Public Policy Best Practices to Unleash 5G Potential

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HUAWEI

5G with Rapid Development Keeps Inspiring Commercial Success

5G: 2x faster than 4G, 30% Global Penetration @ 5Y

330+
5G networks

1.9 bn
5G subscribers

3720
5G devices

Source: TDIA 202406

5G has Enabled business Prosperity

25-> 50%
5G Traffic Ratio from EU to AP

164 (~50%)
of 5G Networks offer 5G FWA

33k
5G Private Networks

30mn+
5G Connections

5G toC | **5G toH** | **5G toB**

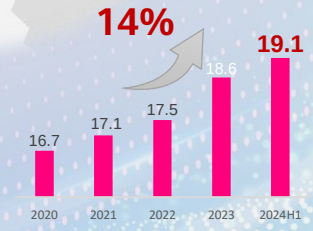
Source: GSA 202406, Huawei MI

Go Fast, Win First

88% of 40 Leading 5G operators achieved revenue growth

Source: Financial Reports of 40 select operators from 24 countries/regions, which represent 65% of world's 5G Connections.
Note: Revenues of FY23 vs. FY22, except Bytel FR, CMCC,Telekomsel ID, Omantel and WOM CL own stats up to 23Q3)

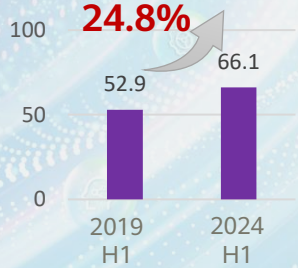
Finland DNA



Mobile ARPU(€)

Source: DNA Plc's Half-Year Financial Report 2024

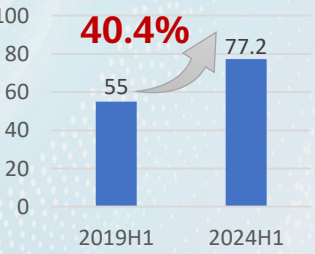
Saudi STC



Total Revenue(bn $)

Source: GSMA

China Mobile



Total Revenue(bn $)

Source: China Mobile 2019-2024 Financial Report

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5G Supportive Spectrum Policy for Sustainable Development

The development and prosperity of 5G is inseparable from the support of the government and regulators

5G Spectrum Positions

Continuous

- Award at least 80-100 MHz of contiguous spectrum per operator in initial 5G mid-bands (e.g. 3.5 GHz)

Affordable

- Governments and regulators should avoid inflating 5G spectrum prices as this is linked to slower broadband speeds and worse coverage.

Obligatory

- Regulators should carefully consider the right 5G spectrum license terms, conditions, obligations and awards approach and consult industry to maximize the benefits of 5G for all

