

5G Americas MRP Report

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President
5G Americas

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5GAmericas.Org

5G Americas

5G Americas facilitates and advocates for the advancement and transformation of LTE, 5G and beyond throughout the Americas.



5G Americas Contributions



**Technical Facilitation
& Coordination**



Regulatory Policy



Educational Outreach



Leading for a 5G era

- 5G global markets area going from 31 Billion in 2020 to **\$11 Trillion** in 2026³
- Network investment will hit **\$1.1 trillion** over the next five years, focused mostly on 5G²

- US investments **\$1.3 Trillion**⁴
- 4G Leadership = economic benefits and mobile digital service ecosystem added \$100 Billion annual GDP¹
- 5G leadership will drive continued innovation and associated benefits¹

- 5G could boost US by **\$500 Billion annually**⁵
- **3 Million** new jobs⁵
- Savings and benefits in excess of **\$160 Billion** for local communities⁵

Sources:

1 Chairman Ajit Pai remarks at White House 5G Summit, September 2018

2 GSMA: <https://www.rcrwireless.com/20200316/5g/gsma-network-investment-will-hit-1-1-trillion-over-the-next-five-years>

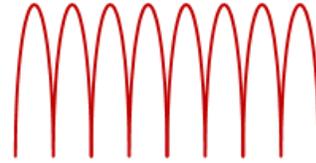
3 ReportsnReports: <https://www.prnewswire.com/news-releases/5g-market-are-going-from-31-billion-in-2020-to-11-trillion-by-2026-research-report-by-reportsnreports-300957194.html>

4 "1.3 trillion" – as per Intel/Ovum: <https://www.businesswire.com/news/home/20181011005211/en/Intel-Study-Finds-5G-Drive-1.3-Trillion>

5 Accenture study, <https://api.ctia.org/docs/default-source/default-document-library/how-5g-can-help-municipalities-become-vibrant-smart-cities-accenture.pdf>



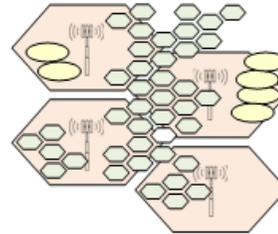
Mobile Broadband Transformational Elements



Ability to access
10 times as much spectrum
with better radio technology



Integration of Licensed and
Unlicensed Spectrum



Small Cells Ready for
Mass Deployment

New Network Architectures
(NFV, Mobile Edge Computing,
Network Slicing, ...)

