

# AI-Driven Media Evolution

Shaping the Future of Media Industry Toward New Digital Life

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# Development of Technologies and User Behavior Drive Innovation

## Content matters

From reading to watching

## Interest matters

From watching to interacting

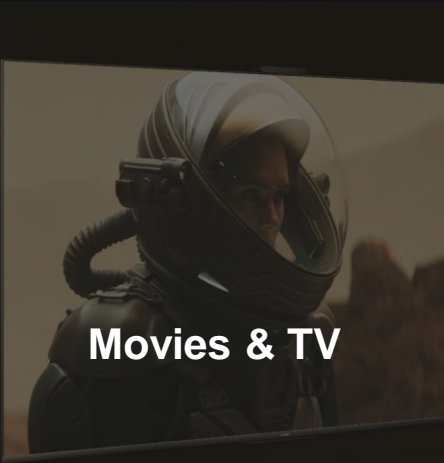


## AI matters

From interacting to infinite possibilities



Newspaper



Movies & TV



Mobile Internet



AI + Internet



# User Experience Has Become the Main Factor for Media & Entertainment

Average weekly time spent in watching online video worldwide from 2018 to 2022



An average of **19 hours** of online video content per week in 2022

Video Streaming market share (2021 to 2030, \$ Billion)



From **\$ 375.1 billion** in 2021 to **\$ 1,721.4 billion** by 2030, CAGR of **18.45%**

From watch video to play and work in a virtual world

Virtual concert

Virtual workspace



McKinsey predicts that video entertainment, in all its forms, will become more **immersive, gamified, and personalized**.

As video services become the most popular and effective way for people to distribute and obtain information, consumers expect a **lower-latency, ultra-high-definition, more smooth and interactive user experience**



Content production

4K | AI | AR/VR | Computer graphics | Rendering



Content distribution

Media stream | RTC | Distributed network



Personalized recommendation

Big data | AI

# The Omnimedia Technical Concept of Centered Production and Consumption





# Multi-tech Integration, Shaping the Future of Mobile



“5G Is The Fastest-growing Mobile Standard In History”

GSMA Director General Mats Granryd @ Opening Speech



<10 → 30x → 302



13K+ → 300x → 4.5mn



1mn+ → 160x → 1.6Bn

# AI Boosts Connection Density And Driving New Surges In Data

## Multimodal Interaction A New Wave Of Explosive Data Growth

Mobile AI data traffic =  $\uparrow$  Interaction efficiency  $\times$   $\uparrow$  Quality  $\times$   $\uparrow$  Objects



Content search  $\rightarrow$  Generation

**10~100X** Content Productivity/Diversity

Audio & video  $\rightarrow$  Multimodal  
Precise, generative: Minutes  $\rightarrow$  Seconds

Human-human  $\rightarrow$  Computer-computer interaction

**100x** more objects

real-time interaction for more applications



Smart Phone  $\rightarrow$  GenAI Terminal

**100+** Terminals **1,000,000+** applications

Local learning Reasoning awareness & Large-scale pre-trained



Building a Fully Connected, Intelligent World

## GENAI Phone Rapid Shipment Growth

**78.4% CAGR @ 2023~2028**

iOS  
Apple Intelligence

Android  
Gemini

HarmonyOS  
Harmony Intelligence

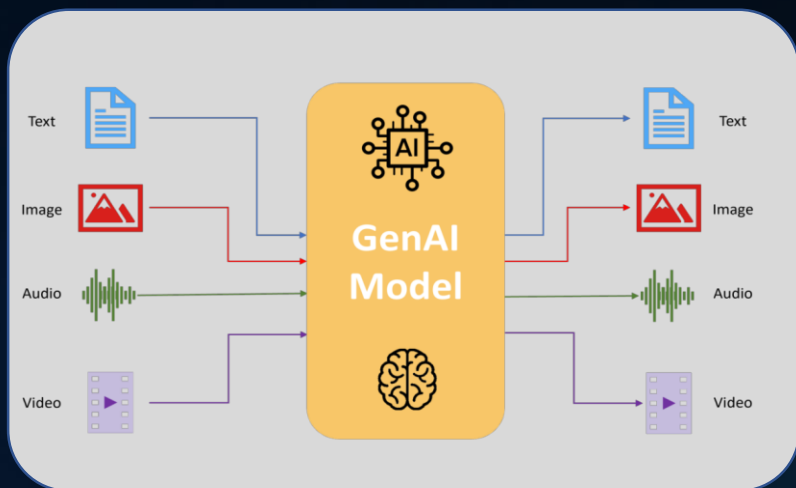
GenAI Smartphone Shipment with Forecast  
(by IDC, unit: Mn)





