

SPECTRUM

THE FUNDAMENTAL ELEMENT OF MOBILE

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CITEL





Introduction



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SPECTRUM

THE FUNDAMENTAL ELEMENT OF MOBILE



Welcome

Brett Tarnutzer

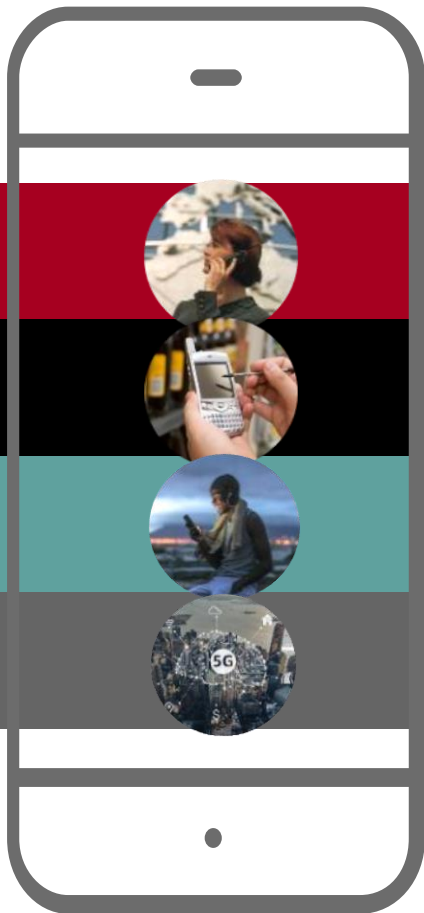


2G

3G

4G

5G



All about calls and texts

The start of mobile data

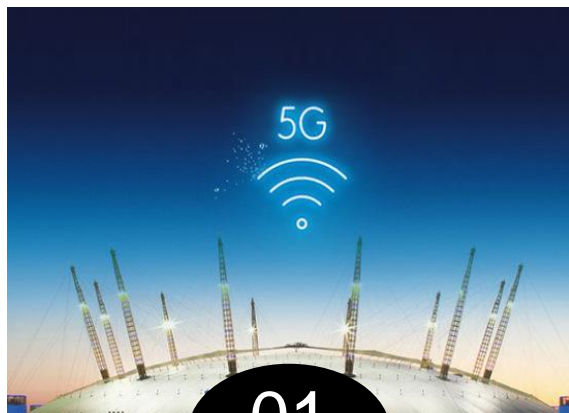
The arrival of mobile broadband services and applications

The network adapts to the application

Ultra high speed
Ultra low latency
New applications



5G Ramps Up



01

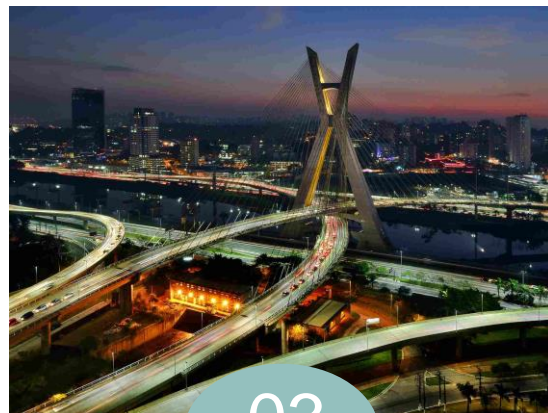
In the United States
2 MILLION
SUBSCRIBERS
by the end of 2019

