



TV 2030



NOW

14:00 – 15:00

DVB-I and China



Elfed Howells
DVB PCM Chair



Yao Wang
NERC-DTV



Jianhua Zheng
PCL



Alan Liang
AVS

- The ongoing DVB-I investigations and verification tests in China are discussed.
- A mini DVB-I STB that can support worldwide trials is presented.
- An open discussion on a “16-steps to DVB-I execution plan” will follow.

STAND SCHEDULE

(Meetups and presentations)



SHOW GUIDE

(Demos of DVB-I, DVB-NIP, etc.)



Agenda

14:00-14:20 DVB, DVB-I, and next gen TV developments in China

Elfed Howells interviews **Yao Wang**, **Jianhua Zheng** and **Alan Liang** on the ongoing DVB and DVB-I verification tests, plans and investigations ongoing in China, as well as China's plans for the next generation of their TV services

14:20- 14:30 DVB-I trials Mini-STB

Jianhua Zheng and **Alan Liang** will present the DVB-I mini-STB that has been developed in China in conjunction with Bohua and Skyworth to support worldwide trials of DVB-I.

14:30-14:50 DVB and DVB-I China outreach group social meet-up

a chance for the DVB PCM's China outreach and support group to meet face to face and discuss the ongoing 16-steps to DVB-I execution plan, and have some offline 1:1 conversations about opportunities to collaborate – open to all!

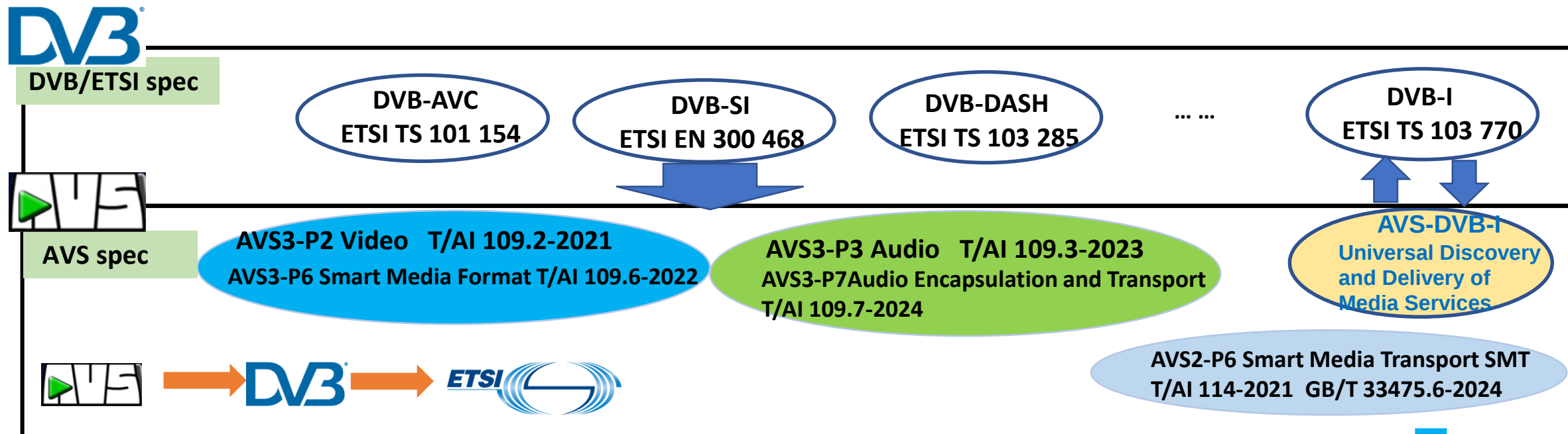
China's Media Landscape: Future TV

When China launch the new TV service, many aspects of the technology are refreshed
It will be a NEW EXPERIENCE (not just a move to IP delivery)

Featured with

- **Presentation cross diverse terminals:** TV not just television, but various display media in life
- **Humanized interaction:** e.g. branch episode selection, viewpoint switching, and visual/voice interaction
- **Immersive audio-visual experience:** UHD, immersive, 3D sound, XR, freeview
- **Connected with other home devices:** one screen to control air conditioning, refrigerator, smart door locks, cameras, etc. in the home
- **Integrated function access center:** e.g. remote consultation, online shopping, home care, online education.
- **Intelligent service:** channel personalization,
- **Transmission unaware:** the transmission source of the television program is unaware to users