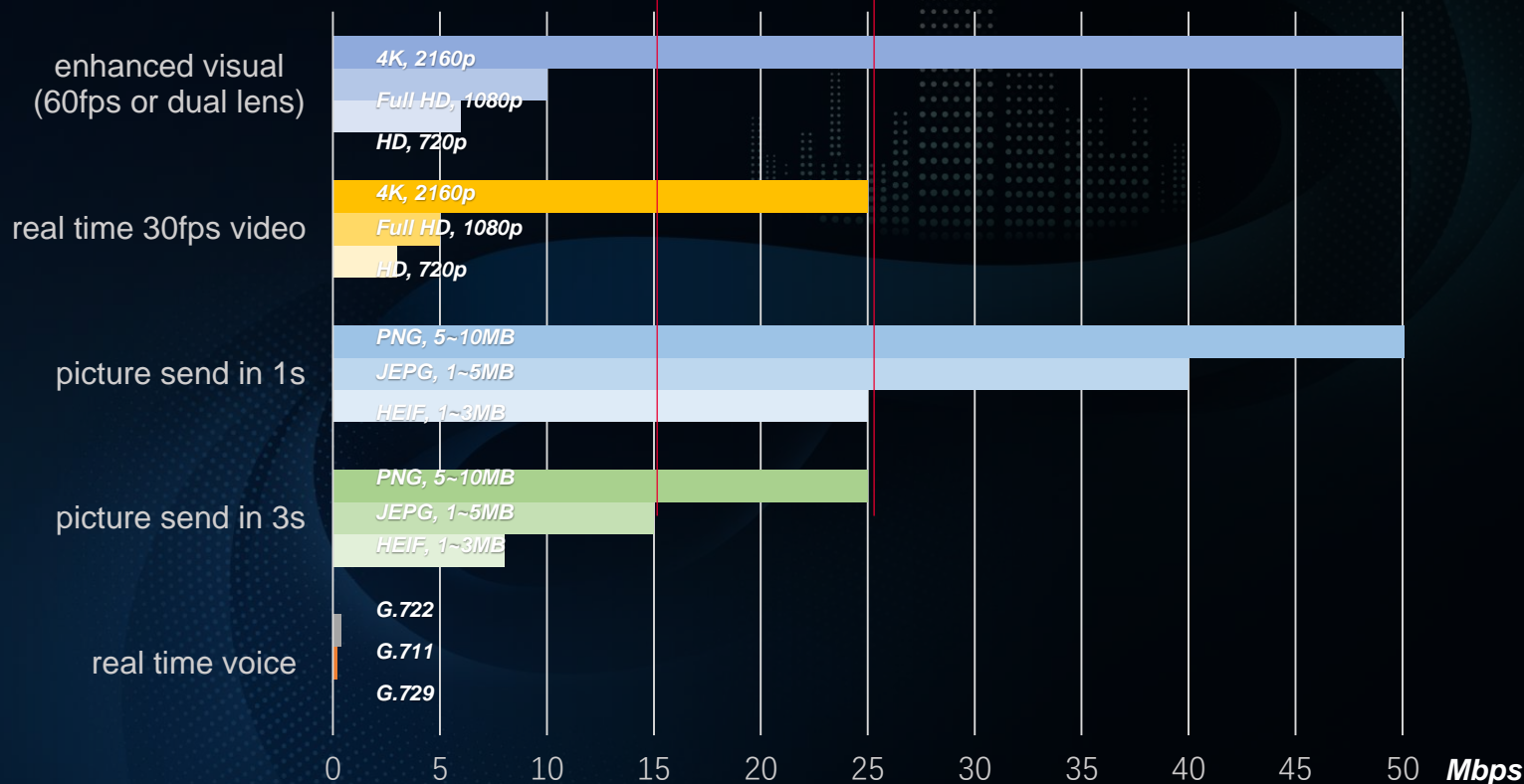
# Real-time Multi-modal AI, UE-cloud interaction, requires UL 18~30 Mbps

