



# AI as a Service on a 6G Network

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26/09/2024

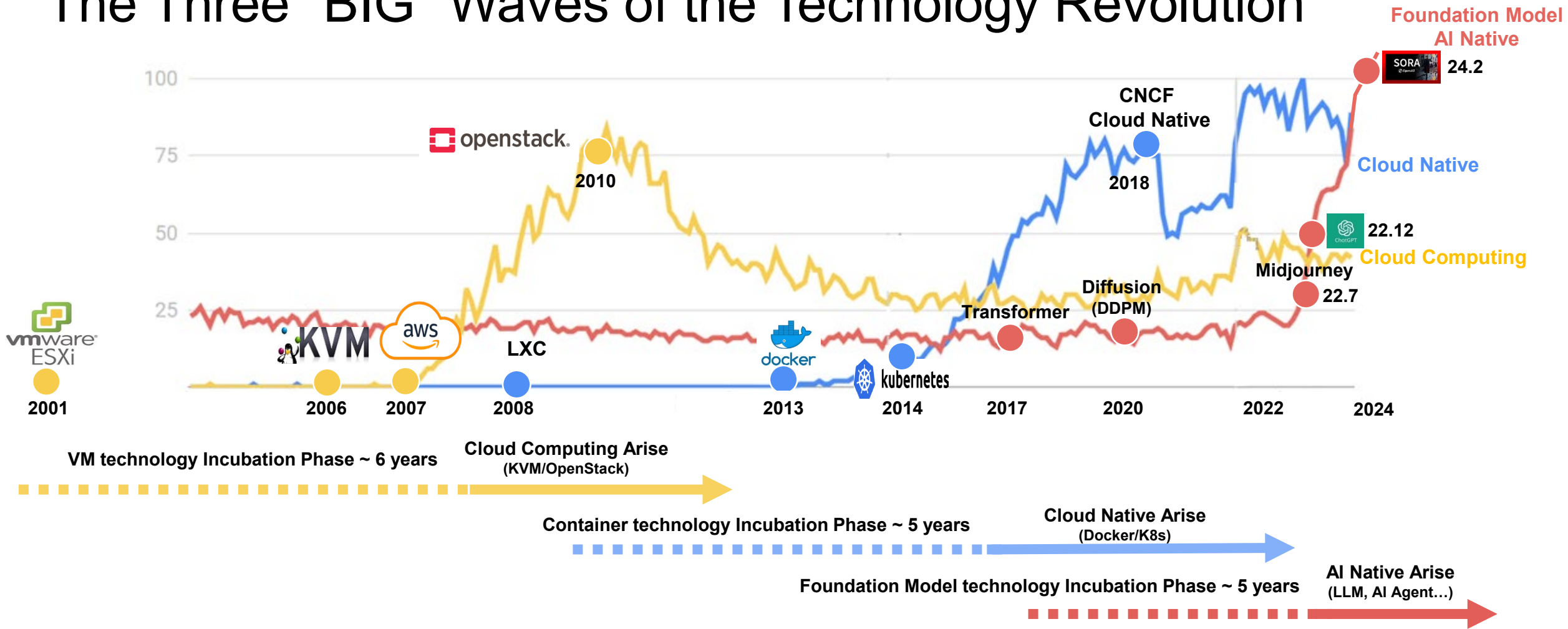
Jack (Jie) Hu  
Cloud Architect & Artificial Intelligence | Huawei LATAM