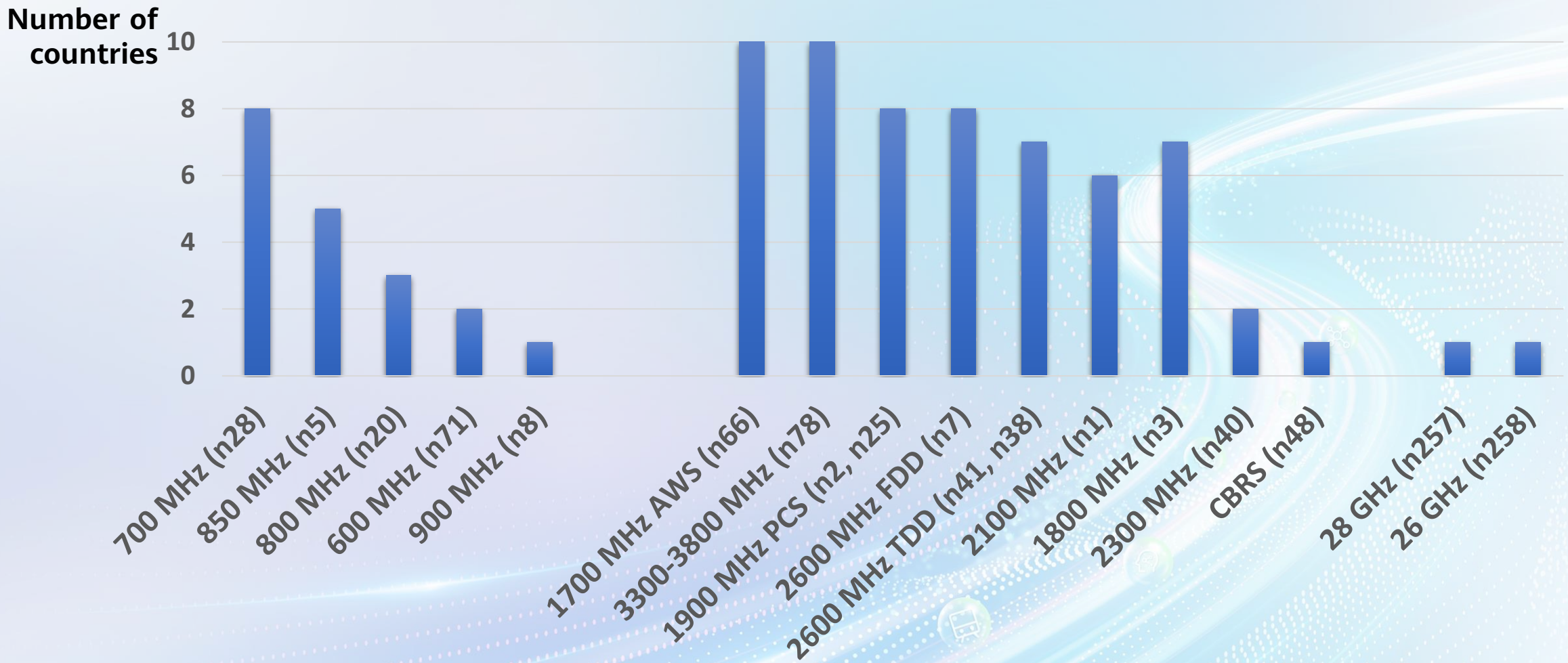
National

- Exclusively licensed spectrum over wide geographic areas is vital to the success of 5G. National license for operators is the mainstream worldwide

Long-term

- Governments need to adopt national spectrum policy measures to encourage long-term heavy investment in 5G networks (e.g. long-term licenses, renewal process, spectrum roadmap etc.)

