

Moscow 8-9 October 2019

Session III:
Final round
before WRC

WRC-19, future of 5G

Konstantin Savin

Strategic Engagement Senior Manager Russia & CIS
GSMA





Вклад мобильной связи в развитие региона Евразия:
Долгосрочная политика по выделению спектра

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ВКР-19, будущее 5G

Часть III:
Заключительный
этап перед ВКР

Константин Савин, Старший менеджер
по стратегическому взаимодействию,
Россия и СНГ, GSMA





Mobile360
Eurasia

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WRC19

The future of 5G

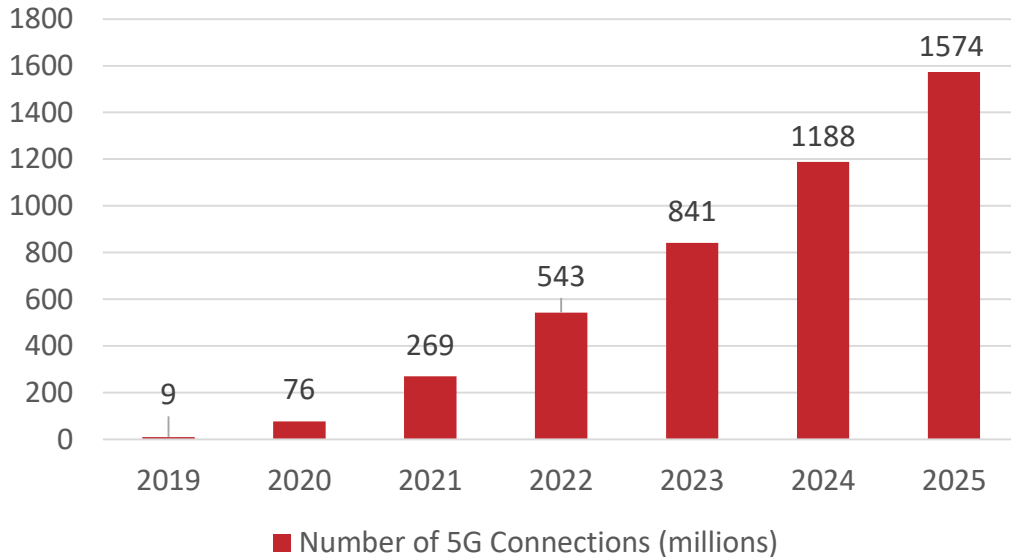
**Konstantin Savin, Senior Strategic
Engagement Manager, GSMA
Russia and CIS**





More 5G launches, more connections

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32 operators in 18 markets have launched commercial networks

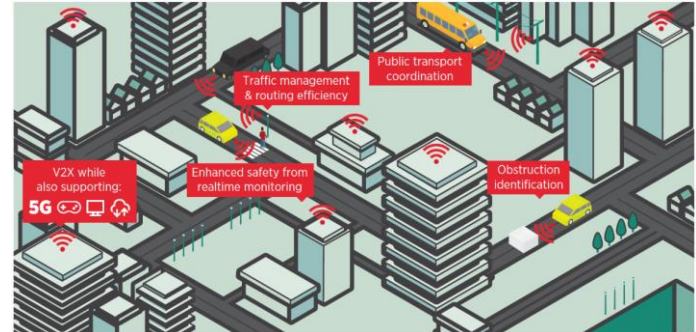
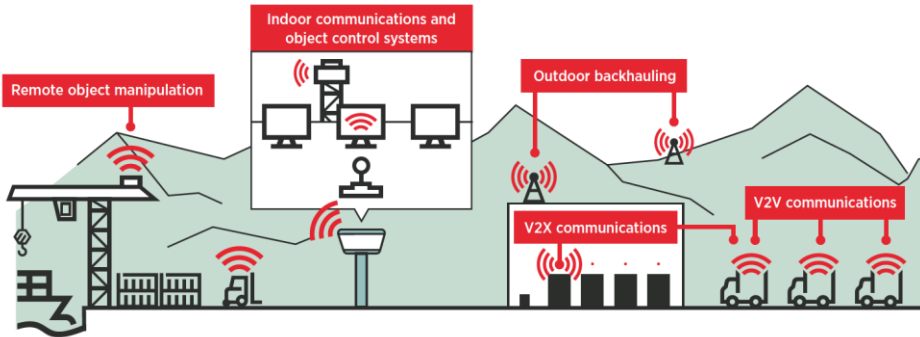
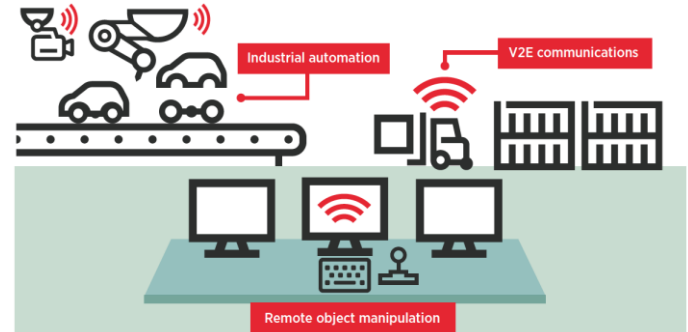
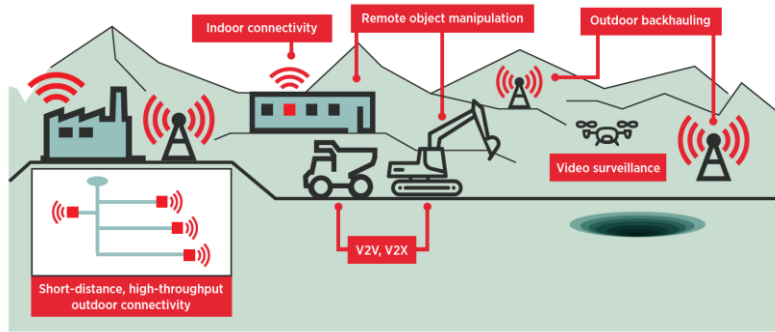
76 further operators across 51 markets have announced launch plans