**01** | **Core Strategy Alignment**

**02** | **Telco Cloud-native → Telco AI Native**

**03** | **6G Core Definition**

# The Three "BIG" Waves of the Technology Revolution

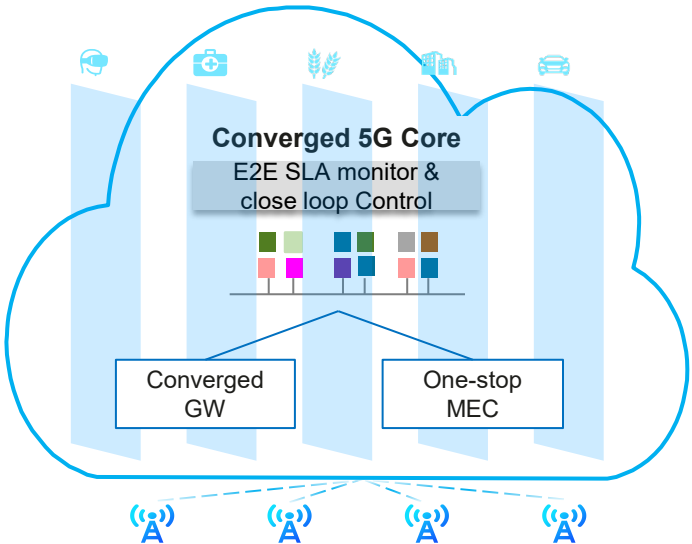


Mid-journey/ChatGPT/SORA as the landmarks, the AGI technology wave is coming

# Future Core Vision: 5G-A Intelligent Core, First Step to Future Core

## 5G

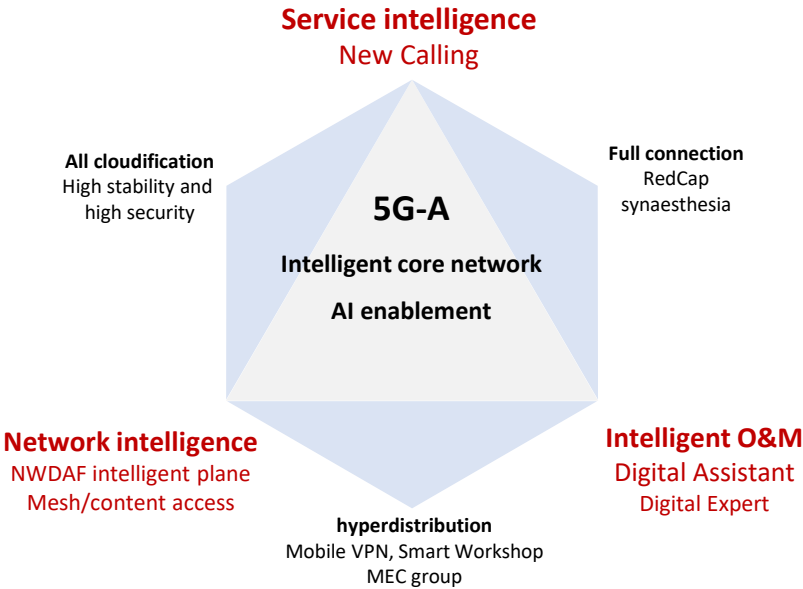
### Cloud Native Core



Cloud Native: Elastic & Agility  
 One Core: 2G/3G/4G/5G, NSA/SA  
 RT Operation: CP Automation, UP P&P  
 Edge Computing: Comprehensive, All-In-One

## 5G-A

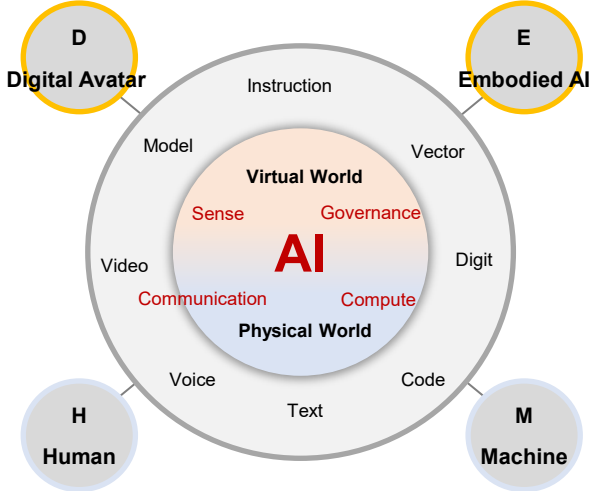
### AI Overlay Core



Multi Modal Communication by AIGC  
 Differentiated Connections by AI  
 Intelligent O&M Assistant by AI

