

Growing 5G, Building AI: Namibia's Stride into the Mobile AI Era

Kate Fan

Chief Technical Officer

Huawei Telecommunication Technologies Namibia (Pty) Ltd

Huawei: Leading Provider of ICT Infrastructure and Smart Devices



Vision and mission

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



208,000
employees



54%
of employees work in R&D



170+
countries and regions

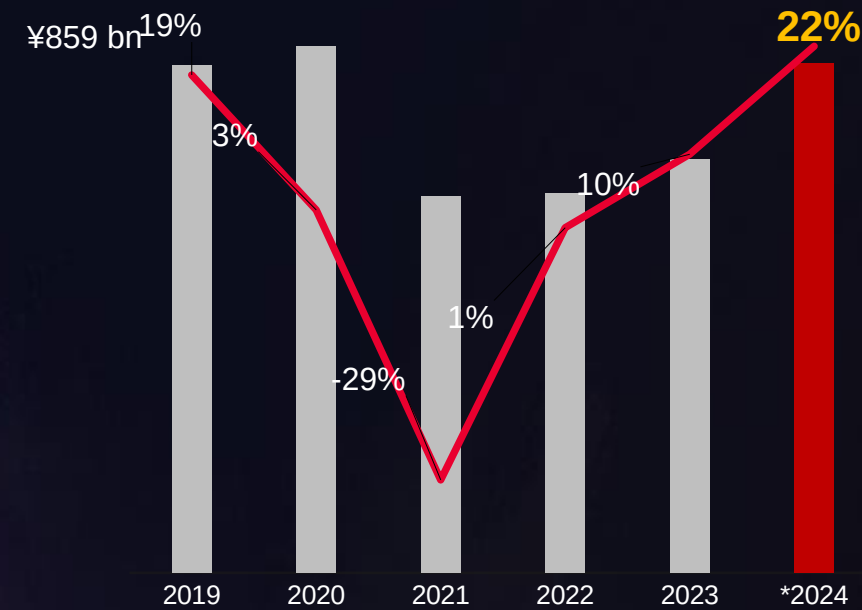


3 bn+
people served

Business Double-digit Growth and Heavily Invest in R&D

Corporate Revenue **¥862 bn (\$120 bn)**

¥862 bn



■ Revenue(Bn CNY) — YoY Growth

Source: Huawei financial forecast before audit
USD/CNY Assumption: 7.19472

Key Business Progress



2012 Lab

HiSilicon

20 Years in Namibia

Huawei is Committed to Support the Digitalization of the Land of Brave

In Namibia

27m USD

All Local TAX
2021-2025

For Namibia

200+

Students in Seeds for The
Future Program

2nd 4G

In Africa 2012

1st 3G

In Africa 2006

75%

Local Employment

1000+

ICT Talent Trained

Provide digital intelligence services for every Namibian and Namibia ICT



Continued Engagement in Government Cooperation and National Obligations

Cooperation with Government

Mar. 2018



President Dr Hage G. Geingob and Netumbo Nandi-Ndaitwah visited Huawei Beijing Research Center

Jun. 2019



President Dr Hage G. Geingob received a courtesy visit from Huawei Africa President

Sept. 2024



President H.E Dr Nangolo Mbumba visited Huawei Beijing Research Center

February. 2026



President Netumbo Nandi-Ndaitwah received a courtesy visit from Huawei Namibia

Social Responsibility

Nov. 2021



Donation of anti-epidemic materials to the Ministry of Health during the fight against COVID-19 epidemic

May. 2023



Huawei ICT summit open day For students and workers

Mar. 2024



Team Namibia was crowned the global Champion of the 3rd Seeds for the Future Tech4Good Global Competition in Barcelona

Jul. 2024

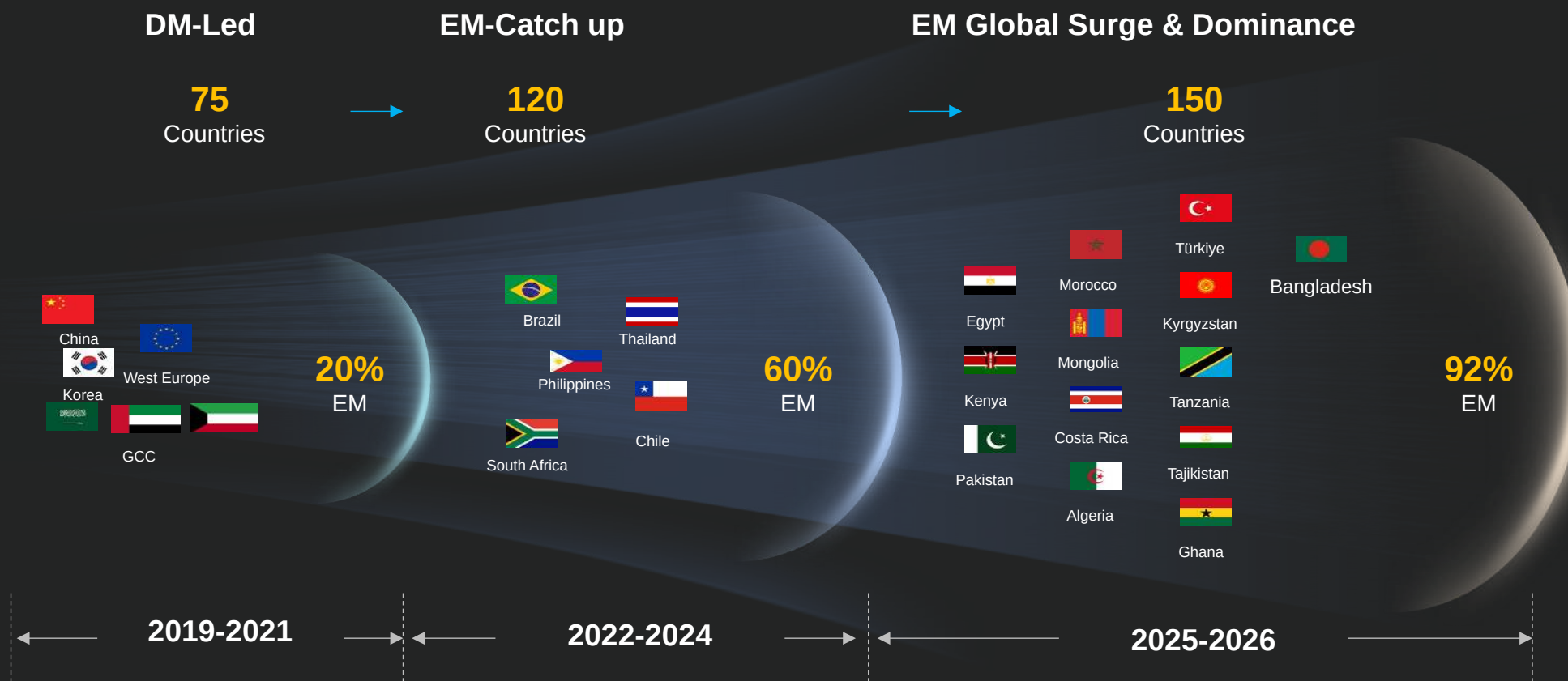


Released the talent strategic cooperation plan with MICT in Shenzhen

Contents

- 1. 5G-A x Mobile AI Industry Updates**
2. Growing 5G, Building AI: Namibia's Stride into the Mobile AI Era