AVS and DVB/ETSI Specifications



AVS all into DVB-I

AVS3 Video into DVB Codec Toolbox in 2022

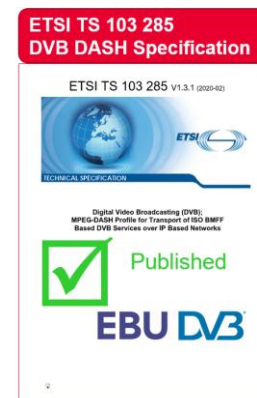
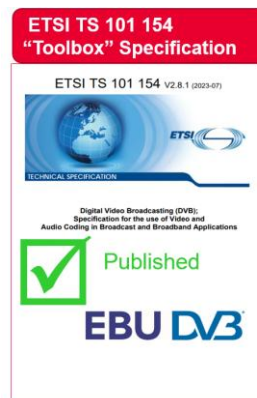
T/AI 109.2-2021(AVS3-P2)

T/AI 109.6-2022(AVS3-P6)

AVS3 Audio into DVB Codec Toolbox in 2024

T/AI 109.3-2023(AVS3-P3)

T/AI 109.7-2024(AVS3-P7)

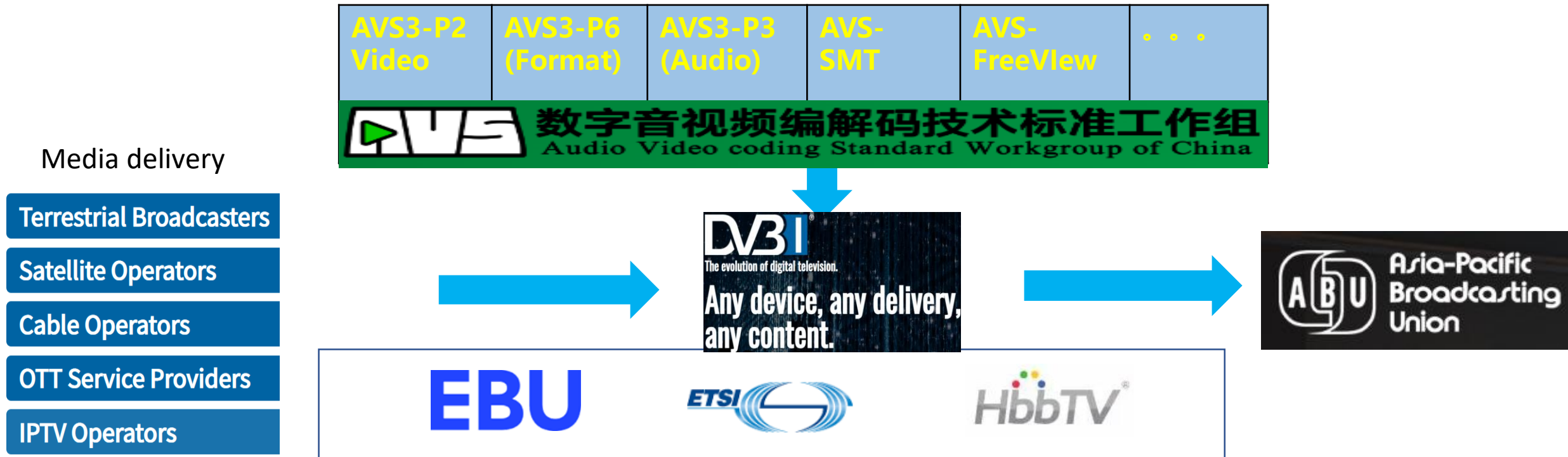


End-to-End ecosystem of AVS Technologies into DVB-I

AVS Technologies Integration into DVB-I framework

Supported by AVS members:

Pencheng Lab., HiSilicon, Huawei, Bohua UHD, Boya Realscene, PKU, NREC-DTV, Konka, ArcVideo, SJTU, ABS, Migu, CMG, ZTE, Unionman, Skyworth, South New Media, ZoomVV, IMVISION.... ..

