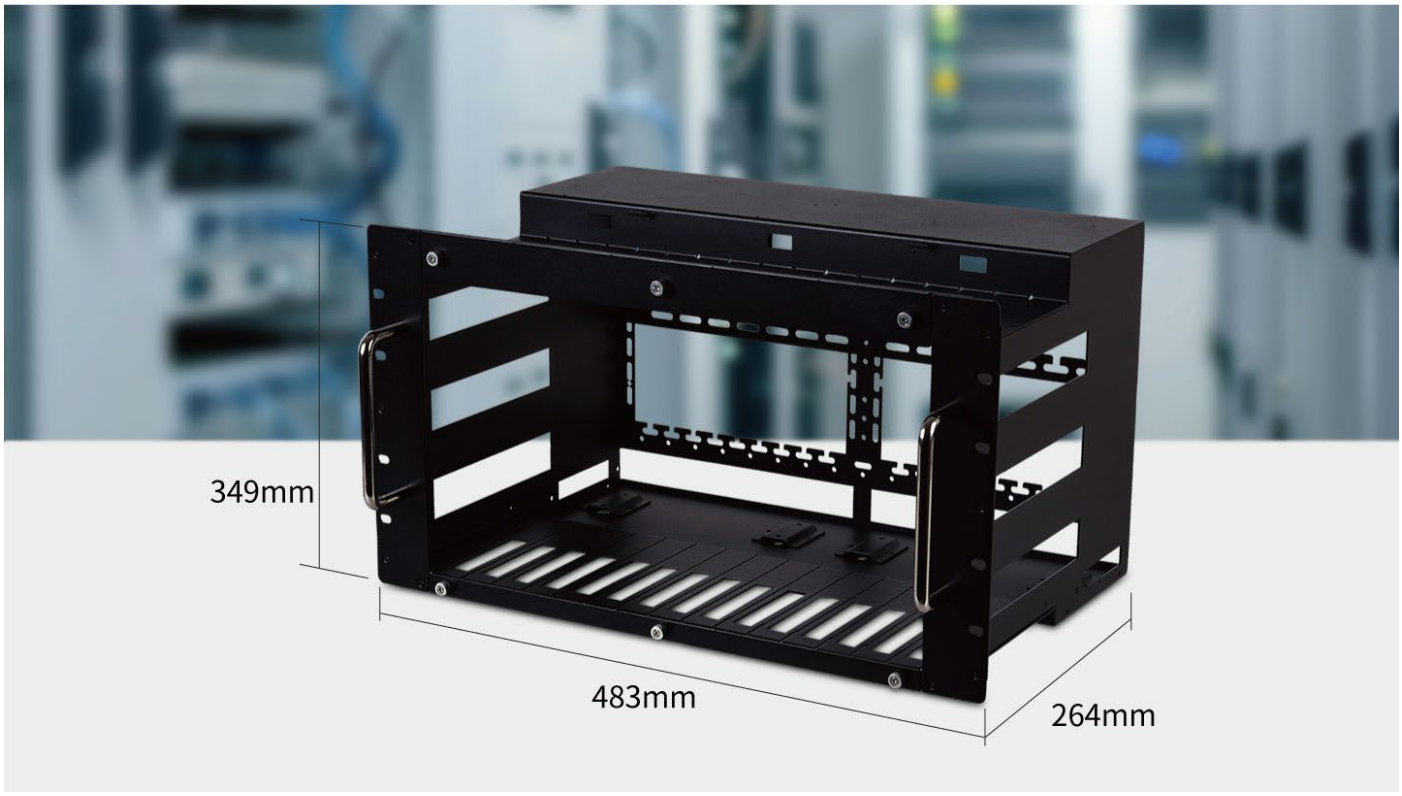


Integrates 8 functions with flexible scalability to meet the needs of various venues

The AV over IP solution integrates eight key functions, including screen preview, distance extension, matrix switching, screen stitching, screen splitting, keyboard and mouse control, venue management, and environmental control. These features provide high flexibility in setup and expansion, allowing for adjustments based on different venues and needs, thus meeting the requirements of various application scenarios.

Dedicated storage rack for clear and organized equipment display

Compatible with a 6U rack, it can accommodate up to 15 devices, making it especially suitable for customers who need to install multiple machines in a compact space. Additionally, optional accessories such as cooling fan systems, power management units, cable management frames, and network switch trays are available to further enhance space efficiency in installation and storage, making the overall layout cleaner and more organized.