5G Footprint is Rapidly Expanding into Emerging Markets



Spectrum
Availability

12 countries
In 2026



5G device
shipment

72% **>30%**
Global EM



5G device
Price

~100\$
Samsung A05 <120\$, Redmi A4 5G ~110\$

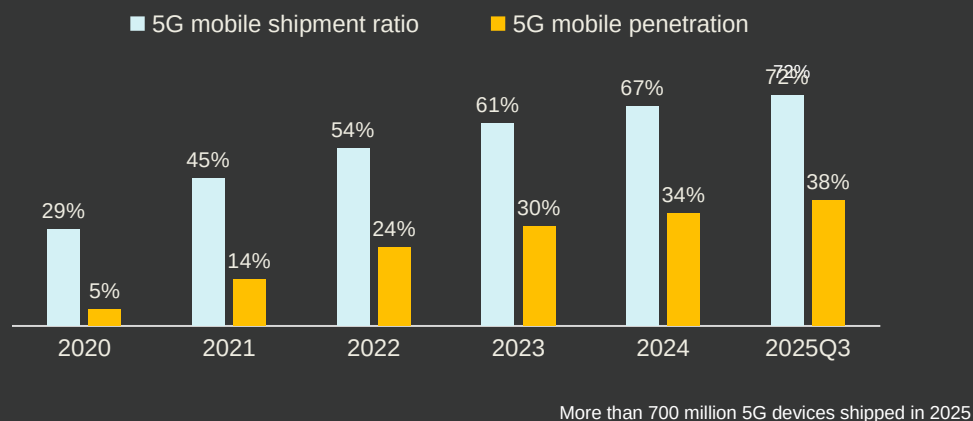


Data Traffic Surge
TikTok/Reels

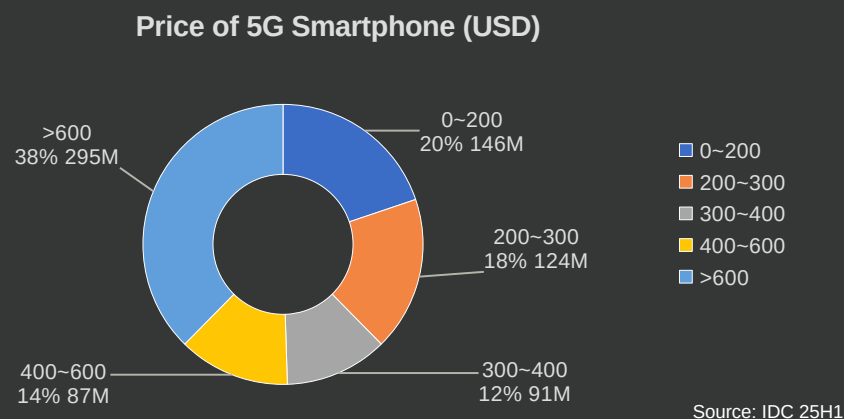
20%
Traffic growth global

Industry Update: 5G Devices Mature, Native AI & Multi-CC as Flagship Trends

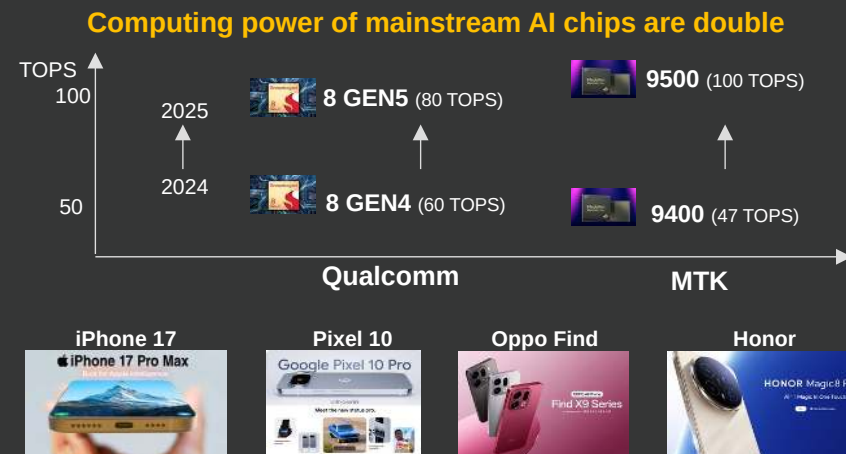
5G Devices Make Up 70% of Global Shipments