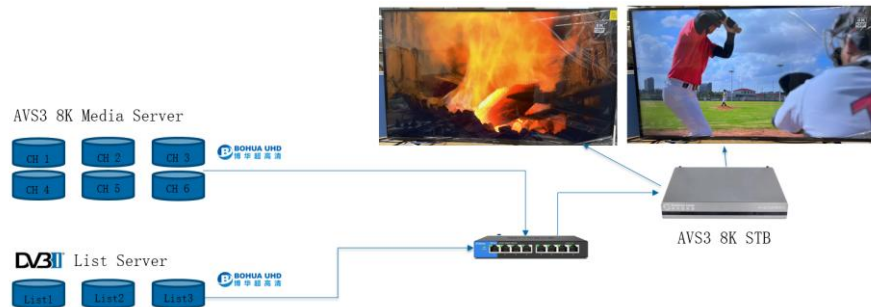


AVS UHD Standards with DVB-I is already working!

DVB-I + AVS3 (PTE)



DVB-I Native APP + AVS3 (8K STB)



Completed

DVB-I

+ AVS3 P2

+ AVS3+P6

+ AVS SMT

+ AVS3-P3

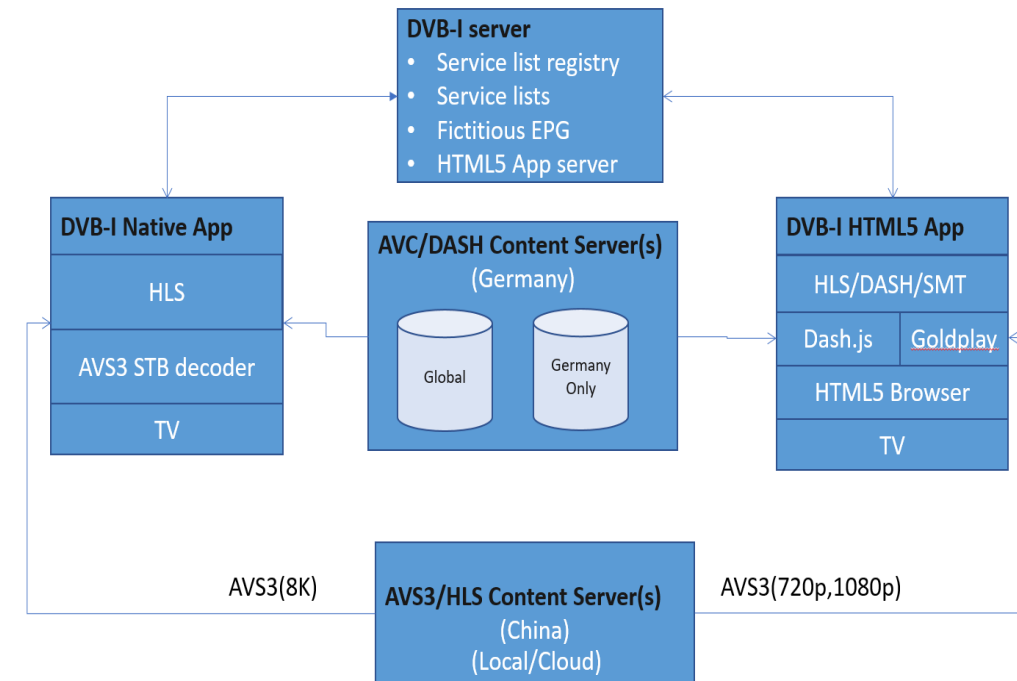
+ AVS3-P7

+ ToPlay(DRM)