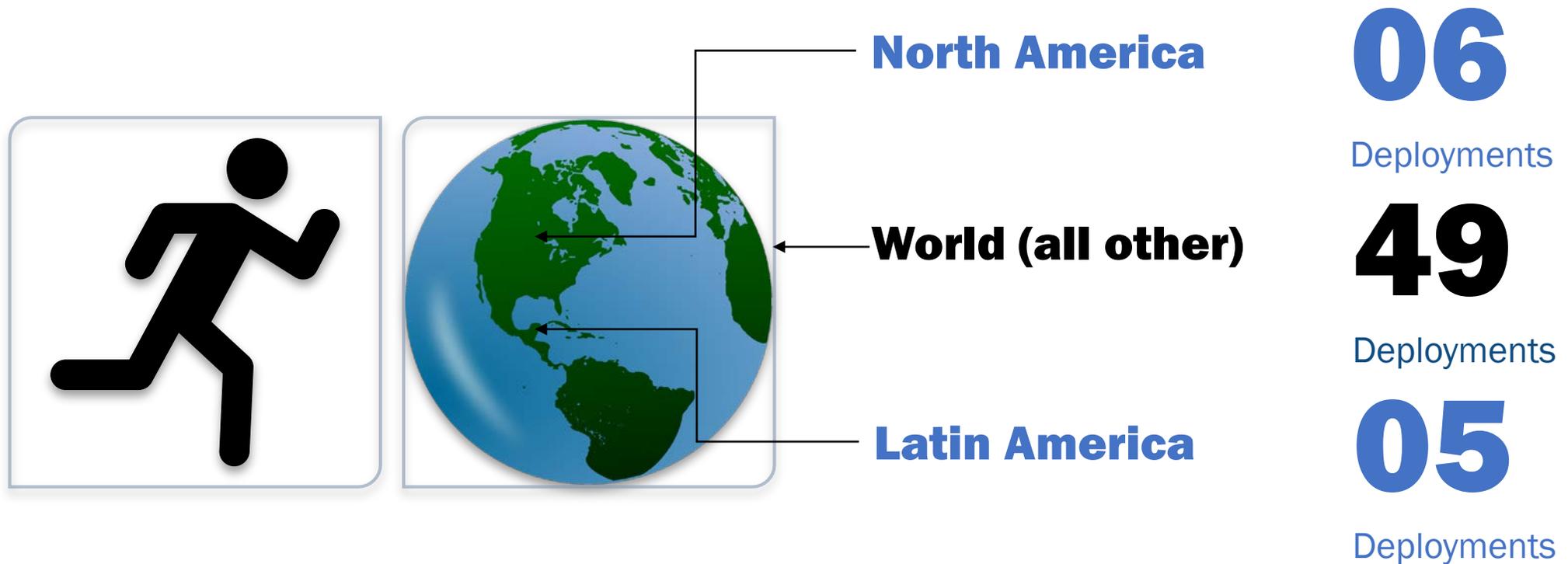


Equal Support for Things
And People



Rysavy Research

Fast Start: 5G Is A Commercial Reality

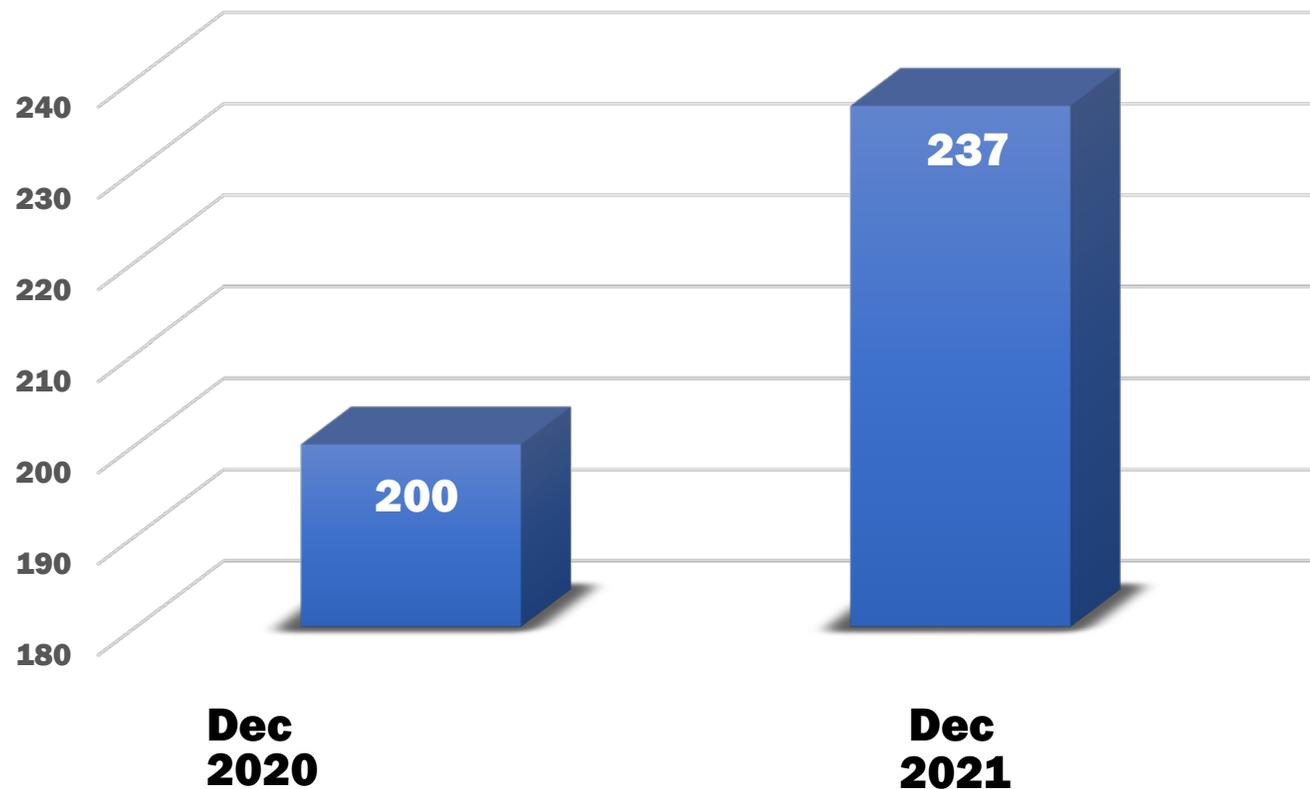




Global 5G Network Deployment Forecast



3GPP Standardized 5G Networks



5G Deployments in North America (US)



March, 2020



Launched nationwide 5G in December 2019

- Built 5G ready network in 30 cities in 2018
- Launched 5G mmWave in NY, LA, Dallas, Cleveland & Atlanta on June 28, 2019
- Launched Nationwide standardized mobile 5G on 600 MHz in December 2019, including 'pre-paid'



Launched 5G standardized mobile service in 2018