Suitable for planning in both large and small venues

Concert

Sports Bar

Medical Institution

Factory Production Line

Department Store

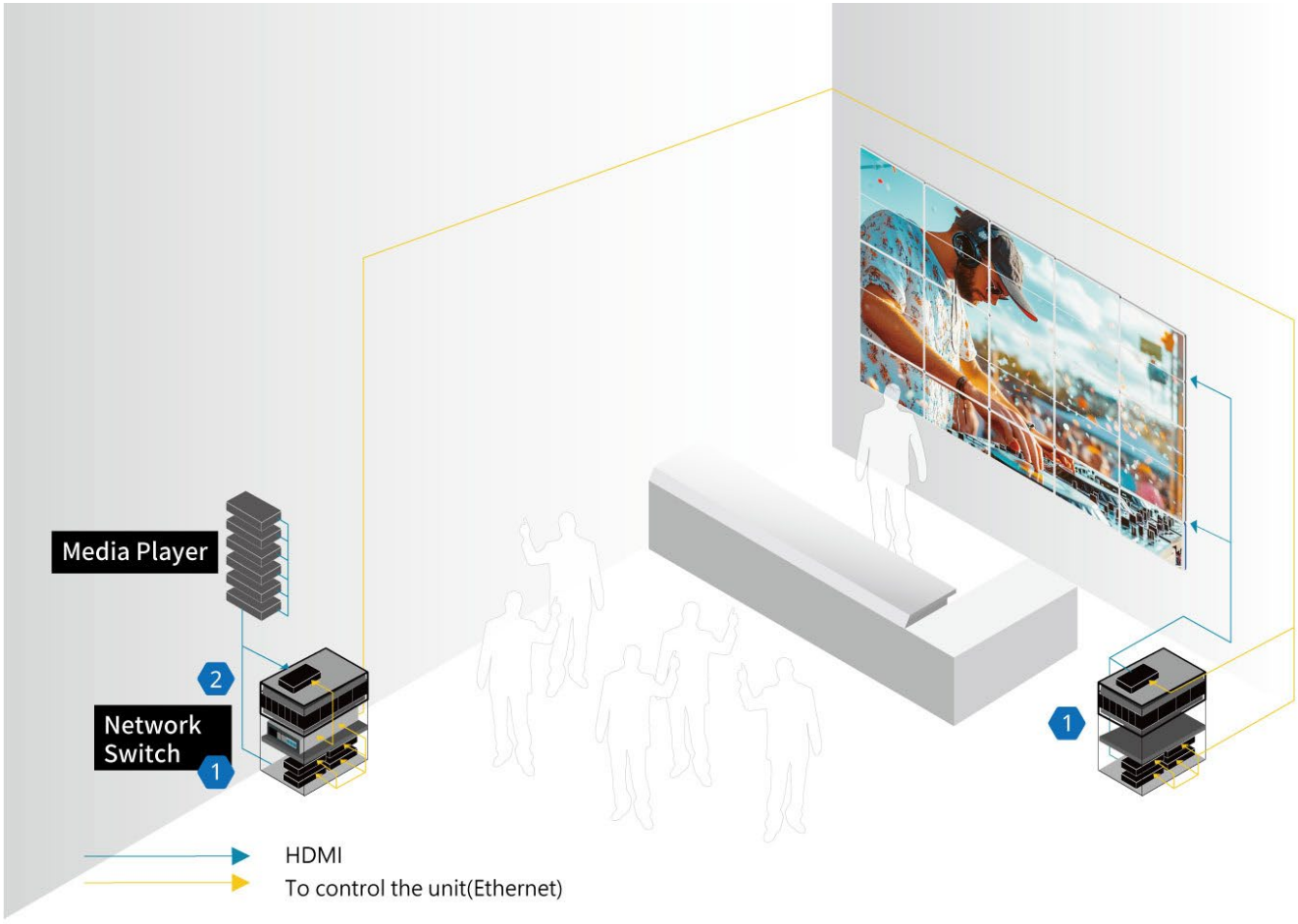
