SK telecom

5G

Moving beyond Connectivity

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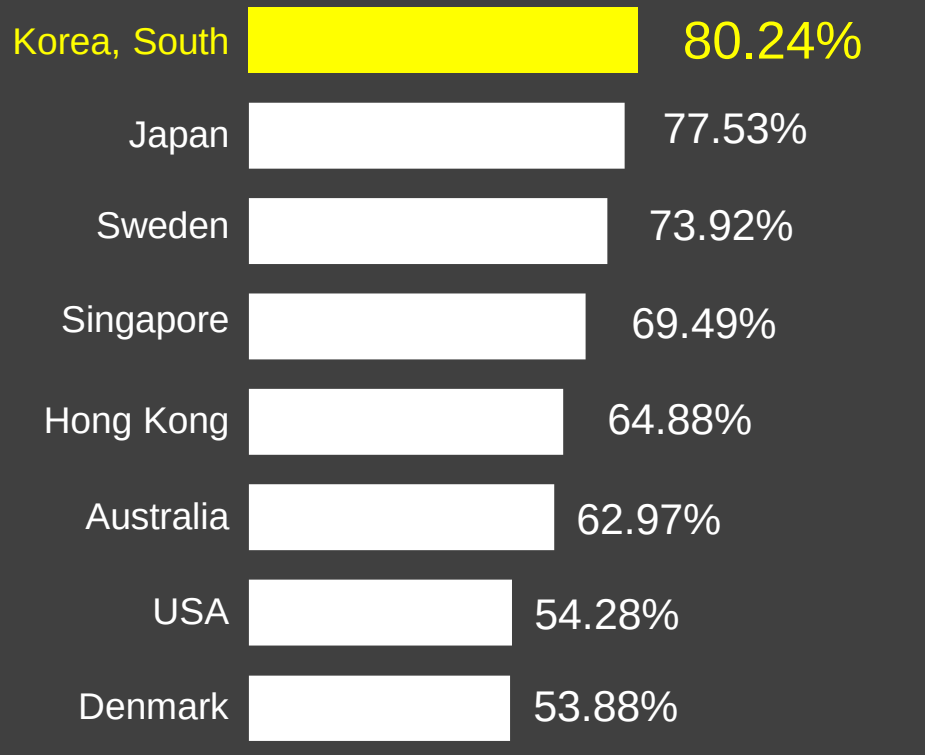
Korea targeting the first 5G trial in 2017

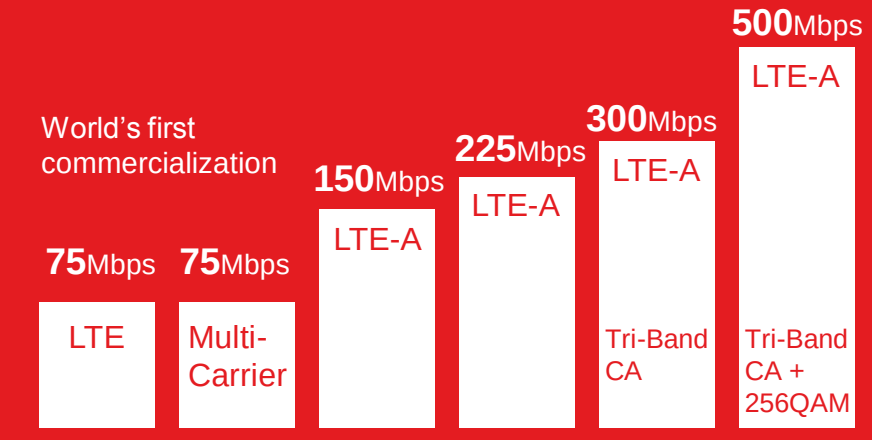
4G/LTE markets and technologies have already matured in Korean market

Top 8 countries by LTE penetration



Source: GSMA Intelligence 2015.3Q

4G/LTE evolution by SK Telecom



Market share

SK Telecom

49.8%

First 5G trial

Korean government and SK Telecom

2017

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5G is moving beyond connectivity

