Moving towards to 5G
-SK Telecom’s 5G Field Trials and Achievements

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SK Telecom and 5G
Key Driver for 5G? Service?
5G Capabilities & Services

Technical Enhancement
From 4G to 5G

5G Services

Source: ITU-R
SK Telecom’s 5G R&D status

1. Tech. Leadership in 5G Industry
SK Telecom’s 5G Vision - Whitepapers

2014.10: 5G Whitepaper

2015.10: 5G Arch. Design & Implementation Guidelines

2016.7: ATSCALE & COSMOS Arch. Whitepaper

2017.3 / 7: 5G System RFI / RFP

All white papers are publically available to download at https://developers.sktelecom.com/resource/document/
5G Architecture

Service Orchestration and Exposure

End-to-end Network Orchestration

Local NFV Orchestrator

Transport Infra Orchestrator

Virtualized Network Functions

Mobile Connectivity Functions

Network Service Functions

Resource Abstraction Layer

Edge DC

Transport Infrastructure

Central DC

Open & Programmable H/W

Transport Open H/W

Open & Programmable H/W

SDRAN

vCore

uCTN

Fronthaul

L1/L2

RF

Remote Unit

uCTN

WAN

ATSCALE – New E2E Architecture for 5G

COSMOS – Architecture for All-IT telco infrastructure
SK Telecom’s 5G R&D status

2. World First 5G-LTE Interworking Field Trial
   - Perfect 5G Network(3.5GHz + 28GHz + LTE)
5G-LTE Interworking Field Trial (‘17.9) World 1st

“Perfect 5G” based on 28GHz 5G - 3.5GHz 5G - LTE Interworking

5G test driving route around SK Telecom T-Tower

28GHz/3.5GHz 5G-LTE Seamless Interworking
5G – LTE Interworking Network

SK Telecom – Samsung 5G Trials

5G Experience Bus

5G Base Station

SK Telecom

–

Samsung 5G Trials

Welcome to

5G KOREA

3.5GHz UE Ant

28GHz UE Ant

360° VR Camera

28GHz RU + Ant

3.5GHz RU + Ant

1300Hz RU + Ant
SK Telecom’s 5G R&D status

3. 5G Connected Car Trial
- First Step to 5G Autonomous Car -
5G Connected Car (16.11.15)

World First 5G Connected Car

Various Services for Connected Car

World 1st
TechXLR8 Award (5G World) 2017 - 'Best 5G Trial'
MWC Shanghai Award 2017 - 'Best Innovative LTE to 5G Evolution'
Telecom Asia Award 2017 – 'The Most Innovative Partnership Strategy'

SK Telecom
BMW
Infra & Services for 5G Connected Car

- mmWave Radio Mobile Edge-Computing
- Remote Eye(V2X) Video Recognition
- Drone Helper
- True Live Streaming 4K 360 Live VR
- UHD Live Conference
- 5G Experience Bus
Demo Video
SK Telecom’s 5G R&D status

4. 5G Showcase in Baseball Park
5G Stadium Showcase ('17.3)

5G infra and T5 provided immersive experiences to 20K audiences in Inchon Baseball Park.
SK Telecom 5G Timeline
SK Telecom 5G Timeline

- ‘16.3Q
- ‘16.4Q
- ‘17.1Q
- ‘17.2Q
- ‘17.3Q
- ‘17.4Q
- ‘18
- ‘19
- ‘20

**SKT 5G TS**

**5G Trial Service**

**SKT 5G Commercial Preparation (RFI, RFP, BMT, CDR, …)**

**Trial Service**

**Commercial Launching**

**5G Technology Alliance for 3GPP 5G NR Specification**

**5G Open Trial Specification Alliance**

**3GPP 5G NR Standard**

- SK Telecom Proprietary, Network R&D Center, 2017