

CARRIERS NEED STRATEGIC ROADMAP FOR 5G

As 5G devices emerge, carriers are facing the challenge to upgrade their networks to meet the seemingly insatiable consumer desire for data. This infographic cuts through the hype and explores the 5G reality as carriers plot their next journey.

Exploring the 5G timeline

5G begins to penetrate the market with deployments in the US and South Korea

2018

2020

2021

2025

2027

Around 70 countries forecast to have launched 5G by end of 2020

eMBB deployments expected

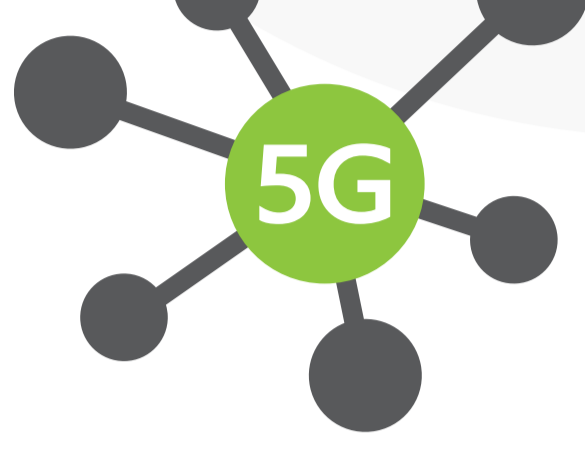
5G likely to expand to new verticals and use cases

5G roaming roll out anticipated

Investment in 5G networks expected to have exceeded \$1 trillion*

Defining 5G

True 5G (otherwise known as New Radio or NR) includes:



5G Core



5G RAN

5G has four primary features, these include:



Network Slicing

The creation of multiple virtual networks atop a shared physical infrastructure

enhanced Mobile Broadband (eMBB)

High capacity, faster throughput, higher user mobility geared towards handsets and replacement of landlines

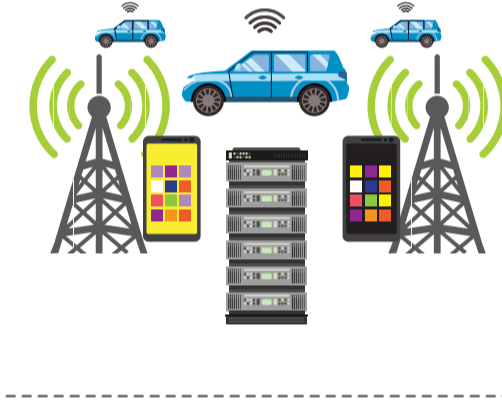


Ultra-Reliable Low Latency Communications (URLLC)

Deliver advanced services for latency sensitive connected devices such as autonomous driving, remote surgery and the industrial internet

Massive Machine Type Communication (mMTC)

Connectivity to multiple devices which transmit sporadically a low amount of traffic over billions of devices without overloading the network



The End for LTE?



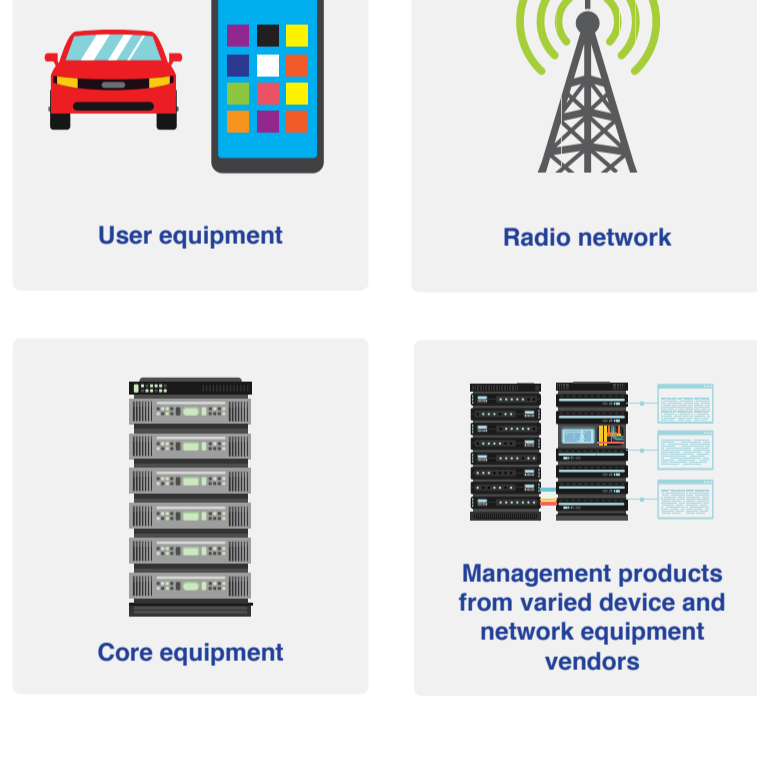
LTE and VoLTE are still critical to roaming especially CDMA to LTE operators



4G is expected to become the dominant mobile technology, surpassing half of global mobile connections in 2019

5G Critical Success Factors:

Mobile Network Operators (MNOs) must be able to support:



Investments are needed to billing and operational systems

Addressing these success factors is essential otherwise back-end systems cannot deploy new applications at the same rate as the virtualized 5G network



Carrier Options for 5G Deployments



Option 2 - Standalone (SA)

Deploys a 5G core and a new radio 5th Generation NodeB

Offers the full feature set of 5G: Network Slicing, eMBB, mMTC and URLLC



Option 3 - Non-standalone (NSA) or EN-DC (E-Ultra New Radio Dual Connectivity)

Utilizes a 4G EPC with a 5G NodeB (gNB)

Popular option for mobile operators looking to quickly deploy 5G speeds utilizing existing LTE deployments

However, NSA doesn't allow for true 5G NR features such as network slicing, URLLC and high capacity support for IoT, such as mMTC

*<https://www.gsmaintelligence.com/research/2019/06/investing-in-5g-the-scale-promise-and-challenges-of-tomorrows-networks/777/>