20% of 5G Phones Priced Below \$200



AI Becomes standard for high-end flagship phones

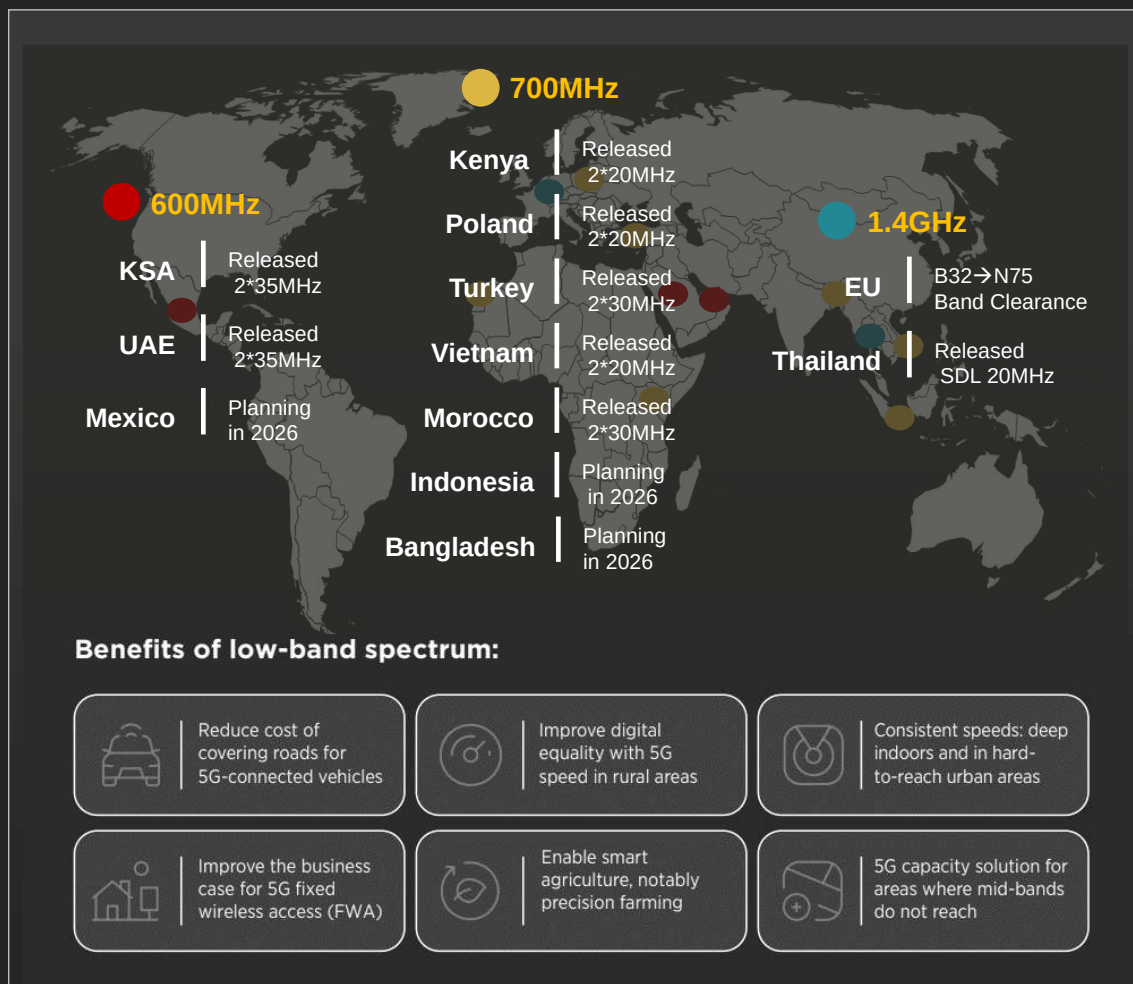


Terminal chips are ready for 6CC CA and UL CA



New Spectrum Allocation: More Sub-3GHz Allocated, All Bands Accelerate to 5G

New Sub-3GHz spectrum keeps release in large countries



Existing sub-3GHz spectrum is accelerating to evolve to 5G

Bundling of 5G frequencies:

O₂ Telefónica achieves speeds of 1.7 Gbit/s with 5G standalone



- O2 Telefónica bundles 4 frequency bands for 5G Standalone for the first time, and achieves speeds of 1.7 Gbit/s.

3.6G + 2.1G + 1.8G + 700M

Existing 4G spectrum of leading 5G operators accelerate to 5G refarming

DNA

NR 4CC

3.5G 130MHz
700M 2x10MHz
2.1G 2x20MHz

kpn

NR 3CC

3.5G 100MHz
700M 2x10MHz
2.1G 2x20MHz

AIS

NR 3CC

2.6G 100MHz
700M 2x10MHz
2.1G 2x20MHz

HKT

NR 3CC

3.5G 100MHz
2.1G 2x20MHz
2.6G 2x20MHz

New Services: Driving Networks Toward Lower Latency & Deeper Coverage

3D cloud gaming requests mid-low speed and low latency

Mainstream vendors accelerate maturity of 3D ecosystem

New services	3D Cinema	3D Photo	3D Immersive Game
			
3D Terminals			
Premium 3D Gaming Requirement	Apple Vision Pro • 3D 8K Resolution	Meta Quest 3 • 3D 4K Resolution	
	• 36+ Mbps • 20 ms @ 95%	• 30+ Mbps • 20 ms @ 95%	

RedCap service requests better wide and deep coverage

RedCap Services ranges from urban to rural with millions of connections

FWA Lite (Entry Level)	SLA assurance layer	Connection Coverage
		
200,000+ Homes	30,000+ Construction Sites	30+ million connections
• Indoor DL Capacity • -105dBm @80%	• Low Latency • -100dBm @80%	• Deep Indoor • Low Power Consumption • -95dBm @80%

More Business Innovations with UL Centric Services

		
• New Calling • 5Mbps	• Live Video Broadcasting • 8Mbps	• Smart IoT Camera • 20% Annual Growth

 New Calling@1080p: **5-8 Mbps UL**

More Business Innovations with Low Latency Services

		
• Mobile Gaming • <40ms air interface	• AR City • HongKong 5G AR > 30% Penetration	• Metaverse Store

 Real-Time Battle Game: **100ms E2E Latency**

New Services: The Rise of Mobile AI Is Driving the Need for 20 Mbps Uplink

Driven by Multimodal AI, Uplink Traffic Set to Grow 7-9X

Multimodal AI drives uplink traffic growth

Voice: Personal content

(Uplink traffic: ~1 Mbit/s)



Example: When will my mom arrive, and what time is our reserved dinner?

Vision: Restaurant Search

(Uplink traffic: ~24 Mbit/s)



Example: Tap the camera button to view restaurant hours and ratings

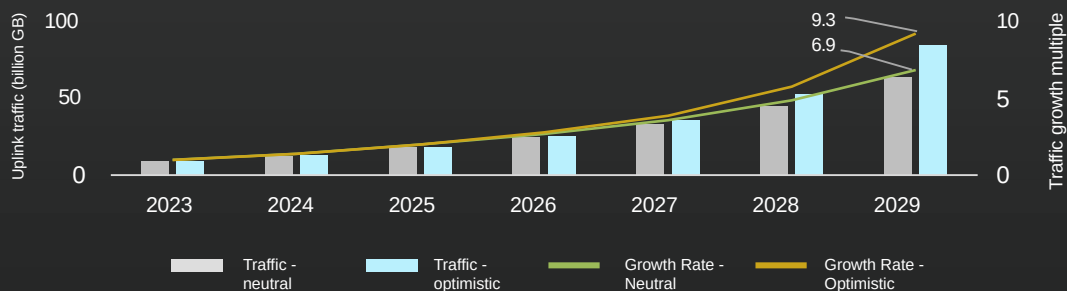
Video: Issue Resolution Assistant

(Uplink traffic: ~24 Mbit/s)



Example: Click on camera control to seek guidance from ChatGPT.

