

Regional Economic Dialogue

26 Aug 2022

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Industry Trends

Fully Fledged Global 5G Networks

SAMSUNG



211 operators

in 61 countries launched 3GPP-compliant 5G
(GSA, Apr'22)



520 million

5G mobile subscribers (Q4'21)
(Omdia, Mar'22)

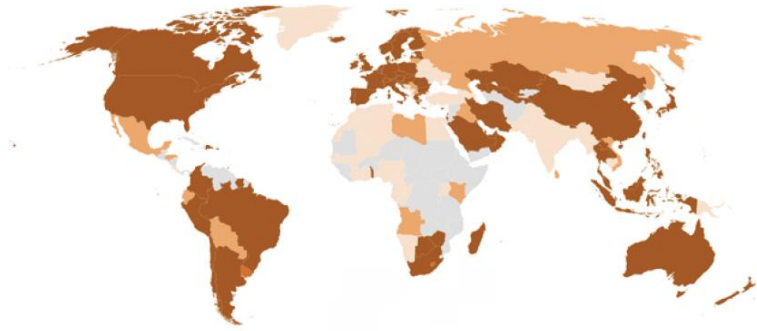


830 million+

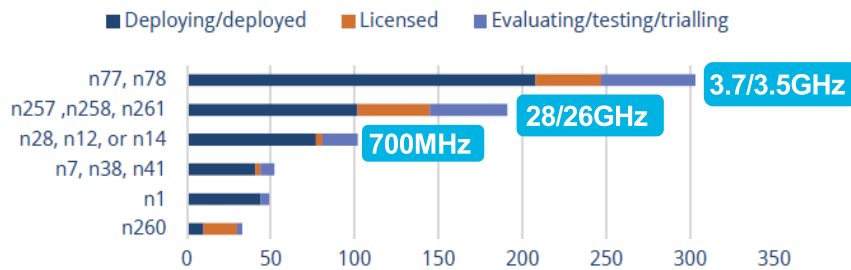
5G smartphone shipments by Dec '21
(IDC, Feb 2022)

Global 5G network launches (as of Apr'22)

■ 5G deployed in network, services launched
 ■ 5G deployed in network, soft launch
 ■ Deploying/deployed, precommercial
 ■ Planning/evaluating/testing/trialling

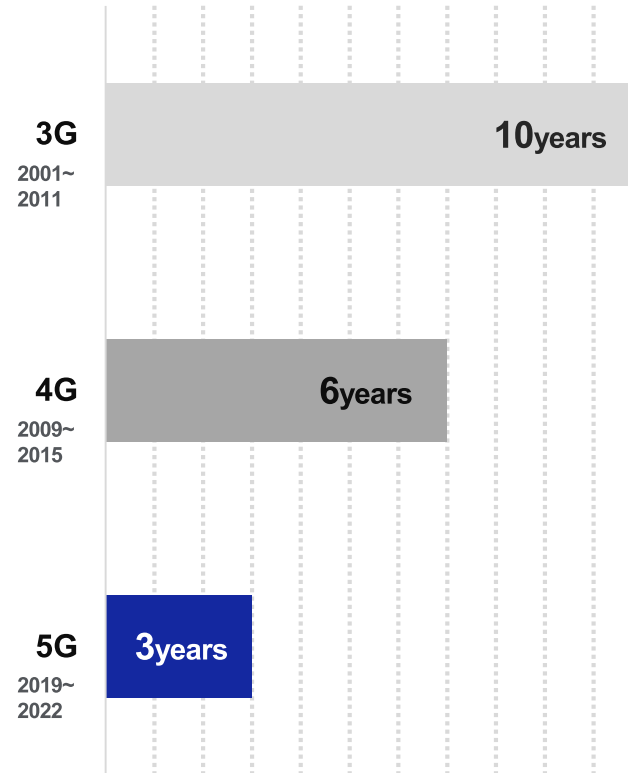


Operators investing in 5G spectrum bands (as of Mar'22)



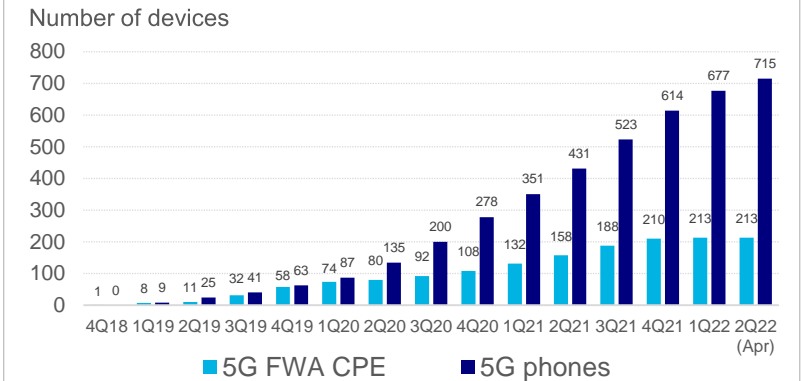
(GSA, Mar & Apr'22)

