

# Beyond 5G Activity in Korea

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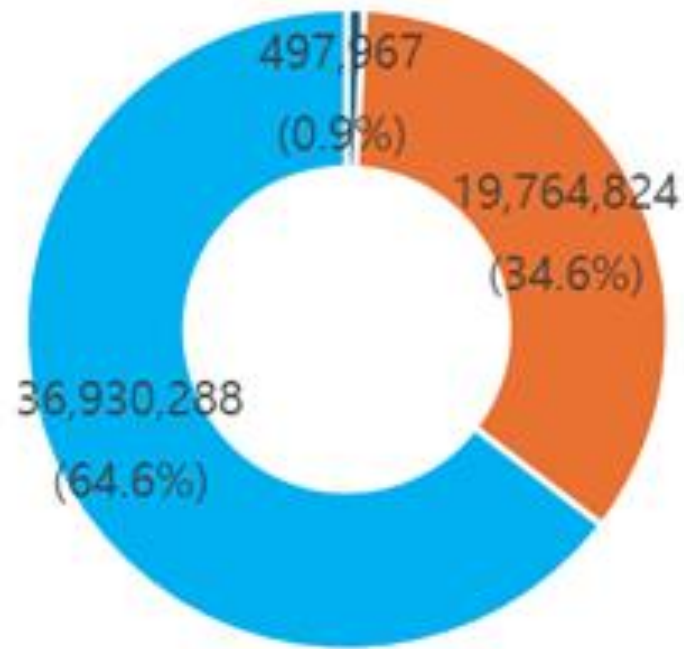
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**I** 5G Status in Korea

