5G technology for developing countries
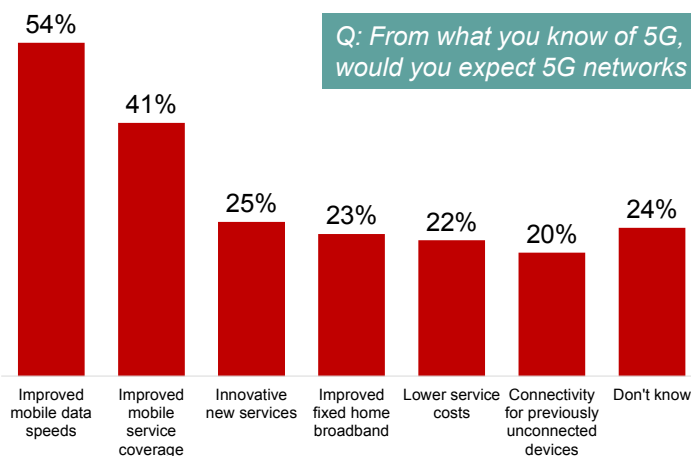
Dr. Andy Hudson, Head of Policy

WSIS 5G Thematic Workshop, Geneva
April 2019

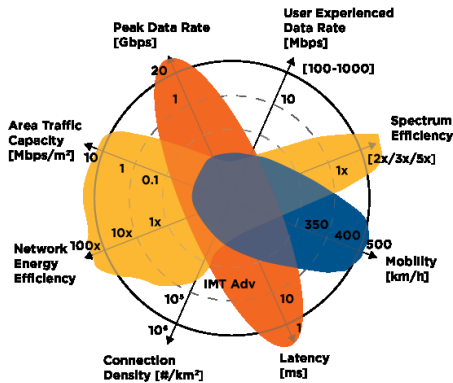## Consumers: expectations in the 5G era?

54%

Q: From what you know of 5G, which of the following would you expect 5G networks to deliver?

41%

Early view on 5G

25%   23%   22%   20%   24%

- Consumer expectations for 5G in developed markets still centre on faster speeds and improved coverage

| Improved mobile data speeds | Improved mobile service coverage | Innovative new services | Improved fixed home broadband | Lower service costs | Connectivity for previously unconnected devices | Don't know |

Source: GSMA Intelligence survey. 15,000 respondents from 16 developed countries around the world. Respondents could select multiple answers.

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Implications of the 5G requirements

Transport system

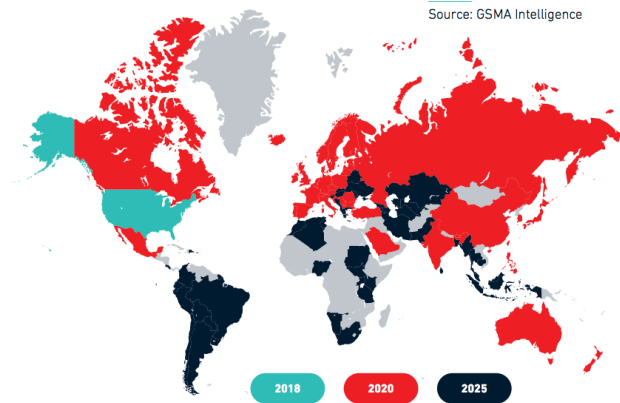**Augmented Reality**

Public safety

Considerations

- Seemingly contradictory requirements:
  - Massive number of connections
  - Ultra fast connection
  - Low latency connection
  - Very reliable
- **Implication #1**: Each use case requires a subset of the functionality
- **Implication #2**: Network densification
  - Higher spectrum bands
  - More functions at the edge (latency)

3

5G for developing countries

Source: GSMA Intelligence

- 5G is the inevitable evolution of the mobile infrastructure, but the rate of adoption depends heavily on market conditions

- How should countries prepare for this eventuality?

  - Infrastructure / investment
  - Market readiness
  - Policies

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5G policy recommendations

Streamline Regulatory Conditions
to facilitate
5G deployment

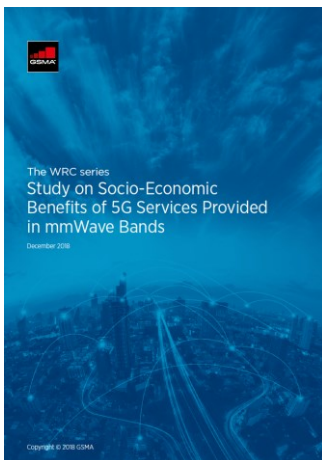**Provide Regulatory Flexibility**
for innovative
5G propositions

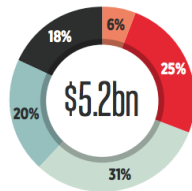**Release Sufficient Spectrum for 5G**
that is harmonised
and affordable

Ease Financial Demands of 5G
by bringing
down costs

5

mmWaves are for everyone

The WRC series
Study on Socio-Economic
Benefits of 5G Services Provided
in mmWave Bands
December 2018

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Once 5G has taken off in regions such as Sub-Saharan Africa, the annual gain from mmWave 5G will grow much faster from 2026 onwards, closing the gap between the early and late adopters.

$5.2bn

6% 25% 31% 20% 18%

Sub-Saharan Africa

- Agriculture, mining, quarrying
- Manufacturing, utilities, construction
- Professional and financial
- Government, public security, education and health
- ICT and trade

6

Spectrum pricing in developing countries

The report reveals that spectrum prices in developing countries are, on average, <u>more than three times</u> higher than in developed countries, when income is taken into account.

1. Set modest reserve prices and annual fees and rely on the market to set prices;
2. License spectrum as soon as it is needed as this helps avoid artificial spectrum scarcity;
3. Avoid measures that increase risks for operators;
4. Publish long-term spectrum award plans that prioritise public welfare benefits over state revenues.

https://www.gsma.com/spectrum/resources/effective-spectrum-pricing/

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Key barriers to digital inclusion

Accessibility: including to quality network coverage, handsets, electricity, agents and formal IDs

Affordability: handsets, tariffs, data plans and transaction fees

Usability and skills: including of handsets and services and addressing lack of awareness and understanding

Safety and security: including addressing harassment, theft, fraud and data protection

Relevance: of content, products, and services

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Learn more about 5G

https://www.gsma.com/futurenetworks/technology/understanding-5g/

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