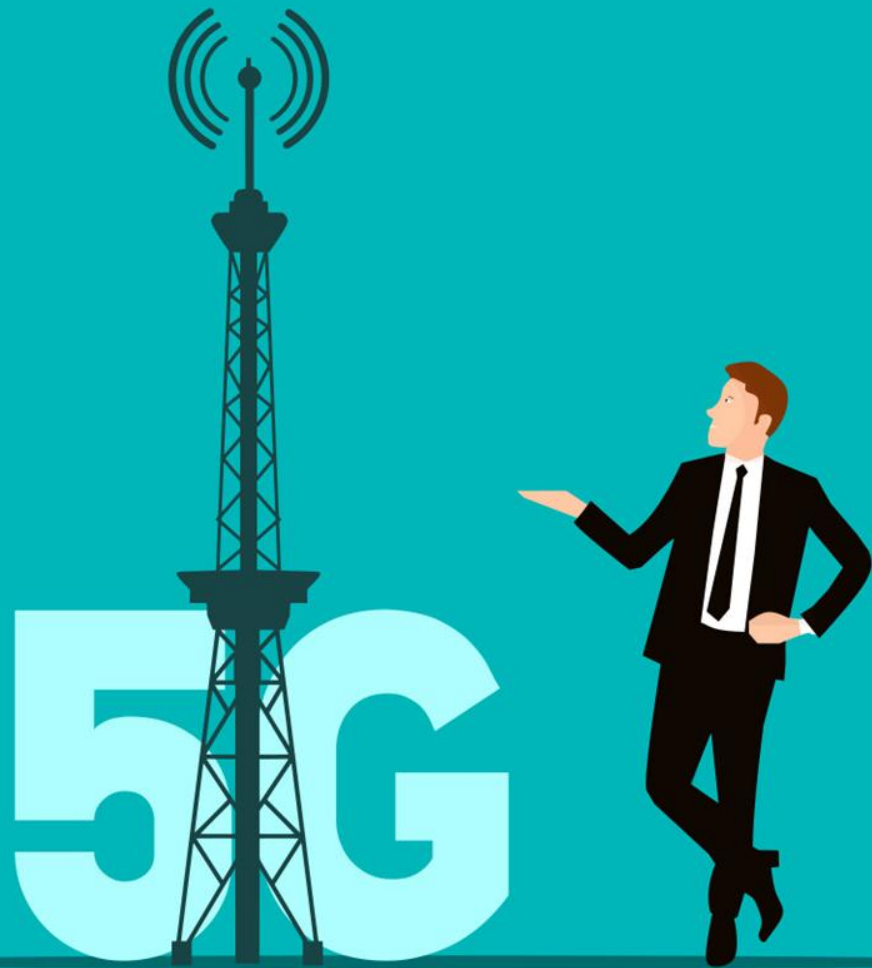
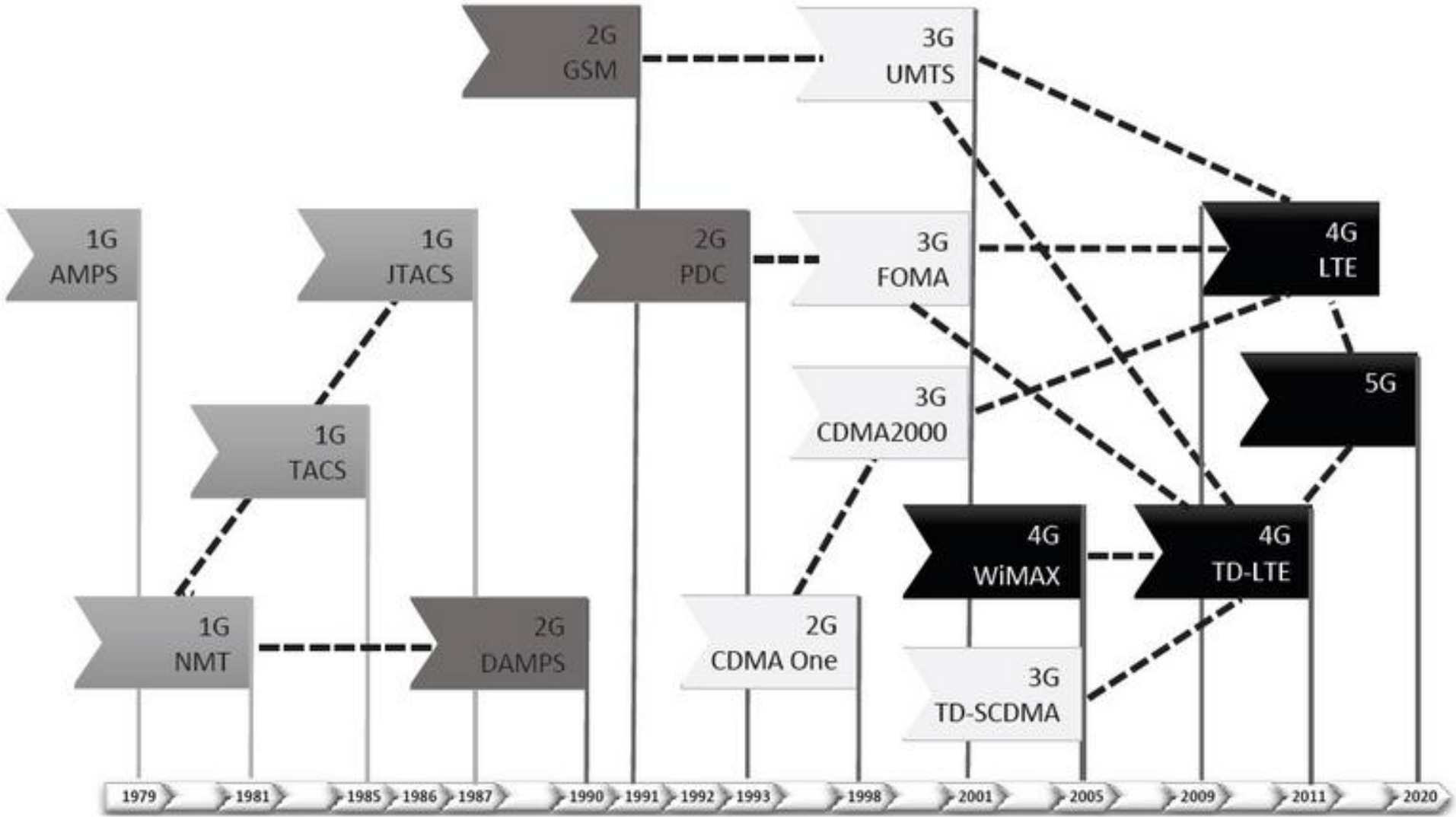