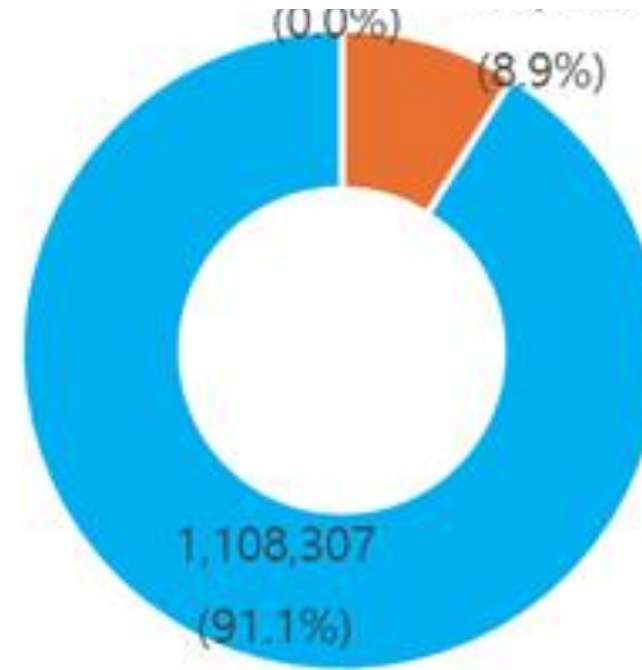
**II** B5G Activities

# I. 5G Status (as of April '25) in Korea

Mobile Subscriber by Technologies



Mobile Traffic [TB] by Technologies



\* Source: ICT Standard Roadmap ,TTA, TBD 2025

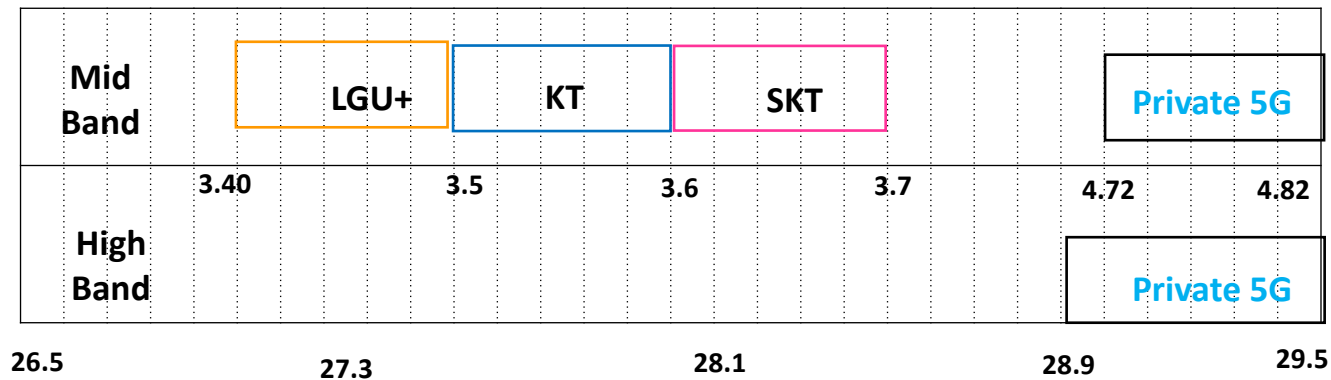
- 2/3 of mobile subscribers are using 5G
- Monthly user mobile Traffic: 30 GB by 5G and 5 GB by 4G LTE



## 2. 5G Service for Private Network (Non Public Network) use in Korea

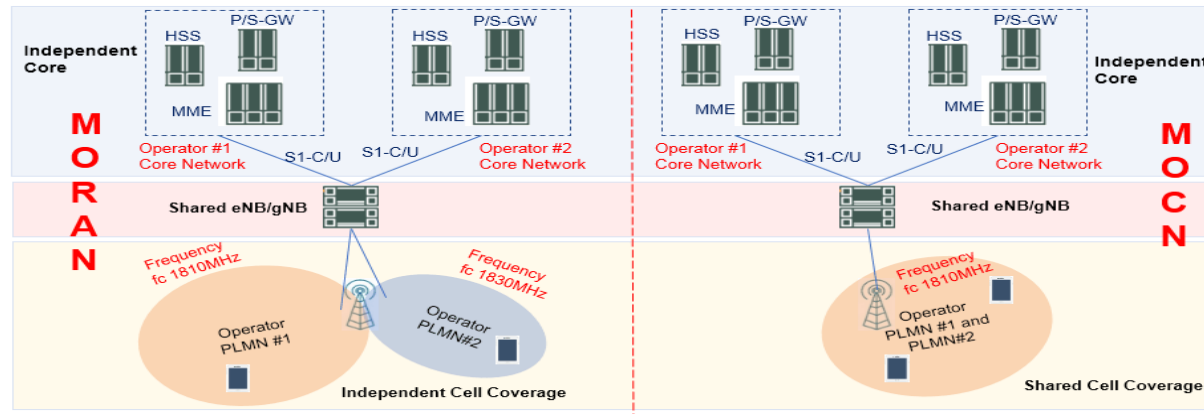
- Local/Private 5G Brand name in Korea is "eUm-5G")
  - Derived from eMBB, URLLc, mMTC usage scenarios of 5G
- 42 Organizations in 93 (77+16) locations got eUm-5G spectrum as of June '25,
  - Cf: 23 Organizations in 39 locations got eUm-5G spectrum as of July '23,
  - Almost doubled in 2 years

< 5G Spectrum (Public and Private) >



### 3. 5G Network Configuration and Market in Korea

- Some operator already has SA (stand alone) mode and others have NSA (non SA mode)
  - SA mode network is efficient for URLLc type services and network slicing application
- 131 rural areas are jointly deployed by 3 MNO's Network Sharing with MOCN mode



- Domestic Mobile service market growth is slow (3% annual increase)
  - 26.5 Tn. KrW (~ 2.6 Tn. Yen) in '23 and 25.7 Tn. KrW. (~ 2.6 Tn. Yen) in '22
  - MNO needs new business case to monetize 5G investment
- New devices e.g. smart glass (e.g. from Meta) or affordable HMD (e.g. from Samsung) may accelerate the market growth