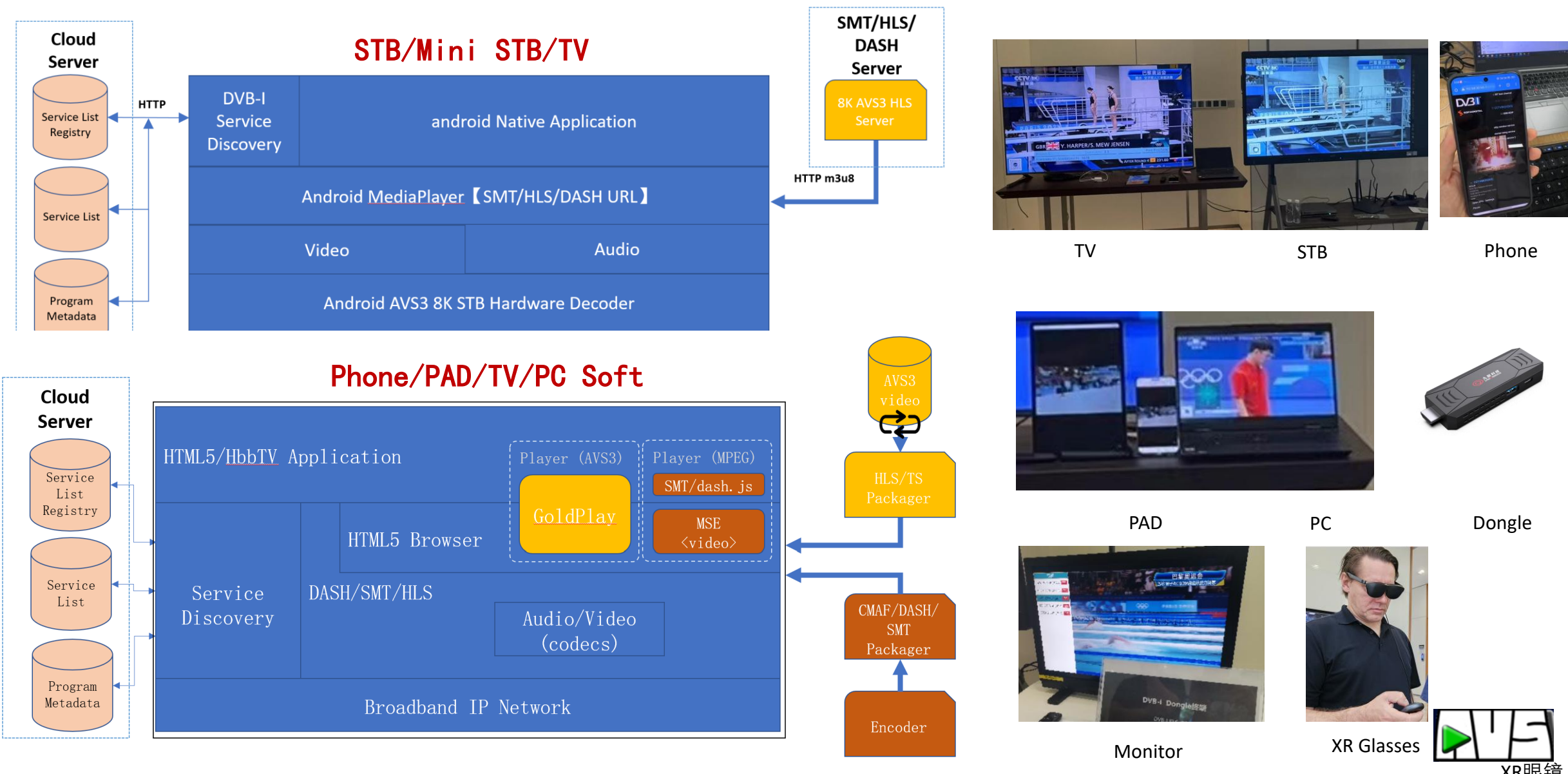
Planned

+ TVOS

+ ...