Years to reach 1 billion subscribers



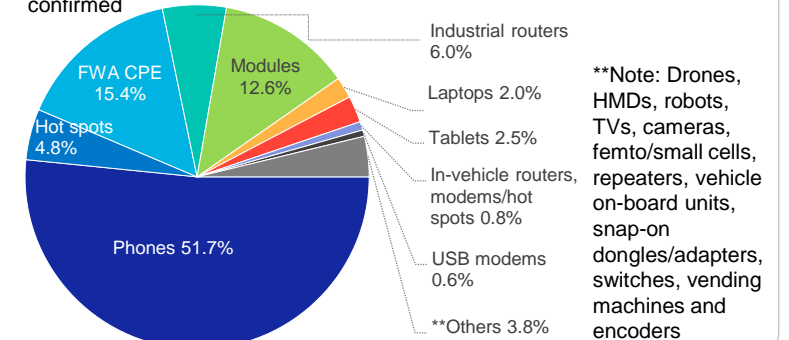
(Omdia, Mar'22)

Announced 5G phones and FWA CPE devices



*Announced 5G devices by form factor

*Note: GSA catalogued 1,373 devices out of which, 761 for 5G SA(sub-6 GHz), 1,001 for sub-6 GHz, 153 for mmWave, 117 for both & 102 to be confirmed

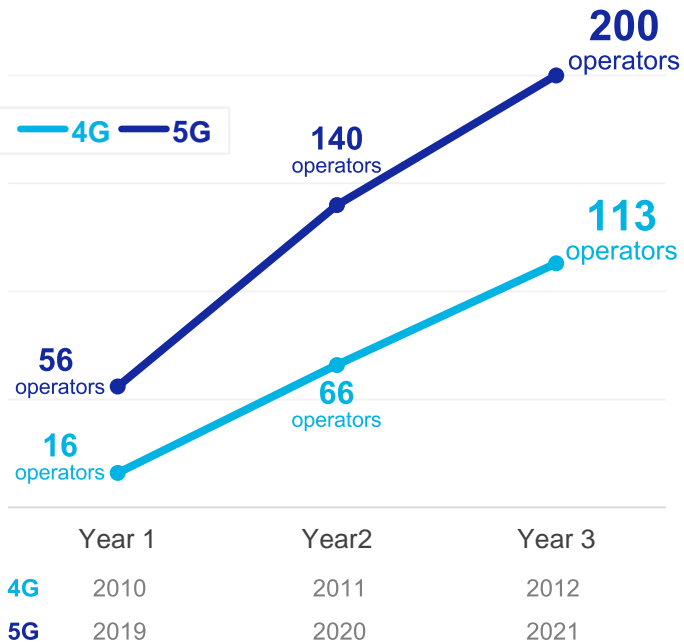


**Note: Drones, HMDs, robots, TVs, cameras, femto/small cells, repeaters, vehicle on-board units, snap-on dongles/adapters, switches, vending machines and encoders

(GSA, May'22)

Commercial expansion

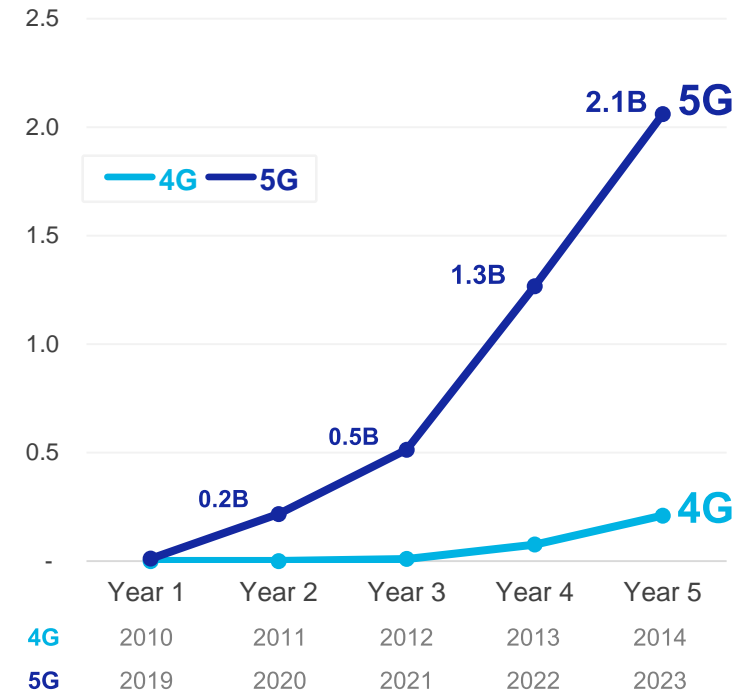
(Unit: No. of operators)



