

WAIC
2023世界人工智能大会
WORLD ARTIFICIAL INTELLIGENCE CONFERENCE
张江分会场
ZHANGJIANG SUB-VENUE

张江
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智联世界 生成未来
INTELLIGENT CONNECTIVITY GENERATING FUTURE

2023世界人工智能大会
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5G, AI and XR enabling the Metaverse

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2023.07.06-07.08

中国·上海 SHANGHAI·CHINA

Use Case

- **Naked-eye 3D** for big/small screen
- **XR** (Cyberverse)
- **Digital Human**

Cloud & Platform

- **XR Platform** (Envision)
- **Digital Content Production Line** (Metastudio)
- **Enabling Service**, e.g. Block chain, Fintech, AI training (ModelArts)

Experience

- **Target Network** (GUIDE)
- **Advance Solution**, e.g. game accelerating, 5G slicing, security etc.
- **Innovative Product**, e.g. 5.5G, FTTR, Wi-Fi6 etc.

Device

- **XR Glasses** (Alice)
- **Device Computing** (AR Engine)
- **HarmonyOS**
- Smartphone / Big Screen / PC / Sensor

Root Technology

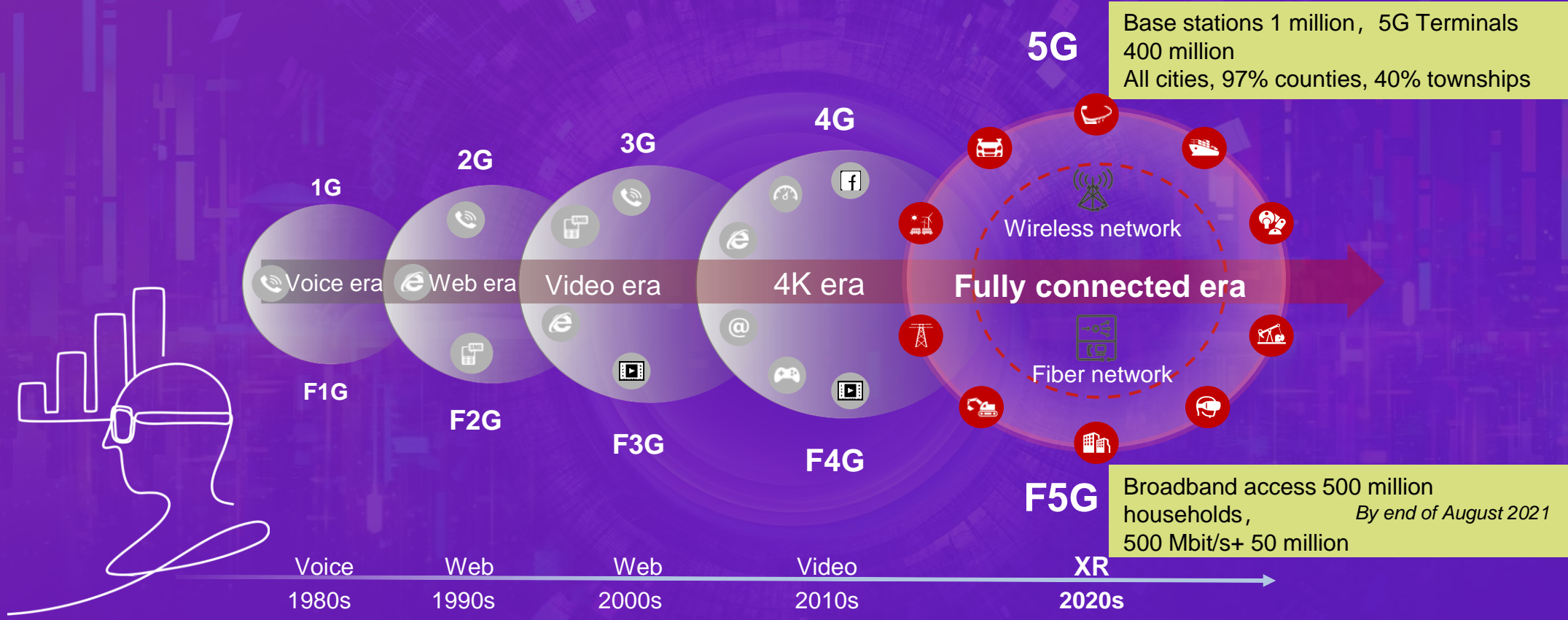
- **Collection** (3D audio/video collection, Full view image collection)
- **Chipset** (NPU, Cloud GPU, Display)
- **Data Governance**
- **Interaction & Sensing**