Integration of DVB-I and AVS Technologies



AVS3 and DVB-I Internet TV Live Broadcast Verification

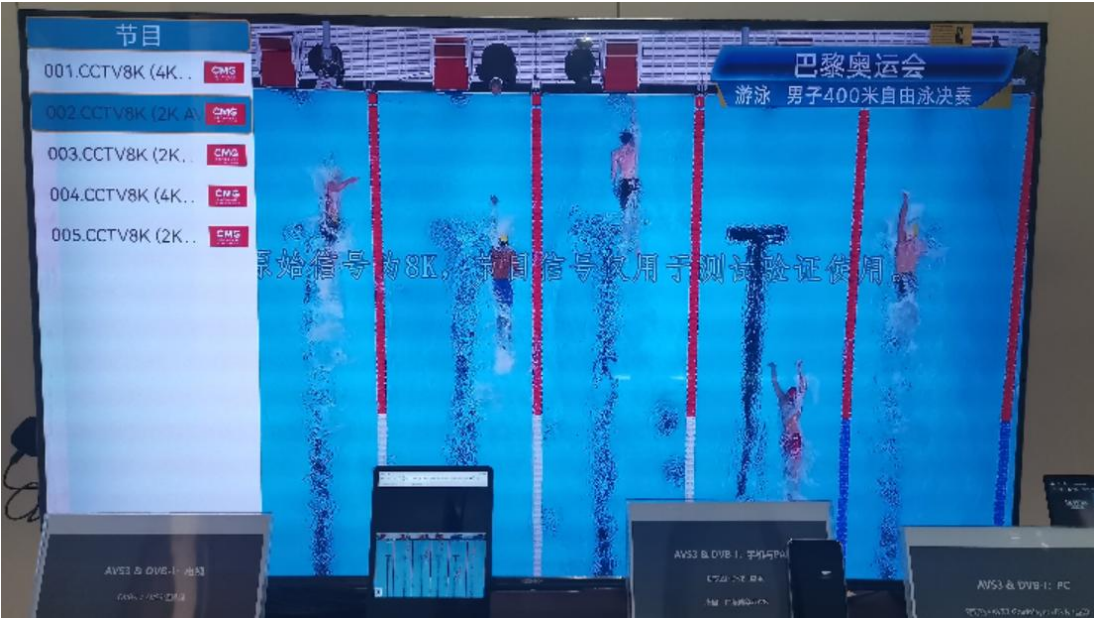
AVS3 and DVB-I live streaming verification during Paris Olympics

Two types of IP streaming, Three cities, Five Channels, Six types of terminals

Verification Summary

- **Channel:** DVB-I+AVS3+SMT live streaming channels: one 4K channel, four HD 1080P channels
- **Terminals:** TV, STB, Dongle(Mini STB), Mobile phone, PAD, PC
- **Verification in three cities:** Shenzhen, Shanghai, Beijing
- **Streaming:** SMT/HLS DVB-I+AVS3 4K+SMT (HLS), DVB-I+AVS3 1080P+SMT, DVB-I+AVS3/H.264 1080P+HLS