Global mobile subscription

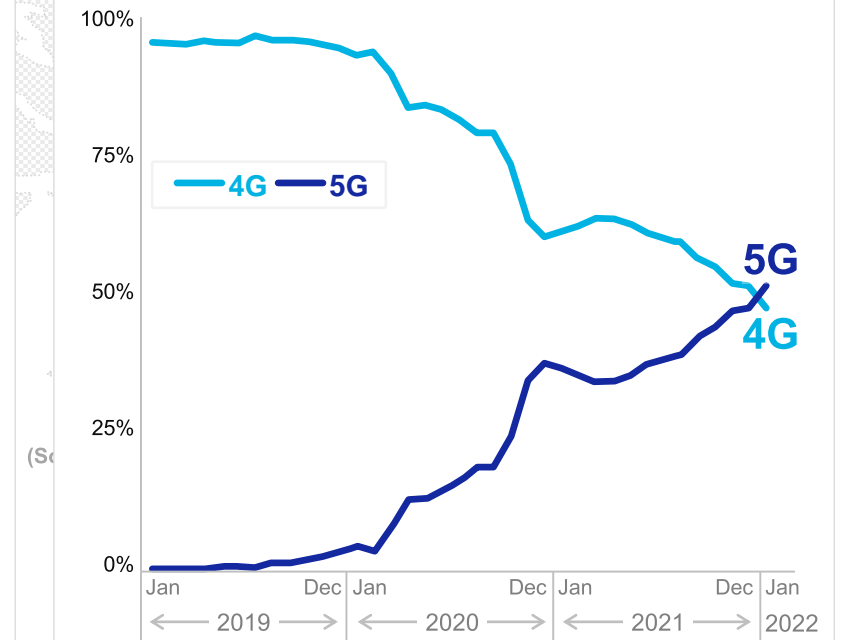
In first 5 years

(Unit: Billion subscriptions)

