

# 5G status and Vision Toward 6G in Korea

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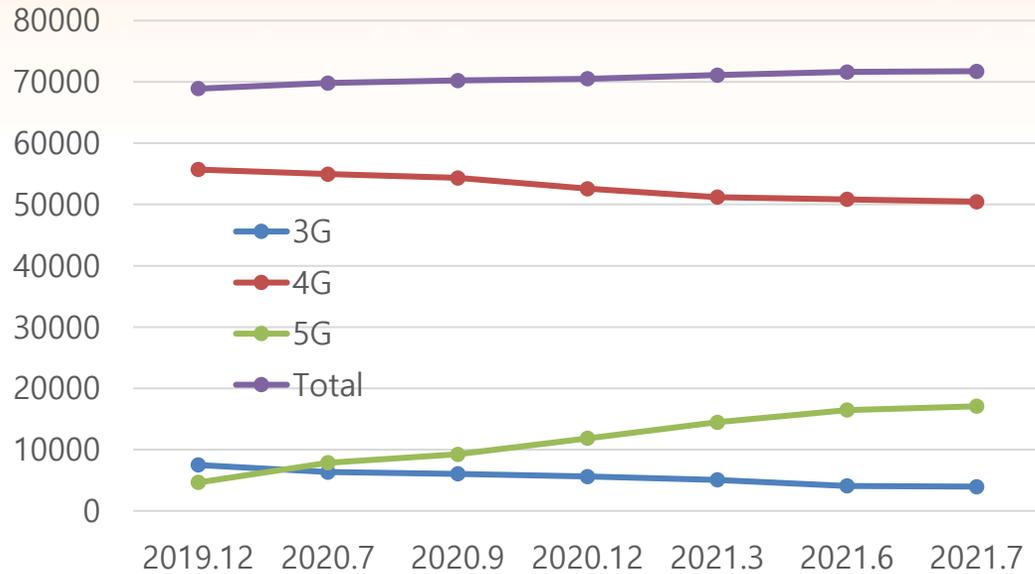
16<sup>th</sup>. Sept. 2021