AVS3 and DVB-I Internet Live Broadcast Verification

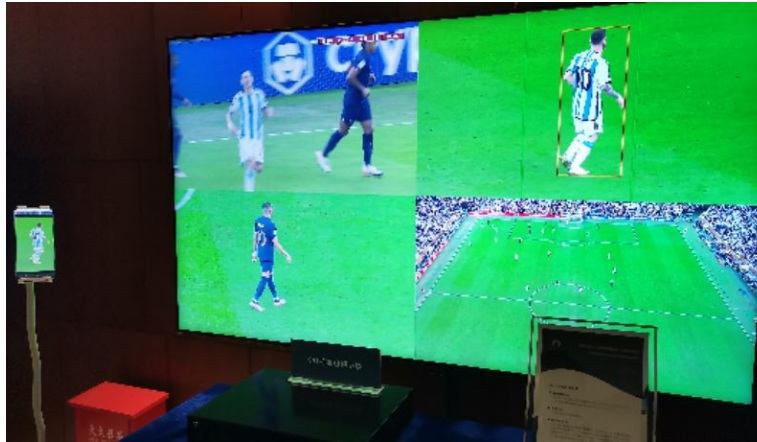


AVS3 and DVB-I Internet Live Broadcast Verification

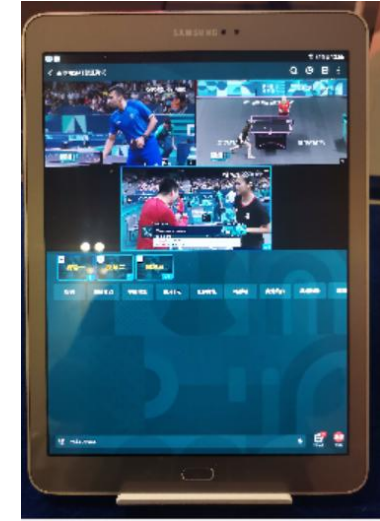
Extended testing verification



Cross terminal presentation and synchronization



SMT Interactive broadcasting



Multi camera SMT Channel trail on Migu APP



Large and small screen synchronization
/audio heterogeneous network transmission
synchronization



Multi camera interaction/Cross-screen
synchronization



SMT Large scale user carrying capacity
verification of live streaming channels

Peng Cheng Laboratory Exhibition for DVB World 2025



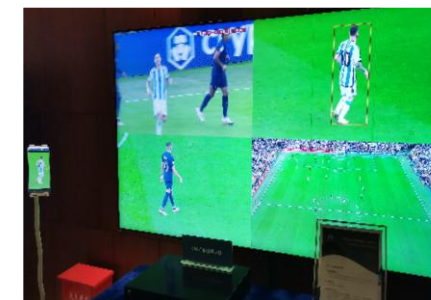
Freeview/multiview video delivery over DVB-I to enable new content and service experiences



Wearable/portable DVB-I enabled terminal together with home TV and set-top boxes



SMT enabled multiview interactive streaming and cross-screen synchronization



Demo Partner



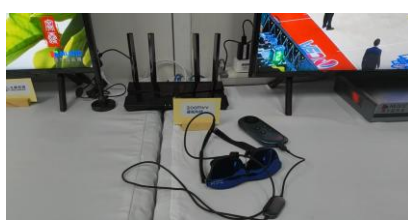
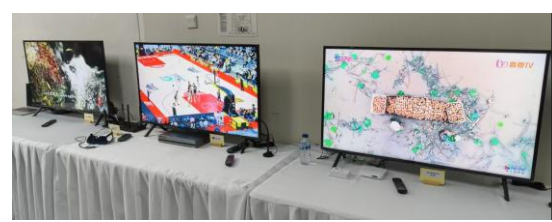
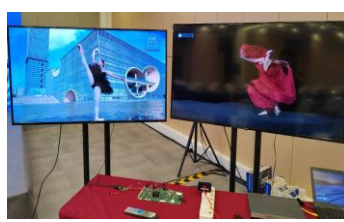
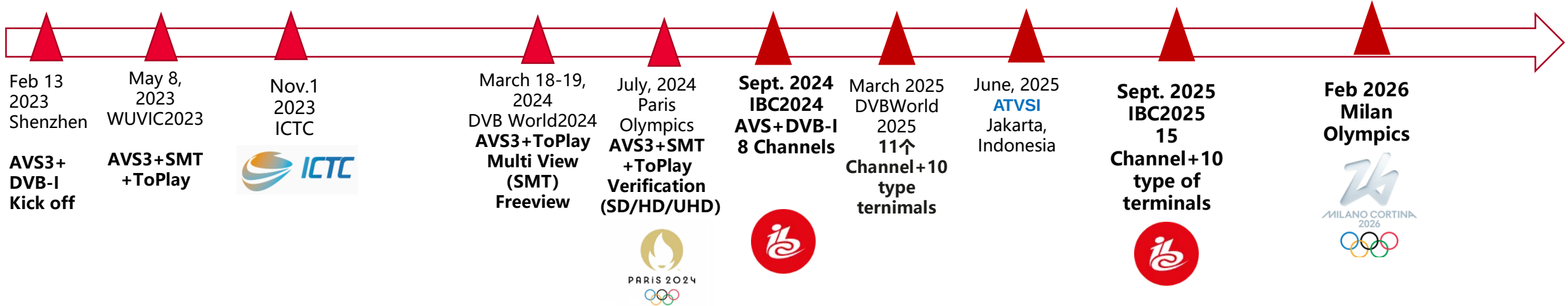
DVB World 2025 Exhibition (Devices/contents/Channels/Streaming)