- Initially launched mmWave in 2018
- 58 cities and counties have 5G lowband, 35 cities have mmWave service
- Nationwide standardized mobile 5G using sub 6GHz spectrum in early 2020



Launched 5G in February 2020



Initially launched pre-standard commercial Fixed Wireless 5G in 4 cities in October 2018

- Started with mmWave spectrum in 2018
- Launched standardized 5G mobility service in 30 cities in 2019
- Will cover half the U.S. population in 2020 with low, mid and mmWave spectrum



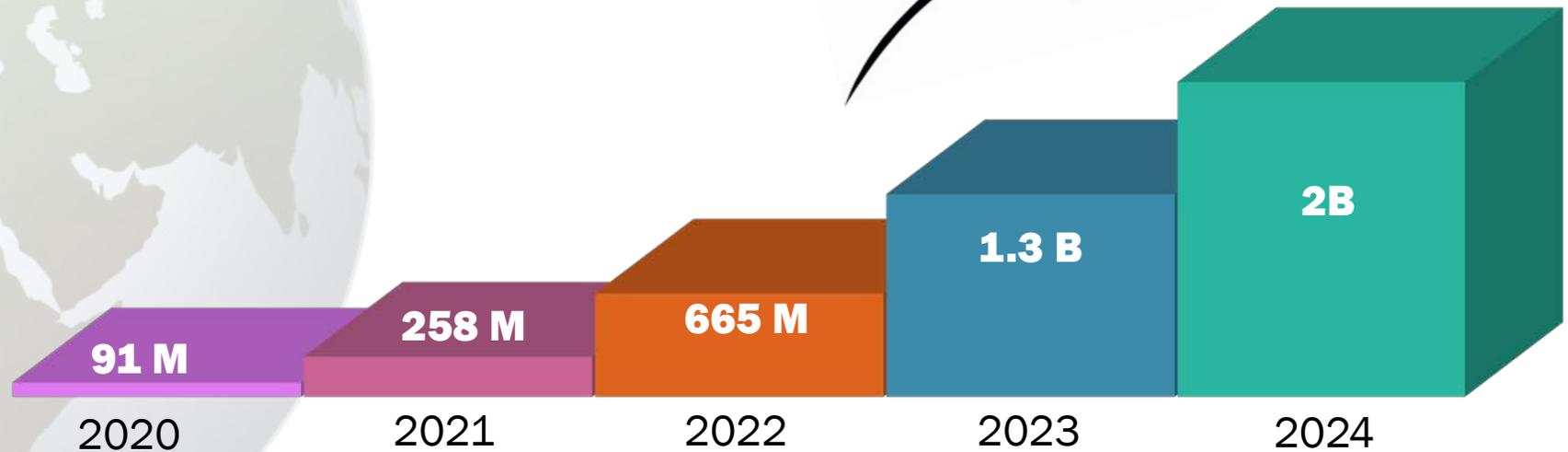
Launched standardized mobile 5G on 2.5GHz in 2019