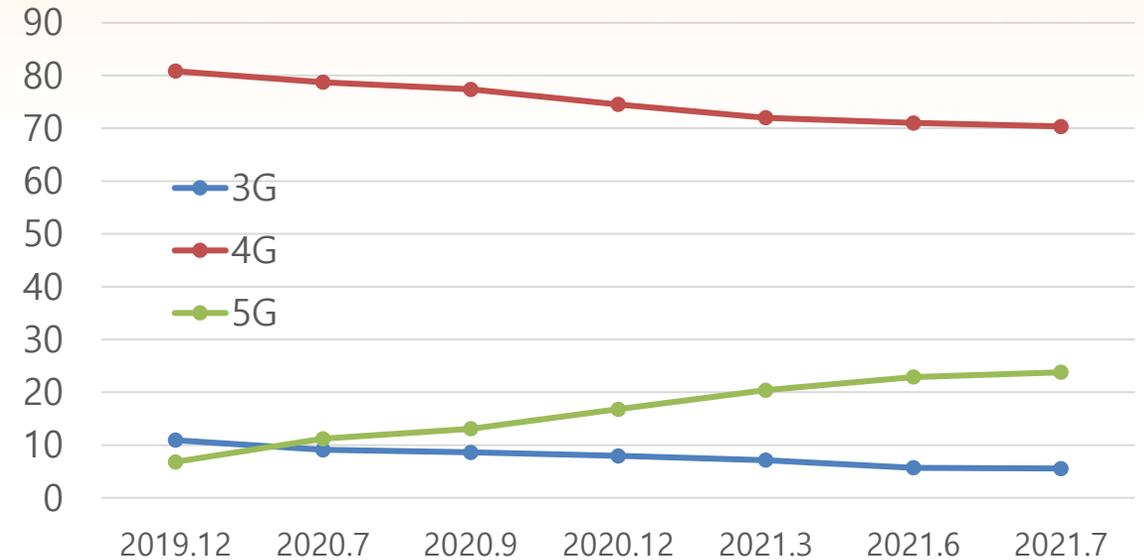


# 5G Subscription (as of 31 July '21)

### Mobile Subscription (Unit: 10k)



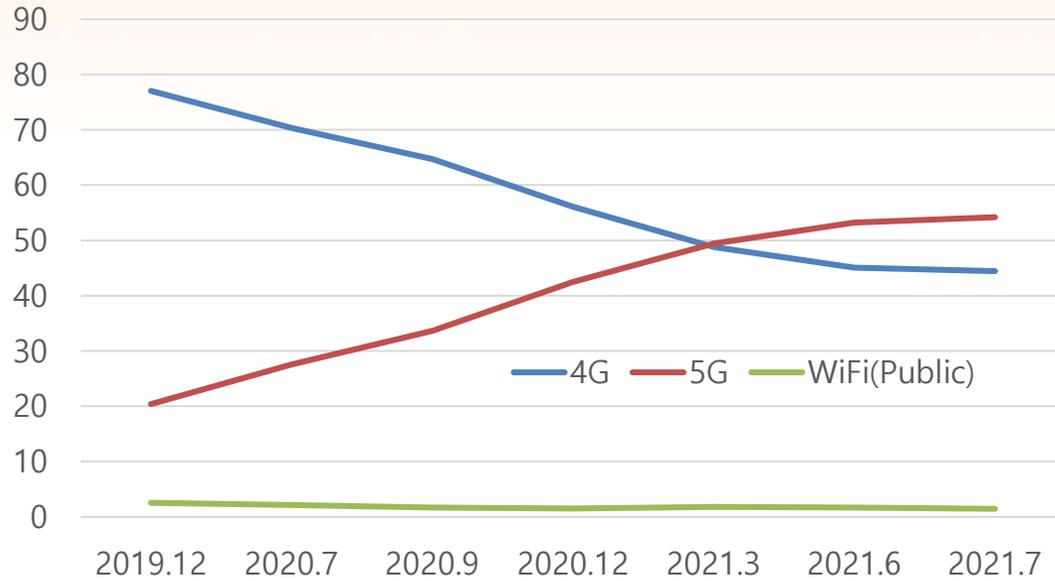
### 5G Penetration (%)



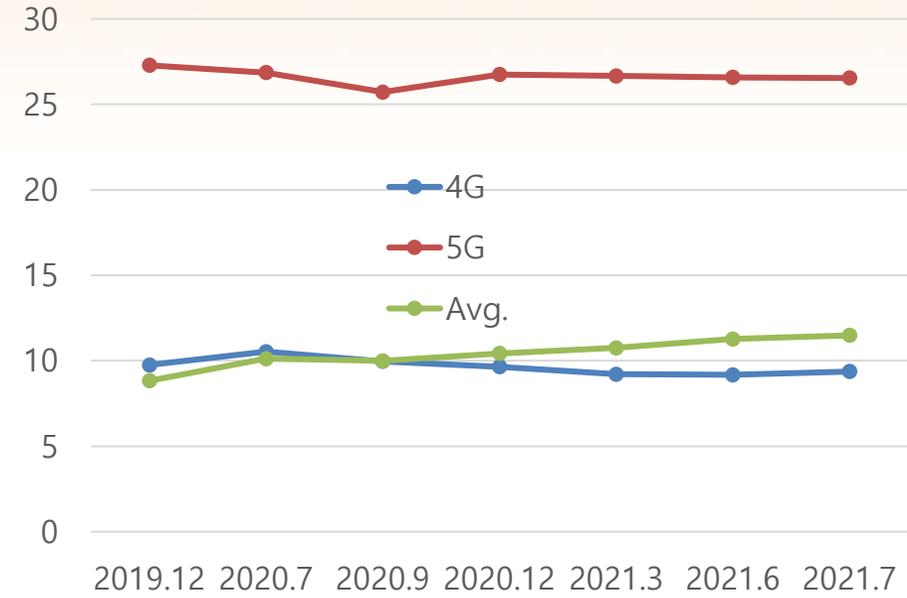
- 138% Mobile Penetration (72 Mn. Mobile subscription/ 52 Mn. Population)
- 5G Subscription
  - 17 Mn. 5G subscription
  - 24% 5G penetration ratio
  - 27 months after commercialization start on April 2019.