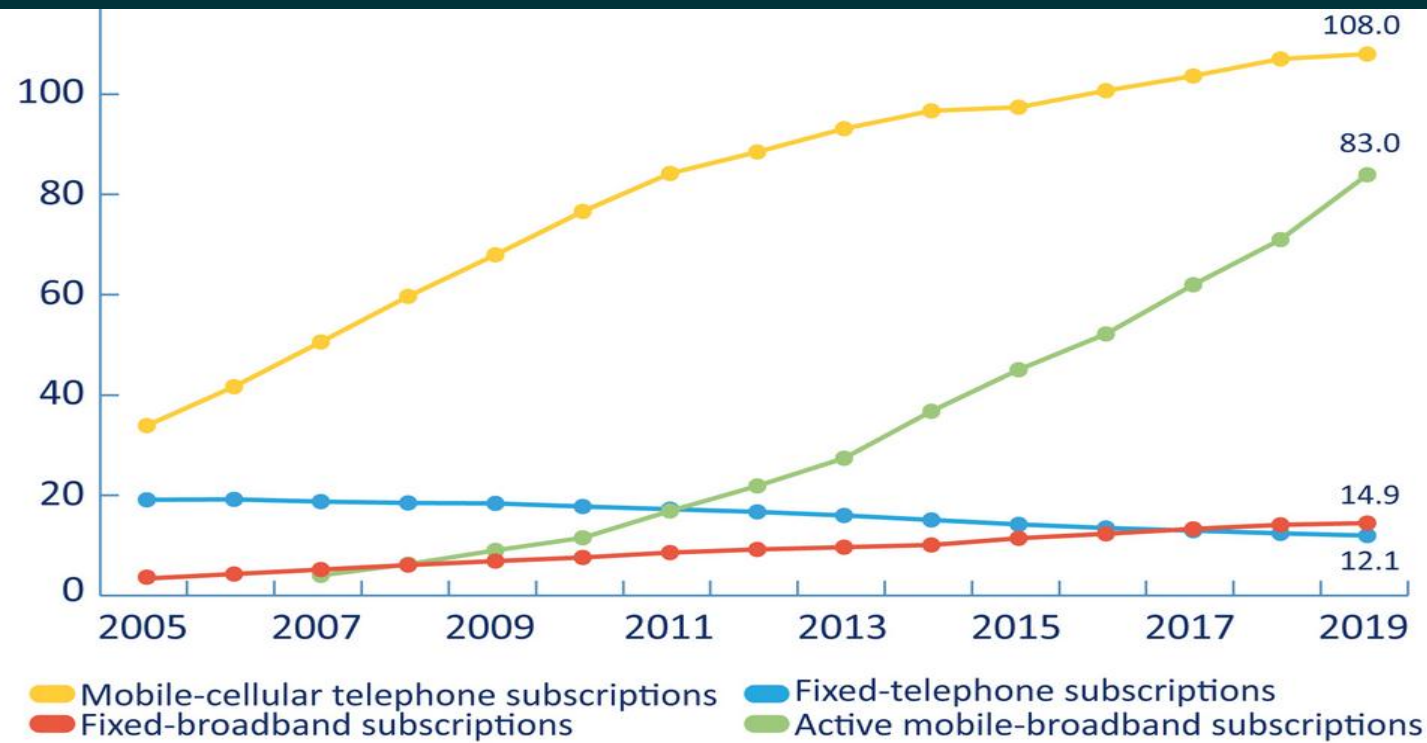