Uplink traffic is expected to increase 7 to 9 times by 2029



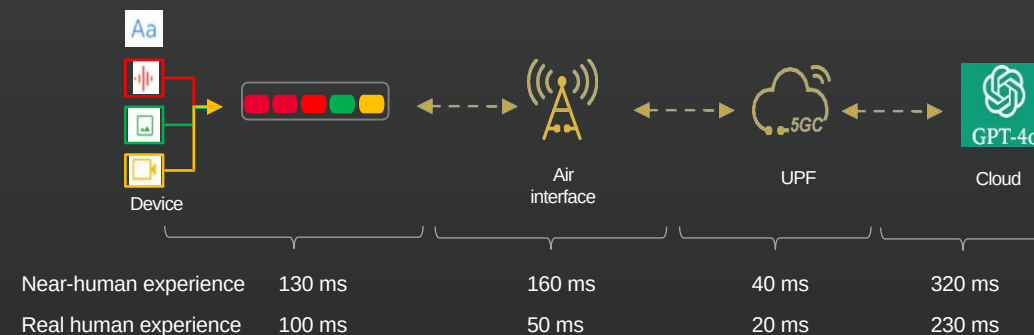
*Data source: Huawei Wireless Technology Lab

AI Phone Requires 20 Mbps Uplink Experience

400ms E2E Latency Enables Real-Time Human-Like Experience

User experience	General	Good	Excellent	Ultimate
Corresponding latency	>1.6s	1.2-1.6s	650ms	400ms

The ultimate experience requires an air interface latency of 50ms:



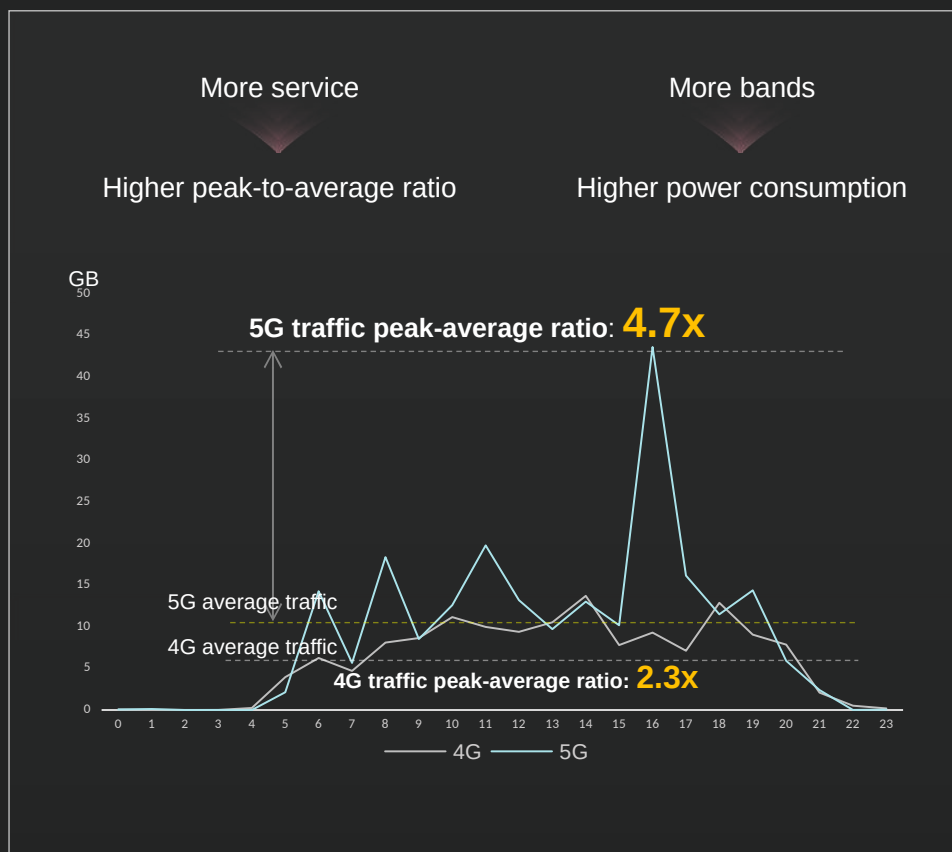
Near-Human Experience Requires 20 Mbps Bandwidth

Interaction experience	Single interaction data volume	Air interface delay	Guaranteed bandwidth
Near-human experience	~400 KB (measured)	160ms	20 Mbps
Real human experience	~400 KB (actual test)	50 ms	64 Mbps

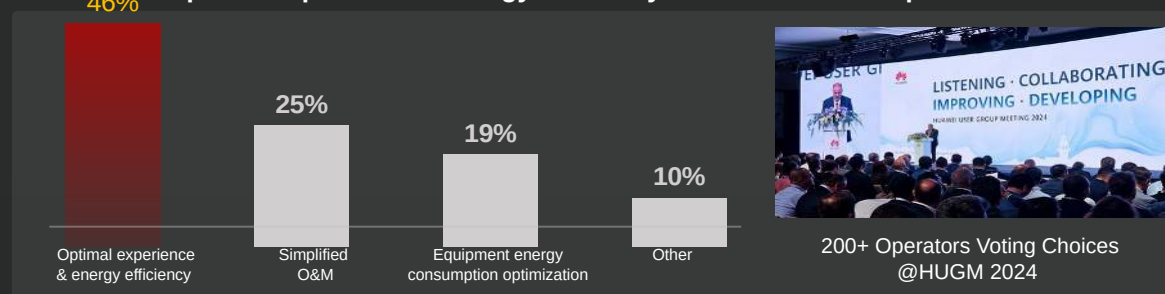
Both Optimal Experience and Energy Efficiency Are Essential to Network

Mobile network faces the challenge of energy efficiency

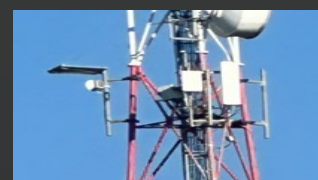
Leading operators focus on both optimal experience and energy efficiency at the same time



46% “Optimal experience & energy efficiency” is voted as the Top1 concern



Orange and Huawei start joint innovation for “Green”



2024@Romania

- Site-level “0 Bit 0 Watt 0 Loss” save 1,700+ kwh per year

China Mobile launched “Green & Smart Network Action”

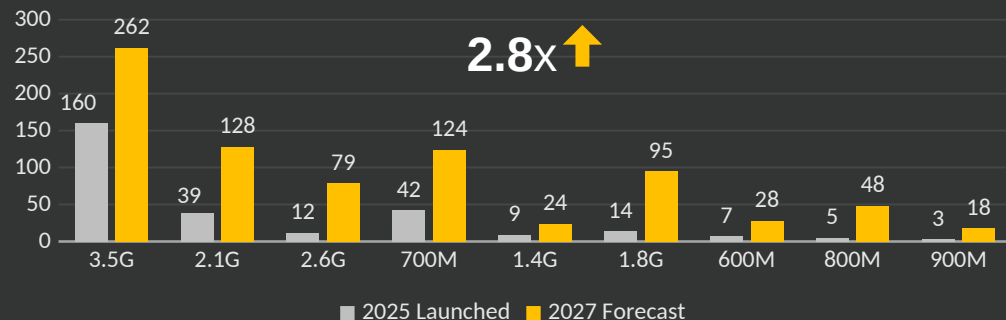


2025@ Hebei

- 5G energy saving demonstration zone, centralized deployment of “0 Bit 0 Watt 0 Loss”