# 5G Traffic (as of 31. July '21)

Mobile Traffic by Technology



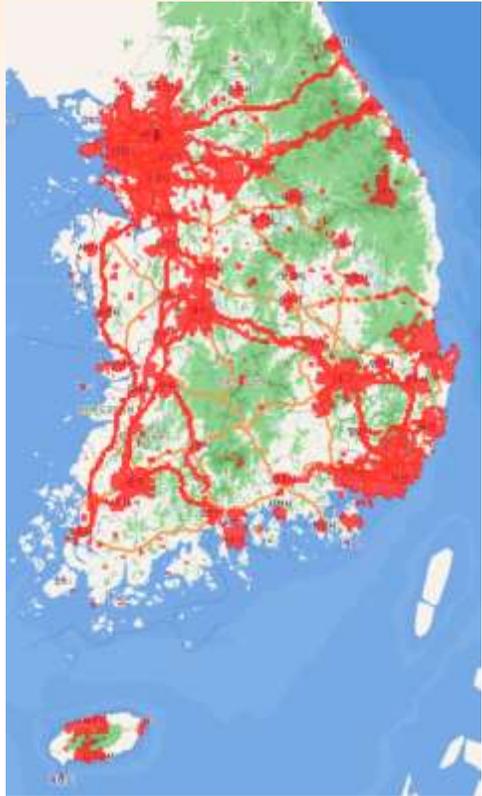
Monthly Avg. User Traffic (GB)



- 5G Traffic

- 54% of total mobile traffic consumed by 5G and 44% by 4G LTE
- 26 GB/Month/user by 5G and 9 GB/Month/user by 4G LTE

# 5G Network Deployment (as of 30. June '21)



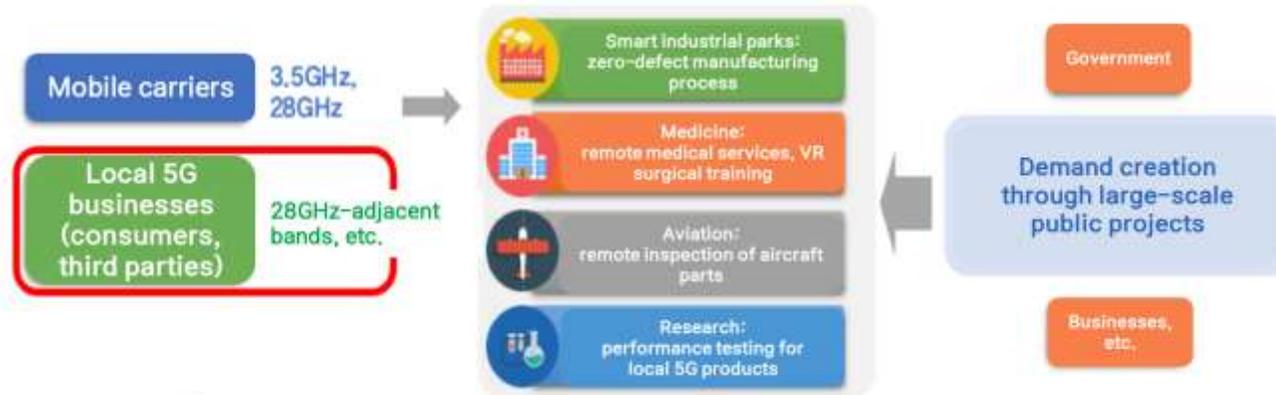
| KT     | SKT    | LGU    | Total   |
|--------|--------|--------|---------|
| 60,398 | 65,512 | 60,744 | 183,654 |

- 3.5 GHz 5G Base Stations Deployments (Source: KOIT, as of '21.6.30)
  - Plan is to deploy at least 450,000 BSs by 2023. (cf: 870,000 LTE BSs as of E '20)
- 5G Network Sharing in Remote Areas by MOCN mode
- Evolves from NSA to SA gradually