**Multi-modal's Computing & Retrieve**  
**Need multi-media upload to Cloud**



**UL 18\* Mbps** satisfy **medium exp.** for **80%** types of mobile services

**UL 30\* Mbps** satisfy **high exp.** of **60%**

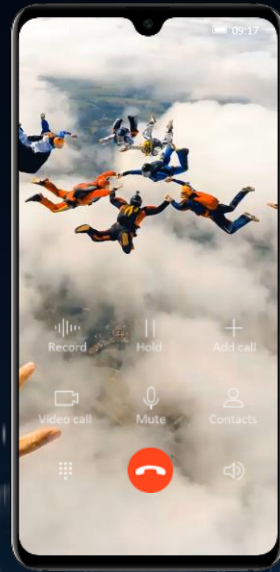


\*Application layer +20% payload = Air interface rate

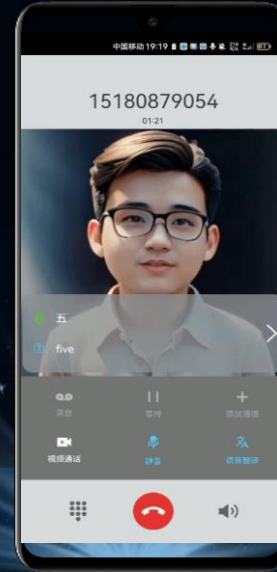
# My Experience with Evolving Call Services



Voice call



Video RBT



New Calling

Visualized voice calling

Intelligent translation

AIGC avatars

Fun calling



# Collaborative Innovation: E2E Industry Collaboration Boosts Video Service Traffic

## 1080p video experience

**Short videos**



Working with top platforms

**Long videos**



Higher percentage of HD subscribers

**Video calls**



HD video call pilots

**Short dramas**



Driving industry standards

**540p / 720p → 1080p**

## Glasses-free 3D terminal and content ecosystems

**Doubled terminal models and decreasing prices**

**20 models 2023** → **40+ models 2024**

Phones	Tablets	Monitors
CNY1,500	CNY3,500	CNY5,000

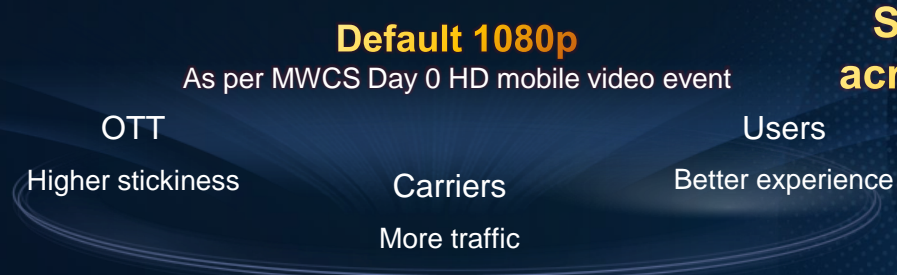
**More abundant content and surging AIGC**

