



5G AMERICAS
MRP REPORT
SEPTEMBER 2020

WWW.5GAMERICAS.ORG

CHRIS PEARSON
PRESIDENT
5G AMERICAS

5GAmericas.org

Who We Are

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



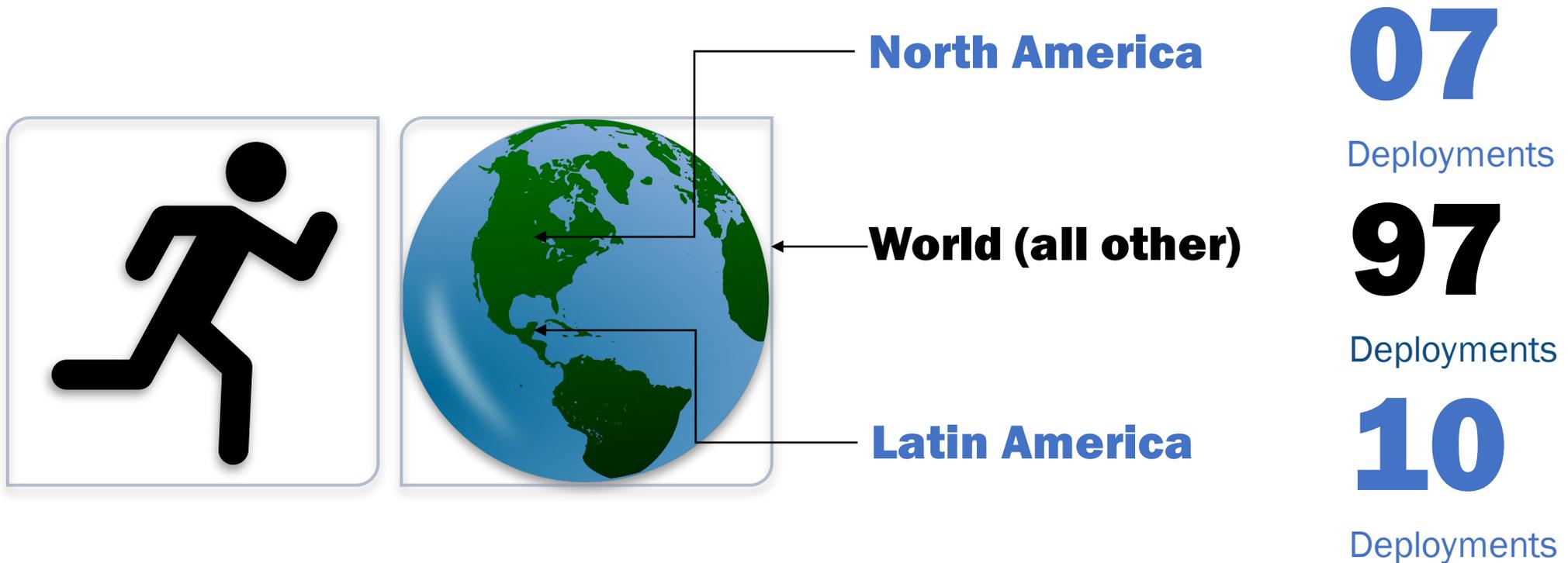
Educational Outreach



A satellite view of Earth from space, showing the Americas and the Atlantic Ocean. The text "Market Statistics and Forecasts" is overlaid in the center.