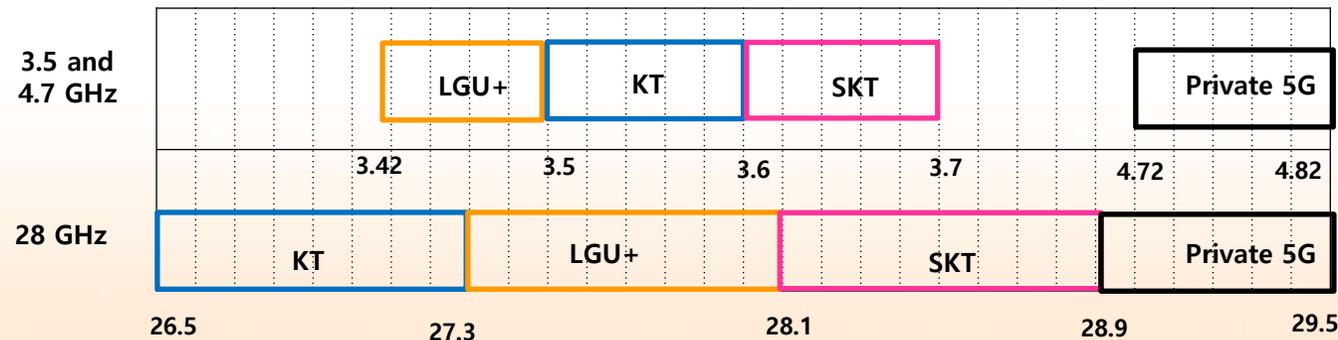
# 5G Spectrum for Public and NPN use

- Spectrum plan for supporting Private/Local 5G
  - 28.9 - 29.5 GHz (600MHz, 50MHz X 12 Blocks) – 26<sup>th</sup> January
  - 4.72 – 4.82 GHz (100MHz, 10MHz X 10 Blocks) – 29<sup>th</sup> June