Foundation

Persist with Heavy R&D Investment (No.2 in ICT Industry)

for long term leading innovation and invention (\$ 23.2 billion annual R&D investment in 2022)

Noah's Ark lab | Bohr Planck lab | Network technology lab | DC technology lab | Thermal lab | Structural material lab ...



Cloud XR Track Near 400 Projects

5G Application Innovation Competition

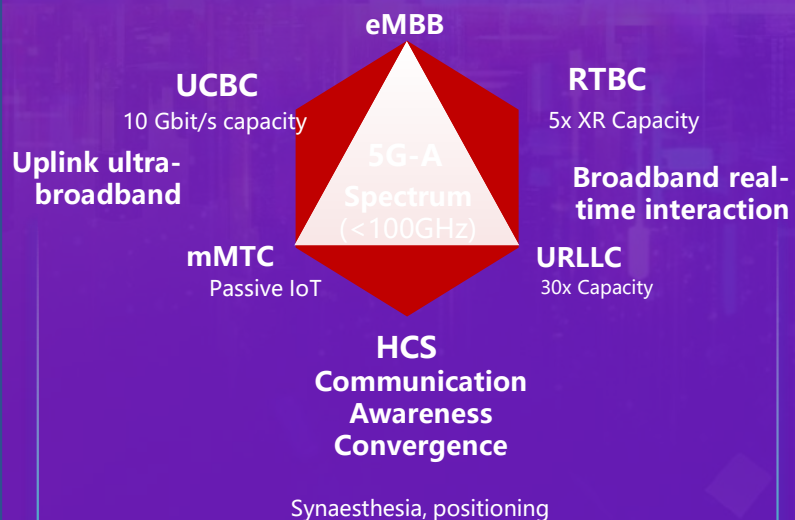


Launched in September 2021

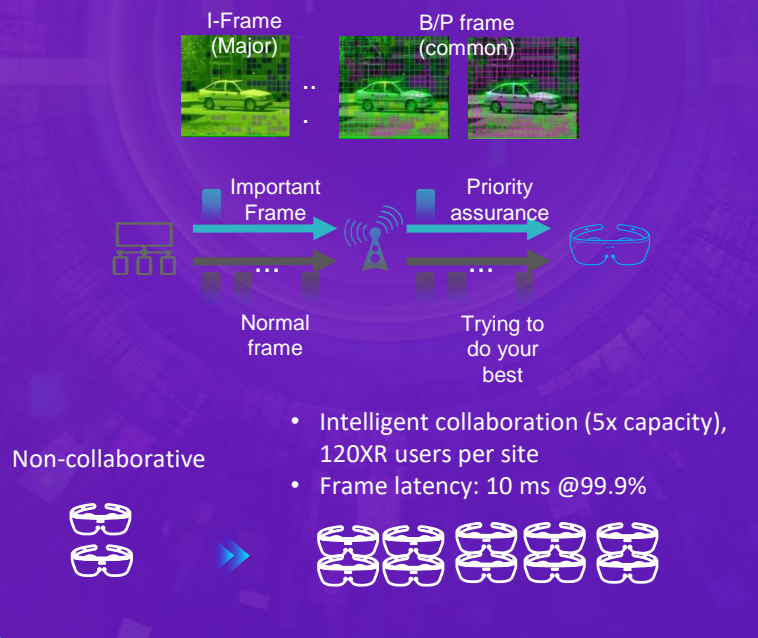
F5G Application Innovation Competition

5.5G increases XR capacity by five times and lowers the threshold for popularizing XR services

