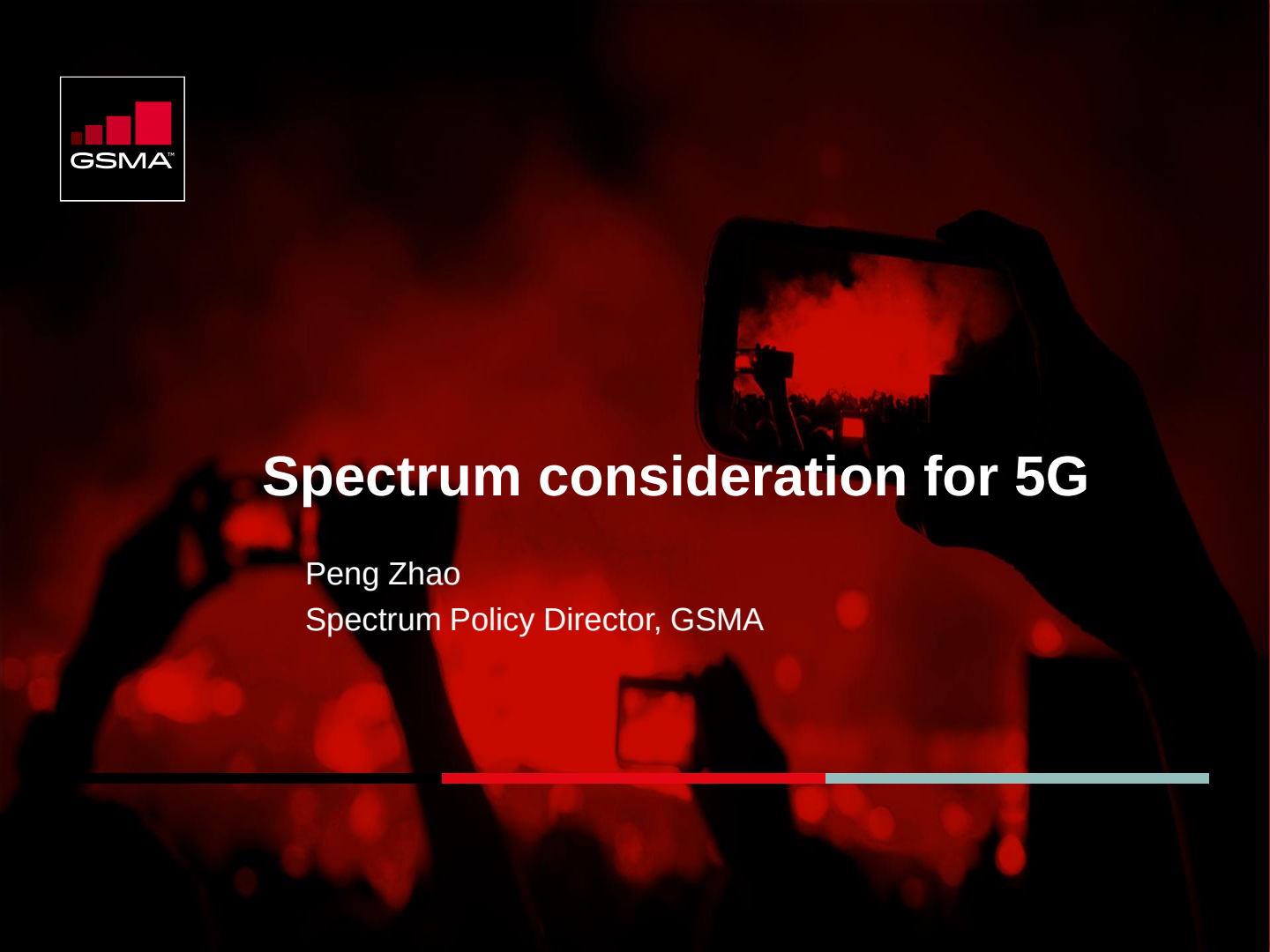
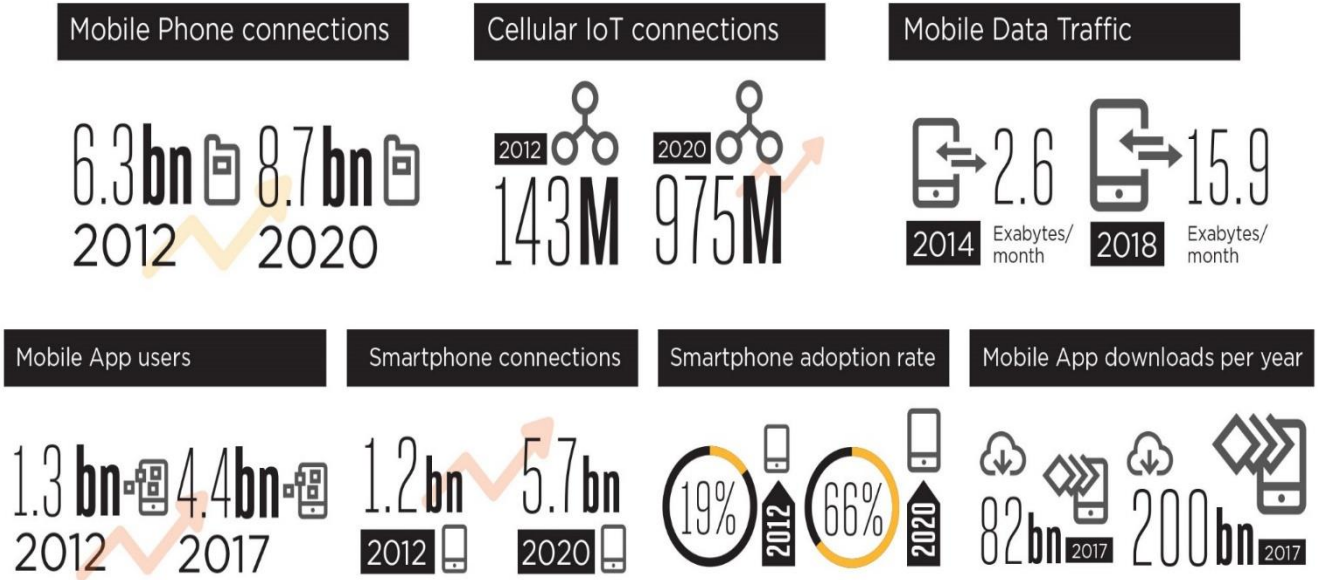