## Uses of 5G NPN



< 5G Spectrum (Public and Private) >



## CLEAN & SAFE SOCIETY



## SUSTAINABLE SOCIETY



## FAIR & TRANSPARENT SOCIETY



## FUTURE 6G SOCIETY

PERSON • HOUSEHOLD • CITY • COUNTRY • EXTENDED SPACE



### EDUCATION

Provisioning equal educational opportunities

### LABOR

Resolving the solidification of the working classes

### HEALTH & WELFARE

Bridging the medical gap between classes

### TRANSPORT

Relieving traffic congestion & concentration

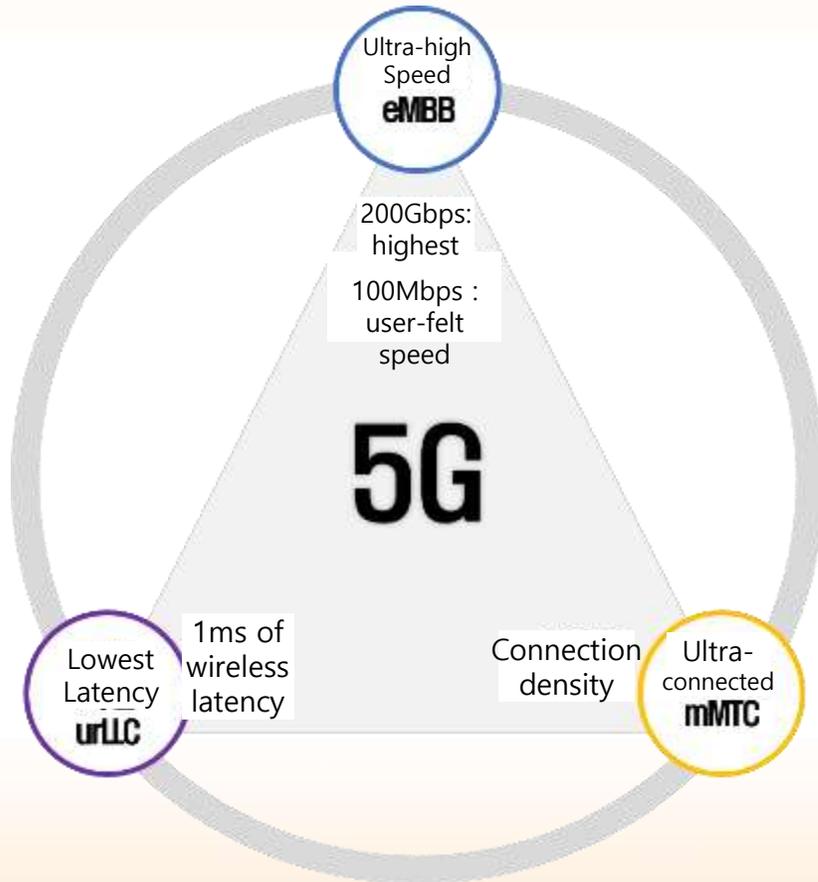
### CULTURE & ARTS

Bridging the gap in cultural consumption level

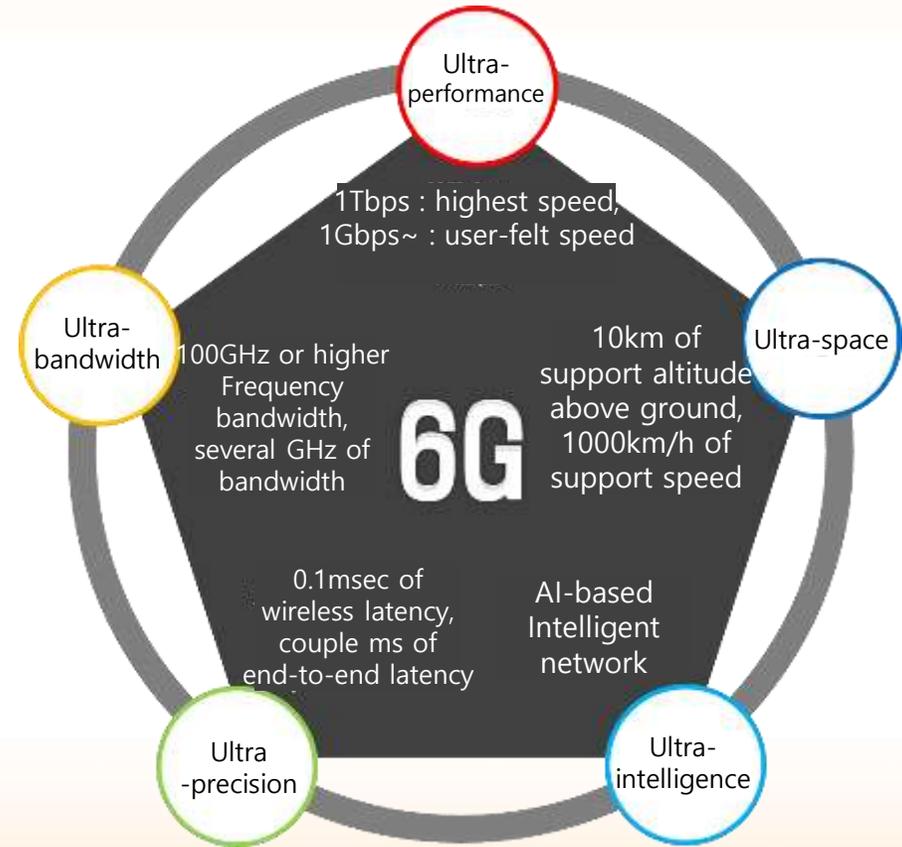
### SAFETY

Coping with human-made and natural disasters

## 3 KPIs of 5G



## 6G 5 KPI



## 6G R&D implementation plan established (25<sup>th</sup> June)

- Total of 200 Mn. US\$ will be invested by 2025, and 20 Mn. US\$ initially invested in 2H 2021
- 2<sup>nd</sup> 6G Global event will be held on Mid. November (Dates TBD) this year

### 6G Tech. Goals and R&D Investments



**50 times faster** transmission speed than 5G

Use of **high-bandwidth (100GHz~) frequency** to realize high-speed data transfer

Guarantees a latency rate at **human response speed**, 1/10<sup>th</sup> of 5G (0.1ms for wireless, less than 5ms for wired)

Communication range expanded to **10km in the air** (low-orbit satellite 6G communication, flying cars)

Fully applies **AI tech.** on all sections from core to wireless networks (5G applies AI to only part of core networks)