MSc. Timour Manuel Nzinga



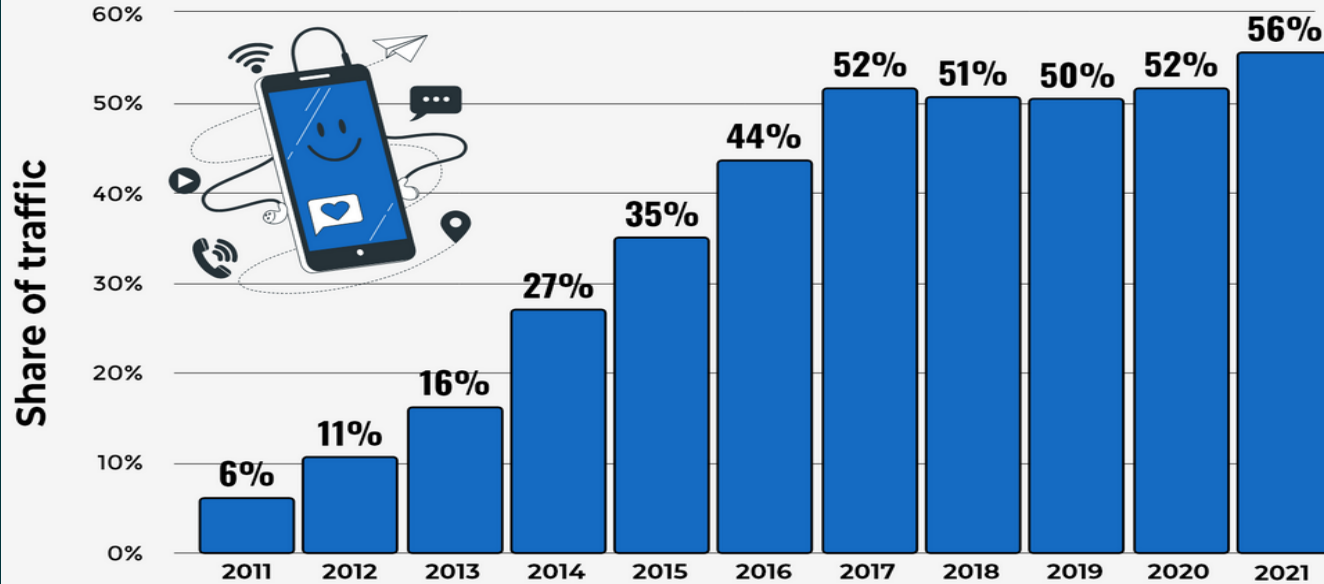


Importância das redes 5G



Importância das redes 5G

Percentage of Global Mobile Traffic, 2011-2021





- FEV/2017 3GPP oficializou que 5G seria o nome da próxima geração de tecnologias de comunicação
- Substituir o 4G, 4G advanced, 4G advanced pro
- Regra dos 10 anos

SERVIÇOS NAS REDES 5G