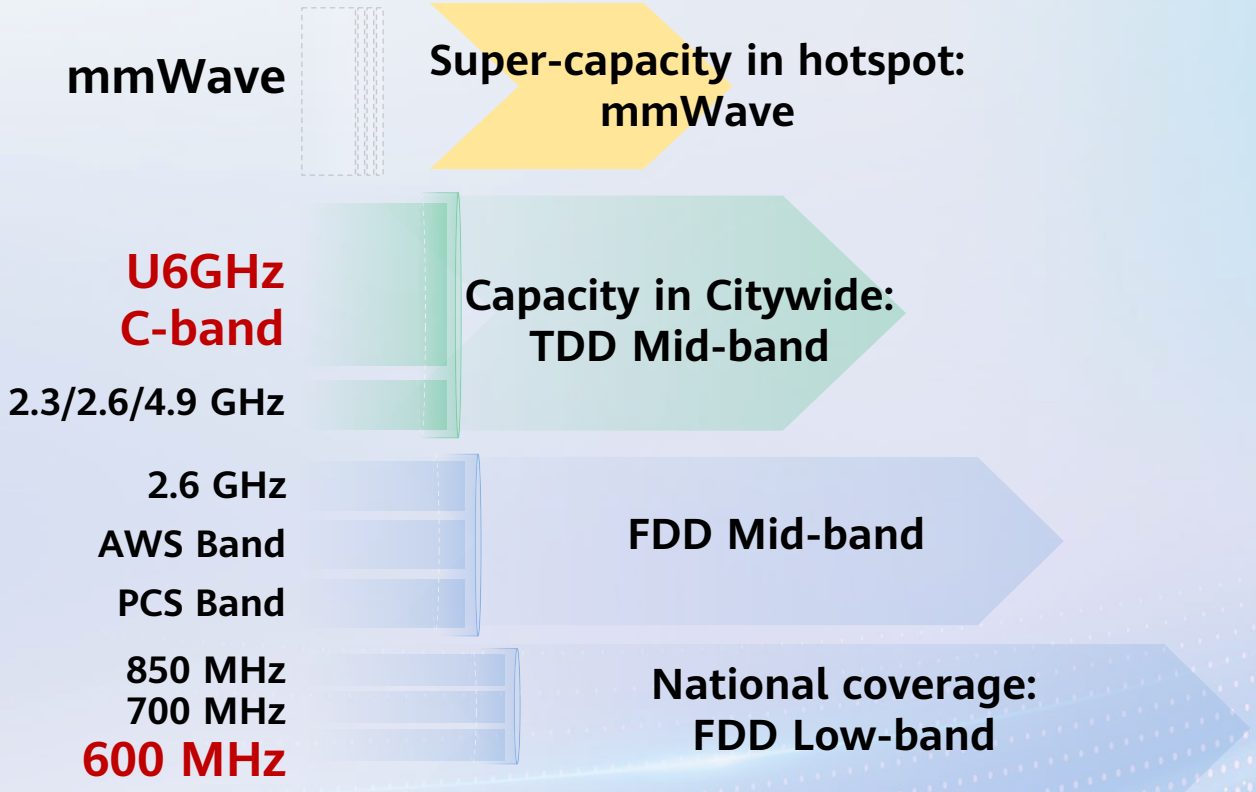
5G Bands in Latin America



Source: GSA GAMBoD, 2024. Countries where the band is either considered for 5G, or already in use for 5G commercial service

Target for the 5G/5G-A network and spectrum needs

5G-A spectrum
C-Band and U6G for continuous 5G/5G-A citywide coverage and capacity, 600M for national 5G coverage



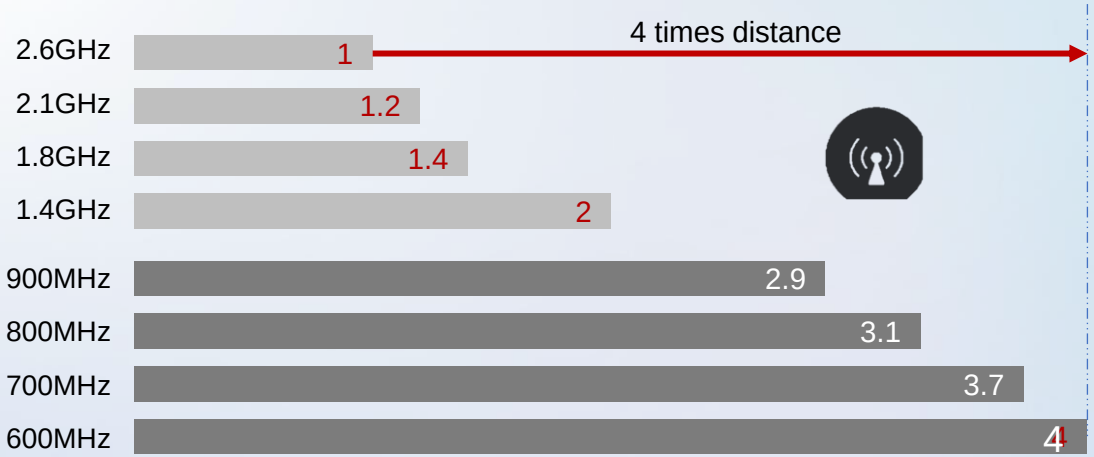
To reach 5G-A target experience for various use cases