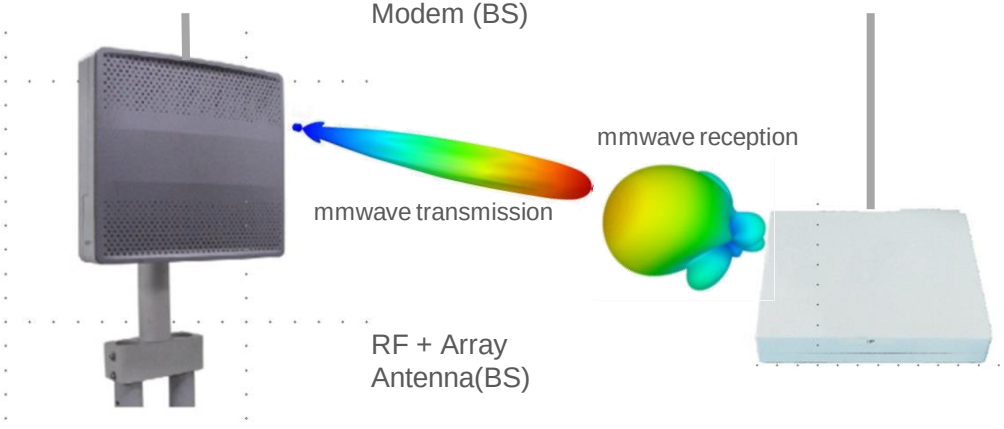
Lower latency might be the most distinctive feature for 5G

Motion Suit

Humanoid Robot

Baseband Modem (BS)

Baseband Modem(MS)

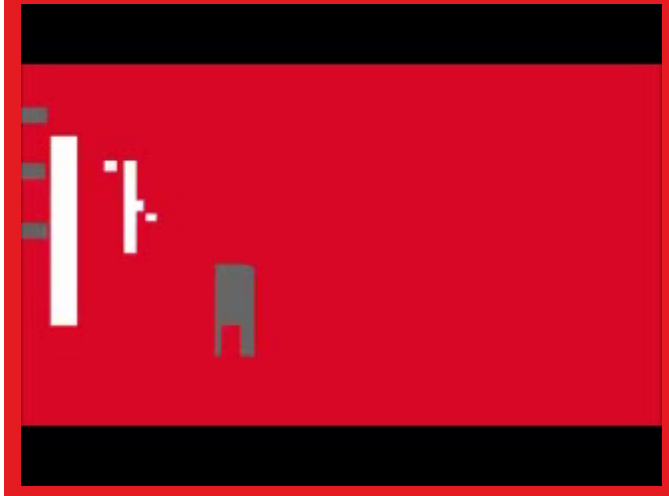


RF + Array Antenna(BS)

RF + Array Antenna(MS)

Remote-controlled Robot in MWC'15

by SK Telecom



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5G services

Main three 5G services are 1) virtual experience, 2) mission-critical IoT and 3) massive IoT

Virtual Experience Anywhere Anytime

- Immersive Tele-presence
- Super Multi-view Display
- AR/VR based Interaction

Iron Man 2 (YouTube)

Massive Internet-of-Things (IoT)

- Smart Metering
- Smart Environment Mgmt.
- Personal Wearable Sensors

iRobot (YouTube)

Mission-Critical Internet-of-Things (IoT)

- Vehicle to Anything
- Assisted & Autonomous Driving
- Remote Controlled Machines

Minority Report (YouTube)