Auditorium

Transportation Station

Conference War Room

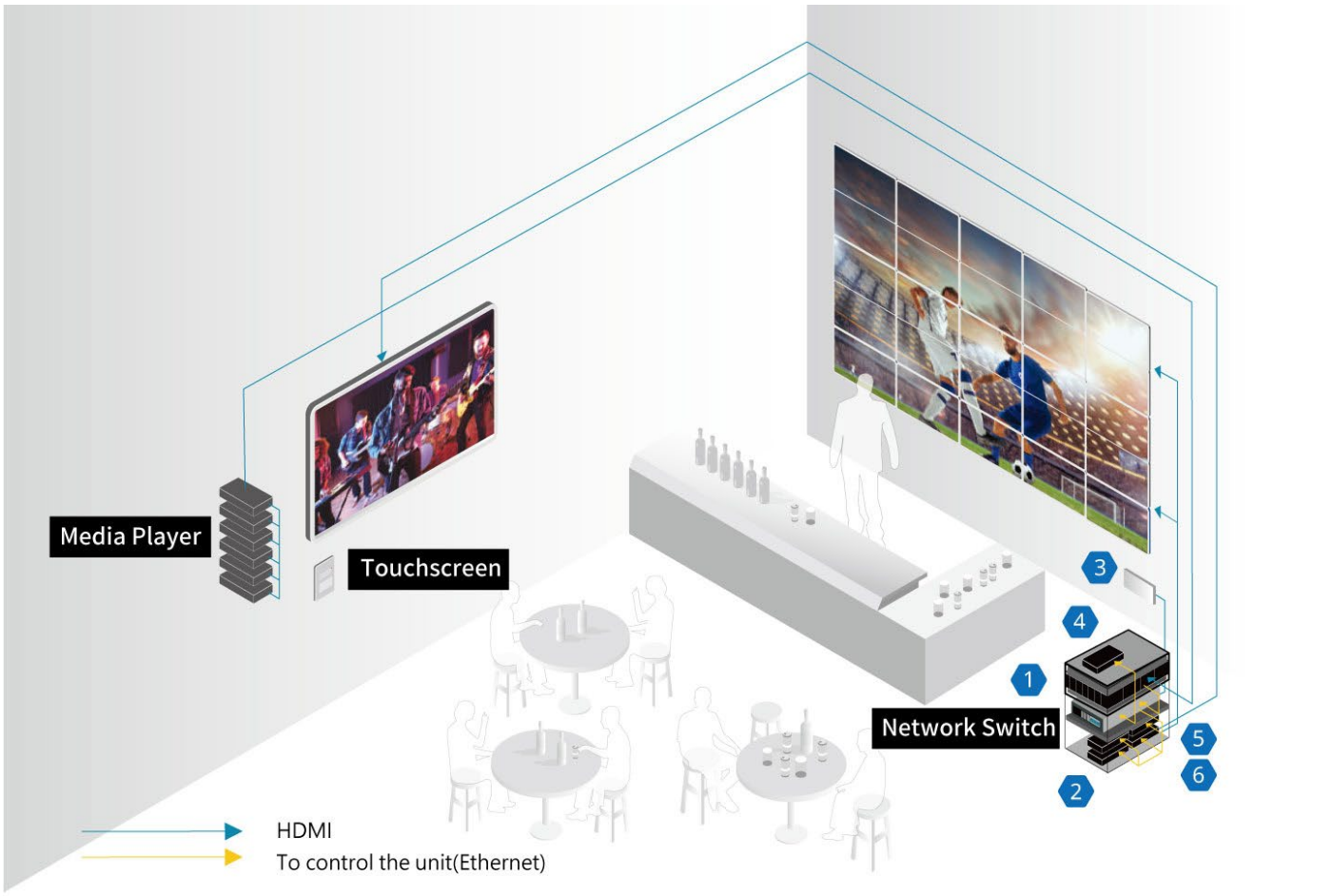
Application examples

Concerts



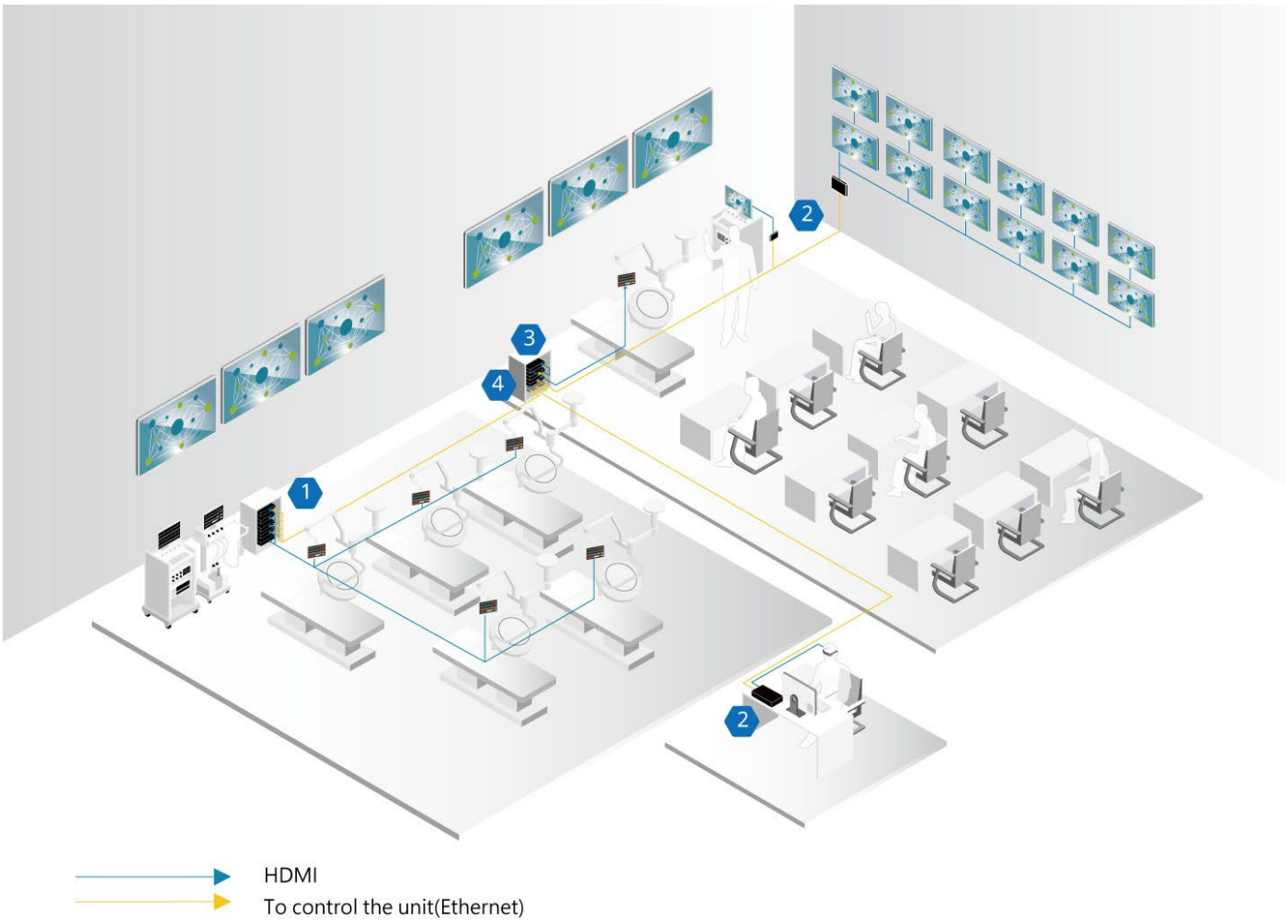
1	2