- **Hotspots: DL 10 Gbps + UL 1 Gbps**
- **Ubiquity: DL 5 Gbps + UL 500 Mbps**

Band	Likely bandwidth per operator	Peak Rate
mmWave	400 MHz	4.5 Gbps
U6G	200 MHz	3.6 Gbps
C-Band	100 MHz	1.8 Gbps
FDD	2x50 MHz	1.8 Gbps

600 MHz: A New 5G Golden Band with Better Coverage

■ Sub-1GHz expending network coverage



■ 600MHz leads to additional capacity

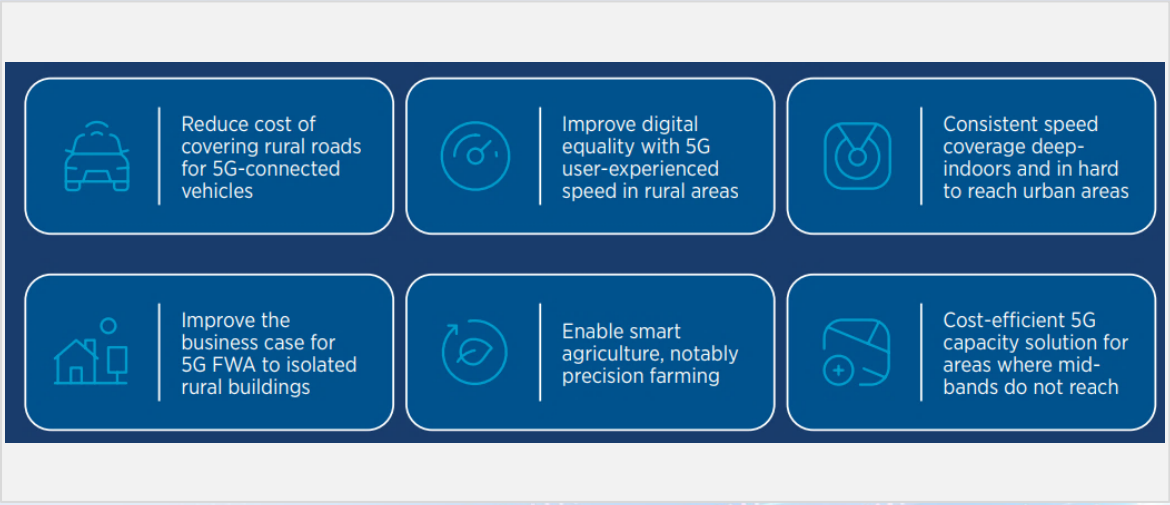
- **Increase download speeds on 5G network : 30-50%**

Improvements in rural and deep-indoors download speeds	30 to 50%

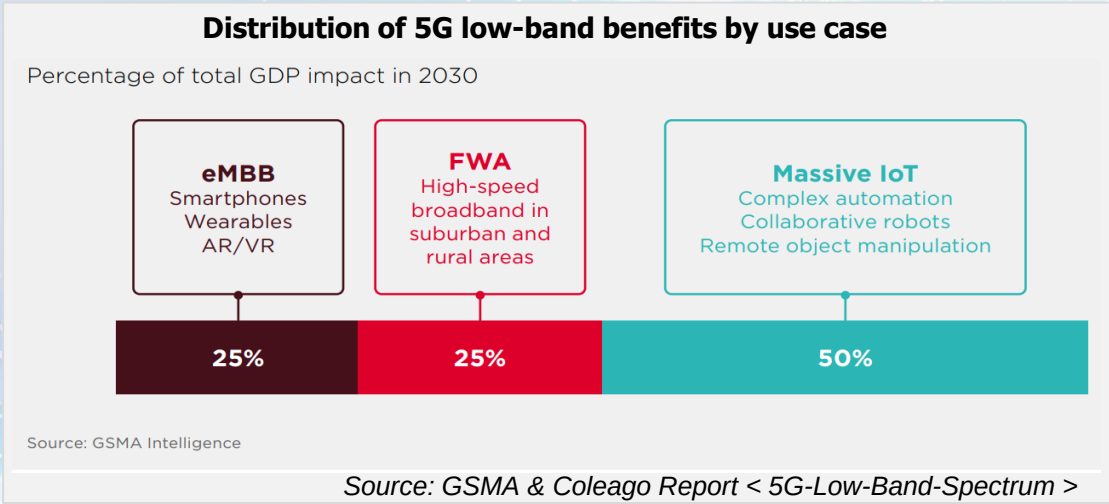
- **Quickly improve 5G coverage with fewer sites : 33%**