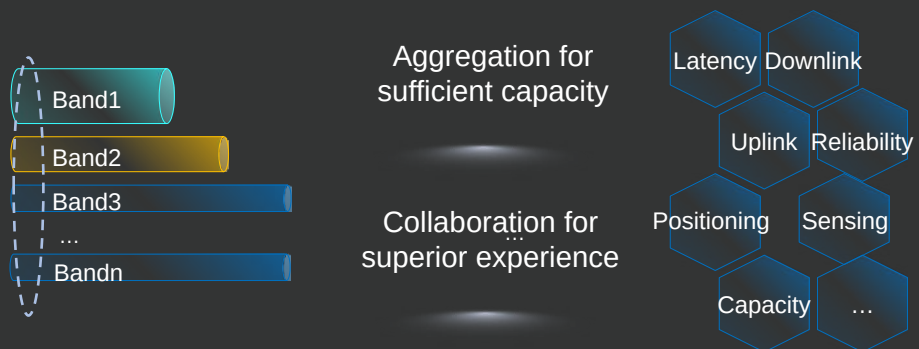
Network Trend: All Bands to 5G and Multi-band Collaboration as One Network

All bands to 5G is accelerating



Multi-band Collaboration

Integrating all bands for high-bandwidth and full capabilities



All bands simplified deployment

All bands flexible scheduling

One network to meet diversified experience



Mobile AI Brings Human Connectivity to All-domain Intelligent Connectivity

Mobile AI New Business Opportunities: "New Connection, New Traffic, New Experience" Dividends

① New AI Connections



4.5 Bn
2030 AI phones



500 Mn
2030 intelligent connected vehicles



3 Bn
2030 intelligent robots



1 Bn
2030 Agent global daily calls

AI agent more than human population



8.5 billion
Global population in 2030

United Nations "World Population Prospects 2024"

② New AI Traffic

AI traffic growth significantly outpace traditional services, and will **achieve a surpass by 2031**

Omdia predicts future cellular traffic CAGR of 27% in Europe (traditional 14% vs. AI 55%), with AI traffic surpassing by 2031.

Traditional

AI

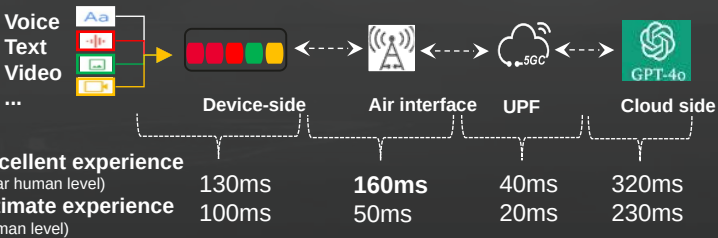
Unit: EB/month	2025	2030	2033
Total Traffic	25	72	168
Traditional Services	17	32	56
AI: Weak correlation	5.4	11	7.1
AI: Strong correlation	2.3	26	76
AI: Native	0.09	3	29

<https://omdia.tech.informa.com/om128471/ai-network-traffic-forecast-dashboard>

③ New AI Experience

AI Agent UL Throughput $\geq 20\sim 64$ Mbps

AI Agent's near-real-time/realistic E2E latency $\leq 400\sim 650$ ms



Experience Criteria	Single Interaction Data	Air Interface	Uplink Rate
Excellent (near human level)	~400 KB	160 ms	20 Mbps
Ultimate (human level)	~400 KB	50 ms	64 Mbps

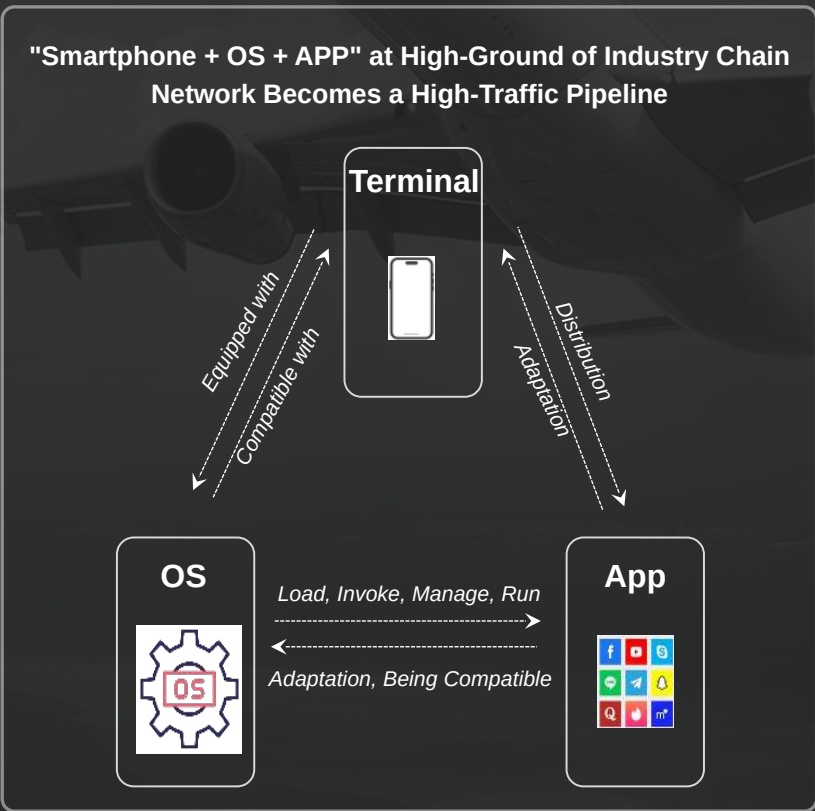
New AI Connections: Seize the Tariff and Intelligent Agent Interaction Entrance