All-round XR enhancement for 5.5G



Network applications sense each other and implement end-to-end intelligent

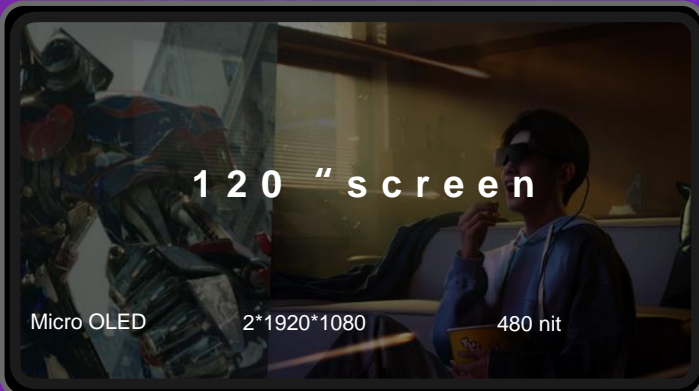


5.5G large space VR digital intelligent athletic verification



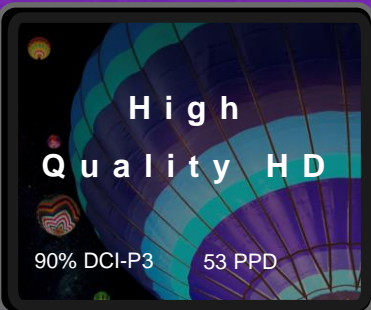
Multi-user: 10 vs 10, multiplayer smooth competition via one 5.5G cell

Backpacking: Local VR to Cloud VR

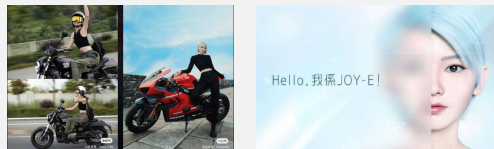


HUAWEI Vision Glass

Intelligent Video Glass



MetaStudio four production lines, build bottom-level root technologies, open up new industry space