Reduction in the cost of extending 5G to rural populations	33%

Additional low-band spectrum benefit 5G use cases



The No.1 Use Case for Low bands are Massive IoT



Source: GSMA & Coleago Report < 5G-Low-Band-Spectrum >

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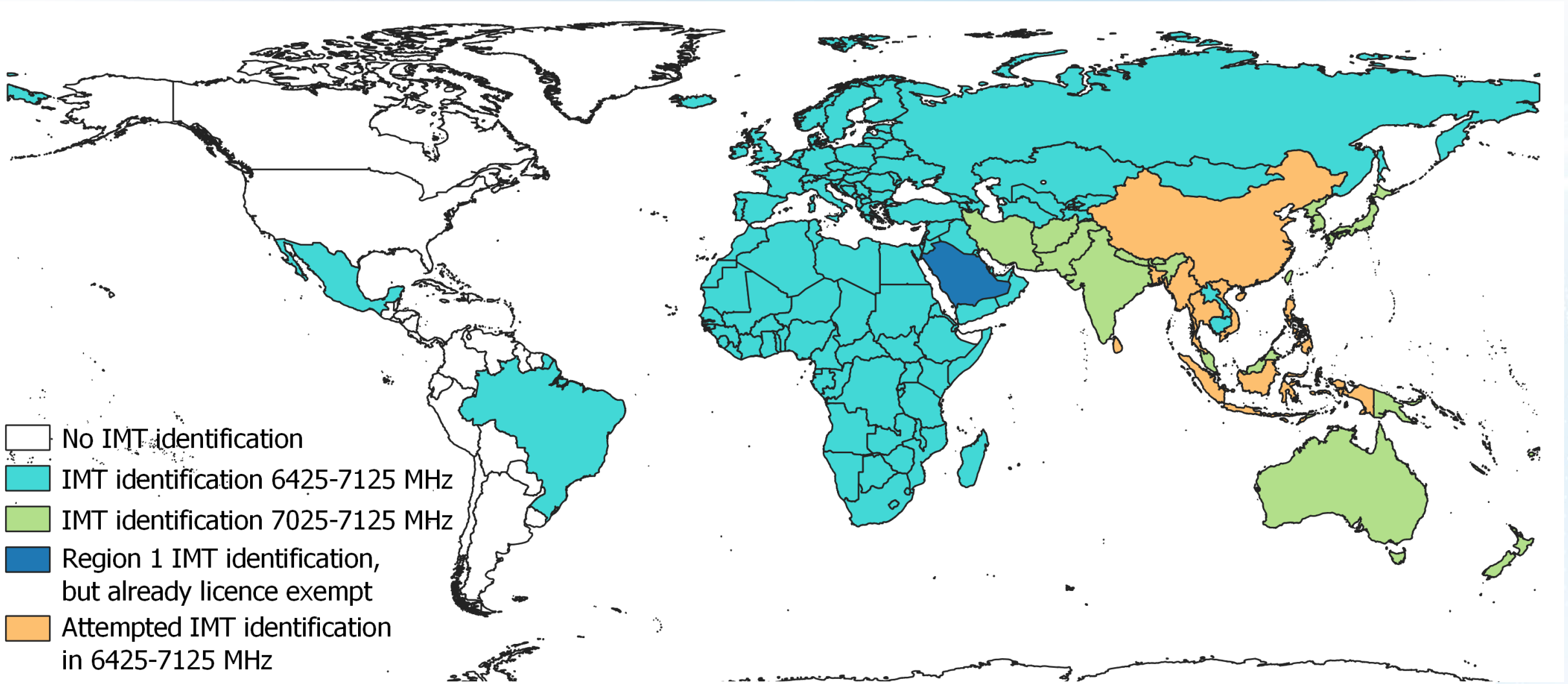
WRC-23 outcomes