- 9 cities launched by August 2019
- Additional launches expected

5G Deployments in Caribbean & Latin America



Global 5G Subscription Forecast 2020-2024



Source:

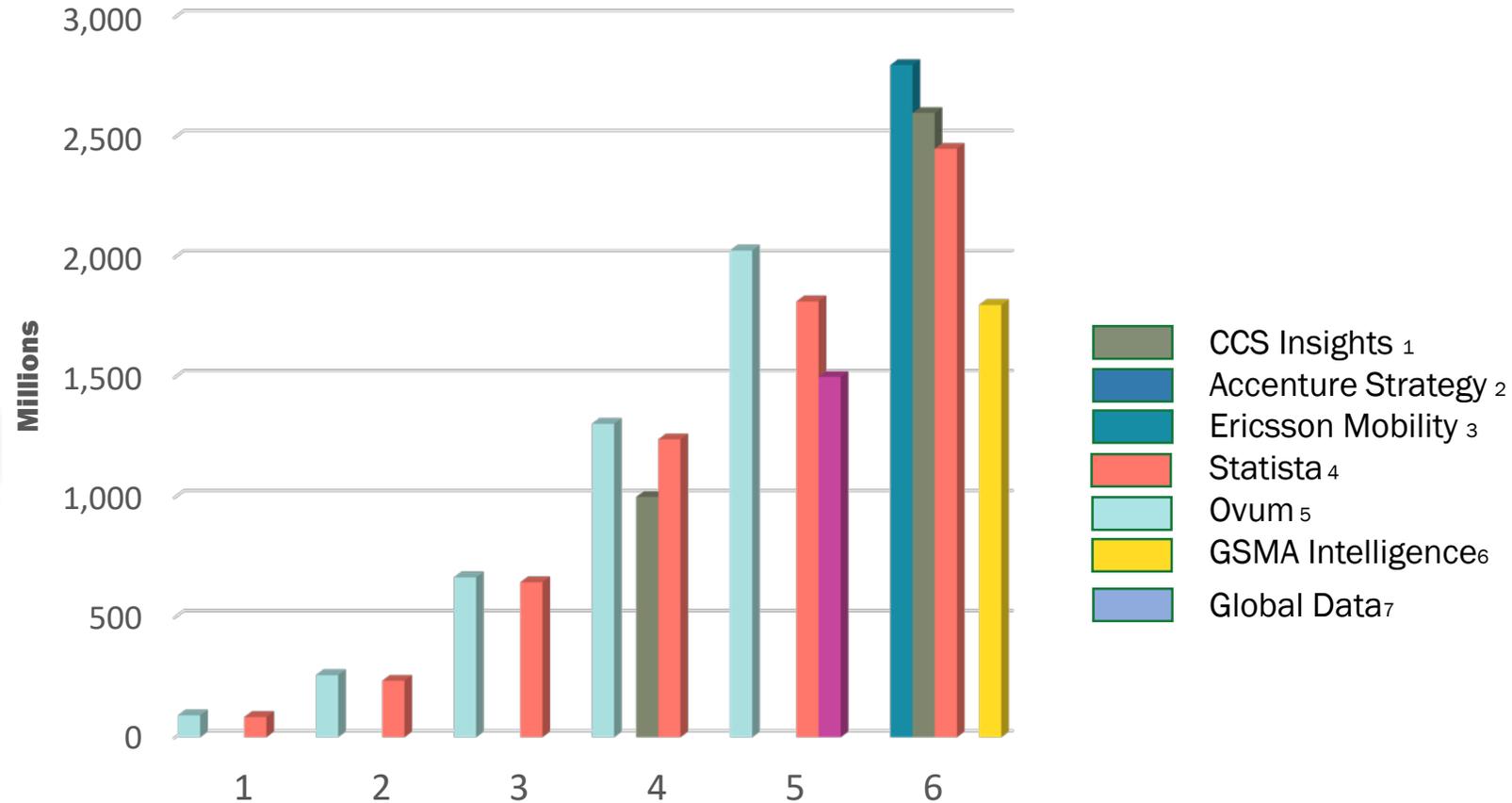


March 2020

Forecast includes M2M



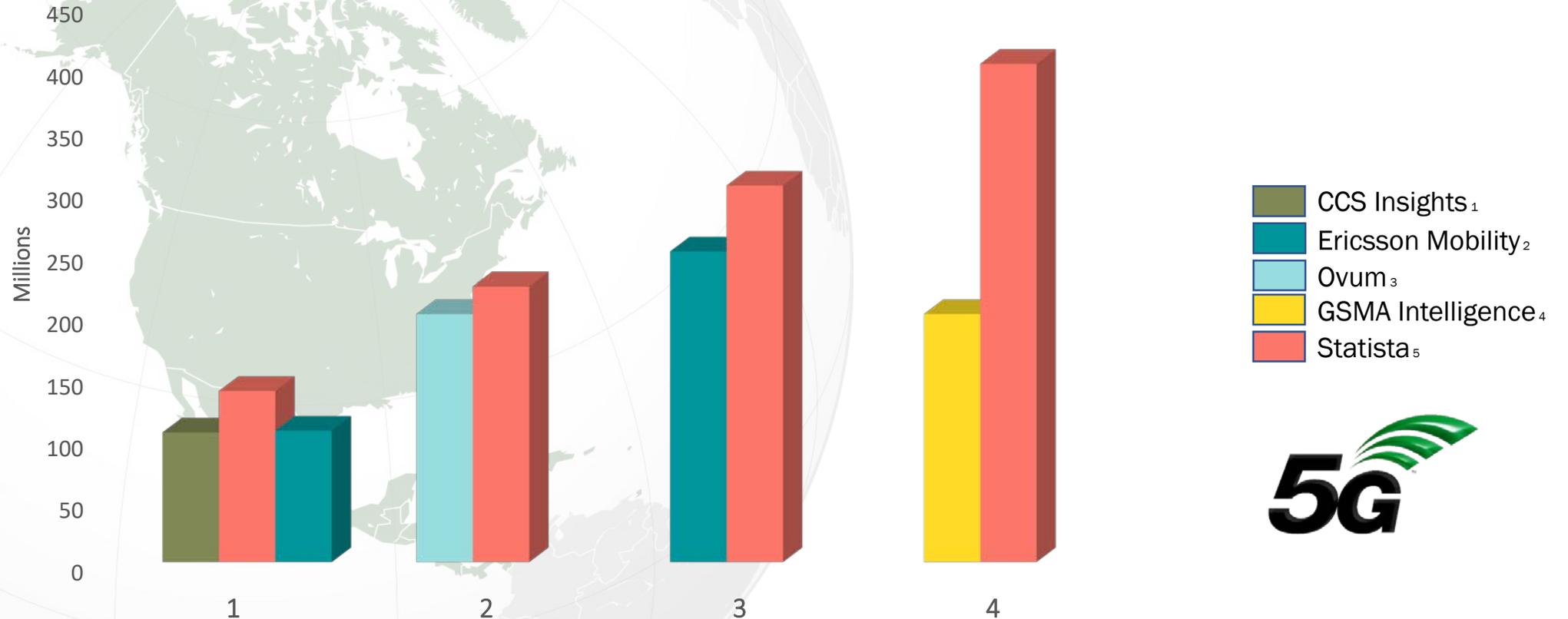
Global 5G Subscription Forecasts Vary By Analyst