## 6G

### AI Native Core



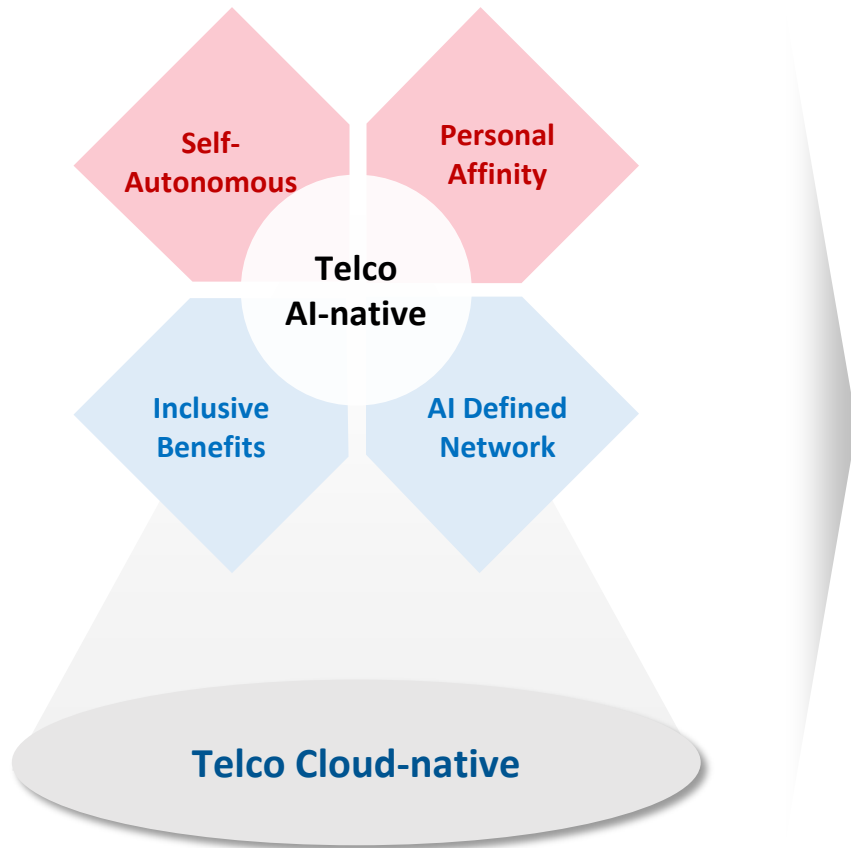
Self-Autonomous Network  
 Experience on Demand  
 AI Ignite, Service Innovation  
 AI Defined Network

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# The 4-Pillars of Telco AI Native



## Self-Autonomous

Deep Learning Powered Telco Cloud Native

- Hyper Automation, Self-healing, Self-optimization, Self-governance
- AI-based Analysis, Self-planning, Self-decision-making, and Closed-loop execution

## Personal Affinity

- Intelligent Personalized Experience
- All-time, all-domain, Experience on demand
- High accuracy Traffic and Experience Map