~ 80% of the world´s population live in countries that either have identified 6425-7125 MHz for IMT at WRC-23, or attempted to identify the band at WRC-23 but were blocked

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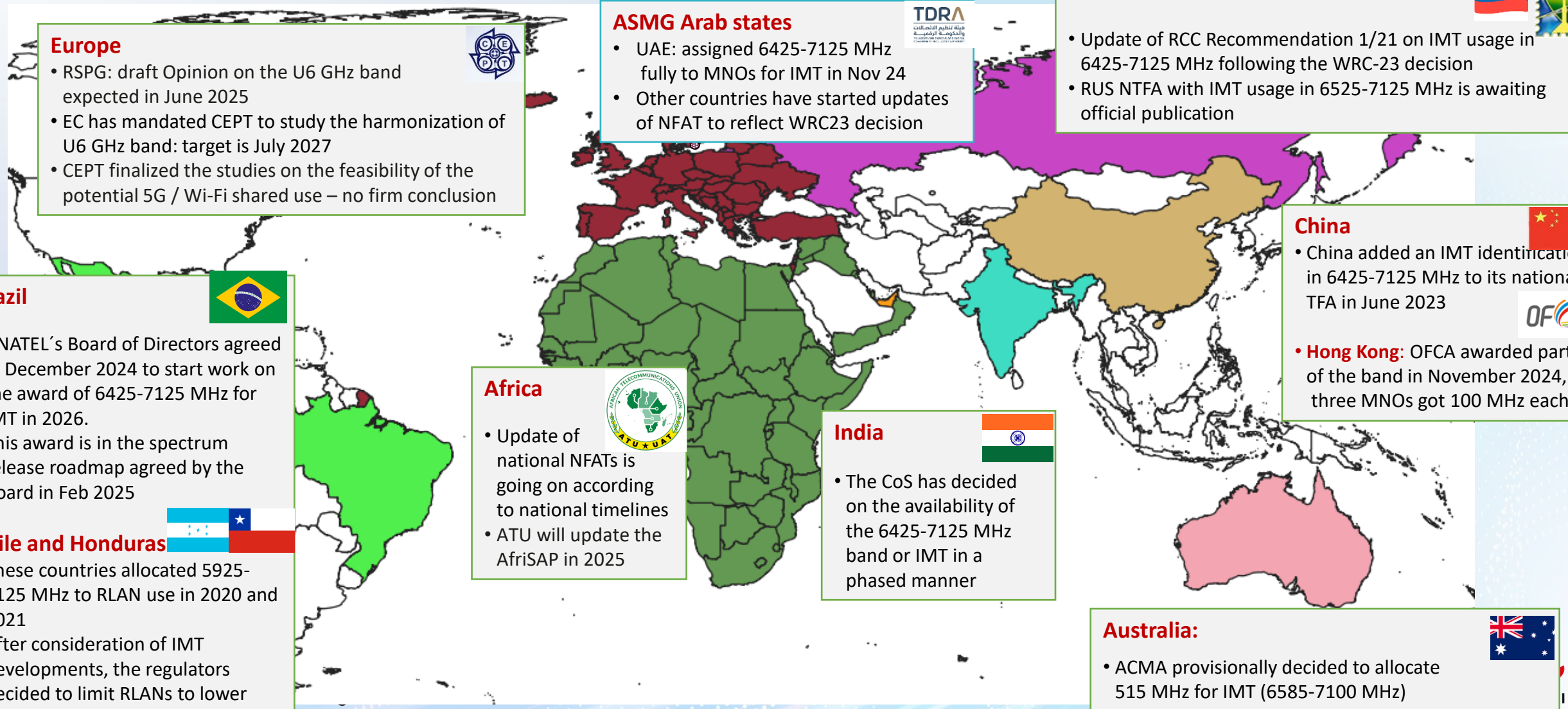
6425-7125 GHz for IMT: The Global Picture