5 MILLION
ADDITIONS
Each quarter of 2020



5G users now experience
over
1800 Mbps powered by
mmWave spectrum

02



03

5G IN AMERICAS
4 live networks
53 trials

Brazil set to auction 26 GHz
in 2020



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



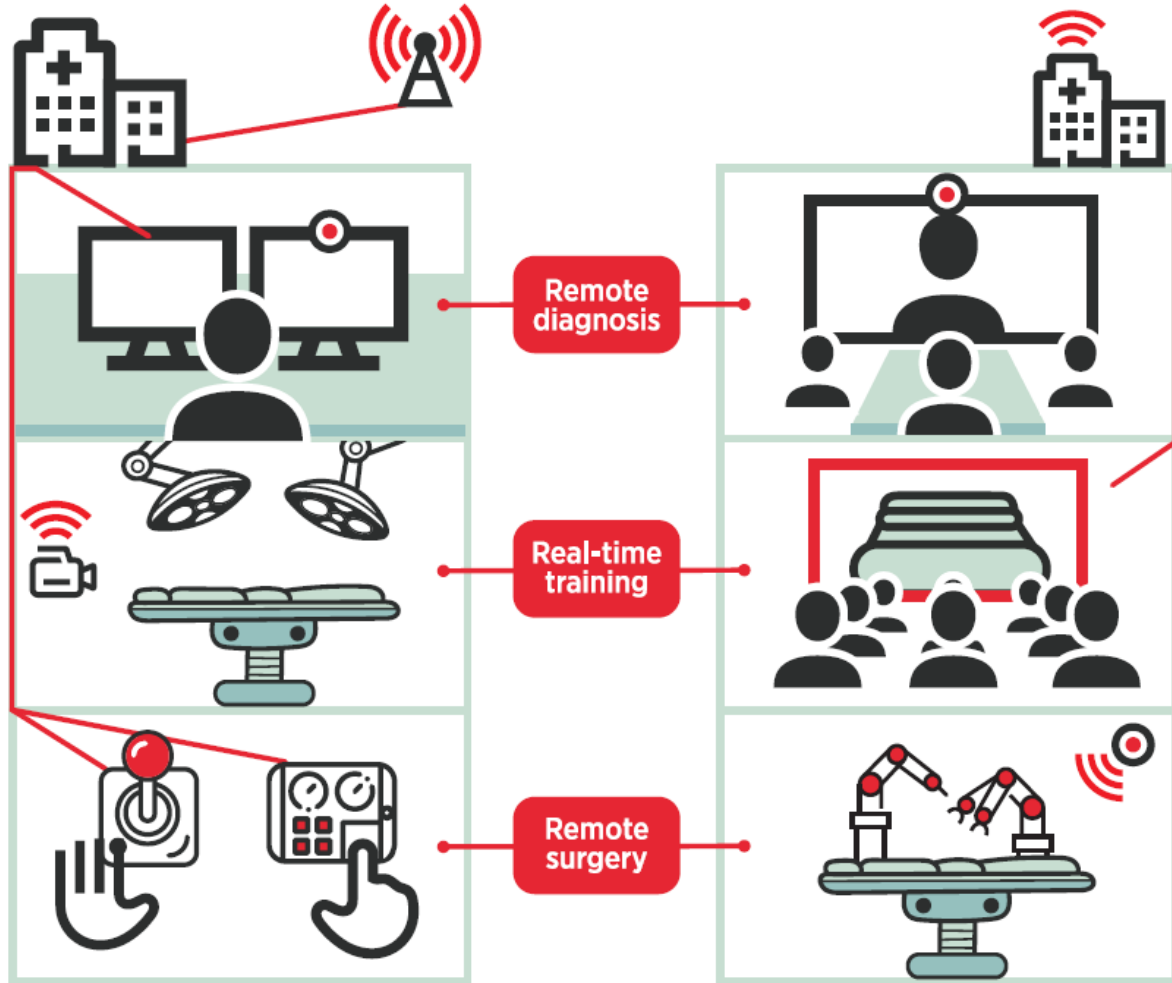


Use Case

5G

CAN
MAKE IT
HAPPEN

Healthcare





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

Americas Edition

GDP impact of mmWave spectrum by 2034



TAX
\$46bn

2.3%

GDP growth

15%
2025

33%
2034

The share of 5G services using mmWaves