Market Statistics and Forecasts

Fast Start: 5G Is A Commercial Reality

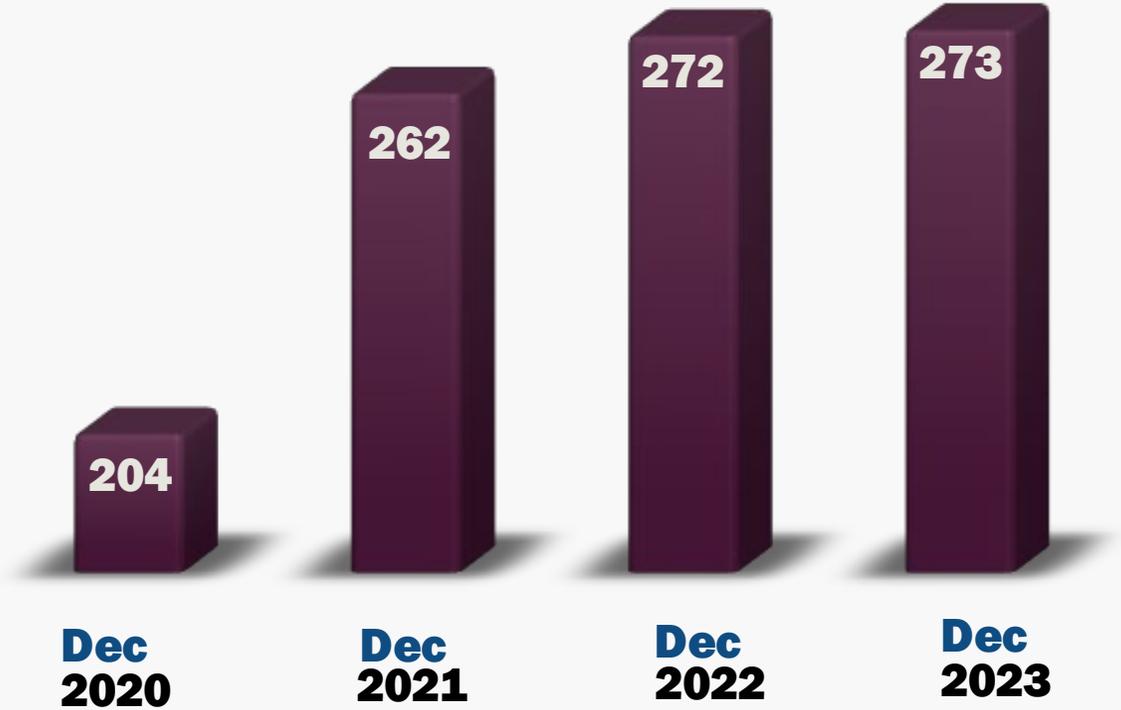




Global 5G Network Deployment Forecast



3GPP Standardized 5G Networks



Source: Telegeography





5G Deployments in North America (US)



Launched nationwide 5G in December 2019

- Available to Sprint customers. Serves nearly 7,500 cities and towns covering 250M people over 1.3M sq miles.
- 10% of Sprint postpaid traffic moved to TMUS network
- 5G on 2.5GHz midband in 8 major markets
- 1st operator to launch 5G standalone
- 319 MHz of combined low, mid, high-band spectrum



Launched 5G standardized mobile service in 2018

- Initially launched mmWave in 2018. 5G+ available in parts of 35 cities.
- 5G network covers 355 cities and 179 million people
- Nationwide coverage
- FirstNet migrating to 5G



Launched 5G in February 2020

- Will begin turning on 5G network in parts of many Iowa and Wisconsin communities.
- 5G coverage to expand to 11 states in 2nd half 2020



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

- 5G 'Ultra Wide Band' currently available in parts of 35 cities
- Will cover half the U.S. population in 2020 with low, mid and mmWave spectrum
- 5G MEC to launch in 10 cities in 2020
- Launched standardized 5G mobility service in 30 cities in 2019
- Started with mmWave spectrum in 2018