Transceiver	System Controller

Sports Bars



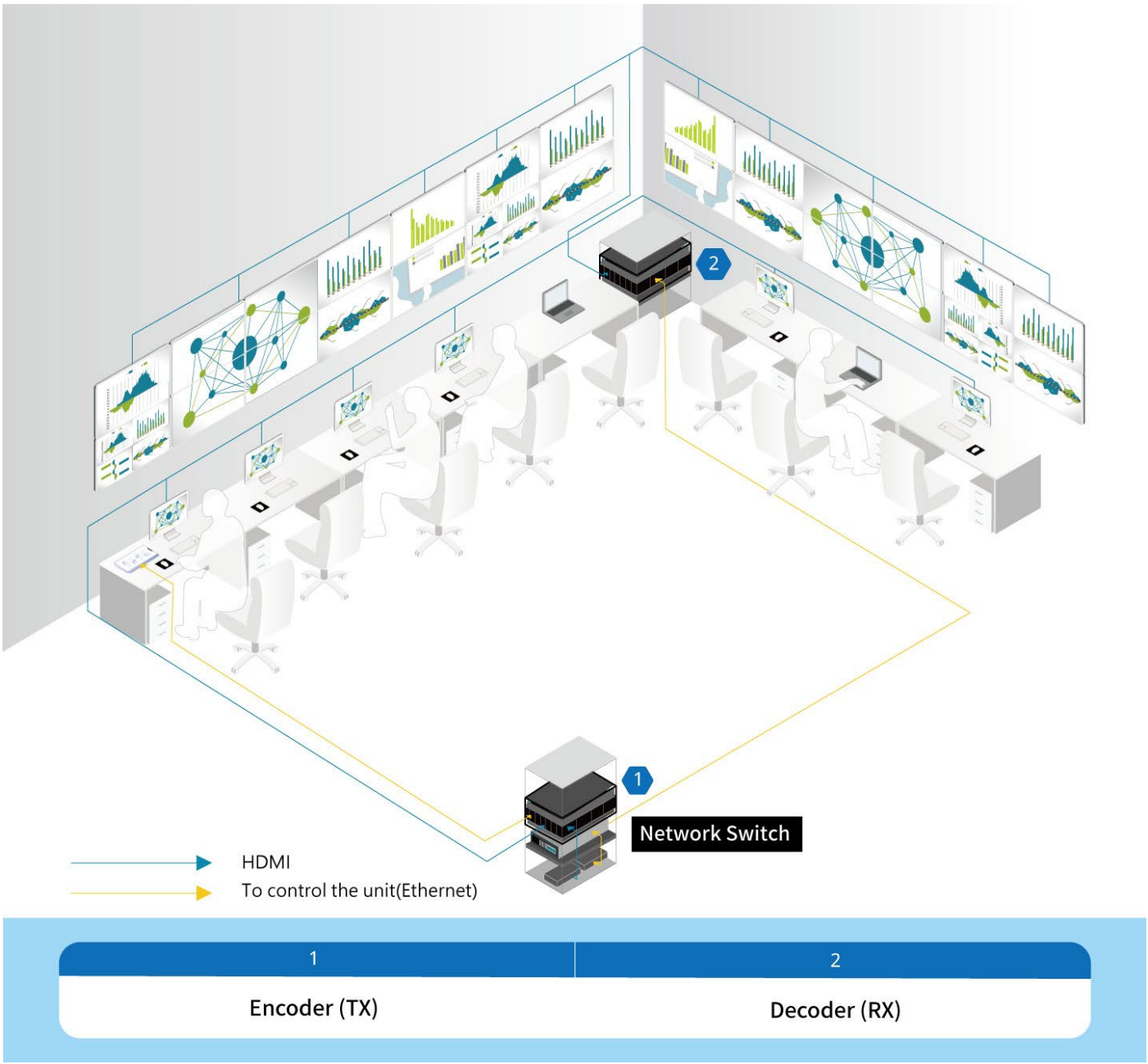
1	2	3	4	5 / 6
Encoder (TX)	Decoder (RX)	Encoder (Wall-mounted Type)	System Controller	Rack, Cooling Fan