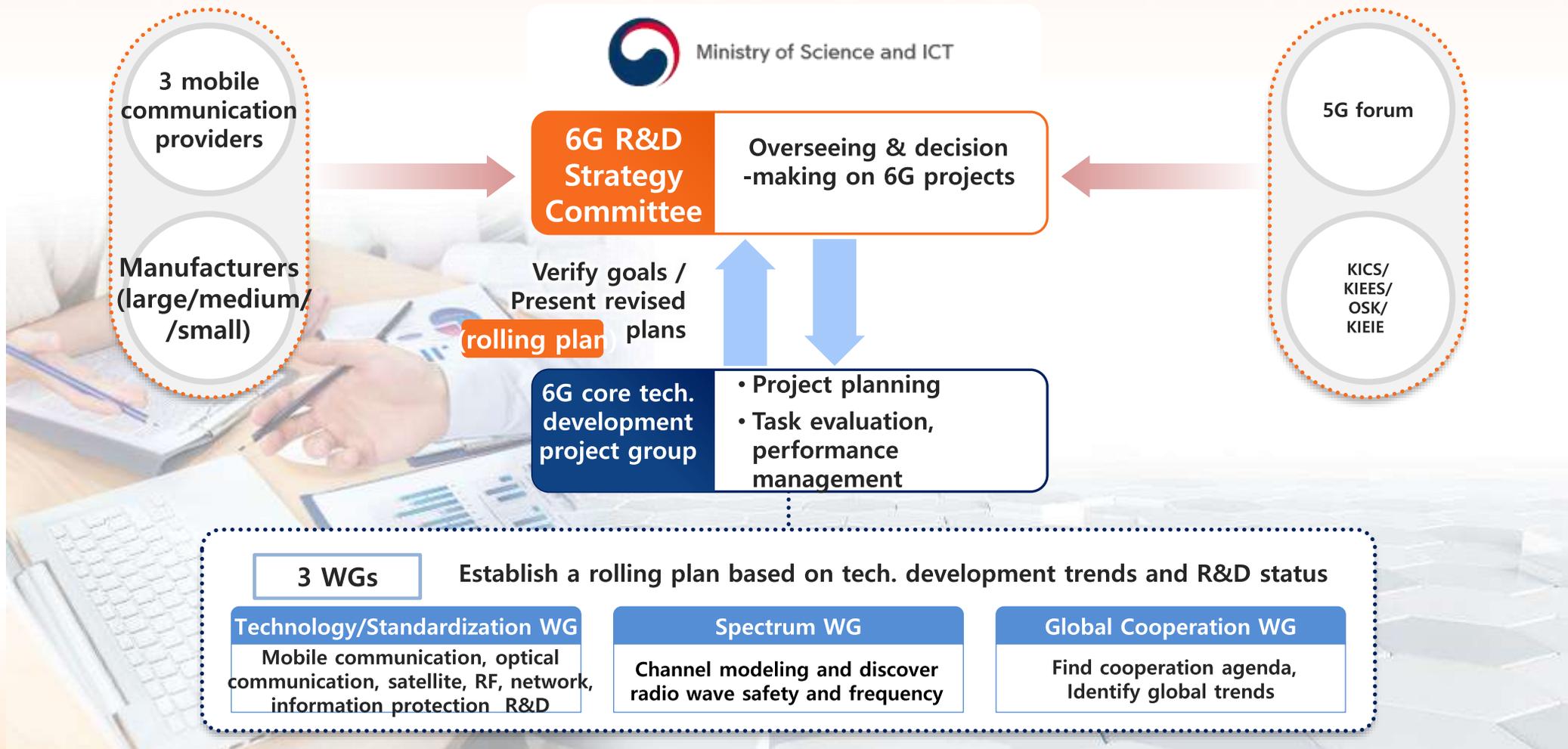
Internalizes **security technology** (5G selectively adds security functions)