129 devices across 15 form factors, including phones, hotspots, CPEs, IoT routers, drones, robots, and TVs

Sources: GSMA Intelligence and Global mobile Suppliers Association

Use Cases: Automation across industries

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The socio-economic benefits of mmWaves 5G (2020-2034) RCC edition

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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



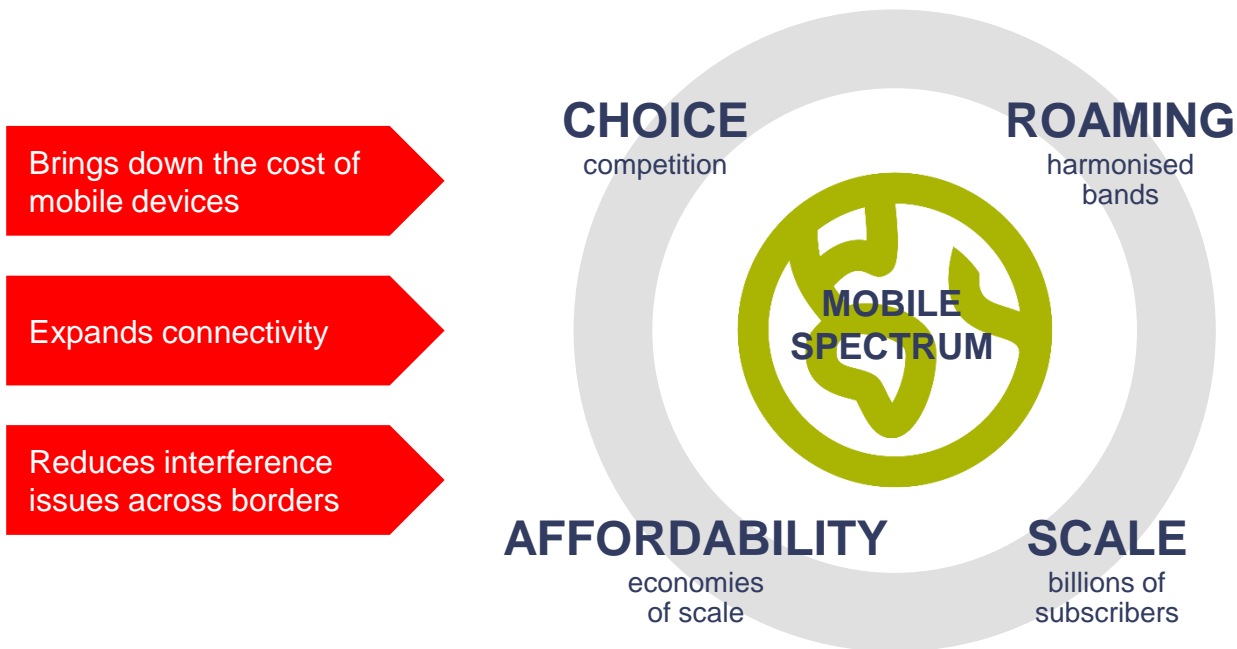
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5G needs spectrum across three ranges