3D section in carriers' video apps  
3D apps of third-party vendors

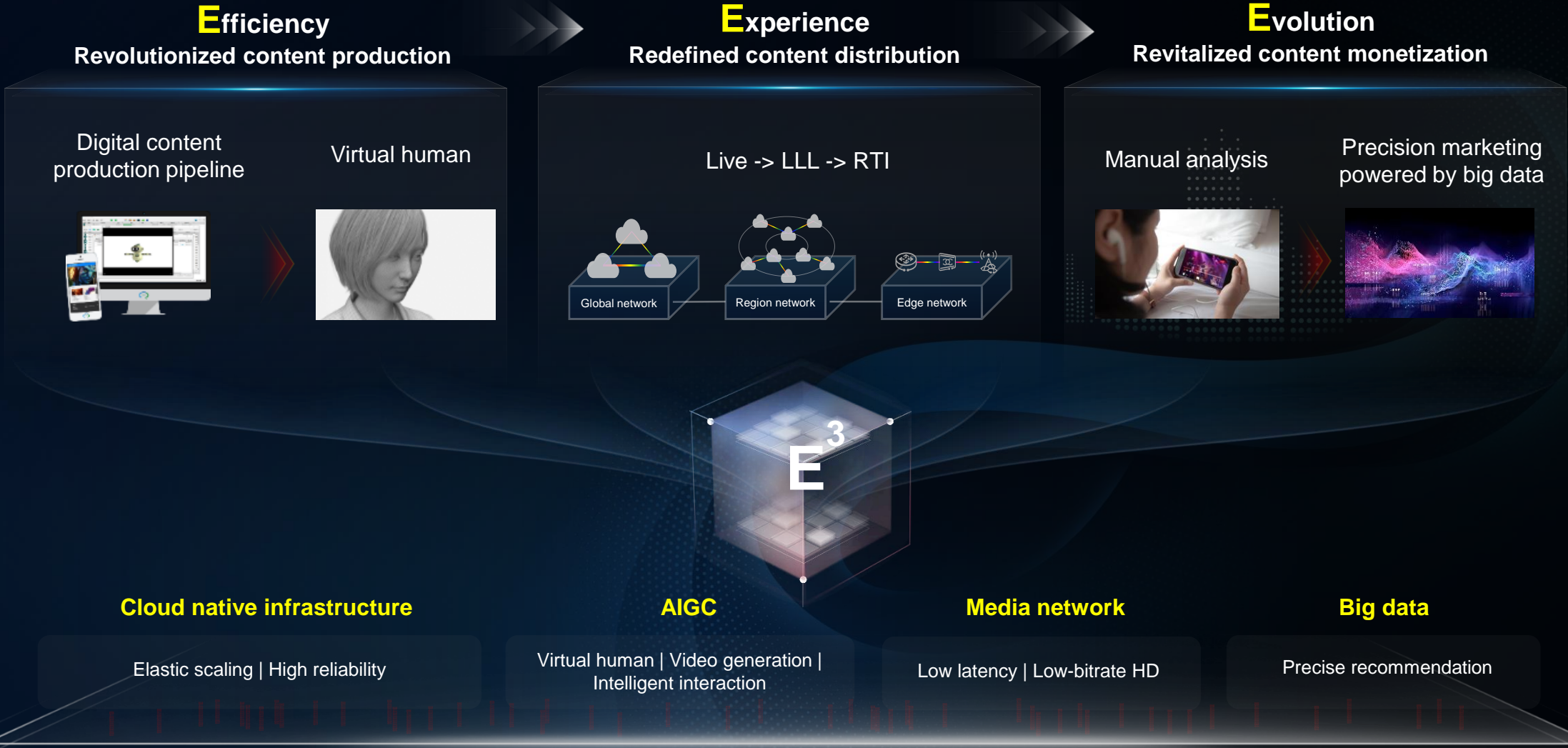
2D video →  → 3D video

Huawei Vivision AI Engine

**Terminals only → Terminals + Content + Apps**



# Redefining Productivity of the Media Industry with E<sup>3</sup>





# Huawei Cloud +AI Media Intelligence Capability Framework



**Content security**



**Content analysis**



**Copyright protection**

**Content Profile**



**Intelligent search**



**Recommendation system**

**Connection Matching**



**Big data analysis**

**User Profile**

# Huawei Cloud +AI Video/Image Enhancement Cloud Services

**Video repair**  
(deblurring, noise reduction, block removal, and dedistortion)

**Video enhancement**  
(super score and sharpening)



**Motion fuzzy optimization**

**Noise reduction**

**1K to 4K Enhancement**

**Overshooting & Enhancement of old videos**



# Multi-modal Content Tags

Deep learning technologies help accurately identify visual content in images. It provides a wide range of tags for identifying objects, scenes, and concepts to help customers better understand image content

Tags are key to search and recommendation systems. The low hit rate is a common problem



Common tags



Landmark recognition



Scene recognition



Celebrity recognition



Abstract tags

20,000 common tags  
(50+ categories such as entities, scenarios, landmarks, and abstractions)

7,000+ tags for landmark recognition  
35,000 tags for celebrity recognition

Image description  
(Describes an image in one sentence.)