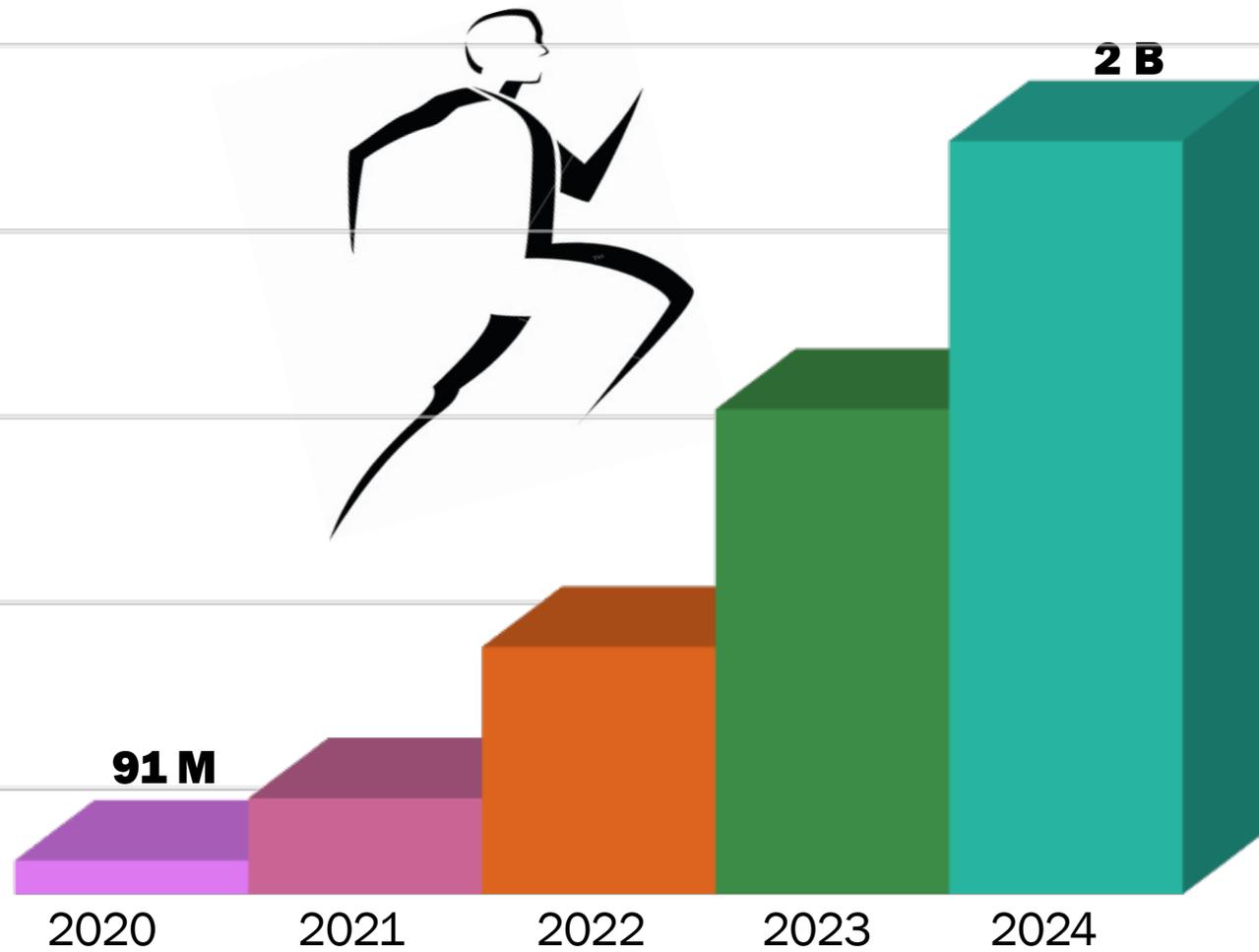
Sources:

- [T-Mobile Q2 2020 Earnings Results](https://about.att.com/newsroom/2020/5G_markets.html)
- https://about.att.com/newsroom/2020/5g_announcements.html
- <https://www.verizon.com/about/news/verizon-5g-report-opensignal>
- <https://www.uscellular.com/plans/network-innovation/5g-technology>