Medical Surgery Training



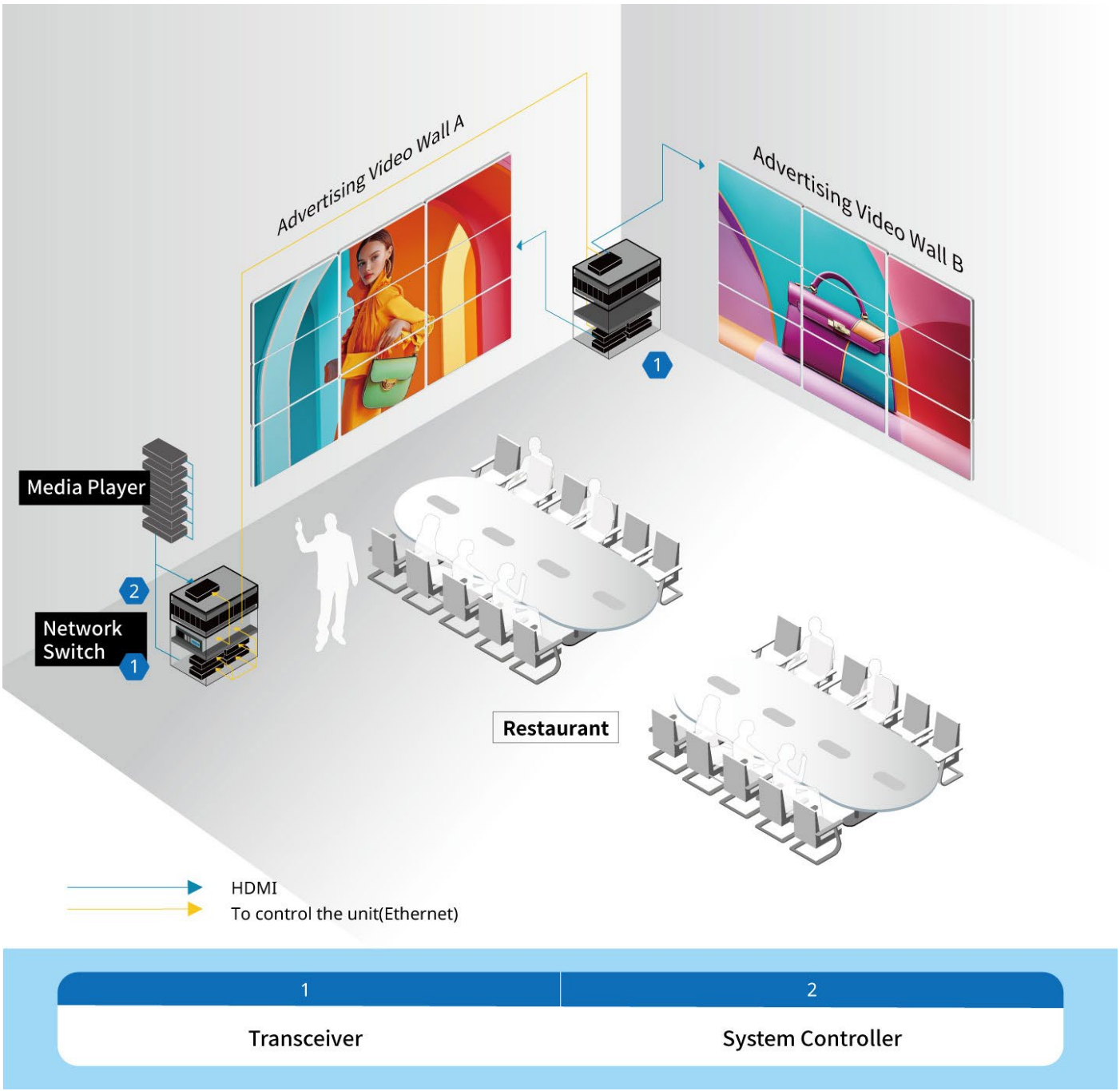
1	2	3	4
Encoder (TX)	Decoder (RX)	Live Streaming Device	System Controller