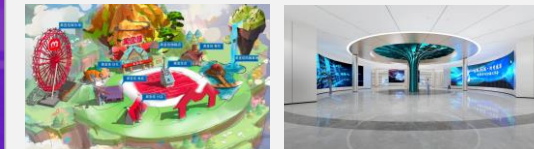
• Digital Human



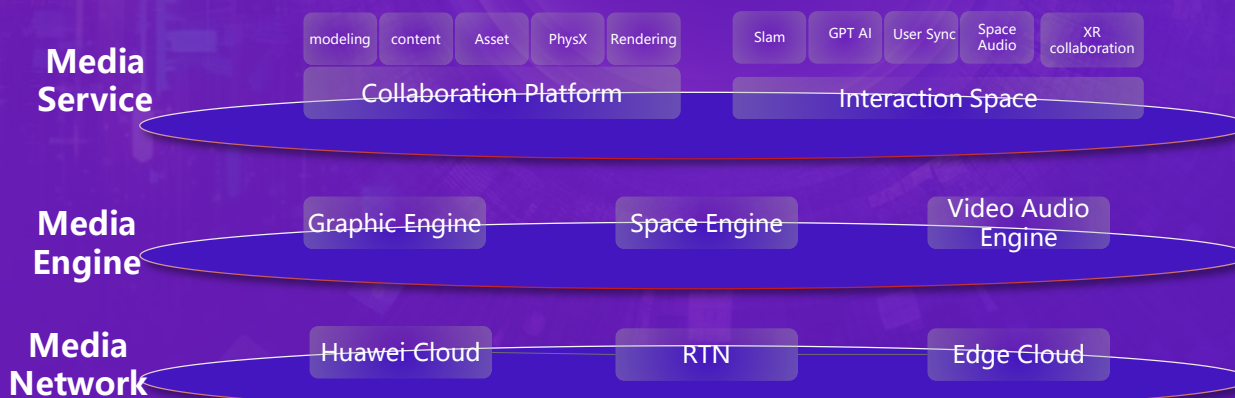
• Virtual Production



• Virtual live broadcast



• Enterprise 3D space



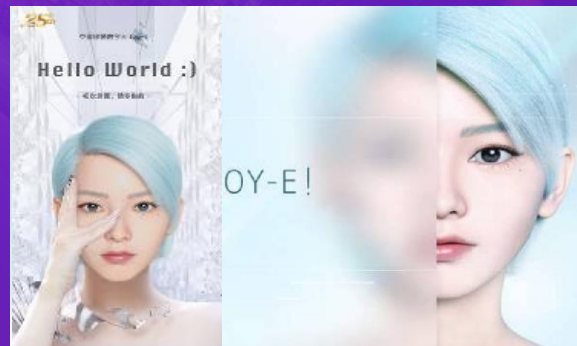
MetaStudio four production lines, build bottom-level root technologies, open up new industry space

Case

Digital Idol 'AI ling'



CMHK Virtual spokesperson "Joy-E"

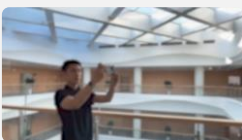


MetaStudio Digital Human Production Line

Modeling

- photo/ Camera matrix automatic modeling, TTM for hyper realistic digital human from 1 month to 1 week
- 5000+ digital human asset

Auto Modeling



Auto Face Pinching



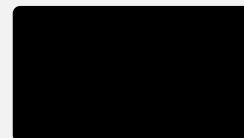
Binding & Action

- Video/audio/AI based digital human action driven
- Digital human AI brain, enabling natural interaction

Video/Audio Driven



AI Brain



Rendering

- Huawei 3D MetaEngine, real time rendering
- AI offline rendering, reducing 80% TTM

Realtime/offline Rendering



Virtual-real Converged Production: provides virtual-real converged video production solutions with film and television quality