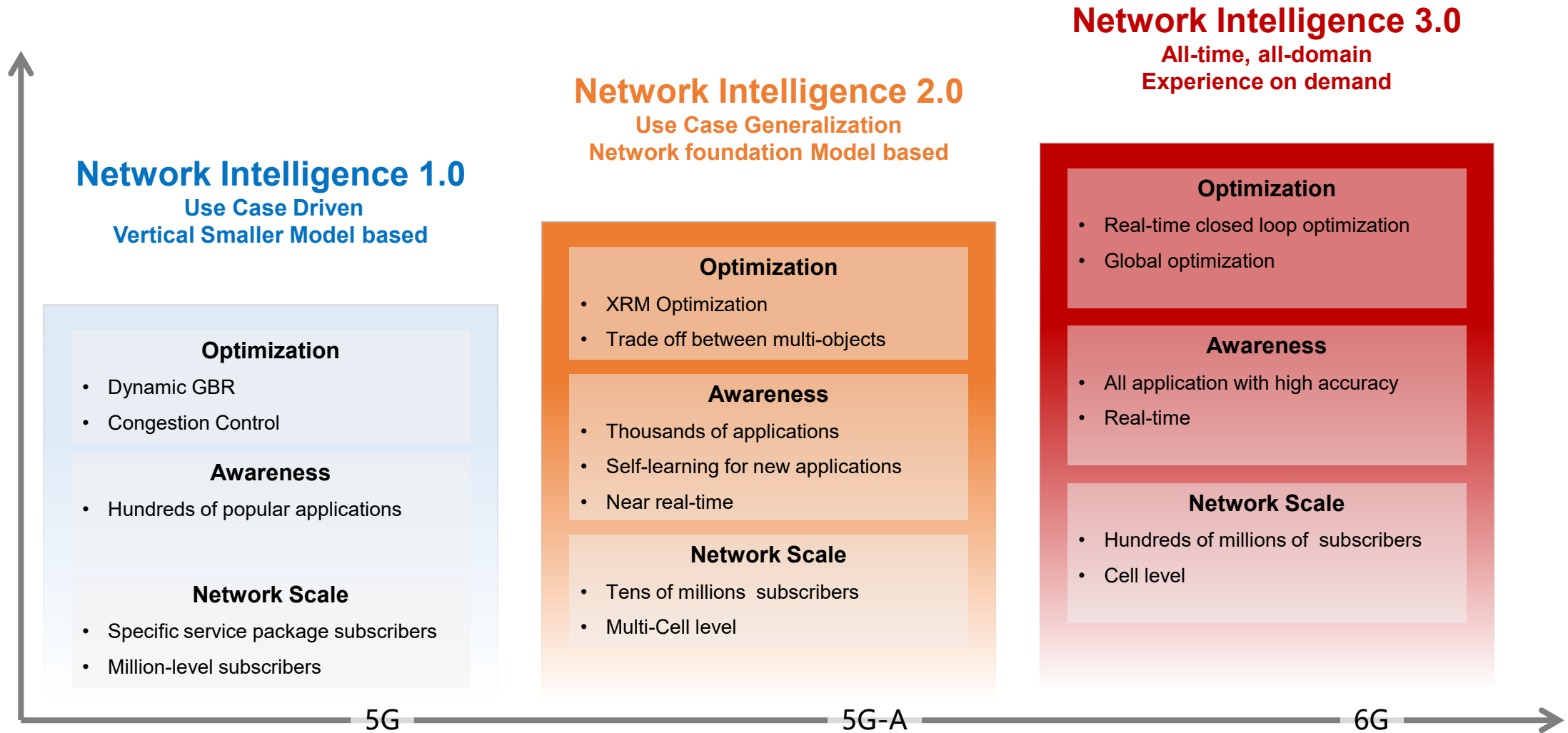
## Inclusive Benefits

- Telco Services Renewal
- Service Innovation, from Mobile Internet to AI Internet
- Fair access to AI services for all connections

## AI Defined Network

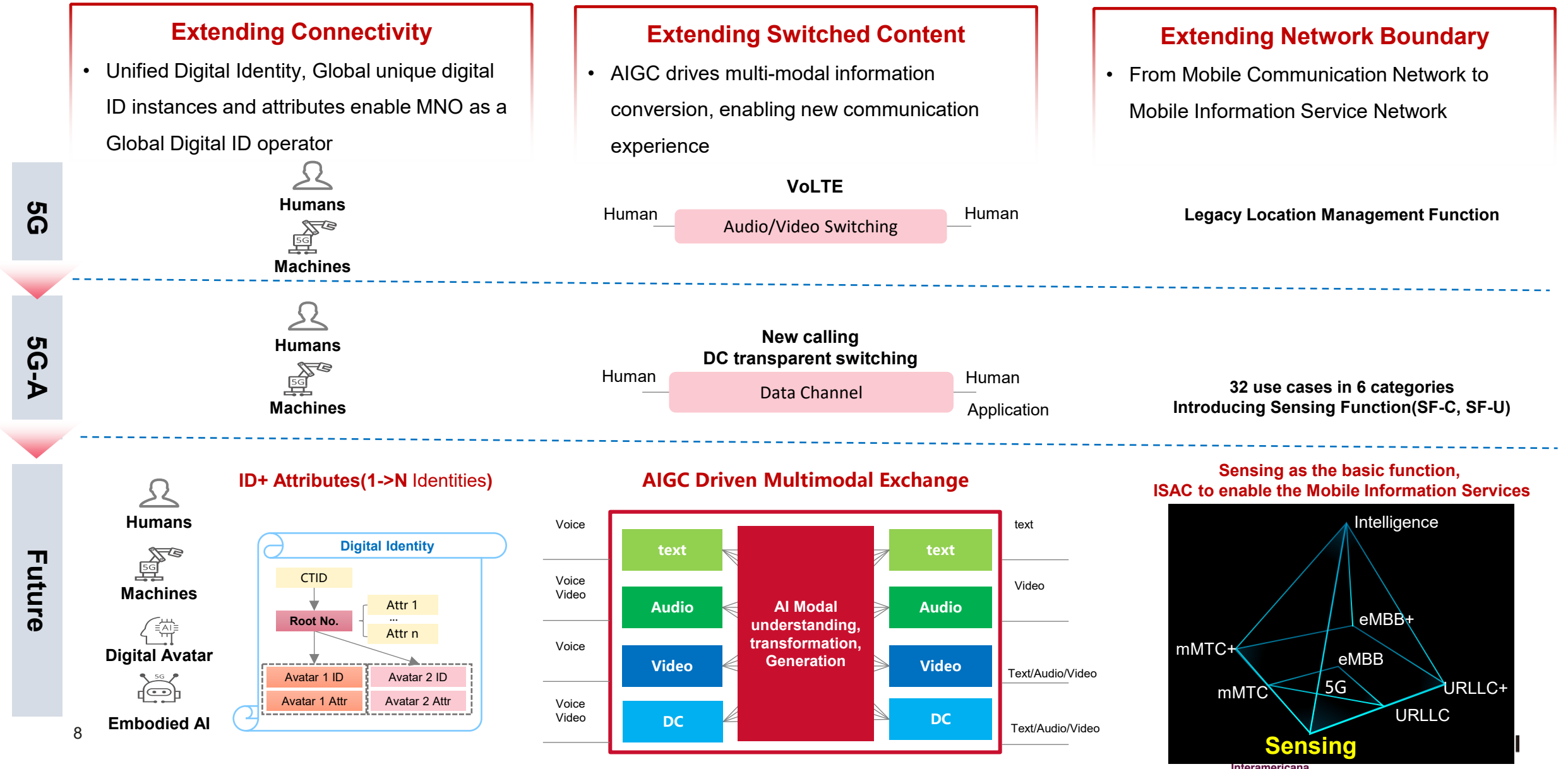
- Extending Connectivity: Human, Machine, Digital Avatar, Embodied AI
- Extending the Switched Content: AI Model, Multi-modality
- Extending the Network Boundary: From Mobile Communication Network to Mobile Information Service Network