Intelligence is Everywhere

Traffic-Pipeline -> Intelligent Connectivity

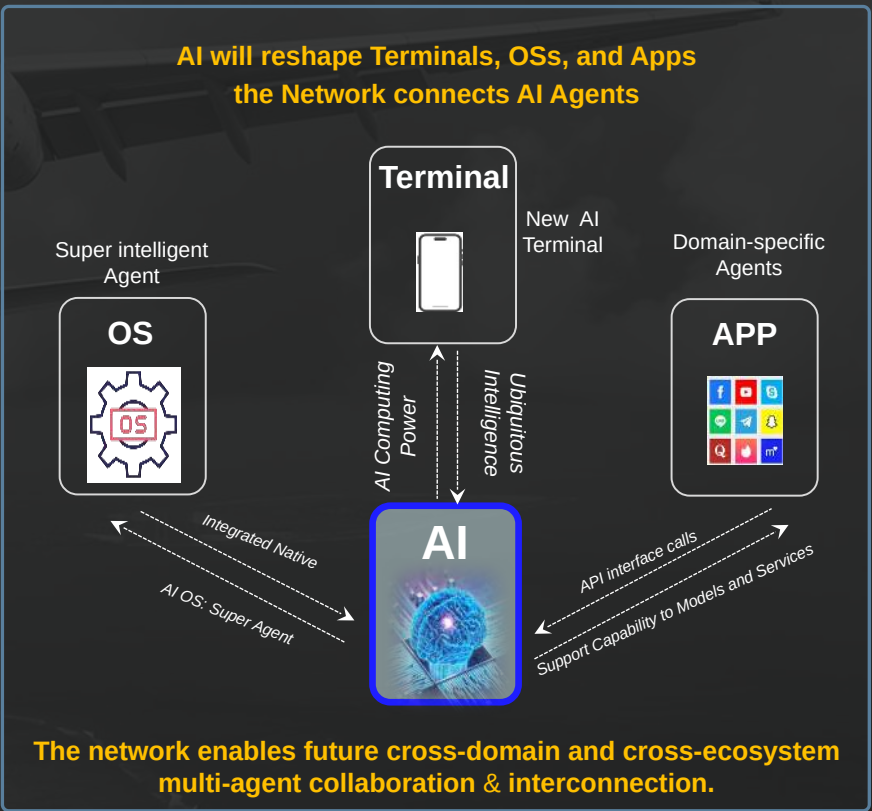


Mobile Internet Era



Mobile AI New Opportunities

AI will reshape Terminals, OSs, and Apps
the Network connects AI Agents

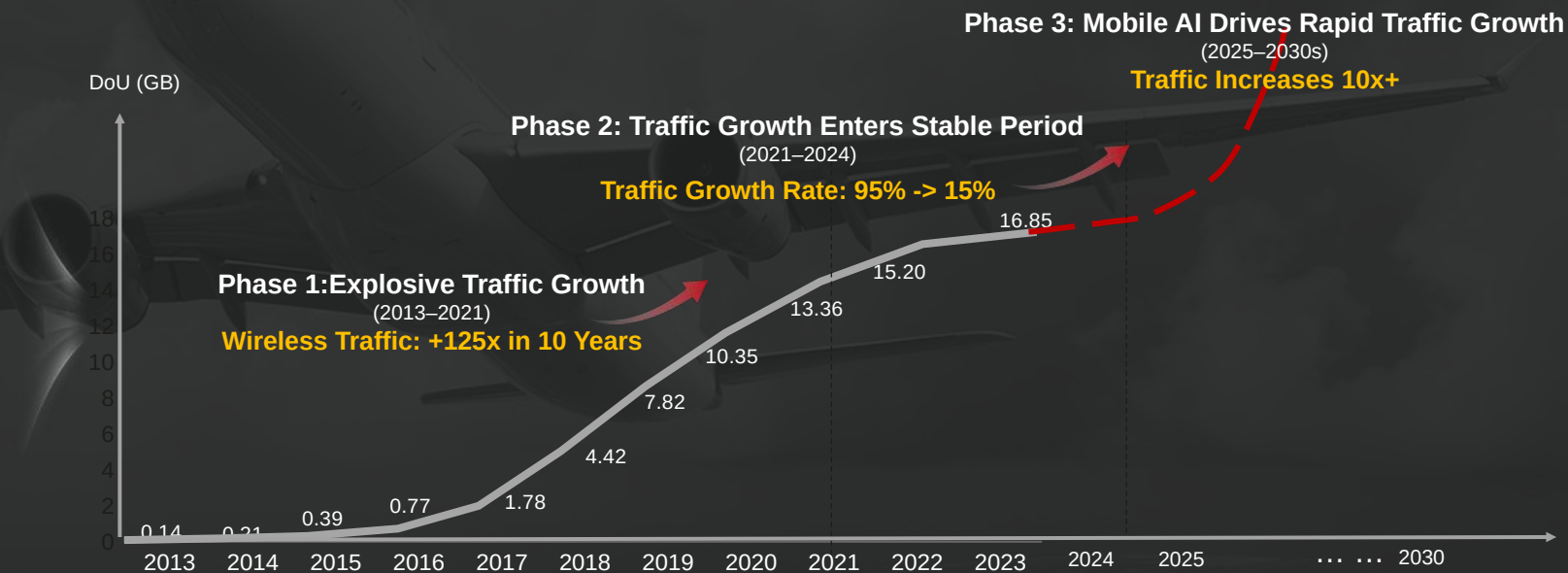


New AI Traffic: Mobile AI drives Rapid Growth in Network Traffic

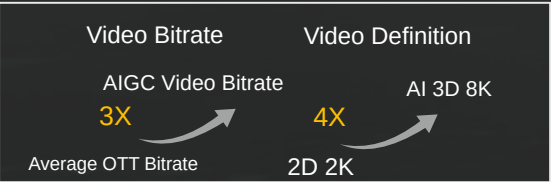
Rapid Development of Mobile AI Industry

		
Cloud	Doubao DeepSeek Kimi...	OpenAI Google...
Network	5G-A launched in 2024	T-Mobile 5G-A commercial launch
Device	Huawei, Xiaomi, Vivo, OPPO	Android, iOS, HarmonyOS

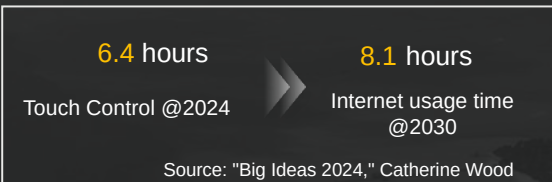
Mobile AI Drives Wireless Network Traffic to a New Rapid Growth Cycle



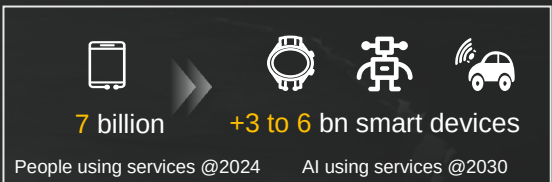
Driving Force 1: Changes in content creation
Data traffic ~12x



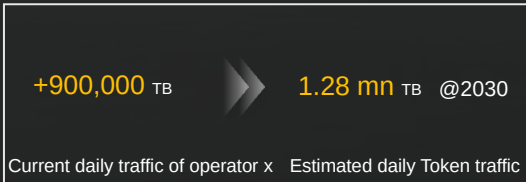
Driving Force 2: AI Frees up labor time
Online duration ~1.2x