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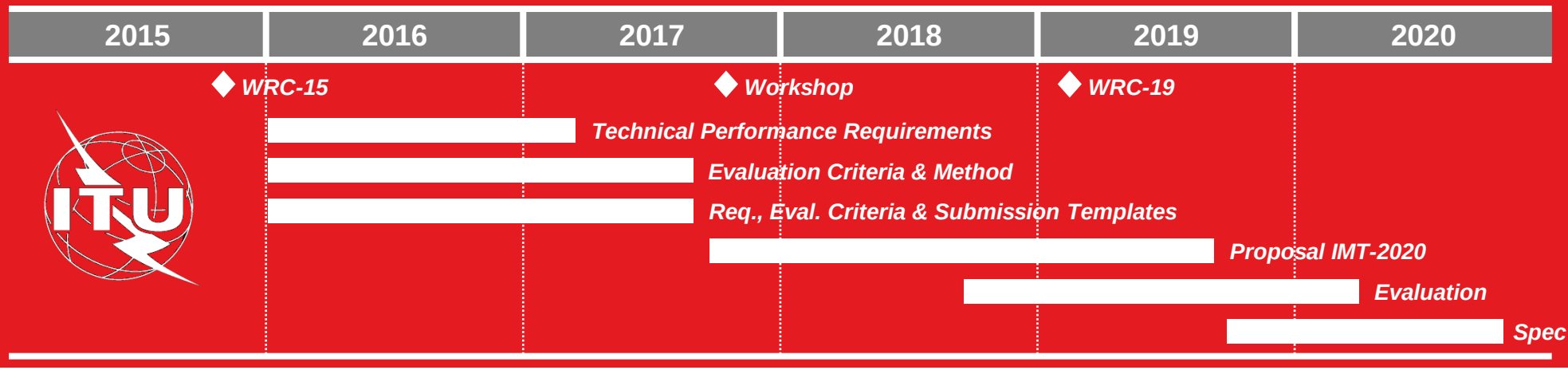
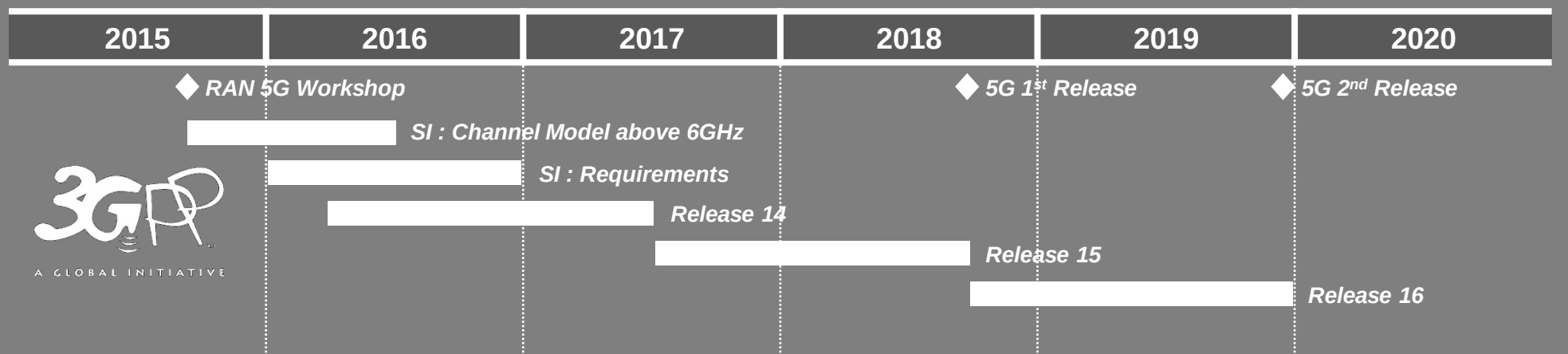
5G Timeline

We'll make all-out efforts to demonstrate 5G in 2017 and commercialize 5G service in 2020

ITU IMT-2020 Timeline



3GPP 5G Timeline



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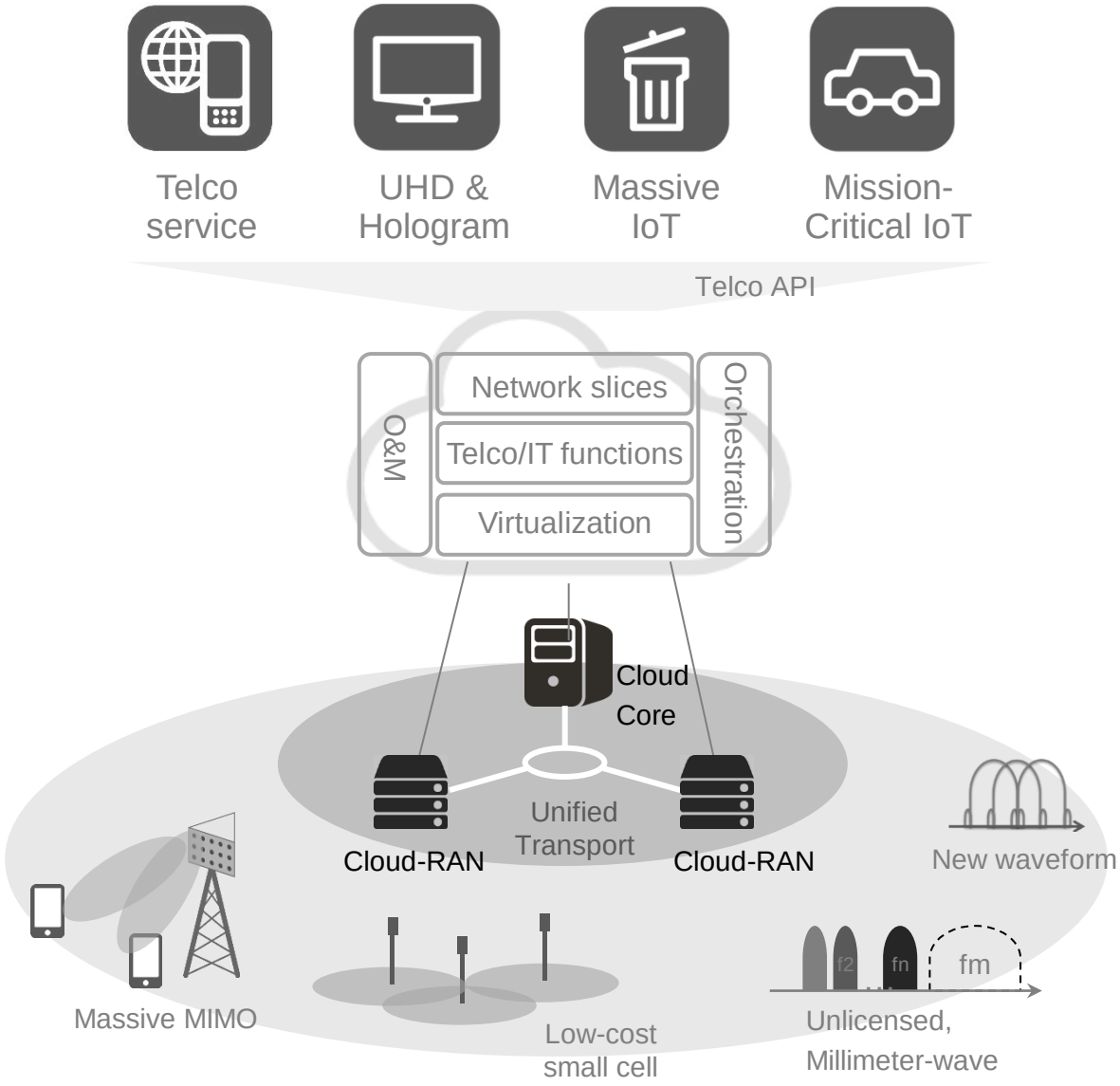
5G architecture