Sub-1 GHz
1-6 GHz
AND ABOVE
6 GHz

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26 GHz

(24.25-27.5 GHz)

- RCC support for 26 GHz band is welcomed, but -42 dBW/200MHz limit to protect EESS (passive) is overly restrictive and will have a severe impact on ability to use for 5G

40 GHz

(37-43.5 GHz)

- Should not oppose IMT identification in 37-40.5 GHz to ensure global harmonization in the entire band
- EESS (passive)
- Res 752 applies
- Active band

50 GHz

(45.5-52.6 GHz)

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

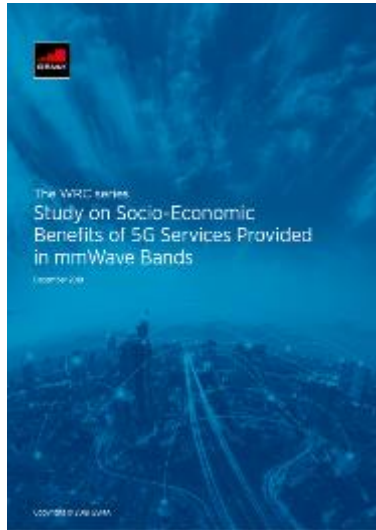
66 GHz

(66-71 GHz)

- Flexible use for 5G systems
- Enabling both IMT and non-IMT technologies



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Regional Spotlights: Impact of mmWave 5G RCC Edition

The performance benefits of mmWave, including ultra-high speeds and low latencies, will drive the revolutionary impact of the most advanced 5G services.

In the RCC region, mmWave 5G offers a wealth of opportunities to help improve the quality of healthcare and workforce productivity.

Case Study #1: Automation across industry

mmWave 5G to help increase workforce productivity
This case study considers how mmWave 5G can help improve workforce productivity. Transport, logistics, mining and oil extraction, and manufacturing industries all stand to gain from mmWave 5G-enabled automation, connected transportation infrastructure and the introduction of remote object manipulation.

Key elements: Worker connectivity, Remote object manipulation, Remote diagnostics, High bandwidth, 5G NR, High speeds, high-throughput ultra-reliable connectivity.

Case Study #2: High-quality healthcare

Improving medical services in rural areas
This case study examines how mmWave 5G will provide high-speed broadband that enables virtual training to healthcare staff, remote participation of experts during difficult procedures, and remote diagnostic services. These advances open the door for improved healthcare, especially through access to medical services in rural areas and higher-quality medical services overall.

Key elements: Remote diagnosis, Remote training, High-speed broadband, 5G NR.

The WRC Series WRC-19 Agenda Item 1.13

IMT in bands between 24.25 GHz and 86 GHz to bolster 5G

The combination of 5G and millimetre wave offers a new level of performance with ultra-high speeds and low latencies. The potential impact on our lives is greater than any previous mobile generation and can be felt in areas including smarter transport systems, safer factories, smarter cities and more advanced healthcare. WRC-19 can make this a reality by delivering a significant amount of spectrum with optimal conditions.

The GSMA's positions on WRC-19 Agenda Item 1.13:

- A successful identification of spectrum for IMT under Agenda Item 1.13 with optimal conditions is vital to realise the full potential of 5G networks.
- The GSMA also supports the 26 GHz and 40 GHz bands.
- The GSMA also supports 66 GHz.
- Due to the large amount of spectrum needed for 5G services, the 50 GHz band also needs to be considered.

Technical studies show that coexistence between IMT and other services is possible.

5G USE CASES WITH GREAT POTENTIAL

Where

- Busy urban areas, stadiums, shopping malls and railway stations
- Home and business using fixed wireless access
- Connected trains, buses and cars

What

- Data transmission at tens of gigabits
- IoT
- Augmented and Virtual Reality
- Video Streaming with low latencies, 4K video compression and 3D
- Industrial Automation with low-latency and high reliability

<https://www.gsma.com/spectrum/resources/mmwave-5g-benefits/>

<https://www.gsma.com/spectrum/5g-spectrum-guide/>

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MOBILE CHANGES EVERYTHING

mmWaves: unlock the full potential of 5G



#MOBILE360