5G Deployments in Caribbean & Latin America



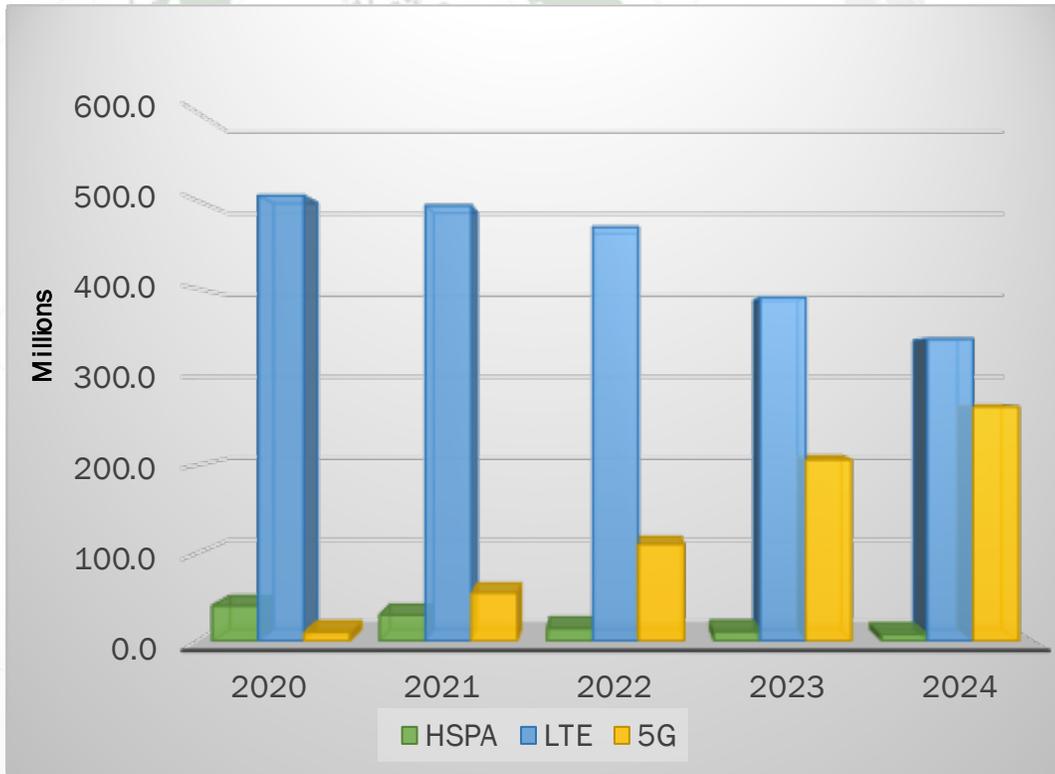
Global 5G Connections Forecast 2020-2024



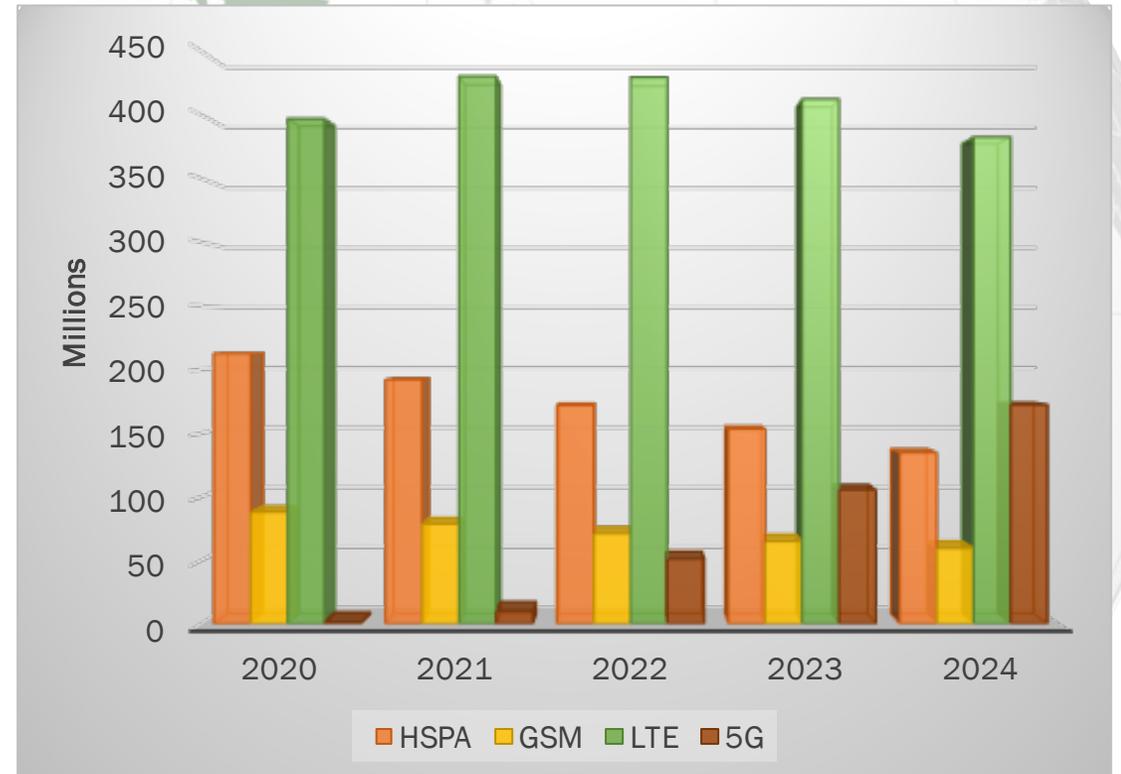
Source: **OMDIA** August 2020 Forecast includes M2M