Case

Hunan TV Station 2023 New Year's Eve Party



Shenmengchen & Fansiqi Digital Human Concert



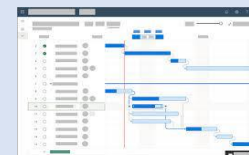
Virtual Production Product Line



Scene
Creation &
Mgmt



Virtual-Real
Integration
Broadcasting
station



Monitoring and
management

Multi-style Digital Human



Volumetric Video



MetaEngine Cloud Rendering

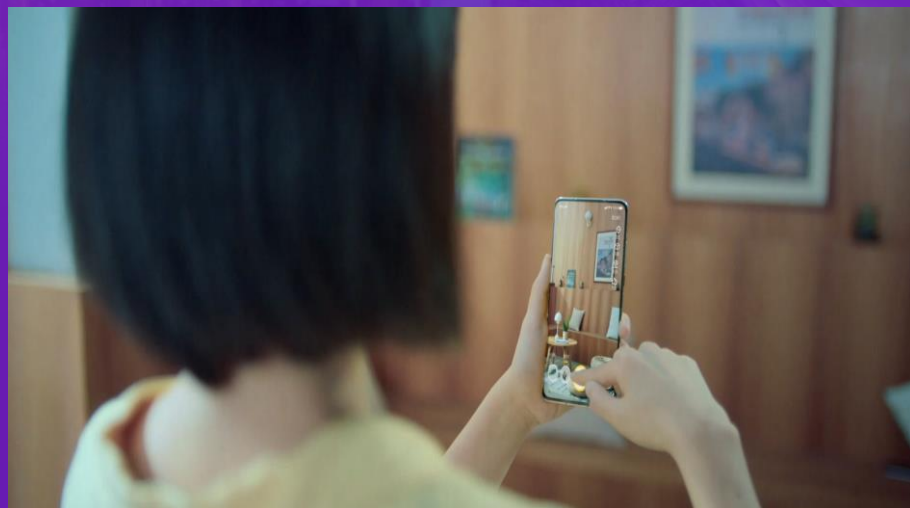


Holography turns every point in space-time into a portal of information

Information display panel



Drawing board of graffiti



Clickable desktop

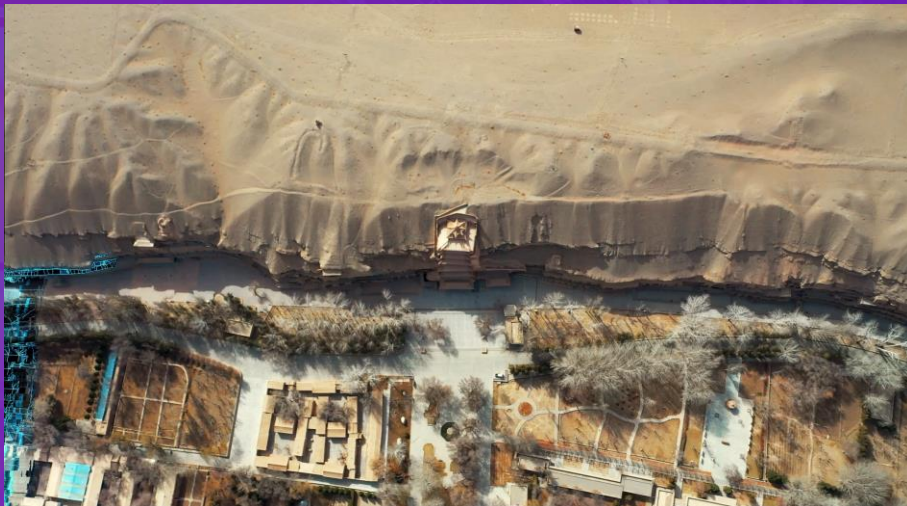


Game park

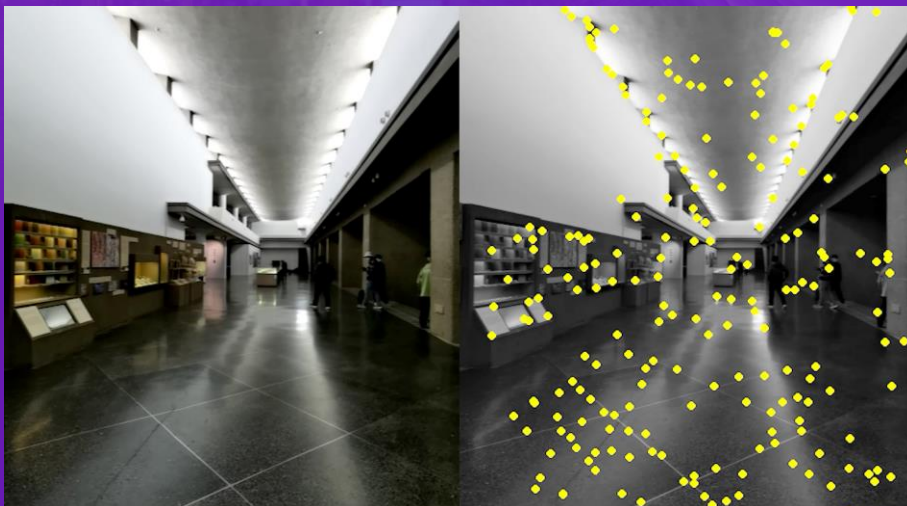


Key capabilities to build next generation holographic content

High-Precision 3D map



Centimeter-Level Spatial Computing



High-Reality Rendering



Strong AI Environment understanding



Booming XR industry standards and industry alliances, accelerating industry and ecosystem development



KRONOS GROUP

Run time APIs and file formats

Vulkan WebGL OpenXR

glTF KTX 3DCommerce

Web Standards

WebGPU WebXR Immersive Web

ASWF ACADEMY SOFTWARE FOUNDATION

VFX and Animation

OSL MATERIALS UpColor OpenEXR

OMIgroup

Advancing Technology for Humanity

XR and Networking

Open Geospatial Consortium

Geospatial Standards

3D Tiles NEXT GeoPose

Volumetric Format Association

SPATIAL WEB FOUNDATION

IOT and Digital Twins

IEEE P2874

OPEN AR CLOUD

Connecting physical and digital worlds

web3D CONSORTIUM

X3D

VRM CONSORTIUM

XRSI

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Thanks