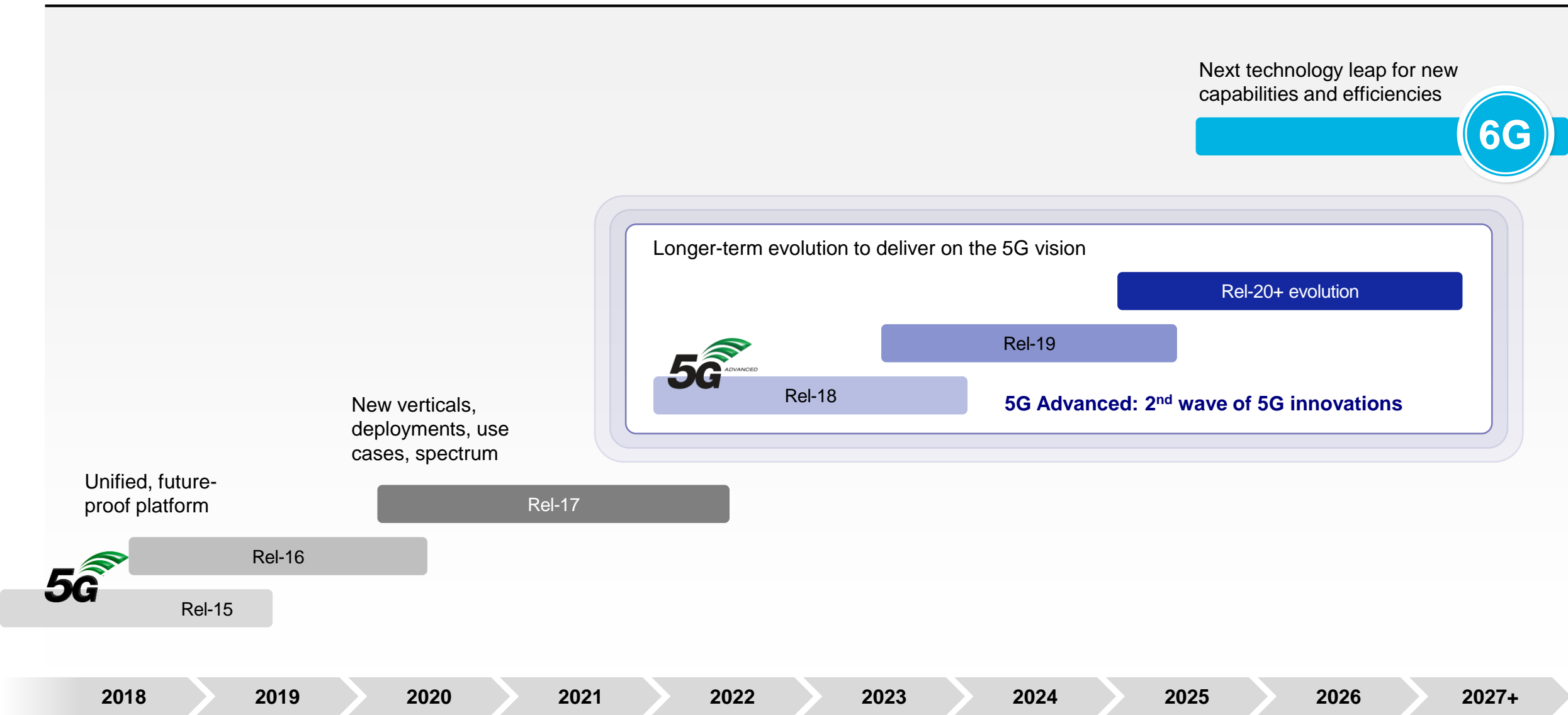


Global smartphone sales

Smartphone sales penetration, %



3GPP Standards on 5G and beyond



Truly immersive *XR

* eXtended Reality

Sufficient wireless capacity to be secured for higher data rate to realize Virtual Reality, Augmented Reality, Mixed Reality, etc.



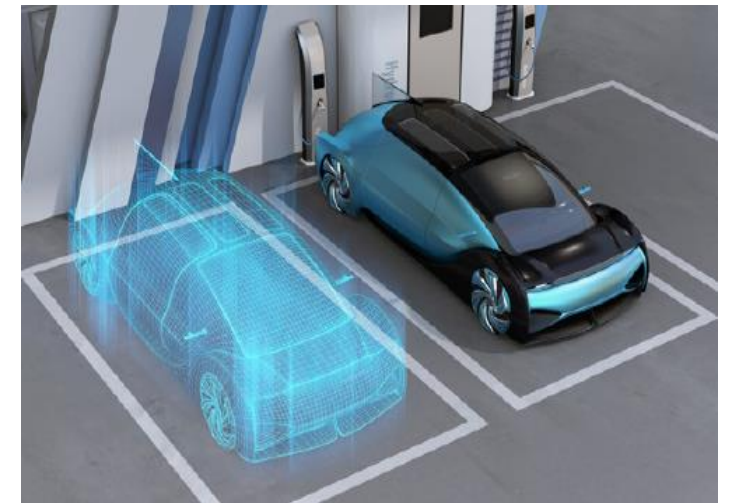
High-fidelity mobile hologram

Next-generation media technology presenting gestures and facial expressions by means of a holographic display



Digital replica

Replicate physical entities and interact with them in a virtual world without temporal or spatial constraints



Spectrum



48 Countries

have assigned C-Band (3300-4200)

7

America

Countries

US, Canada, etc.

10

APAC

Countries

Korea, Japan, etc.

8

MEA

Countries

Saudi Arabia,
UAE, Kuwait etc.

23

Europe

Countries

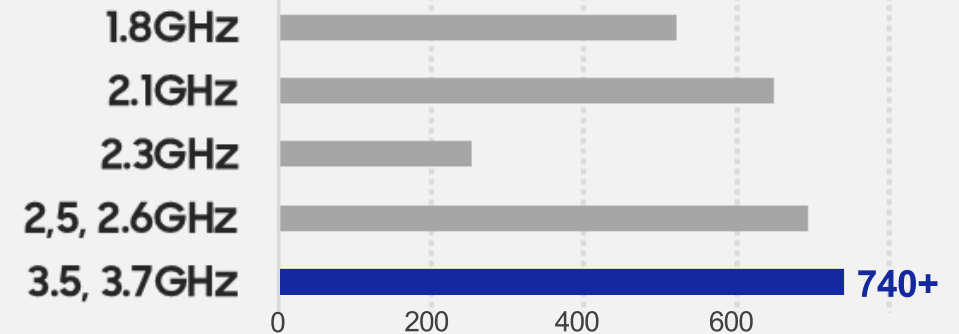
UK, France, Germany,
Spain, Italy, etc.