**I 5G Status in Korea**

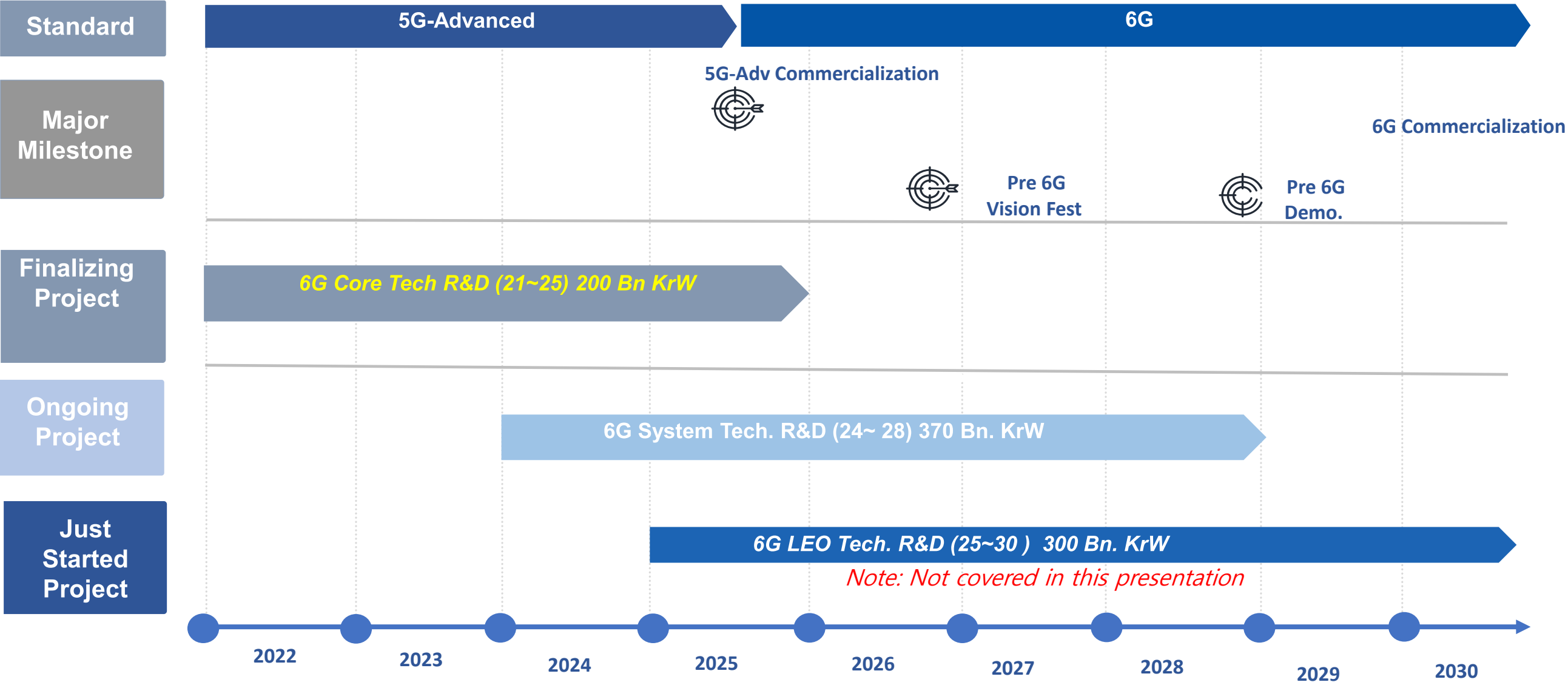
**II B5G Preparation**

# 1. Government Budget Structure in Korea on 2025

		Unit :Tn. KrW (~ 0.1 Tn. JpY)
Total Gov. Budget		658
Total R&D Budget		35.2
	Bio Health	5.1
	Semiconductor	4.8
	AI, Digital	4.3
	Space and Aero	1.6
	(Industry, SME, Defense, Transport, etc)	19.4
ICT R&D Budget		<u>1.1</u>
	AX Convergence	0.4
	Comm. (5G·6G, etc.)	0.25
	AI	0.2
	AI Semiconductor	0.14
	Cyber Security	0.1
	Quantum	0.05