No.	Device	TV	APP	Content HD/4K/Freeview/3D	HLS/SMT/HTTP	Codec H.264/AVS3	Channel List
1	Phone-HuaweiMate60Pro	No	DVB-I Web App	HD/4K/Freeview	HLS/HTTP	H264	1. dancongchaAVS3-2K 2. dancongchaH264-2K 3. CMGAVS3-2K 4. CMGH264-2K 5. lianouAVS3-2K 6. lianouH264-2K 7. SMT MultiView(PingPong)-2K 8. SMT SingleView(SMT Intro)-2K 9. 3D- NG 10. FreeView-4K 11. ChinaDRM
2	Pad Huawei Mate	No	DVB-I Web App	HD/4K/Freeview	HLS/HTTP	H264	
3	3D Pad	No	DVB-I Native App				
4	8K STB	4K TV1	DVB-I Native App	HD/4K/Freeview	HLS/SMT/HTTP	H.264/AVS3	
5	Dongle	4K TV1	DVB-I Native App	HD	HLS/SMT/HTTP	H.264	
6	AR Glasses	No	DVB-I Native App	HD	HLS/SMT/HTTP	H.264	
7	TOPlay DRM STB	4K TV2	DVB-I Native App				
8	Potable PC	No	DVB-I Server				
9	TVOS STB	No	DVB-I Native App	HD/4K/Freeview	HLS/SMT/HTTP	H.264	

11 Channels, 3 streamming, 2 Codecs, 4 type of contents, 10 types of DVB-I devices



Integration and Verification towards Trials in China



2022 Beijing Winter Olympics- Freeview





Ultra-HD in Jing'an, Shanghai

超清未来·视听静界

Shanghai UHD Promotion Plan in 2026

1. UHD Content Production

More than 3 4K UHD Channels

4K UHD content production more than 10K Hours

8K UHD content production more than 500 Hours

2. UHD Broadcast Network

Upgrade the current 3.5 million cable network
from HD to 4K UHD

3. New Technologies Trials and Commercialization

New technologies R&D, commercialization HUB

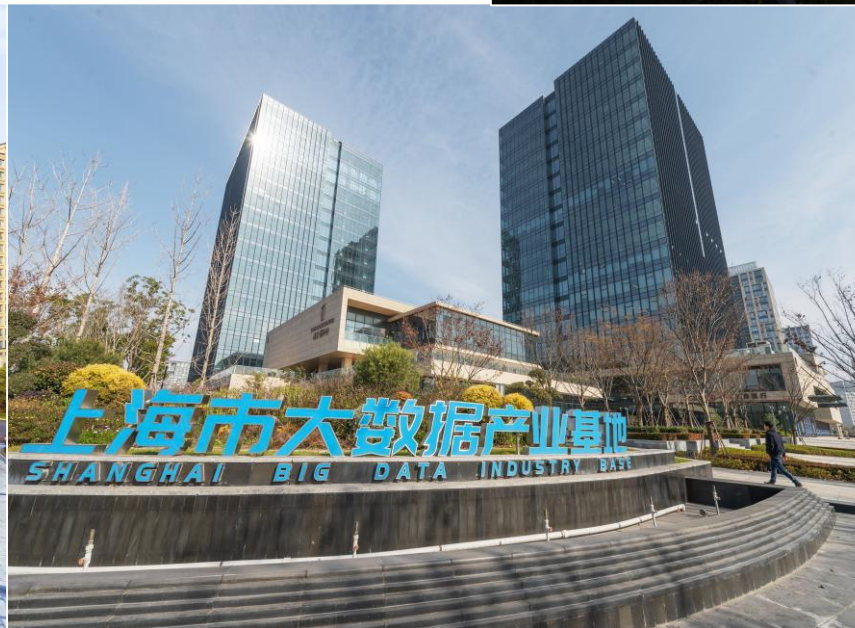
Next generation UHD ecosystem

R&D, Pilot Broadcast Trials and Field Trials

Shanghai

UHD Meta Space

- *Integrating Next-Generation IT—Cloud Computing, Big Data, AI, and Blockchain—with the UHD Industry*
- *Advancing UHD Technology through Hardware Innovation*