Sources:
 1 CCS Insights, Networks' Ambitions to Launch 5G Early Raise Global Forecast, Sept. 2018
 2 Accenture Strategy, July 2018
 3 Ericsson, Mobility Report, December 2019
 4 Statista, Feb 2019
 5 Ovum, WCIS, March 2020
 6 GSMA Intelligence, Feb 2019
 7 Global Data, September 2019



North America 5G Subscription Forecasts



- CCS Insights¹
- Ericsson Mobility²
- Ovum³
- GSMA Intelligence⁴
- Statista⁵



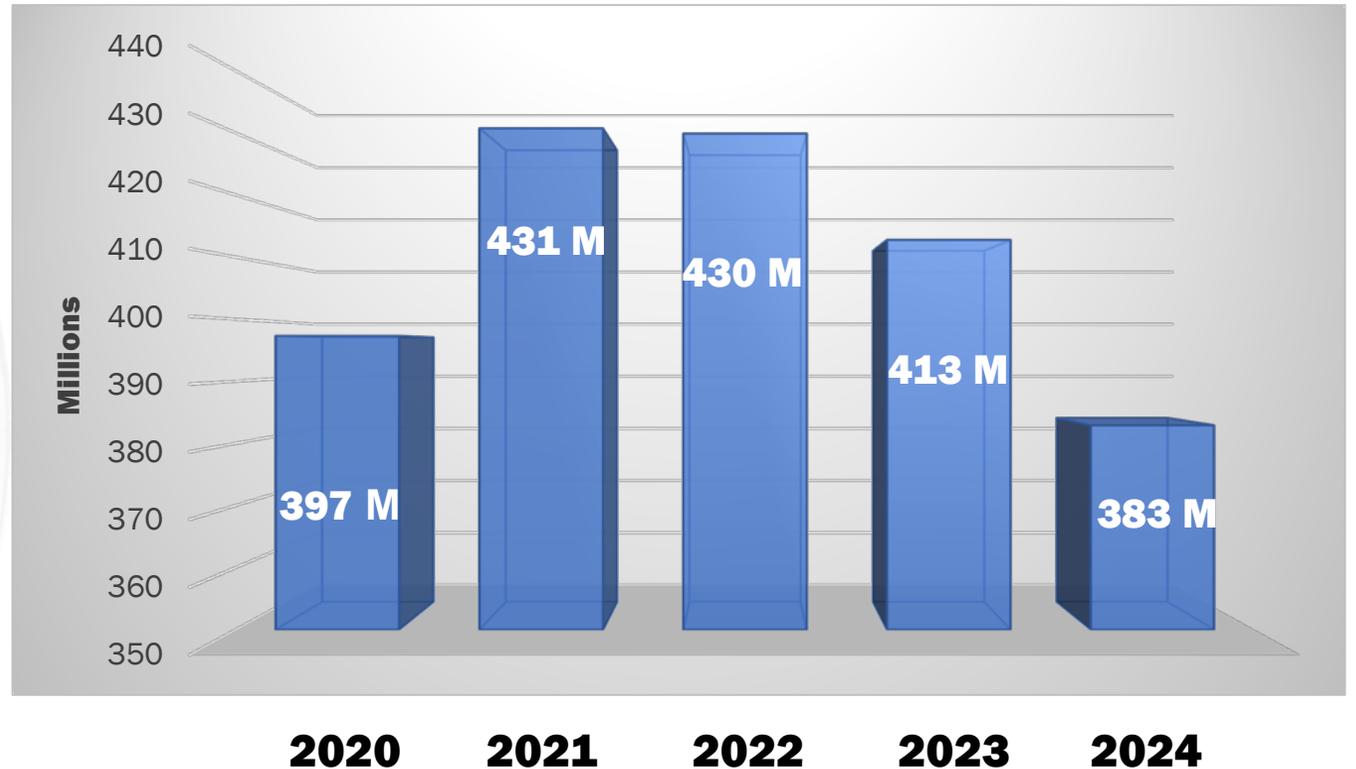
Sources:
1 CCS Insights, Networks' Ambitions to Launch 5G Early Raise Global Forecast, Sept. 2018
2 Ericsson, Mobility Report, Nov. 2018
3 Ovum, WCIS, March 2020
4 GSMA Intelligence, Feb 2019
5 Statista, Feb 2019