740+ Phone Models

supported C-band by '21

Numbers of 5G Smartphone model in the mid-band



(GSA, Oct 2021)

**The most widely adopted 5G band
with a complete ecosystem**

mmWave progress by country



US
(2018)



Japan
(2020)



Korea
(2021)



Australia
(2021)



Europe
(2021)



China
(2023)

mmWave spectrum

Assigned

140 Operators in **24** Countries

Deployed/-ing

33 Operators

(GSA, May . 2021, Internal analysis)

mmWave major use cases



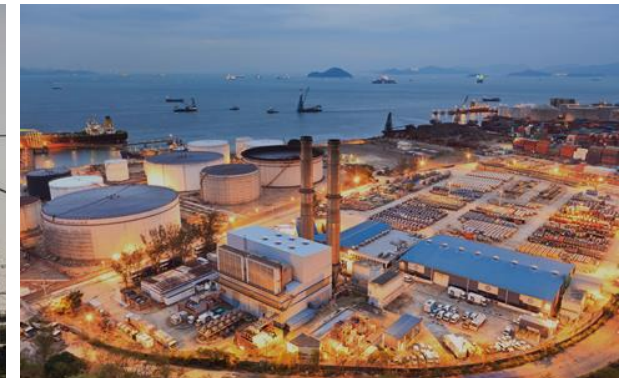
FWA



Mobile (Data Off-loading)