# Personal Affinity: All-time, All-domain Experience on demand



# AI Defined Network: Redefine the network, Extending Connectivity, Switched Content and Network Boundary

## Boundary





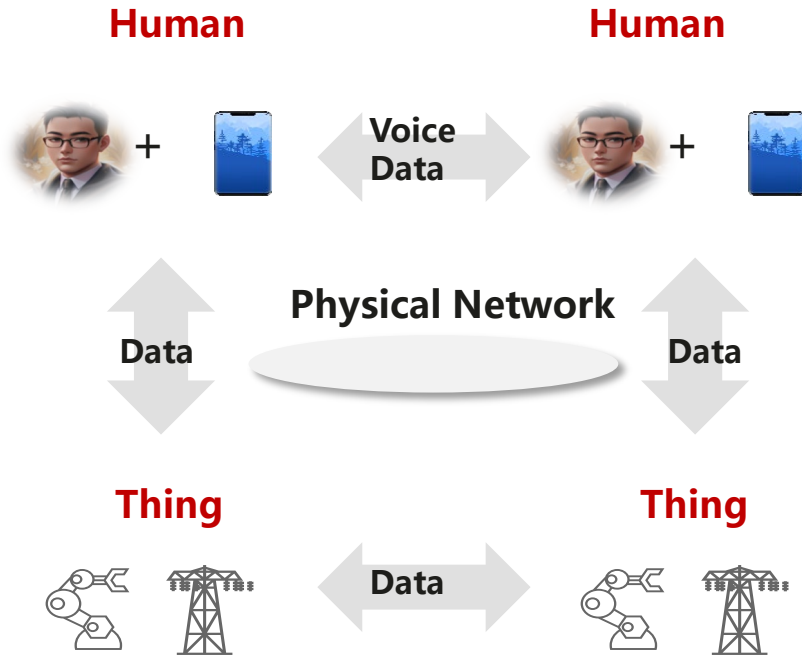
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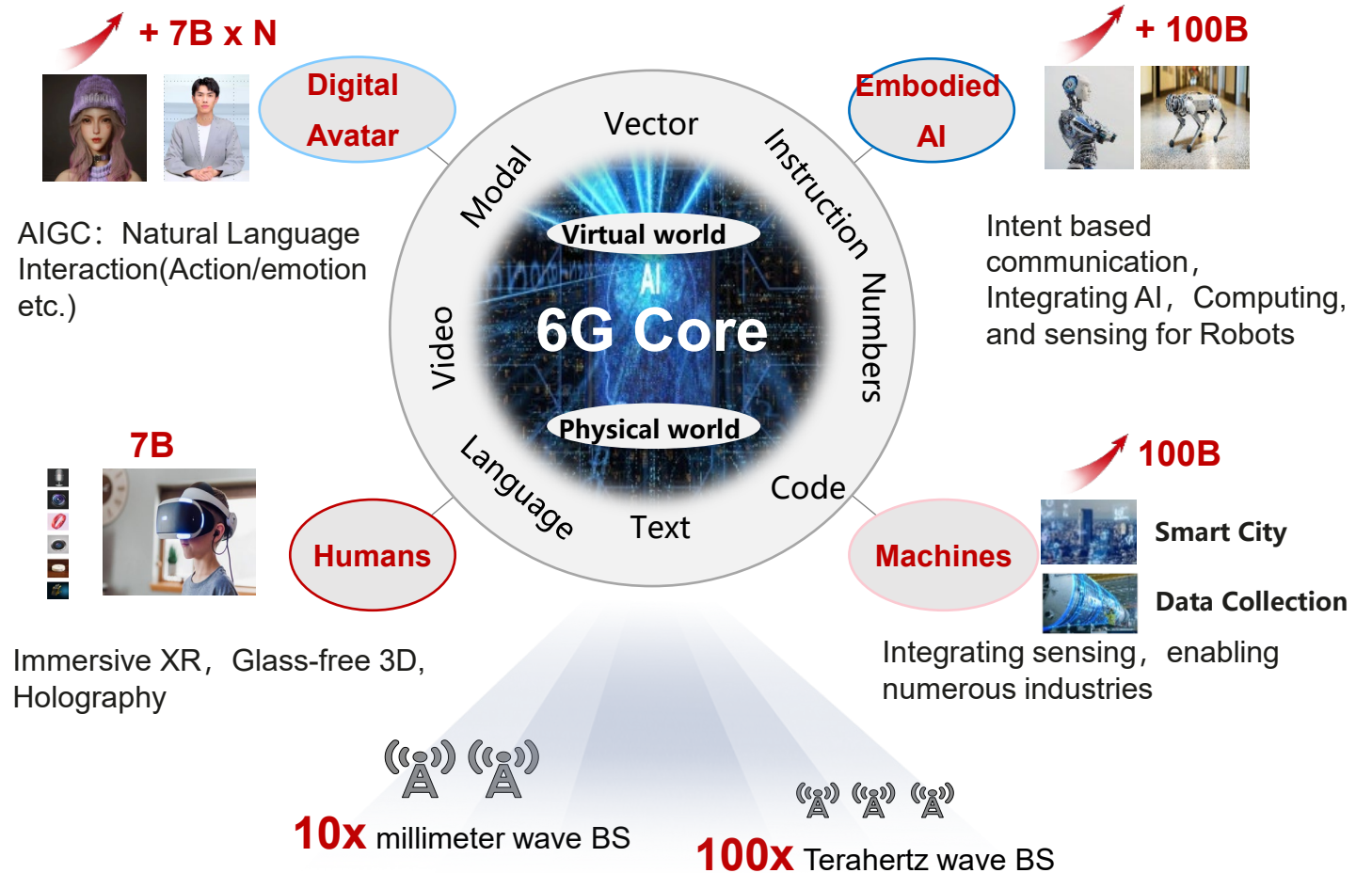
**03** | **6G Core Definition**