Latin America & Caribbean LTE Subscriber Forecasts 2020-2024

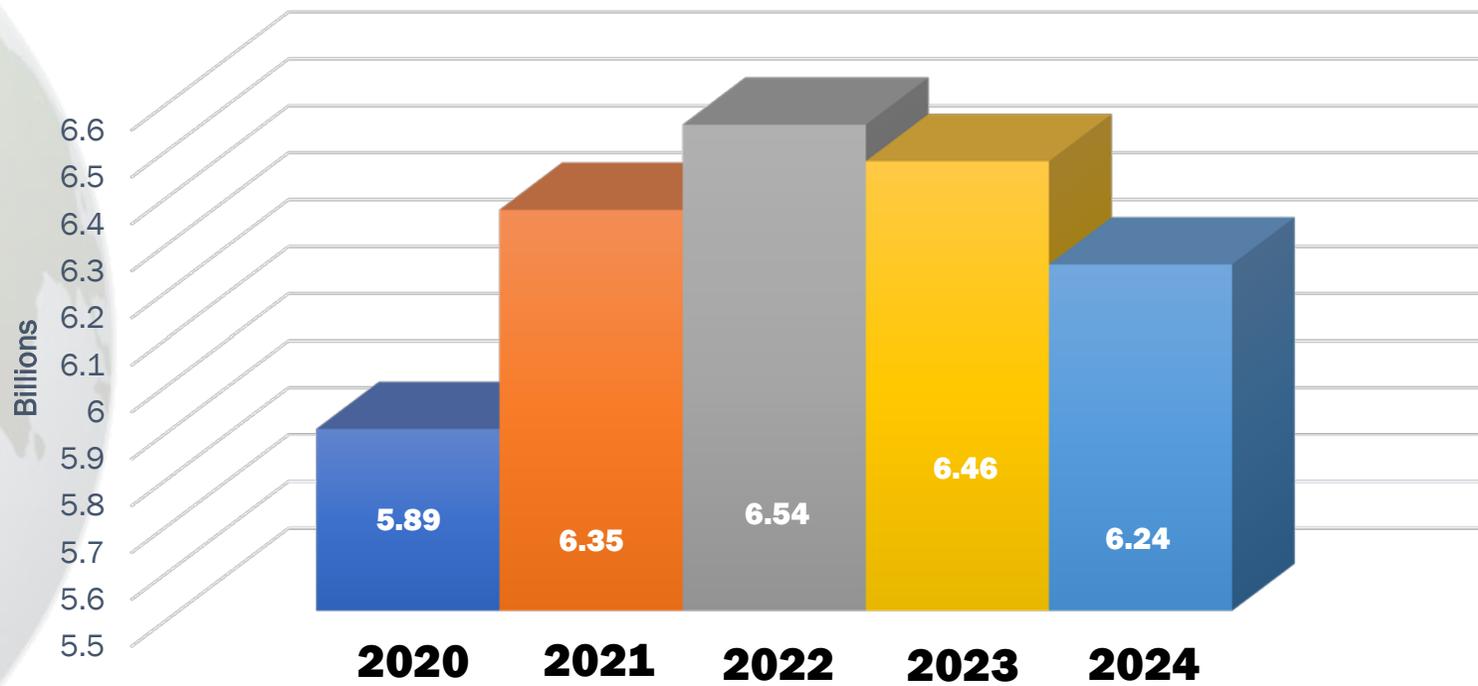
Source:  March 2020





Global LTE Subscription Forecast 2020-2023

Global Lte



U.S. Spectrum Considerations



LOW-BAND

- Operators using existing spectrum assets below 3 GHz



MID-BAND

- CBRS Shared Spectrum 3550-3700 MHz
- FCC C-band Proposal on 3.7 GHz to 4.2 GHz
- NTIA studying 3.1 GHz to 3.55 GHz
- FCC Proposal on 5.850 GHz to 5.925 GHz (C-V2X)



HIGH-BAND

- mmWave spectrum - Auctions
 - 28 GHz – completed January 2019
 - 24 GHz – completed May 2019
 - 37 GHz – clock phase concluded January 2020
 - 39 GHz – clock phase concluded January 2020
 - 47 GHz – clock phase concluded January 2020

3rd mmWave Auction (US)



AT&T won 3,267 licenses in 411 PEAs, bidding about \$2.38 billion



T-Mobile bid about \$931 million to win 2,384 licenses in 399 PEAs, purchasing both 47 GHz and 37-39 GHz spectrum.



Verizon won 4,940 licenses across 411 PEAs after bidding about \$3.4 billion

- 37, 39 and 47 GHz spectrum bands
- Top Bidders: **AT&T, T-Mobile, Verizon**
- Auction 103 ended with **\$7.57 billion in gross bids**
- Average of **\$0.009 per MHz PoP**
- **Additional winning bidders not listed**