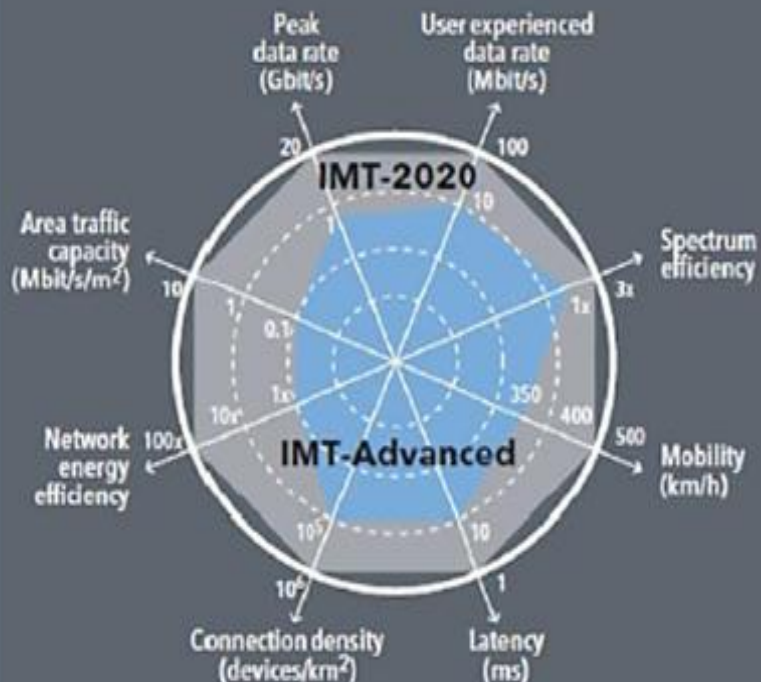


Há três grupos de serviços que representam a base da construção dos serviços nas redes 5G:

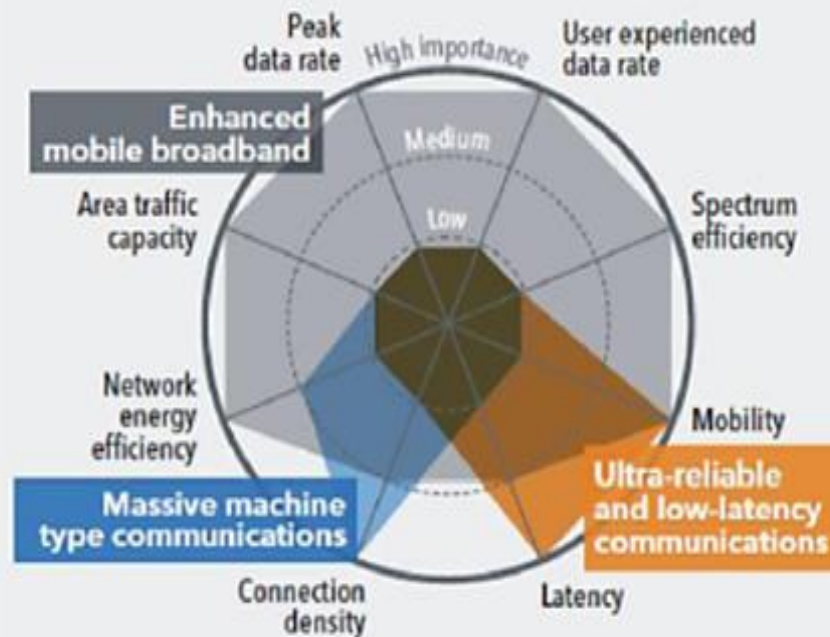
1. *Enhanced Mobile Broadband, eMBB* (Banda Larga Móvel)
2. *Ultra-reliable low latency communications* (Comunicações Ultra Confiáveis e de Baixa Latência)
3. *Massive Internet of Things* (Internet das Coisas Massiva)