# 6G Core Vision: a Ubiquitous Access & Intelligent Core Enabling a Digital and Intelligent World

## Data and Voice Communication between Humans and things



## Connecting all entities in the Physical World and Virtual World



# 6G AI-Native Core Network will be disruptive evolved, should be achieving a leap

## 5G-A: AI Overlay

is 5G Evolved by AI Add-on, Smooth evolution

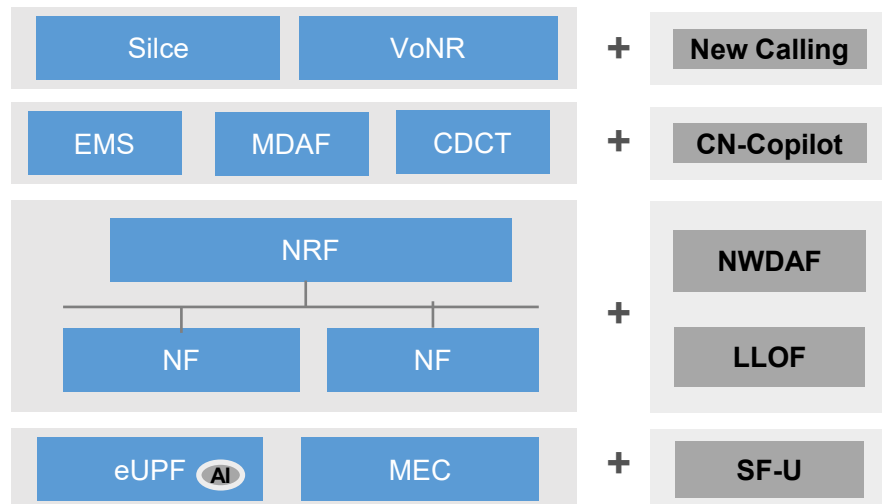
<b>SBA</b>	→	<b>NSBA</b>
<b>CUPS</b>	→	<b>Distribution AI</b>
<b>Automatic</b>	→	<b>Autonomous L4</b>
<b>VoNR</b>	→	<b>New Calling</b>