Factory Production Line Monitoring Center



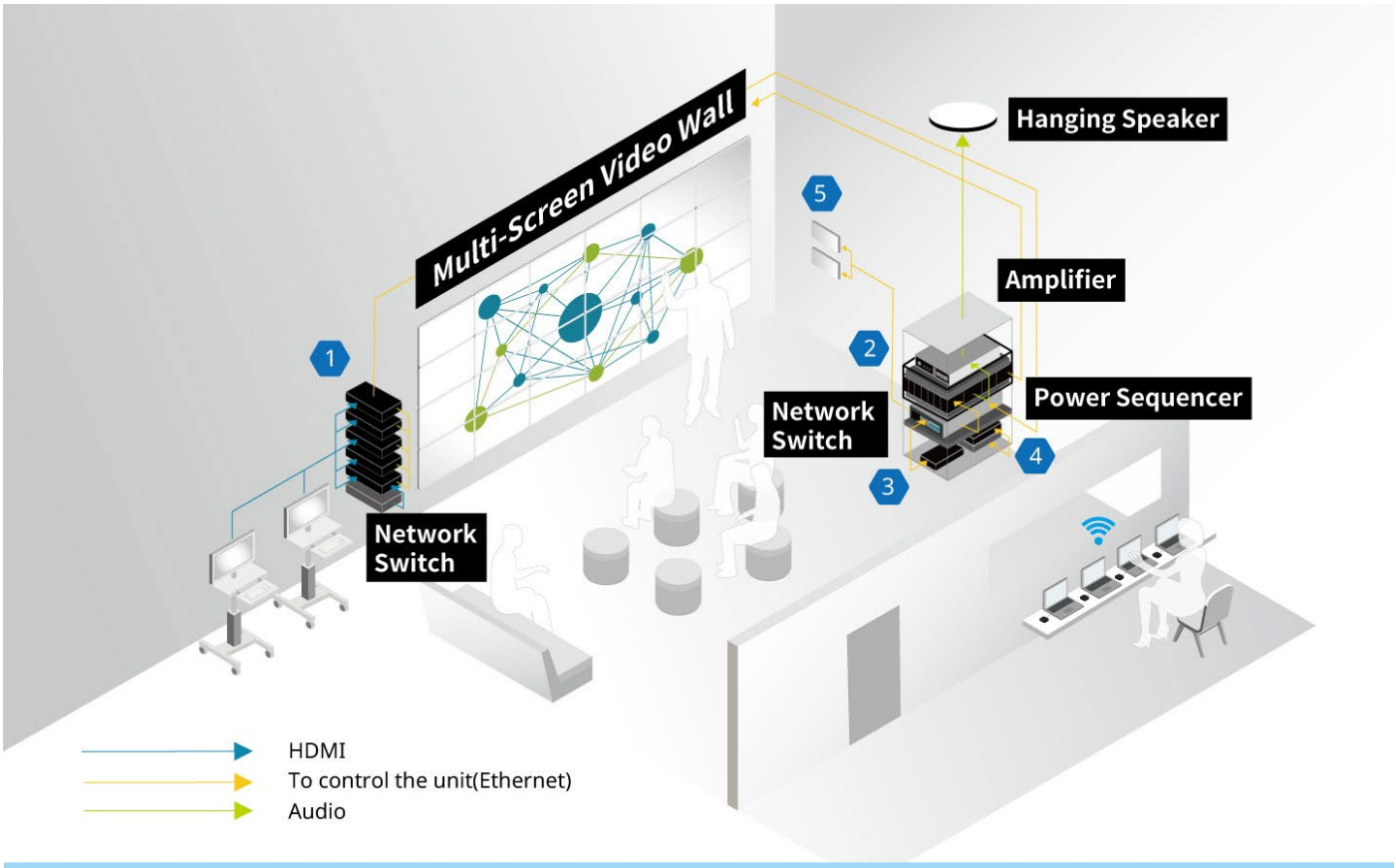
1	2
Encoder (TX)	Decoder (RX)