Multi-object Location

Multi-object classification

Cross-modal

Facial detection and recognition

**Pangu Models**

# Video Highlights Service

- **Based on video content understanding and video aesthetic consideration**  
Automatically aggregates video highlights to generate abstracts based on video content understanding and video aesthetic consideration.
- **Support various subjects and scenes.**  
Intelligently extract highlights from multiple UGC and PGC video clips and adapt to multiple subjects to quickly adapt to multiple video scenarios.

## View Efficiency

Compress the original video to 15% of the duration.

## Multi-Scenarios

Customizable for more scenarios

## Quick Customization

It takes only 2-3 weeks to adapt to new scenarios.

## High Accuracy

Identification rate of multiple scenarios: 80%+

## Fast Processing

The duration is 1/12 of the original video duration.

## Requirement

Highlight customization based on service scenarios

## Fast Customization and adaptation to More Scenarios

### Movie Highlights



### Sports Video Highlights

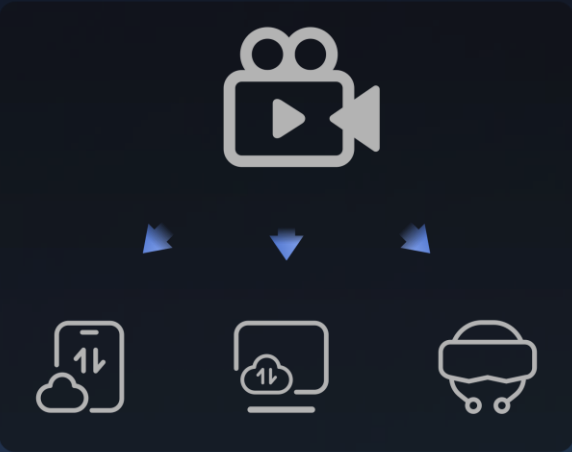


### More Vertical Sectors.....



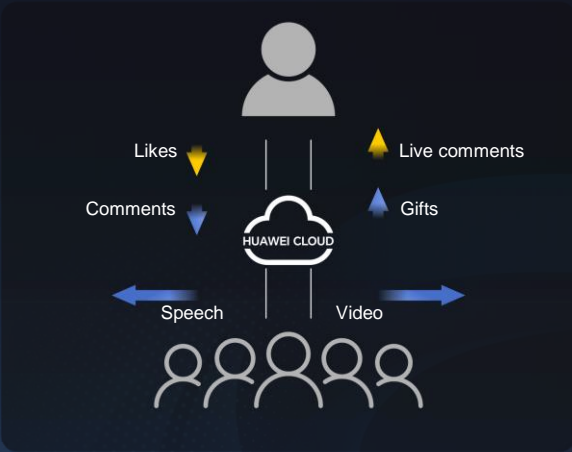
# Experience: Understanding User Needs Beyond Themselves