Achieving  
a leap

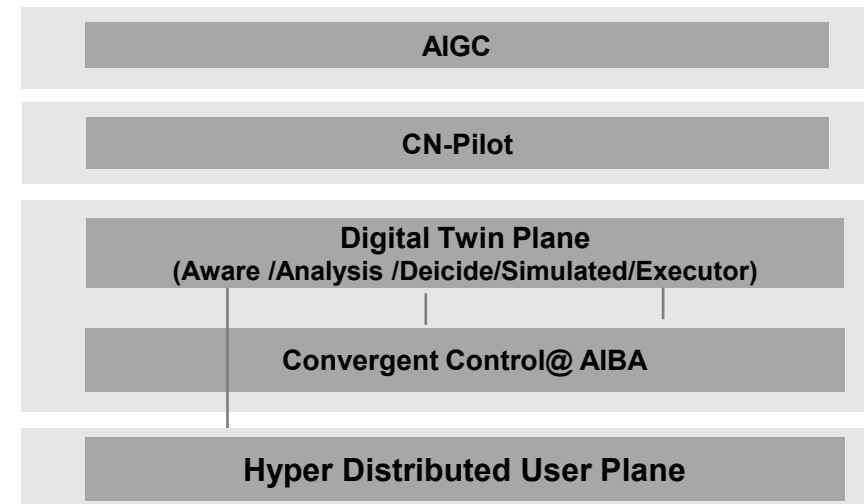
## 6G: AI-Native

Ubiquitous AI and generation-breaking evolution

- **AIBA:** ISDF, New NAS, Network LM, Network Agent
- **Ubiquitous AI:** AI Controller, AI Flow forward
- **Autonomous L5:** Self-Adaptation& Self-evolution
- **AIGC:** GAI, Hundreds, Thousands of new services