5G North America Subscriptions Forecasts 2020-2024

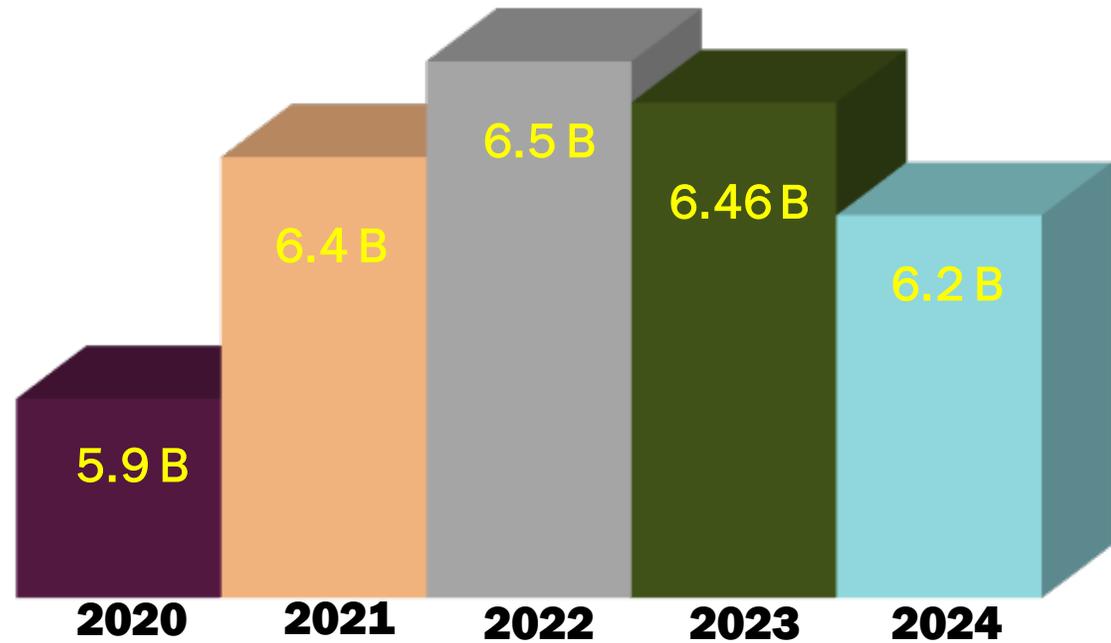


Latin America & Caribbean Subscriptions Forecasts 2020-2024

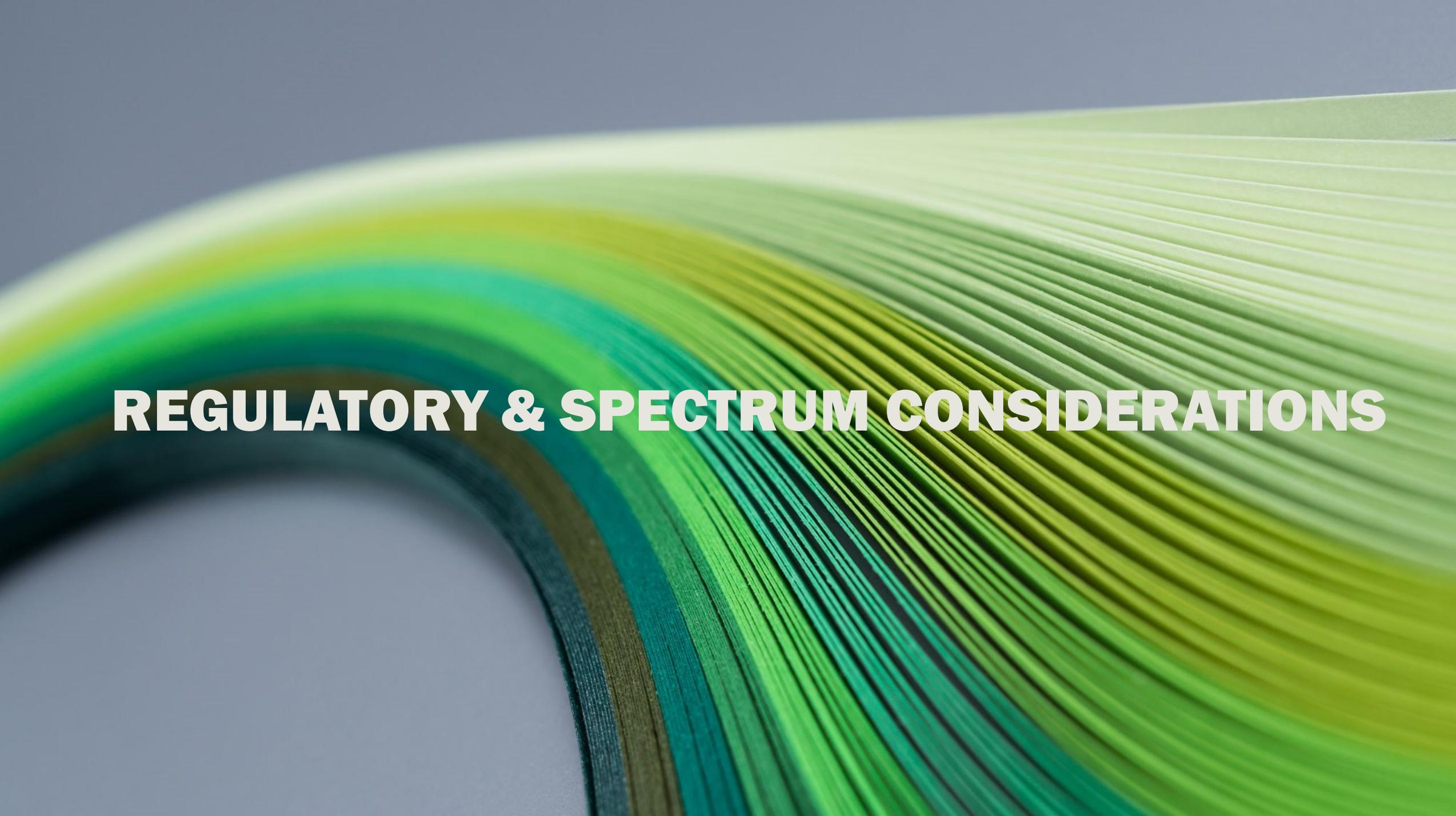




GLOBAL LTE SUBSCRIPTION FORECAST 2020-2024

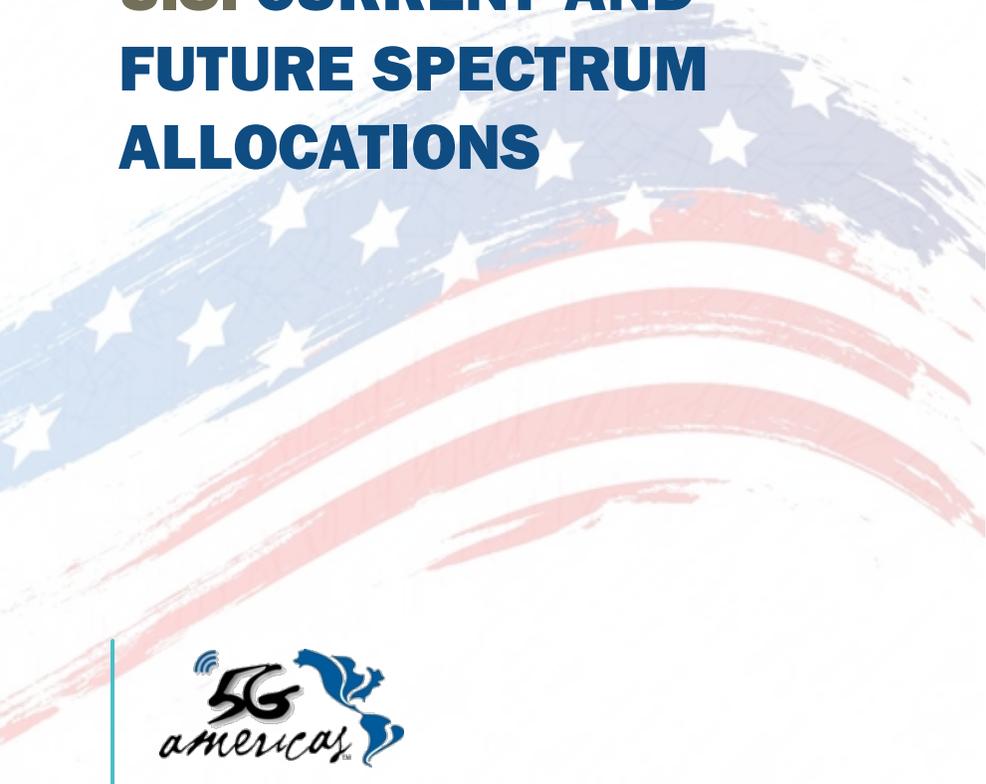


Global LTE subscriptions by year



REGULATORY & SPECTRUM CONSIDERATIONS

U.S. CURRENT AND FUTURE SPECTRUM ALLOCATIONS



Frequency Band	Amount of Spectrum	Comments
600 MHz	70 MHz	Ultra-High-Frequency (UHF).
700 MHz	70 MHz	Ultra-High Frequency (UHF).
850 MHz	64 MHz	Cellular and Specialized Mobile Radio.
1.5/1.6 GHz (L-Band)	40 MHz	Available for 5G.