- Government R&D Budget is 5.3% of Total government Budget and Private R&D is roughly twice of government R&D.
- Budgets are distributed/managed through Public organization such as IITP (R&D), NIPA (non R&D) and NIA (Public Application)  
\* IITP: Inst. for ICT. Planning & Eval., NIPA (National IT Industry Promotion Agency), NIA (National Information Society Agency)

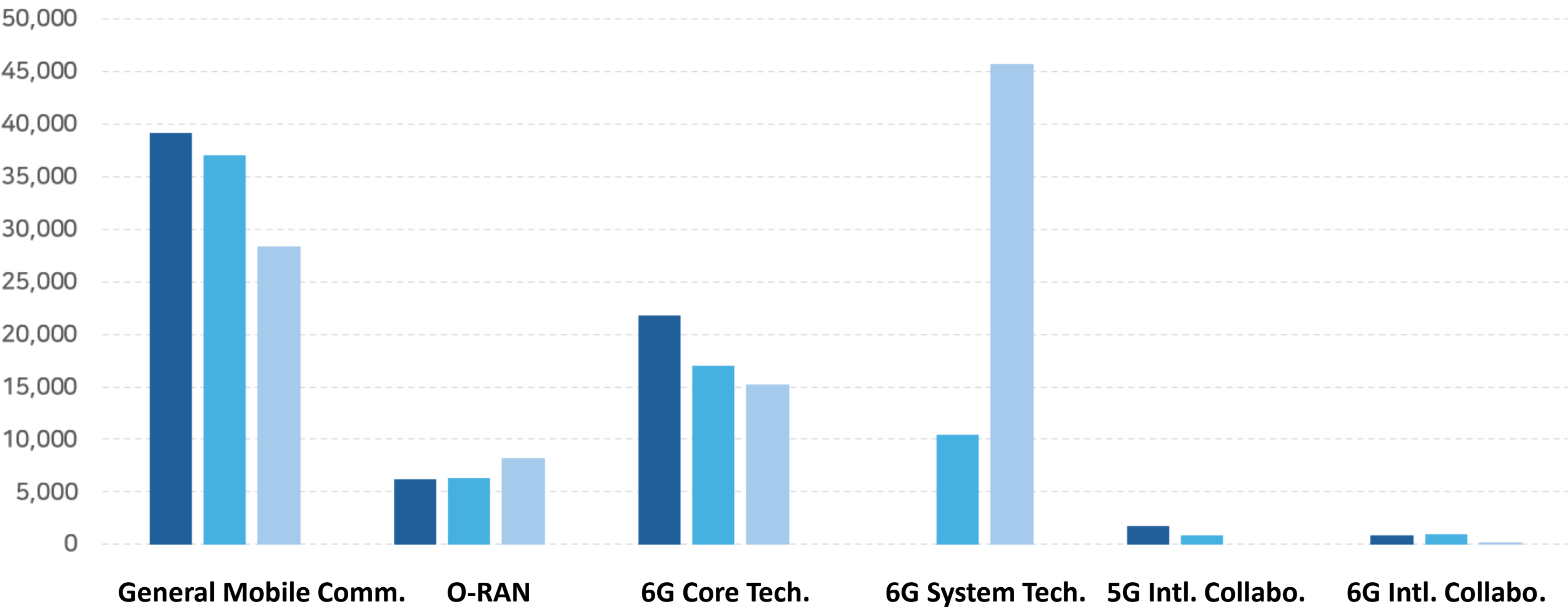
# 2. R&D Mega Projects Related with 6G



Note: 1 Bn. KrW ~ 0.1 Bn JpY



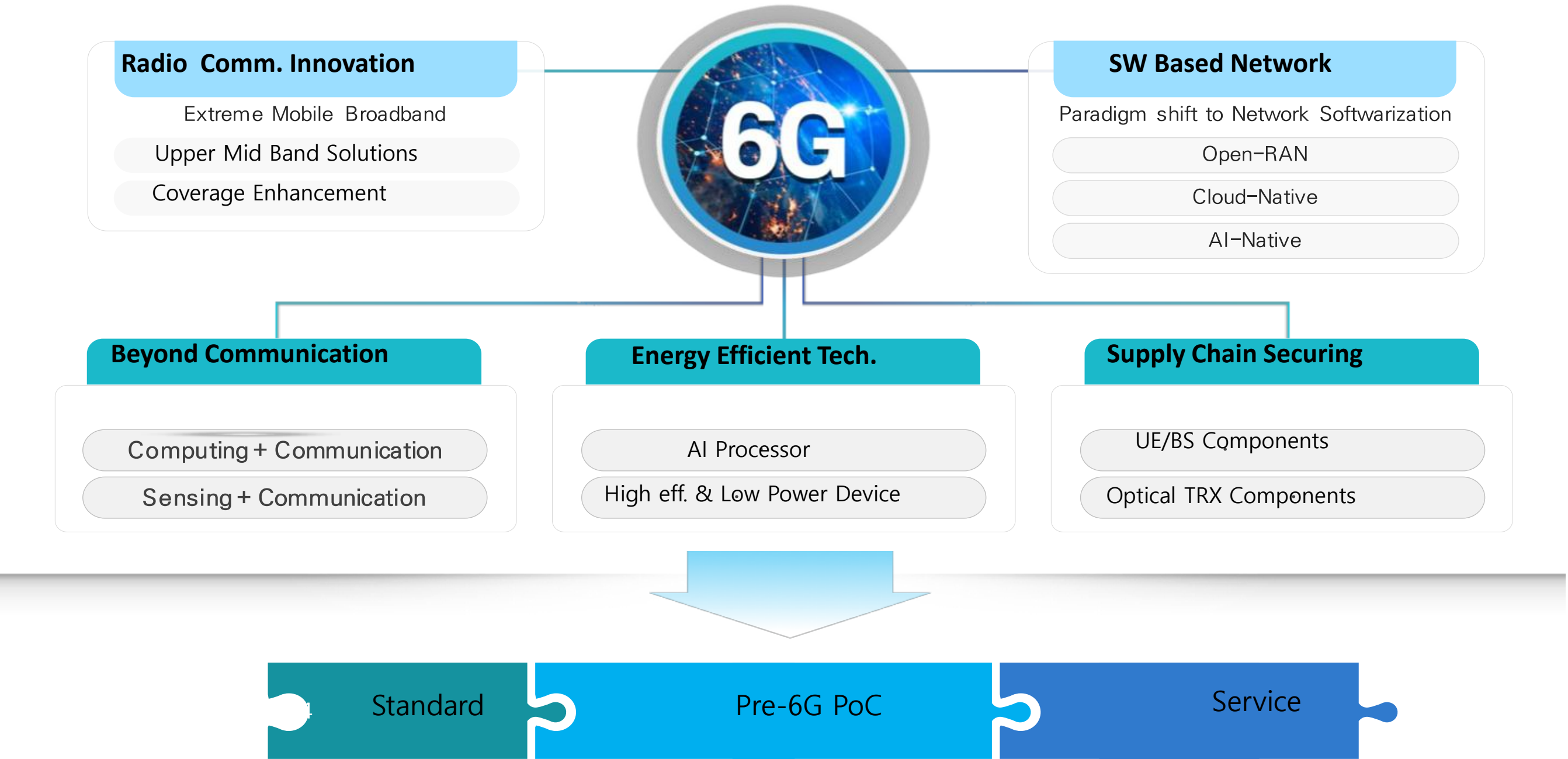
### 3. Mobile Comm. R&D Budget on 2025 (Unit. Mn. KrW (~ 0.1Mn. JpY))



