

# SPECTRUM

THE FUNDAMENTAL ELEMENT OF MOBILE

WRC-19 | 5 November

## RCC Lunchtime Seminar



# SPECTRUM

THE FUNDAMENTAL ELEMENT OF MOBILE



Welcome

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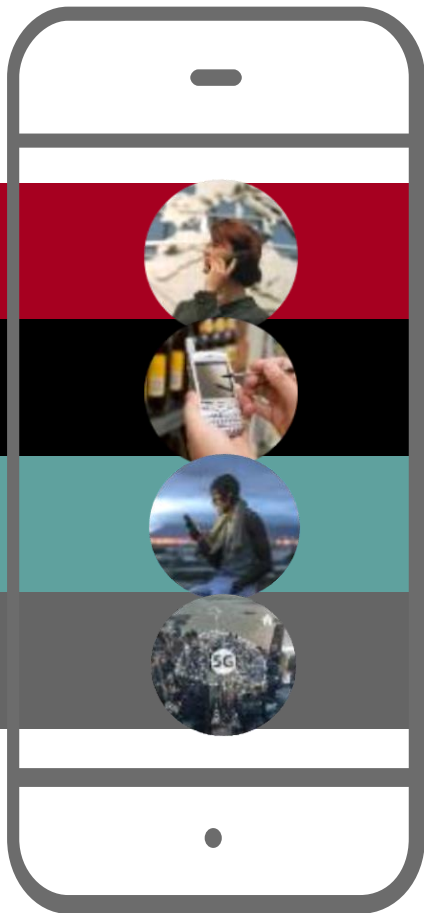


2G

3G

4G

5G



All about calls and texts

The start of mobile data

The arrival of mobile broadband services and applications

The network adapts to the application

Ultra high speed  
Ultra low latency  
New applications



# 5G Ramps Up



01

5G users in the USA now experience over **1800 Mbps** powered by mmWave spectrum



Early 5G data usage has tripled, according to SK Telecom, in comparison with 4G

02



03

**5G IN EUROPE**  
17 live networks  
43 trials

26 GHz auctions planned for 2020/21



5G connections  
forecast has  
increased by

**12.5%**

It now stands at



**1.6 BILLION**

by 2025



5G adoption forecast  
has increased to



**18%**

by 2025



**37**

COMMERCIAL 5G NETWORKS

launched across

**19**

MARKETS



with

**75**

further  
launches



across

**50**

markets  
soon



ROUTERS



DRONES



**129**

5G DEVICES

TVs



ROBOTS



HOTSPOTS



2018

Mobile operators will invest

**\$480BN**  
WORLDWIDE

2020

in mobile capex





# The socio-economic benefits of mmWave 5G (2020-2034)

RCC Edition

GDP impact of mmWave spectrum by 2034



**\$6.7 billion**

TAX  
\$1.4bn

1.0%



GDP growth

12%  
2025

24%  
2034

The share of 5G services using mmWaves



## Our Asks

### 26 GHz

(24.25-27.5 GHz)

- Limits to protect EESS (passive)  
-28 to -32 dB(W/200MHz)
- No conditions necessary for FSS/ISS since sharing studies show significant protection margin

### 40 GHz

(37-43.5 GHz)

- Identification of whole range provides harmonisation with other Regions
- FSS downlink: ES sharing is a national issue
- FSS uplink: sharing studies show a significant protection margin

### 50 GHz

(45.5-52.6 GHz)

- Good options to support future 5G growth
- Studies have been performed and show sharing is possible

### 66 GHz

(66-71 GHz)

- Flexible use for unlicensed 5G systems - both IMT and non-IMT technologies
- Shared with WiGig
- Supported by APT, ATU, ASMG, CEPT



# WRC-23 supported bands

GSMA supports WRC-23 AIs for IMT in 470-960 MHz, and consideration of the bands below