IMT-Advanced vs IMT 2020

Enhancement of key capabilities from IMT-Advanced to IMT-2020



The importance of key capabilities in different usage scenarios

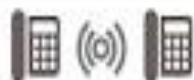




Human to Human

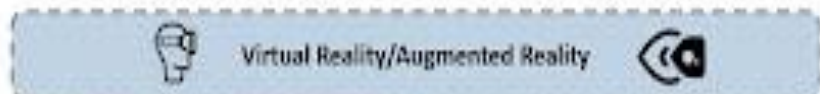


Human to Machine



Machine to Machine

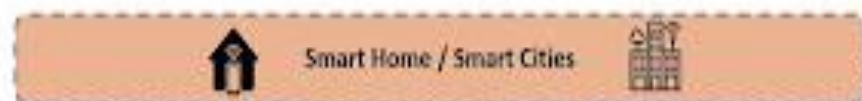
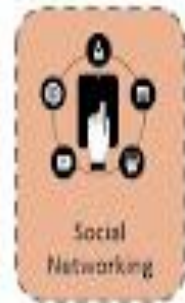
Extreme
Mobile
Broadband
(eMBB)



Enhanced MBB

- 20/10 Gbps DL/UL*
- 4 ms user plane latency
- 500 km/h mobility

Massive
Scale
Communication
(mMTC)



Massive MTC

- 1 million devices / km²
- 10+ years battery life
- 20 dB coverage enhancement

Ultra-Reliable
Low Latency
Service
(URLLC)



URLLC

- 1 ms user plane latency
- Highly secure / resilient
- 99.9999% availability

* Peak theoretical rate

Source: 5G Americas

Mercado das Telecomunicações



Nova estrutura do Mercado :

- Utilizador da rede
- Mudar o conceito operador da rede
- Fabricantes de equipamentos