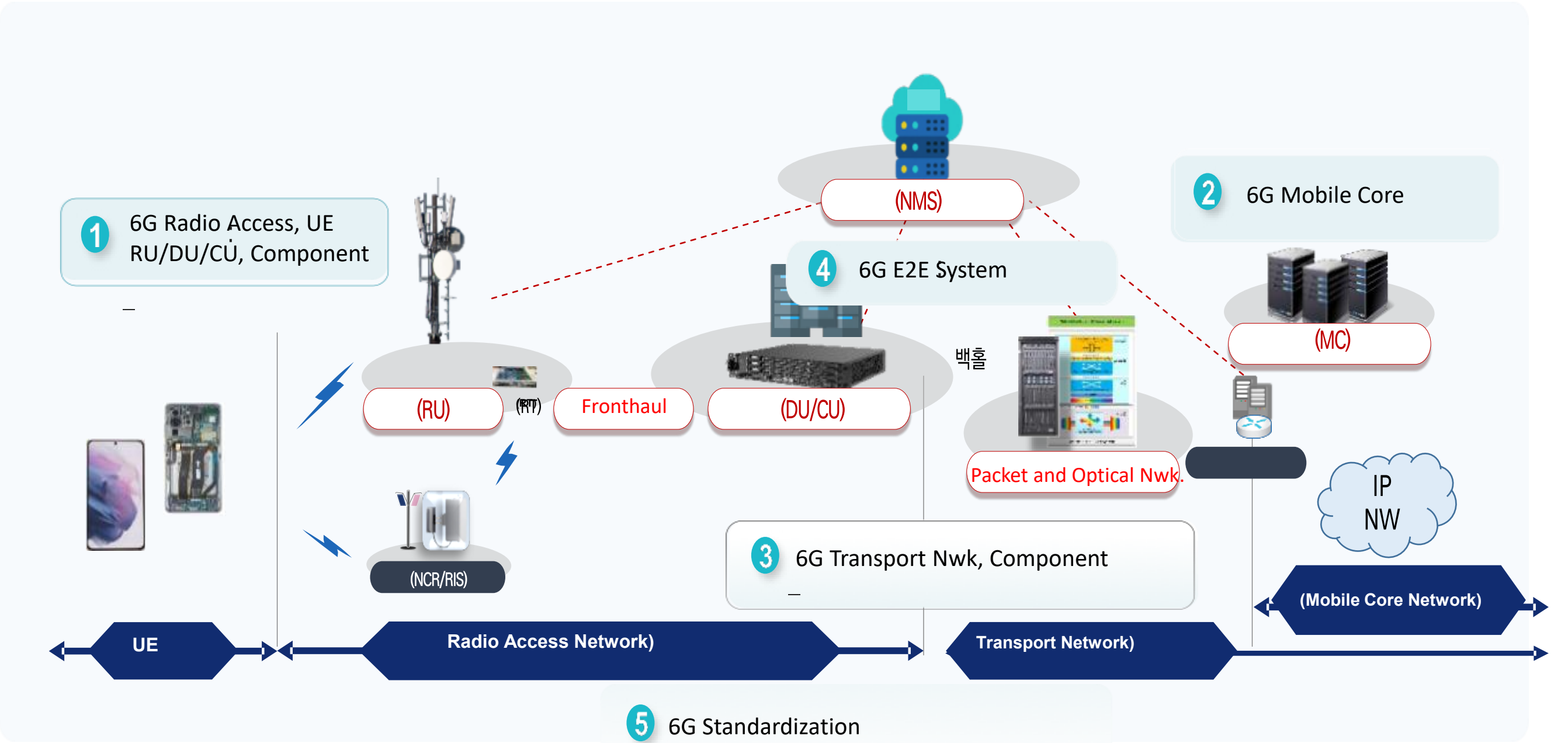
Note: - R&D categories: General Program based R&D and Special (usually Mega class) Project based R&D.  
- Transition from core technology to system technology R&D, - O-RAN and International collaboration got special interest.