Europe

- RSPG: draft Opinion on the U6 GHz band expected in June 2025
- EC has mandated CEPT to study the harmonization of U6 GHz band: target is July 2027
- CEPT finalized the studies on the feasibility of the potential 5G / Wi-Fi shared use – no firm conclusion

ASMG Arab states

- UAE: assigned 6425-7125 MHz fully to MNOs for IMT in Nov 24
- Other countries have started updates of NFAT to reflect WRC23 decision

RCC and Russia

- Update of RCC Recommendation 1/21 on IMT usage in 6425-7125 MHz following the WRC-23 decision
- RUS NTFA with IMT usage in 6525-7125 MHz is awaiting official publication

China

- China added an IMT identification in 6425-7125 MHz to its national TFA in June 2023
- **Hong Kong**: OFCA awarded parts of the band in November 2024, three MNOs got 100 MHz each

Brazil

- ANATEL´s Board of Directors agreed in December 2024 to start work on the award of 6425-7125 MHz for IMT in 2026.
- This award is in the spectrum release roadmap agreed by the Board in Feb 2025

Chile and Honduras

- These countries allocated 5925-7125 MHz to RLAN use in 2020 and 2021
- After consideration of IMT developments, the regulators decided to limit RLANs to lower 6GHz in 2022 and 2024

Africa

- Update of national NFATs is going on according to national timelines
- ATU will update the AfriSAP in 2025

India

- The CoS has decided on the availability of the 6425-7125 MHz band or IMT in a phased manner

Australia:

- ACMA provisionally decided to allocate 515 MHz for IMT (6585-7100 MHz)

U6G Ecosystem: Leading U6GHz industry solutions

~2023 | 2024~2025 | 2026~

Prototype | Pre-commercial | commercial

World 1st U6G Trial


TDRA

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TDRA ANNOUNCES Successful completion of Phase II of advanced 5G trials (Project 5G-Advanced) in the 6 GHz band

03/08/2023

Eng. Majed al-Mesmar: The successful completion of Phase II of the "5G-Advanced" trials project and attaining speeds of 10Gbps will make a quantum leap in driving the digital transformation process and supporting the future economy

UAE, 3 August 2023

6GHz AAU

- **BW：**400MHz
- **Tx/Rx：128**TR

6GHz Test UE

World 1st 6GHz Pre-commercial

256T U6G AAU

- **Bandwidth(MHz)：** 400MHz
- **Tx/Rx：**256TR
- **AAU Dimension:** 1385*1100*200mm
- **Weight:**110kg
- **Power consumption:** 5000W

world 1st 6GHz commercial

High Integrated U6G AAU

256TRX

1536 AEs

400MHz

Width<500mm

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U6G Ecosystem: Chipset maturity and readiness

2024	2025	2026	2027

MWC24 Vodafone booth demo

MTK Test phone @100MHz 2 Layer

Pre-commercial CPE @2025Q1

- TRx：2T4R
- BW：100M

Commercial CPE @2025H2

- TRx：2T4R
- BW：>=200M

Mobile phone

One to two U6G terminals (U6G 200MHz)