Shopping Malls



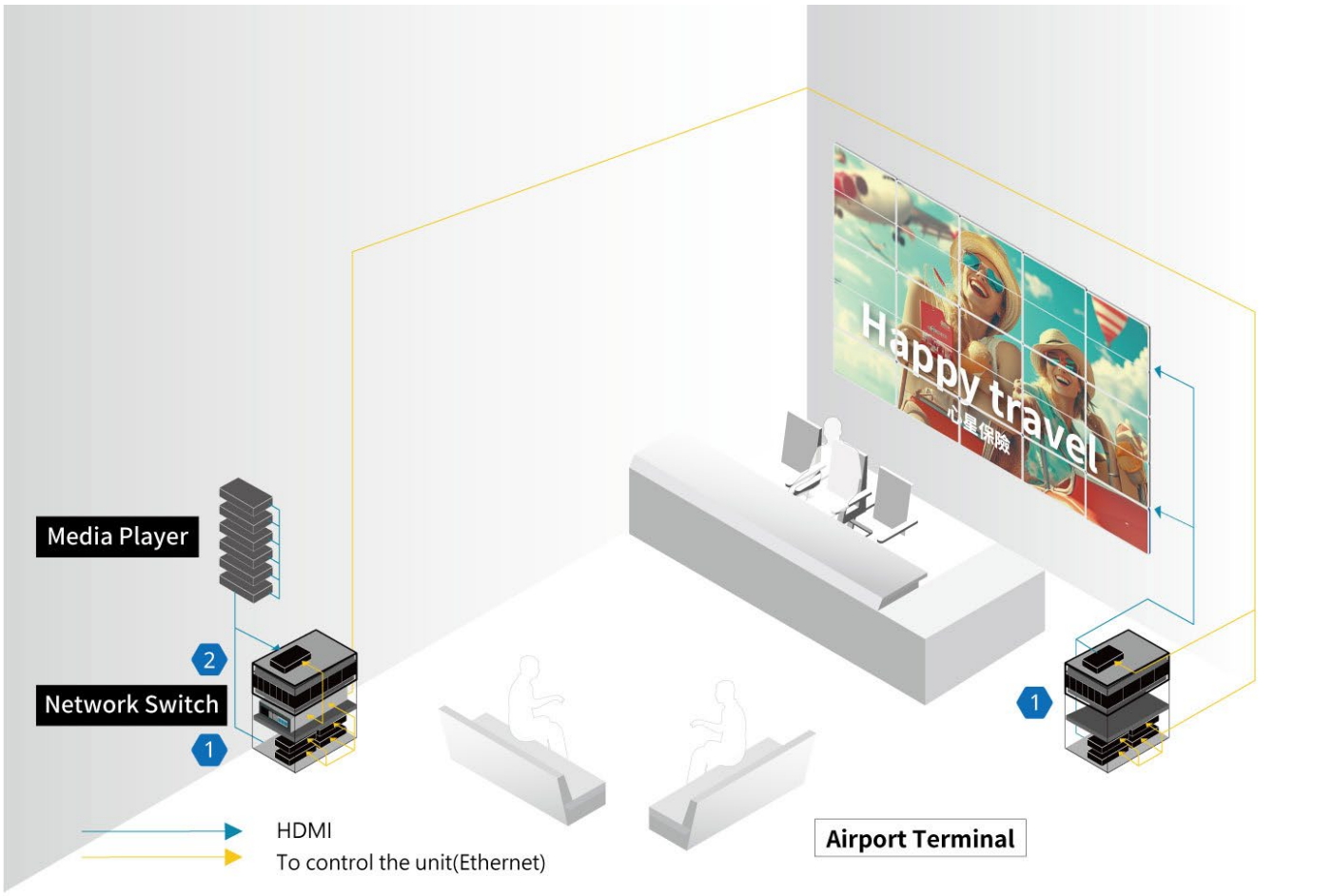
1	2
Transceiver	System Controller

Lecture Halls



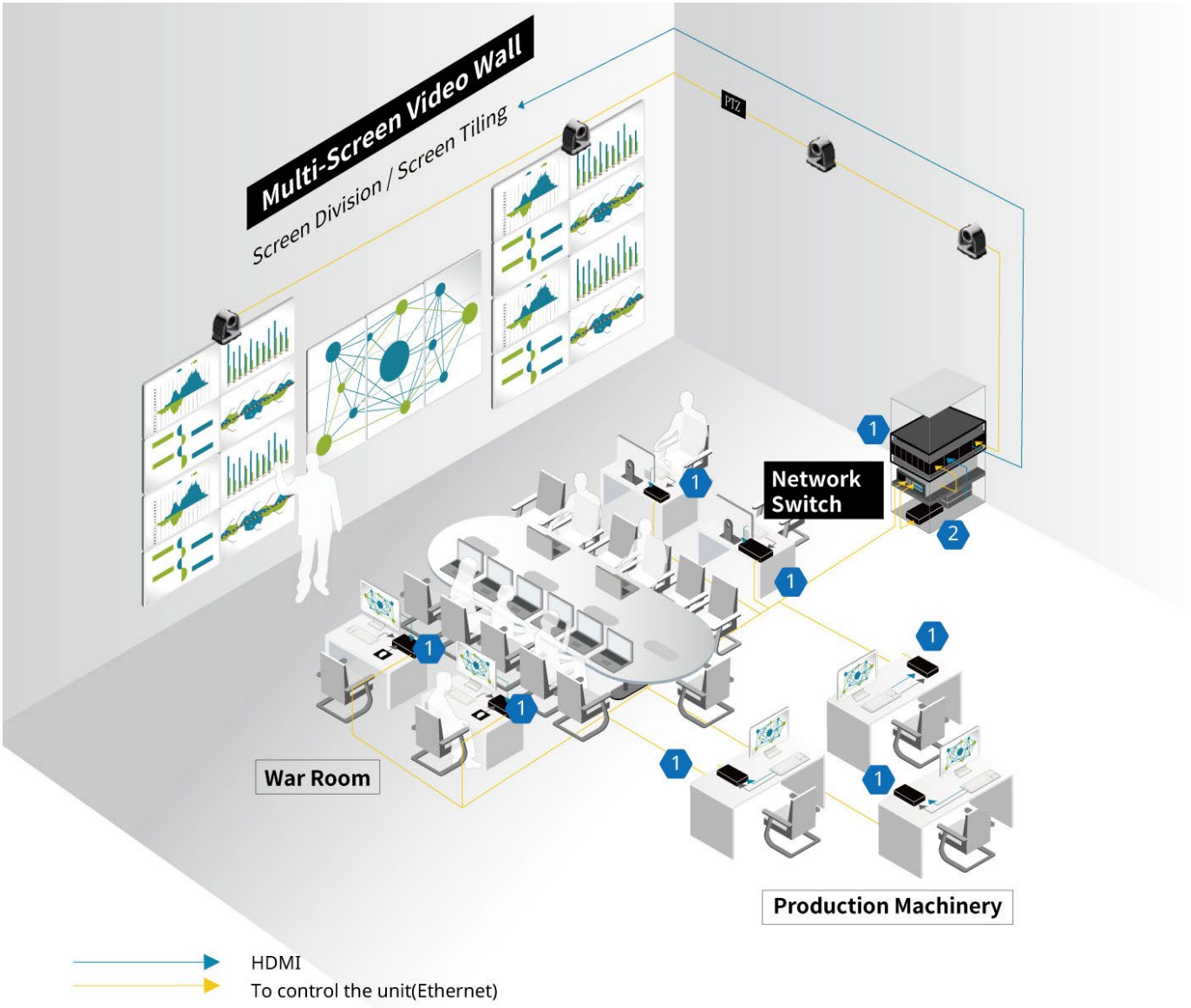
1	2	3	4	5
Encoder (TX)	Decoder (RX)	System Controller	Environmental Controller	Environmental Control Panel

Transportation Stations



1	2
Transceiver	System Controller

Command and Control Rooms



1	2
Transceiver	System Controller

Choosing an AV over IP Solution

Solution	Basic	Mainstream A	Mainstream B	Trend A	Trend B
Bandwidth / Technology	1G / M-JPEG	1G / M-JPEG	1G / M-JPEG	10G / SDVoE	10G / SDVoE
Screen Latency	16~33 ms	16~33 ms	16~33 ms	3~12 ms	3~12 ms
Transmission Medium	Network Cable	Network Cable	Network Cable	Network Cable	Fiber Optic Cable
Transmission Distance	200 m	200 m	200 m	200 m	240 km
Resolution	WUXGA	4K60 4:2:0	4K60 RGB	4K60 4:4:4	4K60 4:4:4
Screen Preview	○	○	○	○	○
Distance Extension	○	○	○	○	○
Matrix Switching	○	○	○	○	○
Screen Tiling	○	○	○	○	○
Screen Division	×	×	×	○	○
Keyboard and Mouse Control	×	○	○ Cross-screen Capable	○	○
Field Management	○	○	○	○	○
Support Environmental Control	○	○	○	○	○
Encoder	CH-331H-TX	CH-U350TX	AVIP-A4601E-B1C	AVIP-P5101TR-B1C	AVIP-P5101TR-B1F
Decoder	CH-331H-RX	CH-U331RX	AVIP-A4601D-B1C	AVIP-P5101TR-B1C	AVIP-P5101TR-B1F
System Controller	CDPS-CS7	CDPS-CS7	CDPS-CS11	CDPS-CS7-S	CDPS-CS7-S