- Utilizador da rede

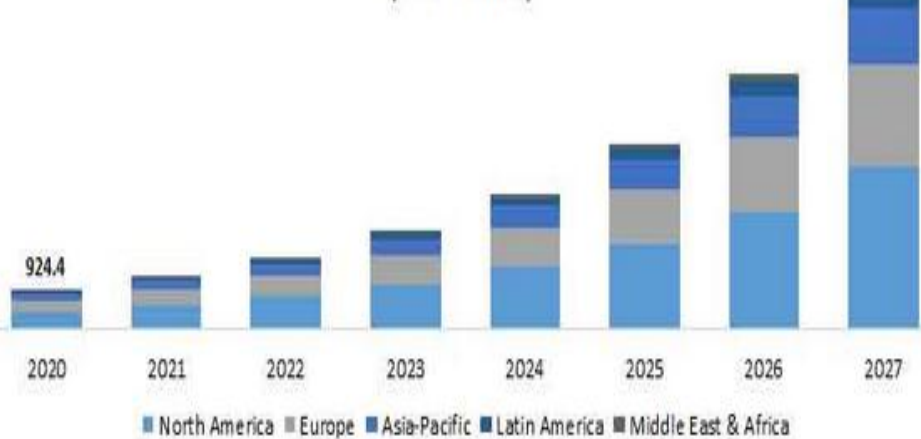


Trafego
Conteúdos
Software
Aplicações

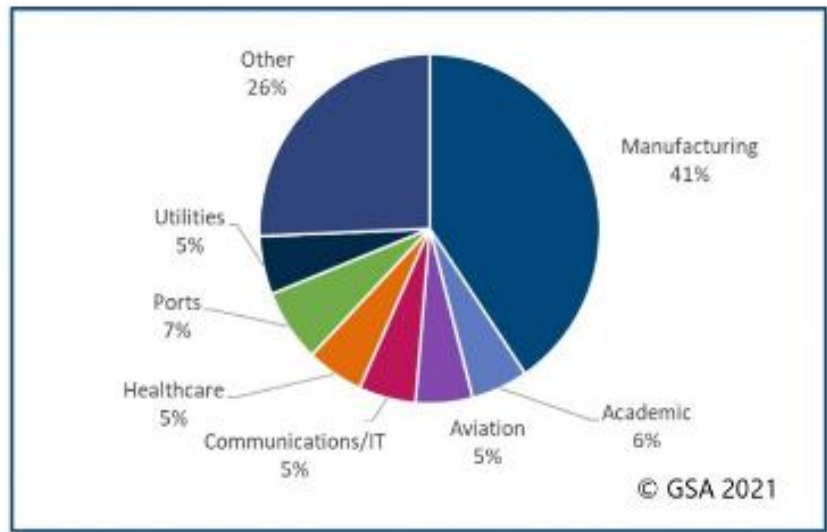


Mudar o conceito de operador da rede

Private 5G Network Market Size, By Region, 2015-2026
(USD Million)



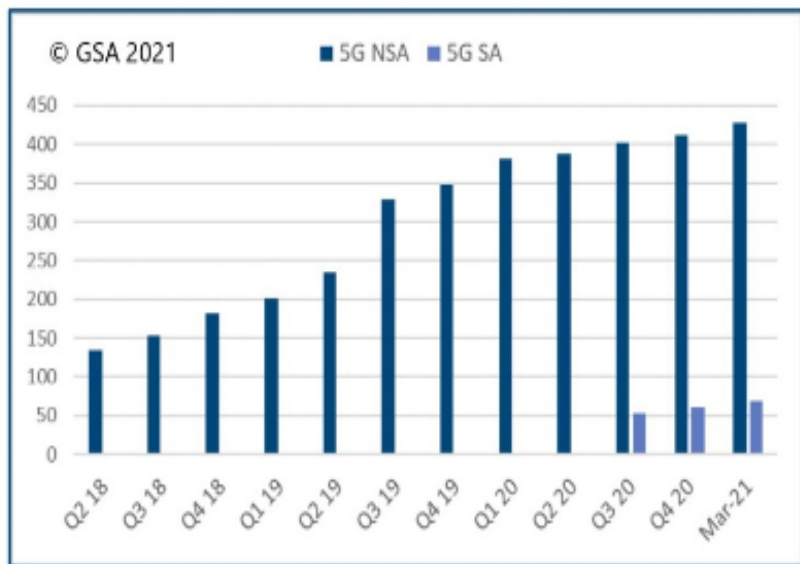
Catalogued 5G private network projects by sector