High-end flagship

(U6G 400MHz)

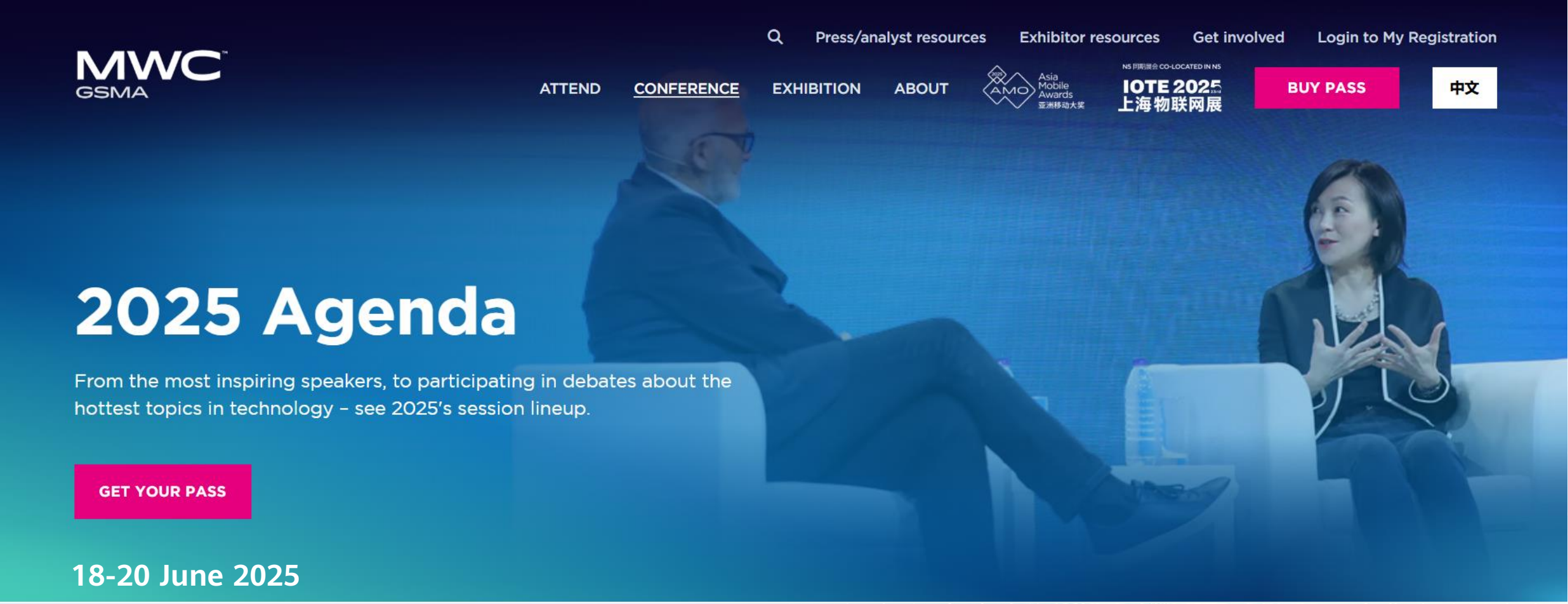
Judgment based on terminal industry capabilities

6GHz Terminal equipment assembly

- Modem：Ready（QC/MTK/ UniSoc）
- Transceiver：Ready（QC/MTK/ UniSoc）
- Power amplifier and filters：Prototype ready; Commercial products to be developed(Vanchip / Smarter Microelectronics

6 GHz test terminal platform: ready

- MediaTek and Ericsson 5G NR demo on 6 GHz licensed band (link)
- Huawei takes the lead in completing IODT of 1~2 types of chips in 2025



MWC-Shanghai

https://www.mwcshanghai.com/

Huawei LAC Round Table - Initial Planning

Building a Fully Connected, Intelligent World

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Thank you.