UHD π Space

- *Shanghai's largest downtown green space*
- *Growing hub for film, esports, and gaming*
- *Major base for UHD content production*



Jing'an: 160+ companies spanning UHD audiovisual industry chain

SMG

上海广播电视台
上海东方传媒集团有限公司
SHANGHAI MEDIA GROUP

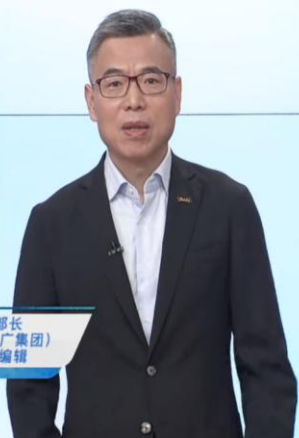
广电总局 加快布局超高清



4K
超高清

方世忠

上海市委宣传部副部长
上海广播电视台（上海文广集团）
党委书记、台长、总编辑



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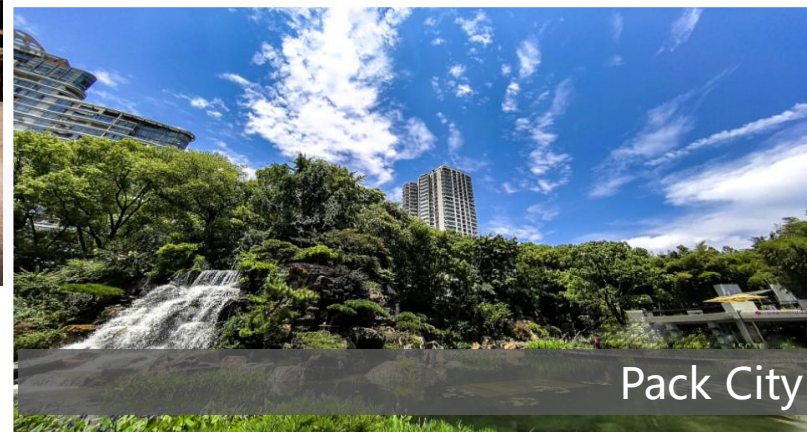
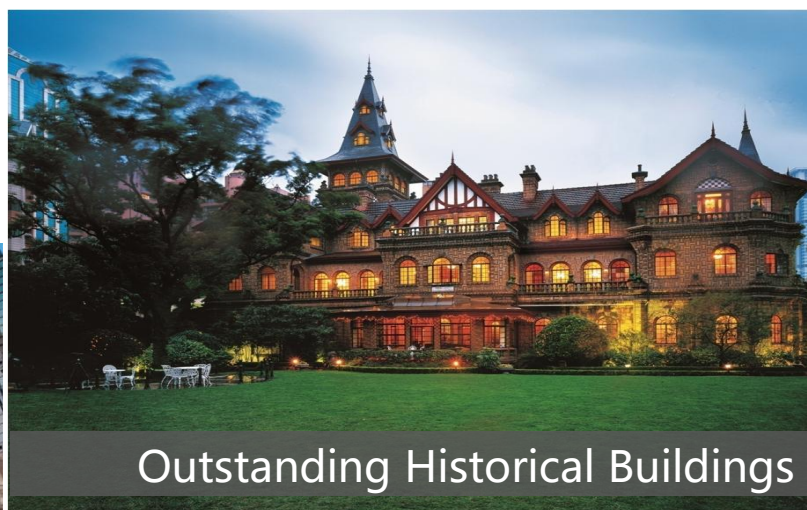
视听静界

上海超高清视听产业集聚区

International Innovation Center for Future UHD Technology



Optimal Environment



An aerial night photograph of the Shanghai skyline. The image shows a dense cluster of skyscrapers, including the Jin Mao Tower on the right and the Shanghai Tower in the center. A wide highway with light trails from traffic runs diagonally across the lower left. The city lights are reflected in the wet pavement. A semi-transparent grey banner is overlaid across the middle of the image, containing the text 'Welcome To Jing'an, Shanghai' in a white, serif font.

Welcome To Jing'an, Shanghai



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