### 6G Core Tech.

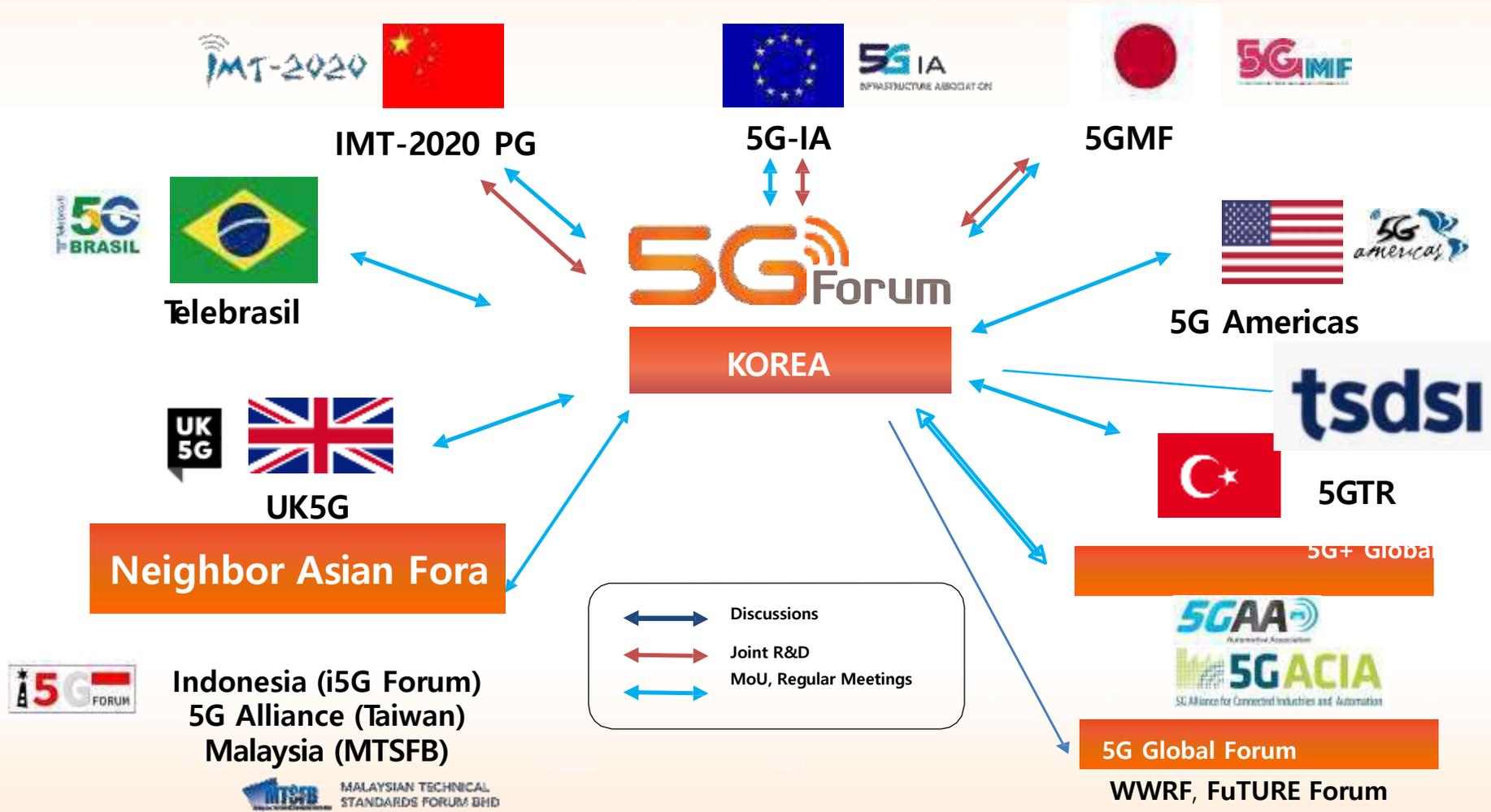
- 1 Tbps wireless communication
- 2 Tbps optical communication
- 3 THz RF parts
- 4 THz frequency
- 5 Ultra-precision network
- 6 Space mobile communication
- 7 Space satellite communication
- 8 Intelligent wireless network
- 9 Intelligent wired network
- 10 All-time security technology

# 6G R&D Strategy Committee Launched on June '21

Form 6G R&D Strategy Committee with 3 Working Groups by industry, research, academic, and private experts



## 10 Global 5G Partners, 2 Global 5G+ Partners



Thank you