A common 5G architecture needs to support various 5G use cases with diverse requirements



Innovative Services

for virtual experience, massive IoT, critical IoT

All-IT Infrastructure

for value creating network, monetization

Hyper-connected radio

for massive and multi-Gbps connectivity

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5G Trial Activities

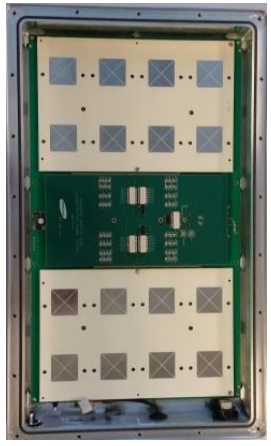
(A) LTE-A evolution: carrier aggregation and high-order MIMO

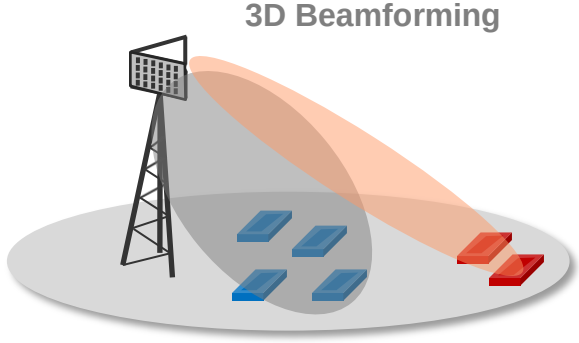
3.8Gbps FDD/TDD CA (2014)

- Joint trial with Nokia in MAE 2014
- 3.8Gbps peak data rate
- 200MHz BW and high-order MIMO

Full-Dimensional MIMO (2015)

- Joint development with Samsung
- 3.5GHz 3D beamforming
- maximum 8 users simultaneously





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5G Trial Activities

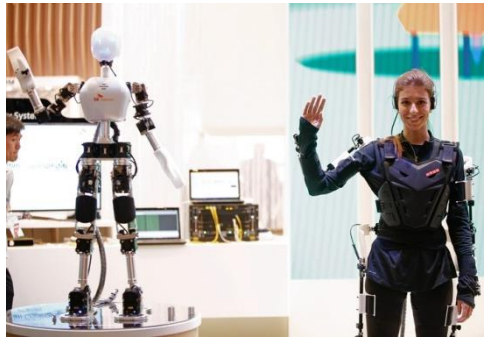
(B) New RAT revolution: Above 6GHz

> 20Gbps New Radio (2016)

- Joint trial with Ericsson(26.9Gbps), NOKIA(20.5Gbps)
- Advanced beamforming

7.5Gbps New Radio (2015)

- Joint trial with Samsung
- 7.5Gbps peak data rate over 28GHz
- Advanced beamforming



5Gbps New Radio (2014)

- Joint trial with Ericsson
- 15GHz cmWave with 400MHz BW
- New radio access technology
- Advanced beamforming

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