Driving Force 3: AI New Users
Mobile AI users 1.5~2x



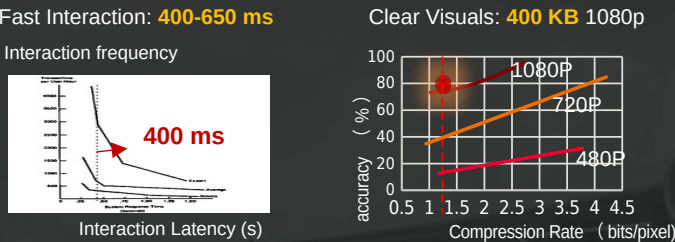
Driving Force 4: Token Consumption
Data traffic 1.5~2x



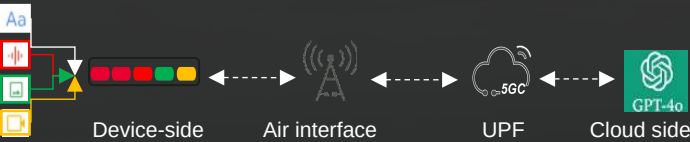
New AI Experience: Mobile AI Uplink Requires Multi-Service Layered Network

Network Requirements of AI Service

Visual Definition Determines the Demand

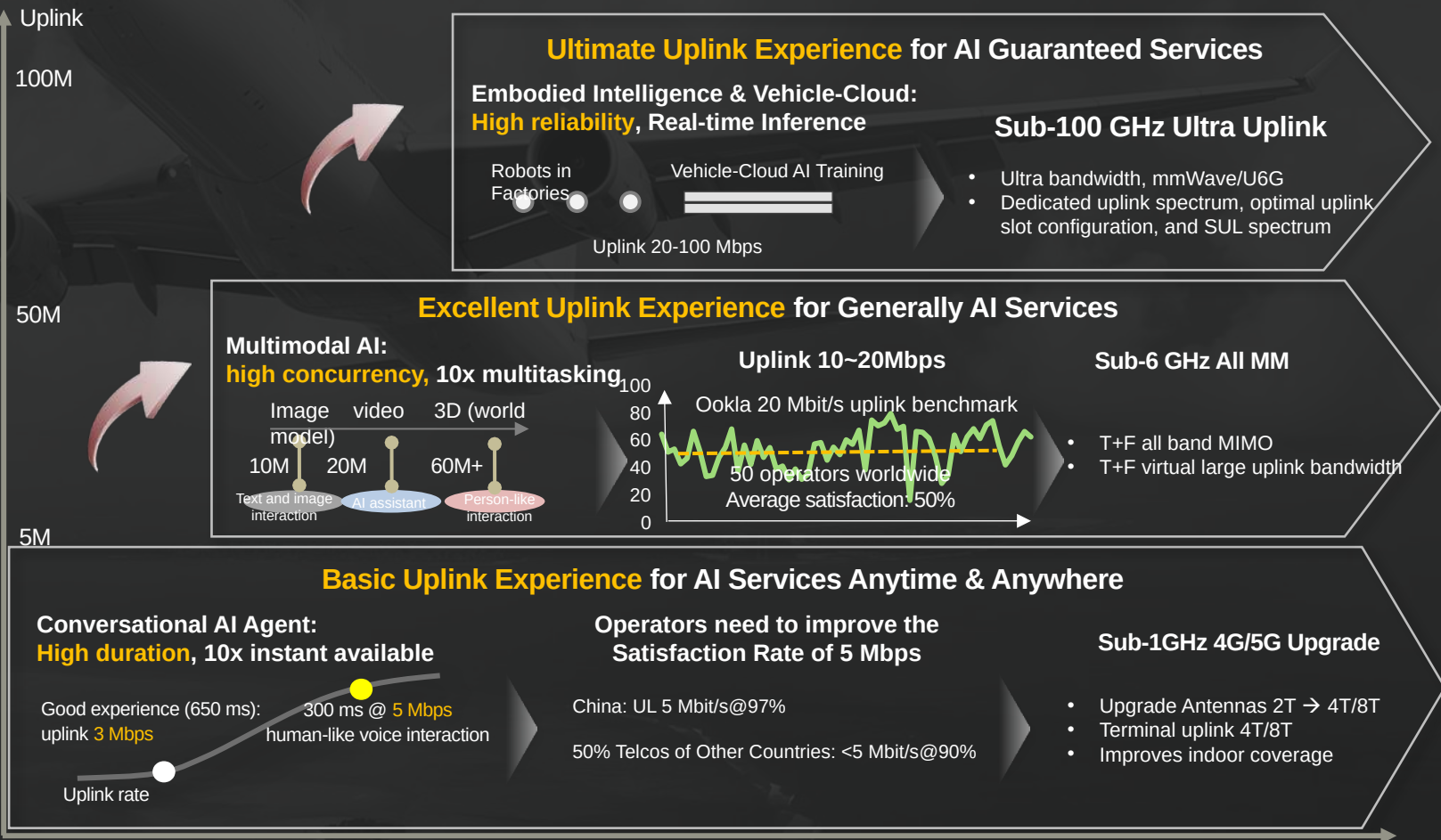


Air Interface Throughput: 400 KB/160 ms = **20 Mbit/s**



	Device Side	Air Interface	Backbone	Cloud Side
Smooth experience 1s	130ms	320ms	40ms	320ms
Good experience 650ms	130ms	160ms	40ms	320ms
Excellent experience 400ms	100 ms	50 ms	20 ms	230 ms