Spectrum consideration for 5G

Peng Zhao
Spectrum Policy Director, GSMA

About the GSMA

The future requires 5G



5G will revolutionise key industries

MULTI-MEDIA EVERYWHERE

SMART TRANSPORT

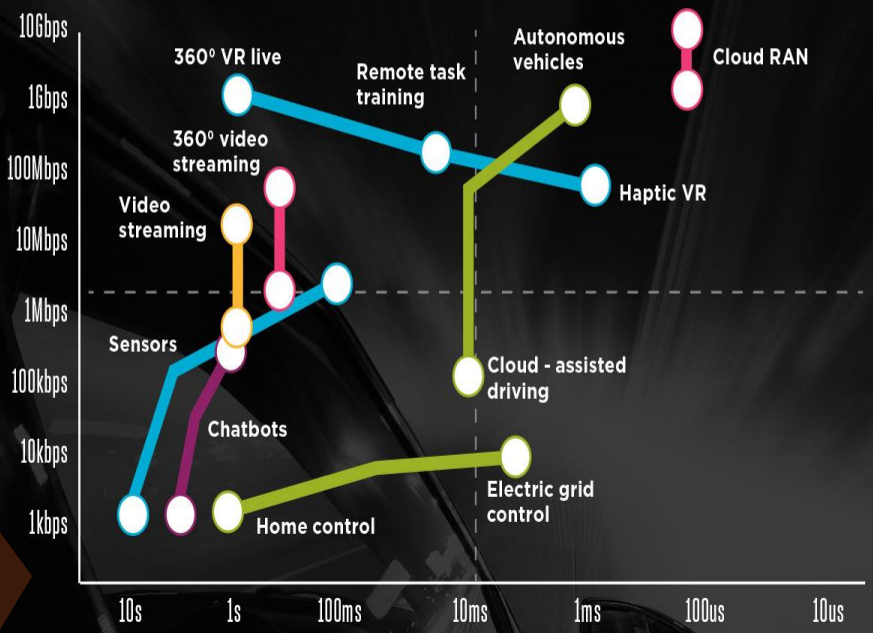
CRITICAL SERVICES

REMOTE CONTROL

AUGMENTED REALITY

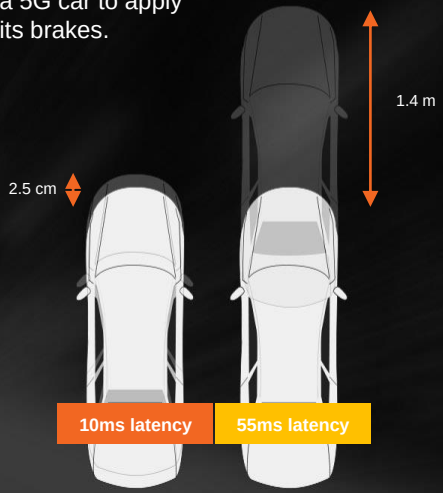
SENSORS NETWORKS

Where latency and throughput matters



REDUCED LATENCY HAS SIGNIFICANT REAL-WORLD IMPLICATIONS.

- 1.4 m for a 4G car to apply its brakes.
- Just 2.5 cm for a 5G car to apply its brakes.



What spectrum bands should we use for 5G?

< 3 GHz

C-band

Above 50GHz

26 GHz
(24.25-27.5 GHz)

47 GHz

28 GHz

40 GHz
(37-43.5 GHz)

32 GHz
(31.8-33.4 GHz)

A combination of **low**, **mid**, and **high** frequency bands will be needed to fulfil 5G promises

Below 6GHz

- Existing bands for mobile broadband through refarming;
- We also encourage more countries to join 600MHz and C-band at WRC-19.

Bands above 24GHz (under WRC-19 AI1.13.)

- GSMA members prioritize the study of the 26GHz and 32GHz bands because of proximity to 28GHz;
- 37-43.5 GHz is also a priority for study;
- Higher bands above 45GHz are still under consideration.

28GHz

- Strong commitment from individual countries such as US, Korea and Japan will make this a key band for 5G.

Tuning ranges

- **Tuning ranges** will support 28GHz in combination with 26GHz or 32GHz, and also across 37-43.5 GHz.
- This allows different regions to use different portions of these bands while keeping economies of scale.
- Supporting portion of bands wanted by others countries/regions will improve economies of scale.

WRC-19

- There is significant potential for the coexistence of 5G and other wireless services (e.g. satellite and fixed links) in higher frequency bands (e.g. above 24 GHz)

- It is important that governments and regulators successfully support the needs of 5G at international spectrum discussions including WRC-19 and its preparatory meetings. This is essential due to the lengthy timeframes involved in making new mobile spectrum available

- Governments need to adopt national policy measures to encourage long-term heavy investments in 5G networks


Thank you!
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