## Ultra-low latency



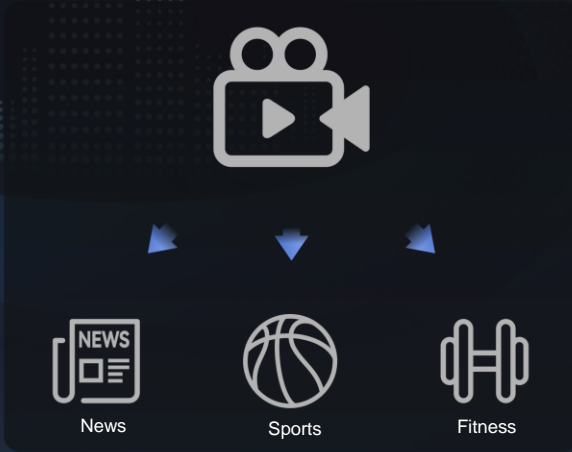
Live commerce/gaming

## Enhanced interaction



Watch parties

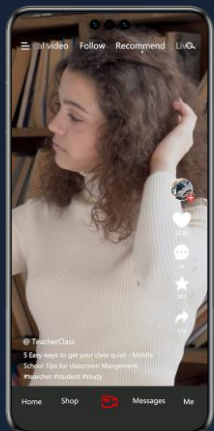
## Higher image quality



Enhanced image quality for higher satisfaction

# Enhanced Interaction: Making Users Feel Part of a Group

## Interaction



- Likes
- Messages
- Favorites
- Skipping

One-to-one interaction

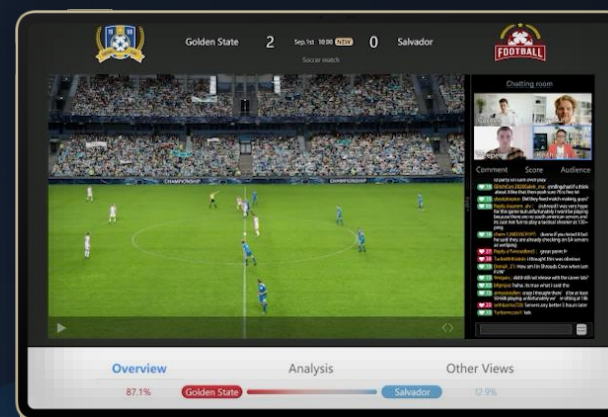
## Shorts



- Comments
- Live comments
- Gifts
- Likes

One-to-many interaction

## Open live rooms



## Private live rooms

Watching together while chatting with each other

Video interaction and online games

Many-to-many interaction

## Users

## Viewers

## Fans/Followers

## Private group users

One-way communication



Group interaction





# Virtual Human Is Widely Used in Various Industries

Brand ambassadors

Variety show hosts

Live commerce streamers

News anchors

Trainers

Tour guides

Customer service personnel

Marketing

More...



JOY-E of China Mobile (Hong Kong): Branding video and on-site activities



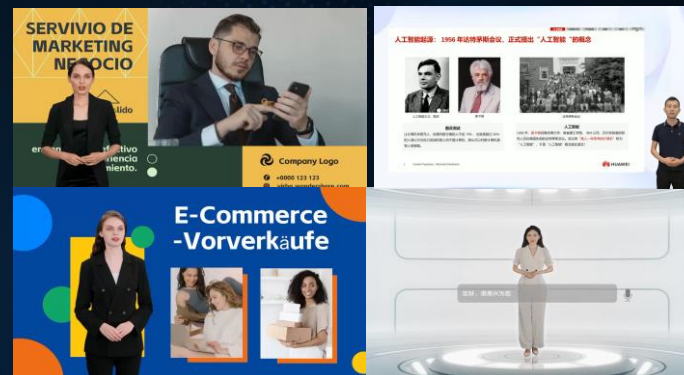
Virtual human's speech in multi-language @ Huawei Cloud Planck Hall



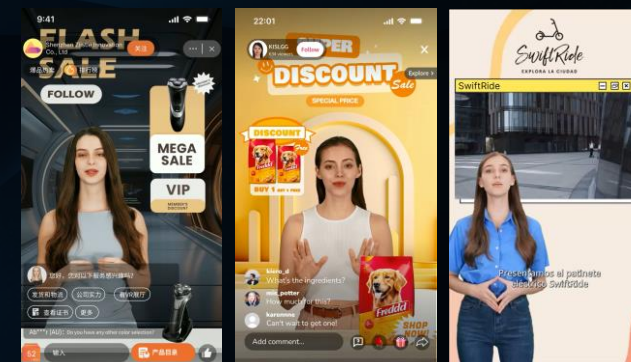
Multilingual virtual blogger



Virtual anchor for financial institutes



Company promotion, platform introduction, wealth management KOL, and bank customer service, etc.