2023년 2024년 2025년 \* Source: ICT Standard Roadmap ,TTA, TBD 2025

# 4. 6G System Technology R&D Direction



# 5. 6G System Technology: 5 Major R&D Areas



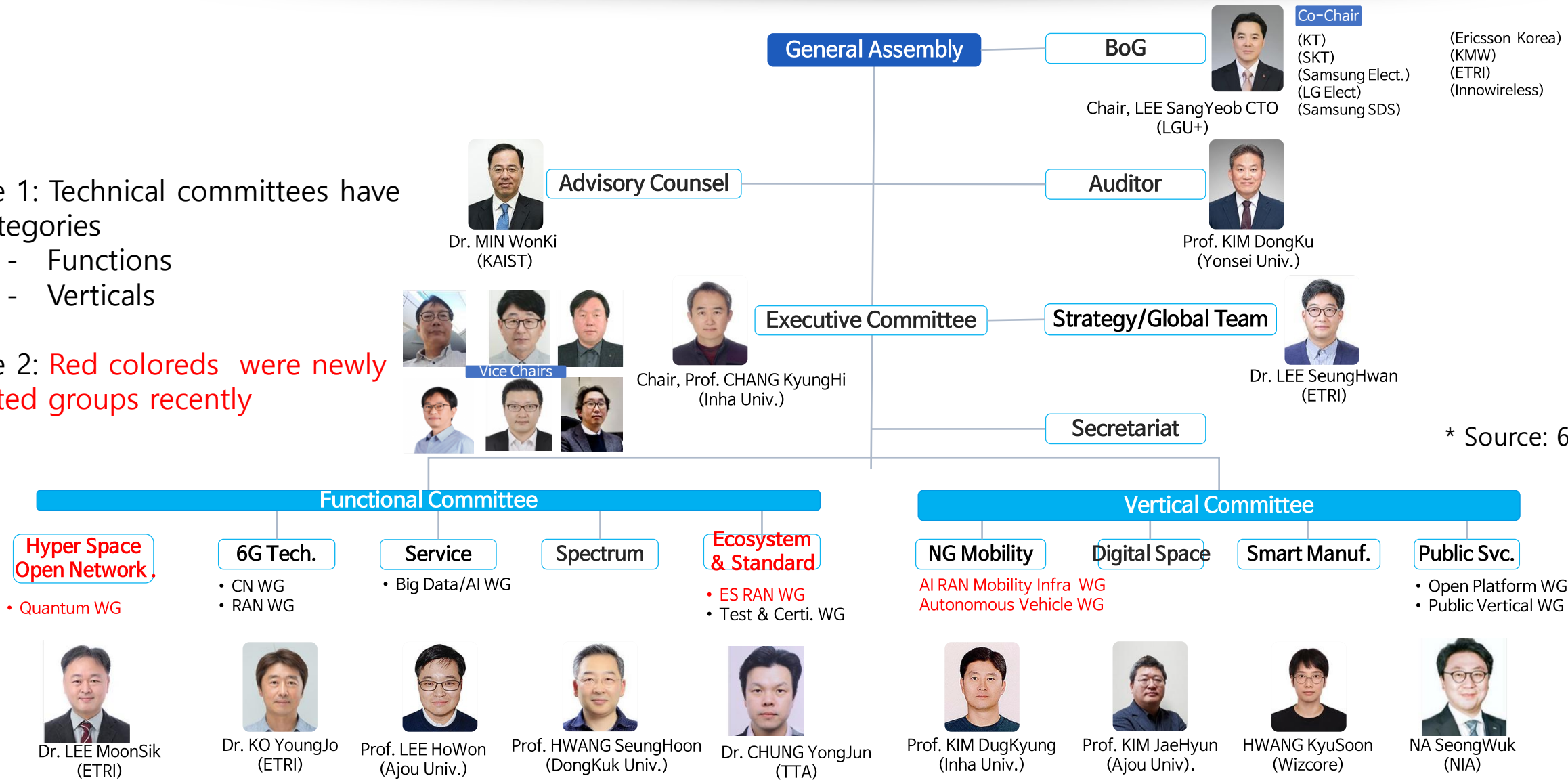
# 6. 6G Forum Updates ( as Migration of 5G Forum)

Strengthening 5G & 6G promotion system along with government policies  
**Advisory, Executive, 9 Expert cmtt. 1 Team, 10 WG**