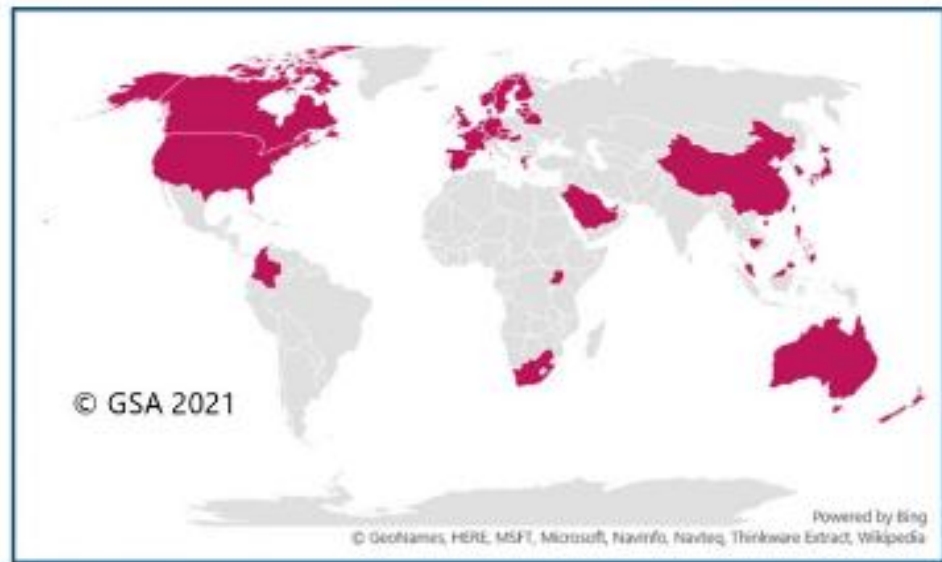
Implementação 5G no mundo



Growth of 5G SA - number of operators investing



Map of operators investing in 5G Standalone

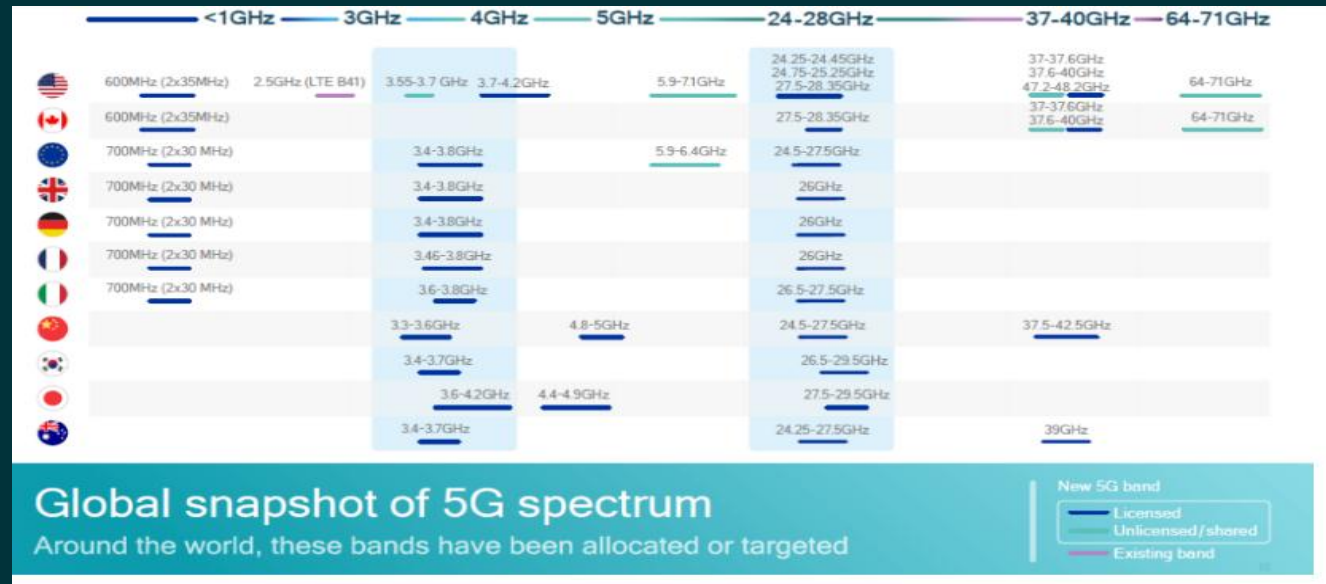


Implementação 5G em Angola



Importantes considerações:

1. Atribuição do espectro para o funcionamento do 5G.



Implementação 5G em Angola



2. Regulamentação e legislação

3. Plano de apoio para acelerar a implementação da infraestrutura

4. Investimentos e atractividade

5. Construção de infraestruturas partilhadas



Muito obrigado