AI Multi-service Target Network



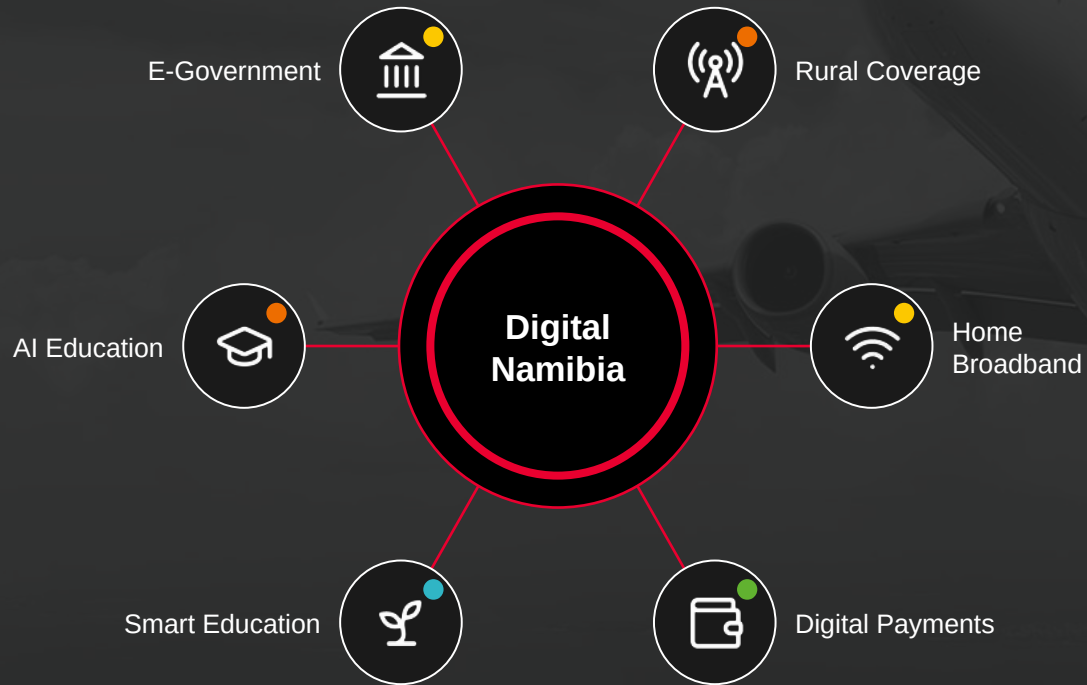
Target network Span

Contents

1. 5G-A x Mobile AI Industry Updates

2. Growing 5G, Building AI: Namibia's Stride into the Mobile AI Era

Deepen 4G, Grow 5G, Build AI Skills - Building Namibia's Mobile AI Evolution



Applications that fit Namibia's needs

1. Deepen 4G - Cover More People, More Reliably

- About **360,000 people** still had no 4G coverage
- USF Phase II: Building new sites in 5 regions
- **15** public institutions, incl. schools and clinics, get 7 years of free connectivity

2. Grow 5G Step by Step - Where Demand Is Ready

- 5G live since Aug 2025 in Windhoek, Swakopmund, Walvis Bay, Ongwediva
- Start in towns, ports, mines and business parks; add fixed wireless for homes
- Fibre has only **44,000** connections; TN aims to connect **100,000+** homes without it

3. Bring in New Apps and AI Skills

- Only **6.4%** of rural homes own a computer (urban **30.5%**): go phone-first
- **71.1%** of Namibians are under 35: AI education builds the next workforce
- 2026 programme to train **~1,000** students in 5G, AI and cloud

N\$42.1m

USF Phase II (2026)

9 Sites

RAN Sites, 5 Regions

90%

Internet Target by 2030

~1,000

Students to Train (2026)

4G for all, 5G where it counts, AI skills for people.

All Bands to 5G: Enabling Edge-Free Networks for Mobile AI

Multi-Dimensional Experience of All-Service

Visual Intelligence

@20Mbps Uplink



AI Agent

@20Mbps Uplink



Embodied Robot

@20Mbps Uplink, I2O



Livestreaming

@50Mbps Uplink



Smart Driving

@20Mbps Uplink, 20ms Latency



RedCap Video Surveillance

@20Mbps Uplink



Foundation Network of Mobile AI

GigaGreen+ Series

Smallest, Lightest, Greenest



M-MIMO



8T8R



4T4R



EcoMatrix

0 Bit 0 Watt 0 Loss



All Bands to 5G

mmWave
C-band

1.4/1.8/2.1/2.6GHz

600/700/800/900MHz

UL & DL
Giga Experience

Outdoor & Indoor
Seamless Coverage

GigaBand Software

One Network for All Service



Time

Spectrum

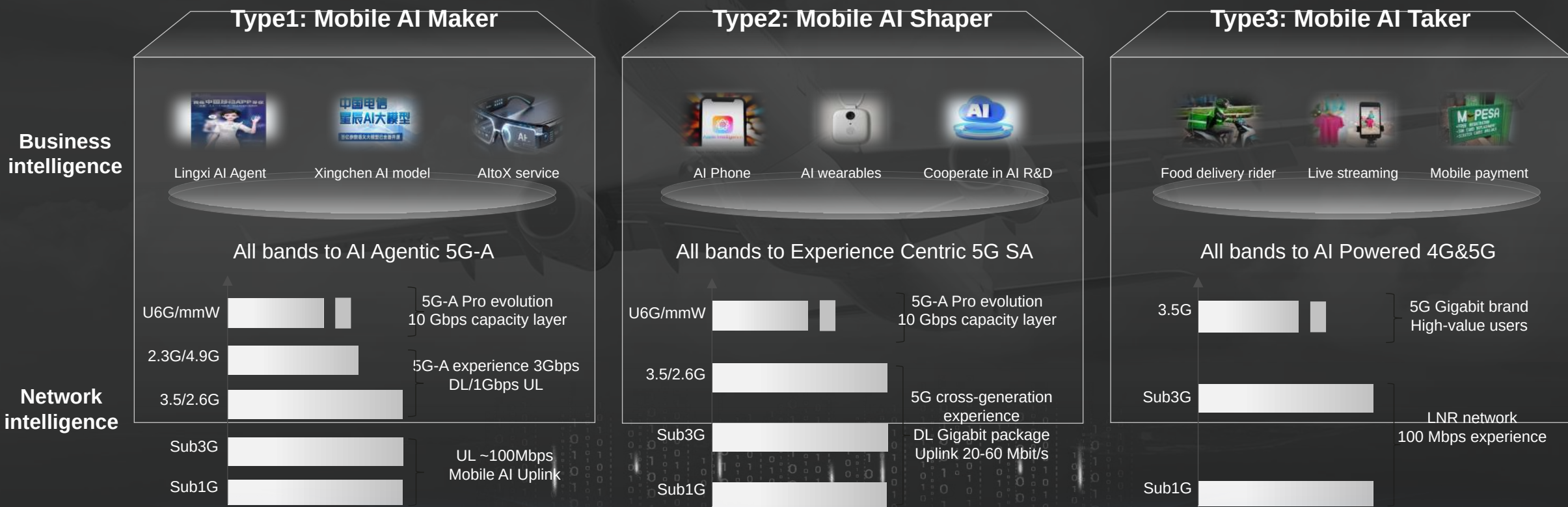


Power

Space

4D Beamforming
and Scheduling

Evolving toward an Agentic Network for 5G-A x AI



Agentic Network Enables Mobile AI Era
(Single-domain Automation -> All-domains Automation)

Thank you.

把数字世界带入每个人、每个家庭、
每个组织，构建万物互联的智能世界。

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

**Copyright©2018 Huawei Technologies Co., Ltd.
All Rights Reserved.**

The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Huawei may change the information at any time without notice.