Note 1: Technical committees have 2 categories

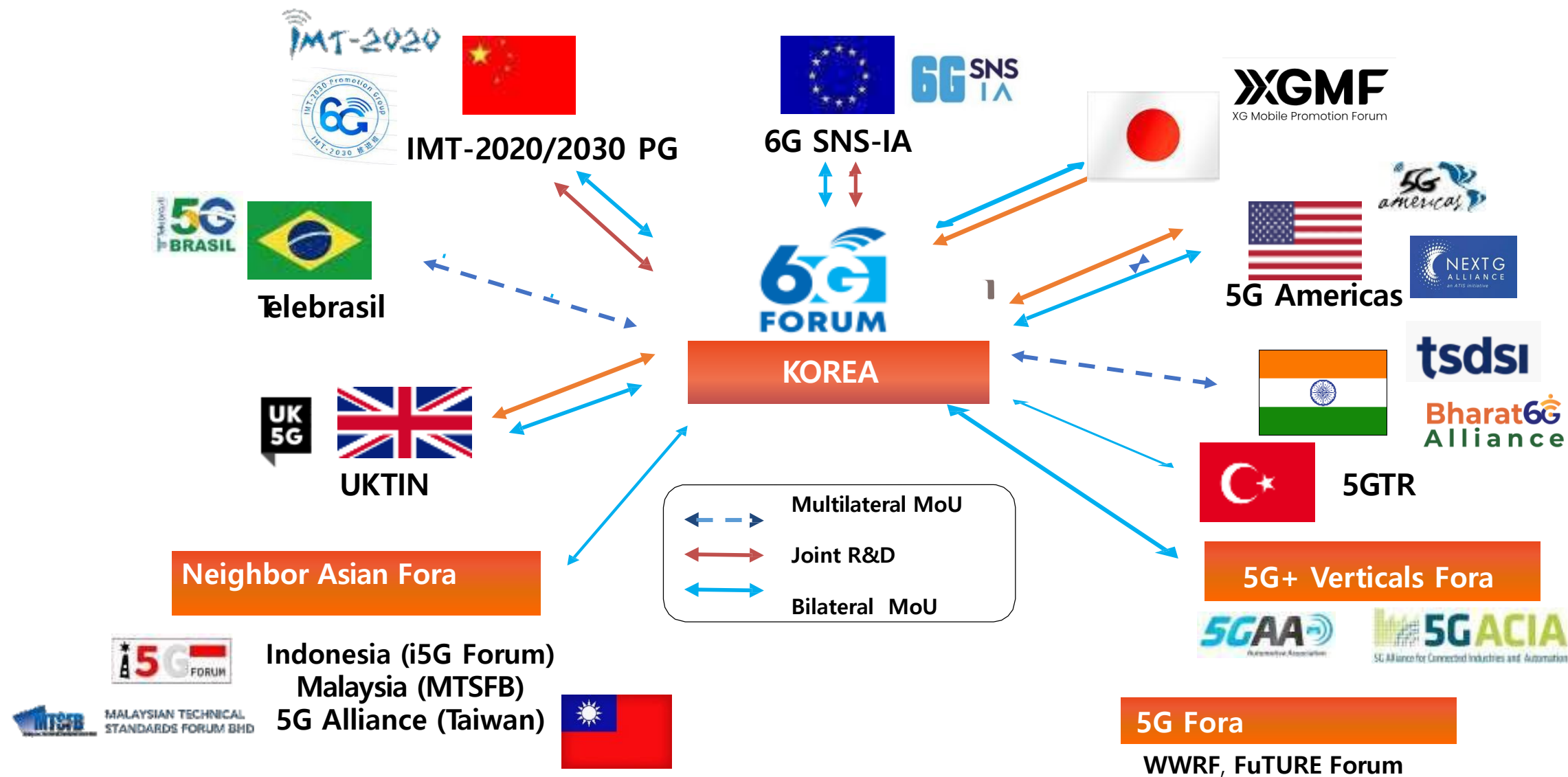
- Functions
- Verticals

Note 2: Red coloreds were newly created groups recently



\* Source: 6G Forum 2025

# 7. 5G/B5G Global Collaborations



- In B5G, more global collaborations will be beneficial for PoC, vertical trials , Spectrum, Regional services etc.



# Thank You !!