Latin American Spectrum Considerations



HIGH-BAND

| | |
|--------|--------|
| 26 GHz | 42 GHz |
| 28 GHz | 48 GHz |
| 38 GHz | 51 GHz |

MID-BAND

2.3 GHz
2.5 GHz
3.3-3.4 GHz
3.5 GHz

LOW-BAND

600 MHz



5G Americas Whitepapers

English: 5gamericas.org/white-papers/

Spanish: brechacero.com/white-papers/

Portuguese: brechazero.com.br/white-papers/



Jan 2020
The 5G
Evolution: 3GPP
Rel. 16-17



Dec 2019
5G and the Cloud



Oct 2019
5G at the Edge



Sep 2019
Global 5G:
Implications of a
Transformational
Technology



Aug 2019
Advanced
Antenna
Systems for 5G



Aug 2019
Análisis de Las
Recomendaciones
de Espectro de la
UIT en América
Latina



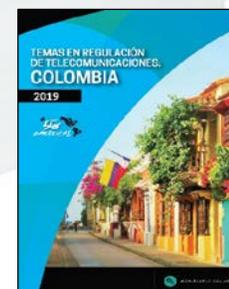
Jul 2019
Historia Clínica
Electrónica en
América Latina



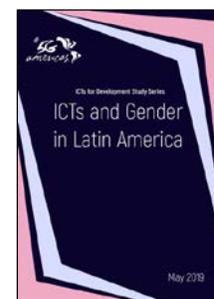
Jul 2019
5G: The Future
of IoT



Jul 2019
Evolution of
Security in 5G



Jun 2019
Temas en
Regulacion de
Telecomunicaciones:
Colombia



May 2019
Género t TIC en
América Latina



Feb 2019
5G Spectrum
Vision



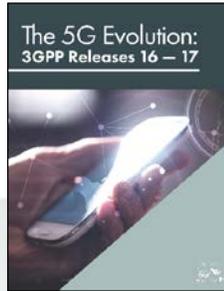
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Latina



Jul 2019

Evolution of
Security in 5G





Thank You

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