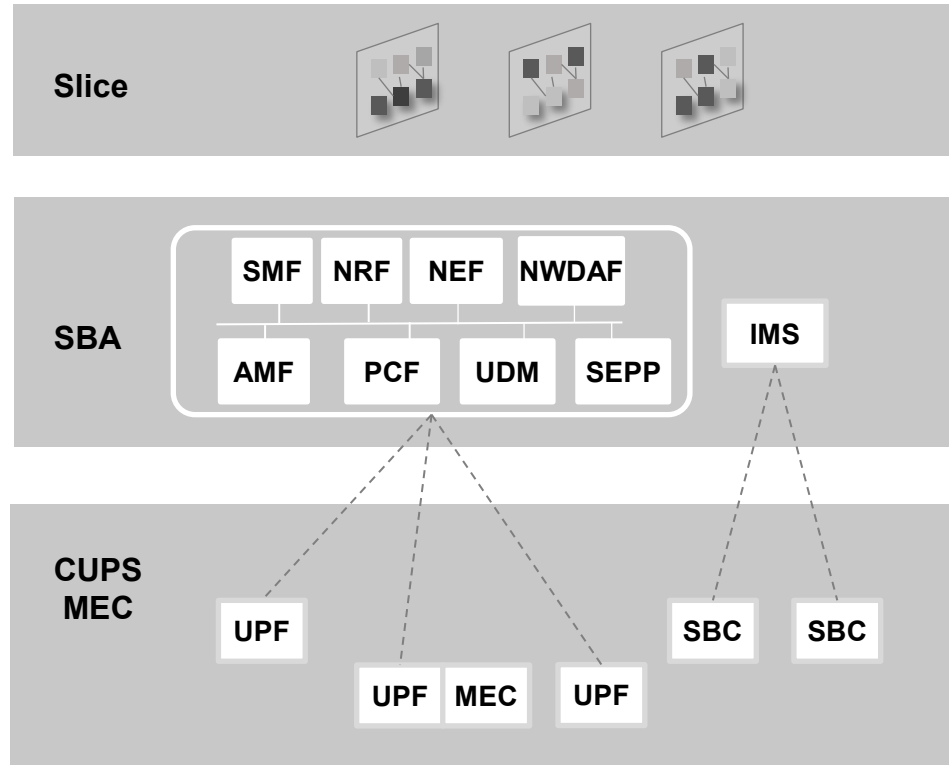
Disruptive  
Evolution



# AI Defined Network: The Great Paradigm-shift for Network Architecture Evolution

## 5G: Connectivity of Everything

Slice, SBA, CUPS/MEC

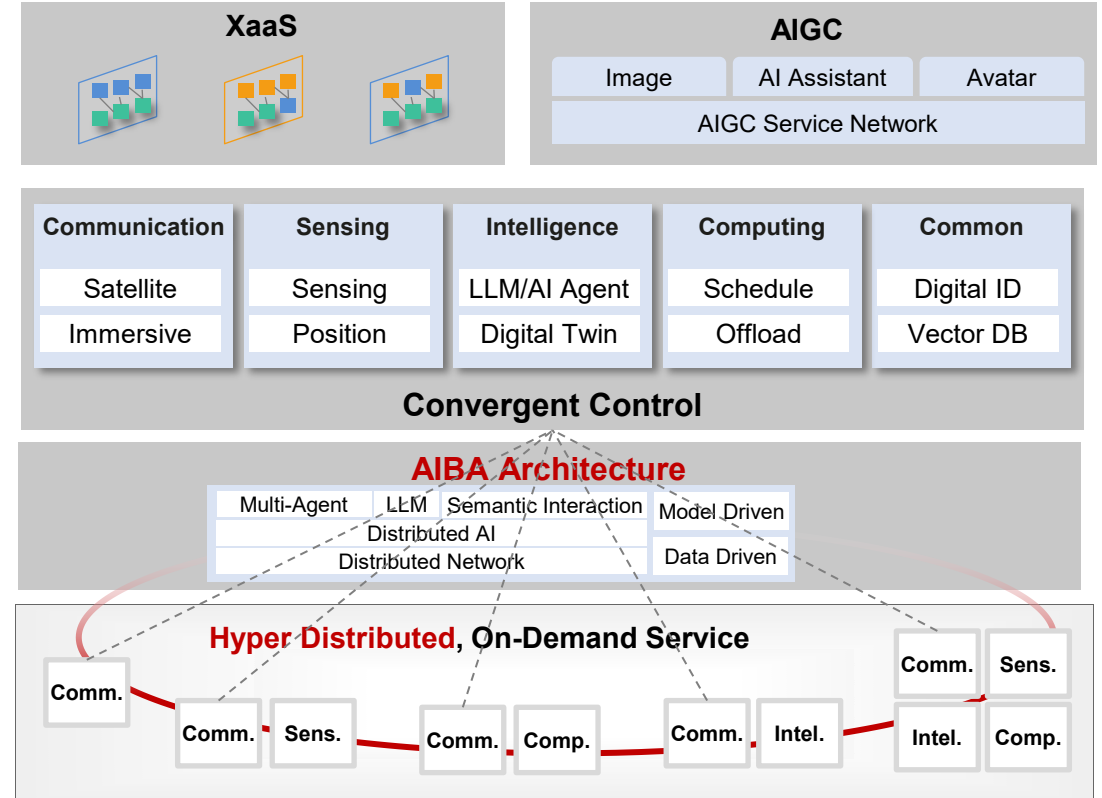


Human

Machine

## Future Network: Intelligent Interaction of HMDE

AIBA, HMDE, Interaction, Ubiquitous



Human

Machine

Digital Avatar

Embodied AI

# Abbreviations:

**AI:** Artificial Intelligence

**AIGC:** Artificial Intelligence Generated Content

**AIBA:** Artificial Intelligence Based Architecture

**CDCT:** Continuous Delivery Continuous Testing

**CUPS:** Control and User Plane Separation

**CTID:** Cyber Trusted Identity

**DC:** Data Channel

**EMS:** Element Management System

**eMBB:** Enhanced Mobile Broadband

**eUPF:** Extended User Plane Function

**mMTC:** Massive Machine-Type Communications

**IOT:** Internet of Things

**MEC:** Mobile Edge Computing

**MDAF:** Management Data Analytics Function

**LLM:** Large Language Model

**LTE:** Long Term Evolution

**NRF:** Network Repository Function

**NF:** Network Function

**O&M:** Operations and Maintenance

**SA:** Standalone

**SBA:** Service-Based Architecture

**NSA:** Non-Standalone

**NSBA:** None Service-Based Architecture

**VoLTE:** Voice over LTE

**VoNR:** Voice over New Radio

**URLLC:** Ultra-Reliable Low-Latency Communication

**UPF:** User Plane Function

# Thank you.

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

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