Virtual commerce streamer



# 5G Slicing Empowers Mobile Live Video Production

## TV Station and Journalist Key Requirement



Fast service provisioning for real-time interview(< 8 hours)



Cost Saving in terms of Van, fuel ,Maintenance



Mobile solution for flexible change of camera position

- 5G E2E Slicing
- Guaranteed UL 10 Mbps for HD 1080p
- Movable Camera Position

### 5G Backpack



Mobile Camera

5G Slice for Live Video Production

5G slice for Mobile Journalist

### 5G Phone



Mobile Journalist

### 5G Private Line



TV Station



TV Audience

### 5G Phone



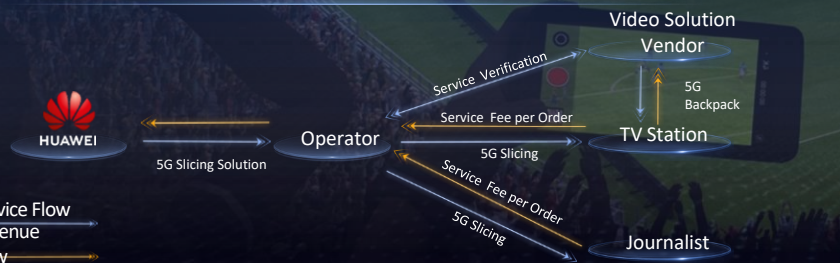
Influencer

- SD to HD Live Streaming

5G QoS for Influencer

- 5G E2E Slicing
- Guaranteed UL 5 Mbps
- Real-time News Broadcast
- Cost Saving on Camera System

## Value Chain



## Operators' Live Video Package

Provision and Play < 1 Day

Service	Influencer	Small Club	Mobile Journalist	Live Video Production
Assurance	QoS	QoS	Slicing	Slicing
Speed	5 Mbps	10 Mbps	5 Mbps Guaranteed	10 Mbps Guaranteed
Price (€)	XX / Month	69.9 / Month	1XX / Hour	2XX / Hour



# Huawei 5.5G + Cloud: Innovates to Transform Media & Entertainment

Content Production



Sports Live



Fashion shows



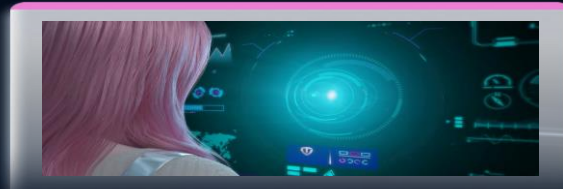
Media OTT



Virtual Social



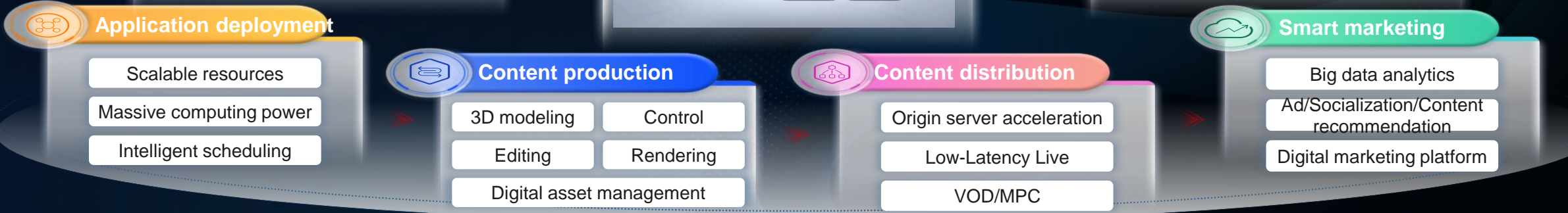
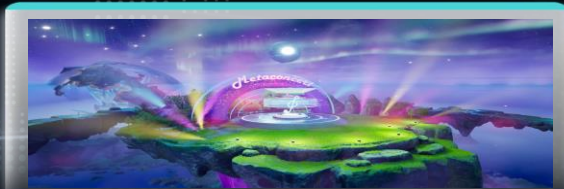
Virtual humans



Low Latency Live (LLL)



Virtual concerts



**29** Regions    **78** AZs    **Global media infrastructure**    **170+** Countries & regions    **2800+** CDN nodes





**Vision and Mission**

Bring digital to every person, home and organization  
for a fully connected, intelligent world

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**HUAWEI**