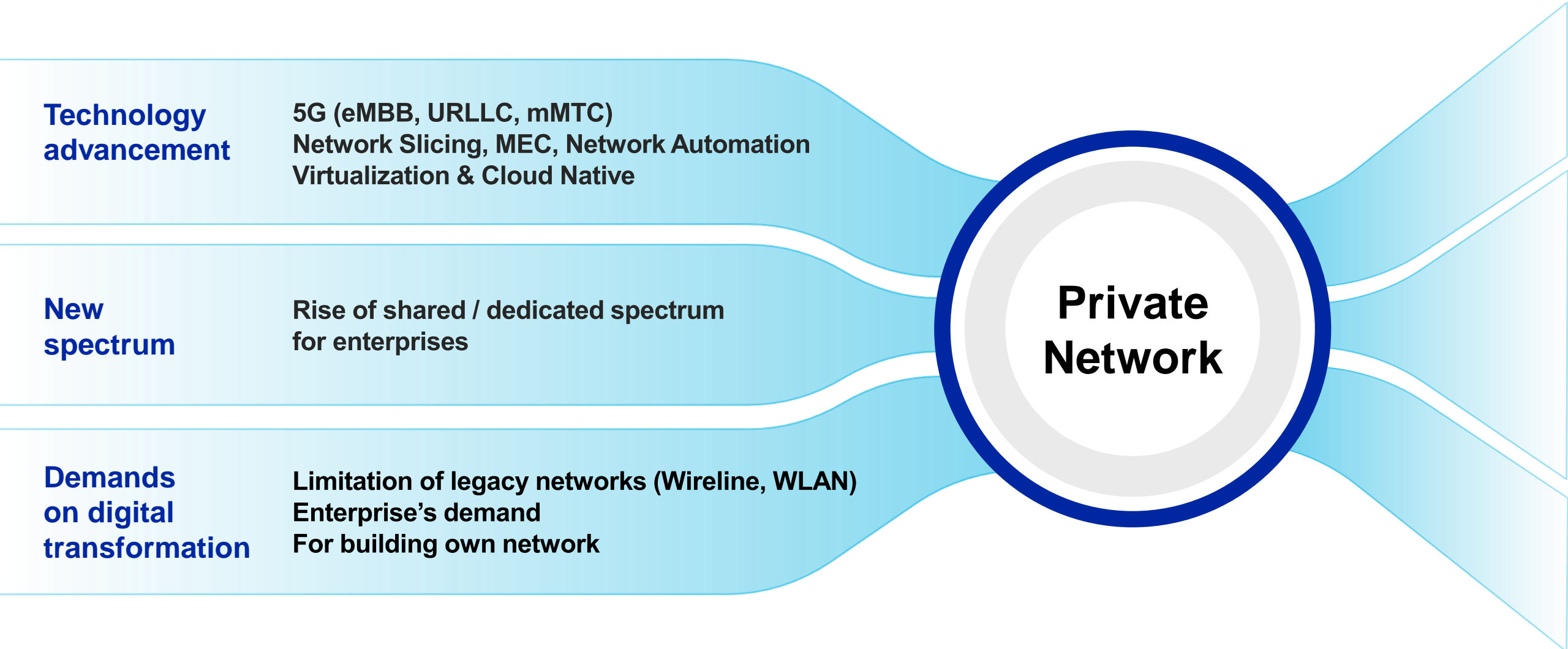


Wireless Backhaul



Private Network

Private Networks





Security & privacy

Data protect from various attack
Strong encryption and authentication



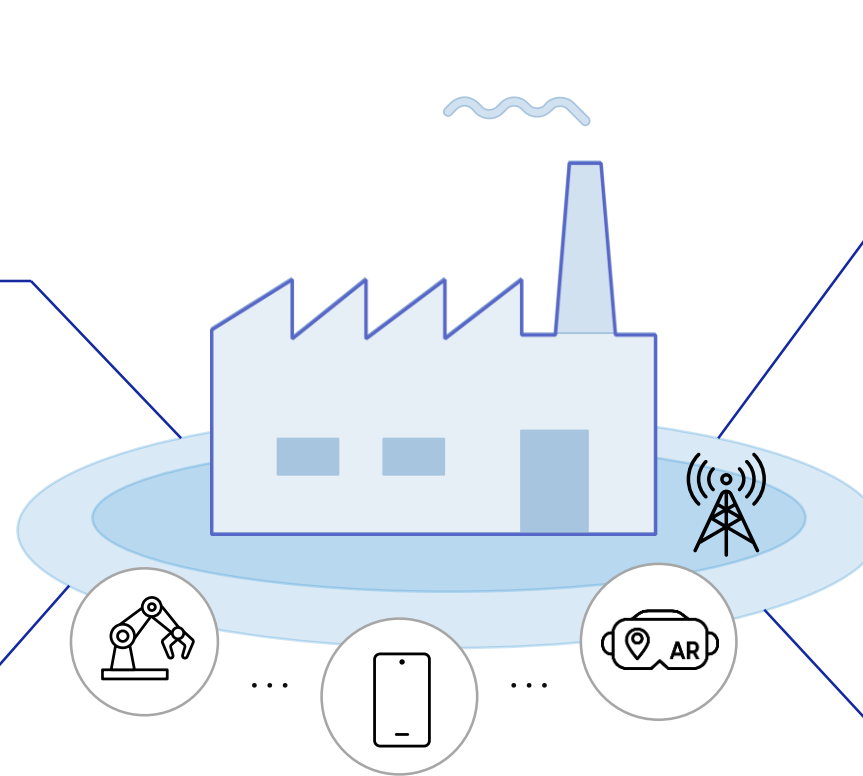
Better performance

Guaranteed QoS with low latency and high reliability
High capacity for multi user and multimedia data



Wide coverage

Higher power
Less number of sites



Mobility

Full connectivity for in-vehicle devices
Capable of handover at high speed (~500km/h)*

Private Network Use Cases as of Today

Manufacturing, Mining, Oil&Gas - IoT, AI/ML, drones and AR/VR

Smart factory, IoT services, real time monitoring, facility inspection, heavy equipment transfer and robotics
Drone : Flare stacks, burn excessive gas
AR/VR: Emergency preparedness, repair procedure / installation



Utilities, Logistics - FWA, MCPTX

Dedicated data services for facility (collection hub/air cargo, etc.) operation, monitoring, maintenance, scanning, sorting, packing and warehouse management,



Smart City, Agriculture, Healthcare, Campus - FWA, IoT, AI/ML, smart glasses & drones

Site Surveillance using CCTV, Drone, etc.
Autonomous driving in smart cities
Smart glasses for farmers
Moving and fixed cameras for field monitoring real time



Government - DoD AR/VR

Training, facility/equipment operation/maintenance and medical services with AR/VR



Near zero touch automation

Worker safety upgrade

Enhanced power generation

Security improvement

Time/cost savings

Productivity boosted

Public safety upgrade

Convenient lifestyles

Empowerment of unexperienced farmers

Cost savings

Effective simulation

Safety upgrade

Thank You

www.samsungnetworks.com



[Youtube.com/samsung5g](https://www.youtube.com/samsung5g)



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