1.7/2.1 GHz	90 MHz	Advanced Wireless Services (AWS)-1.
1695-1710 MHz, 1755 to 1780 MHz, 2155 to 2180 MHz	65 MHz	AWS-3. Uses spectrum sharing.
1.9 GHz	140 MHz	Personal Communications Service (PCS).
2000 to 2020, 2180 to 2200 MHz	40 MHz	AWS-4 (Previously Mobile Satellite Service).
2.3 GHz	20 MHz	Wireless Communications Service (WCS).
2.5 GHz	194 MHz	Broadband Radio Service. Closer to 160 MHz deployable. See also "2.5 GHz (EBS)" section below.
3.55-3.70 GHz CBRS	70 MHz	150 MHz underlay of generally authorized spectrum, with up to 70 MHz available for licensed use (40 MHz limit for a single operator in license area). Auction completed.
24 GHz	700 MHz	Second licensed mmWave spectrum in the United States.
28 GHz	850 MHz	First licensed mmWave spectrum in the United States.
37, 39, 47 GHz	4 GHz	Third licensed mmWave spectrum in the United States.
FUTURE		
3.45 – 3.55 GHz (new)	100 MHz	FCC announced auction for 2021.
3.7 to 4.2 GHz (C-band)	280 MHz	Auction planned for end of 2020 to license 3.7 to 3.98 GHz with C-band satellite services repacked in 4 to 4.2 GHz.
3.1 to 3.55 GHz	To be determined	Under investigation by FCC and National Telecommunications and Information Administration (NTIA), with upper 100 MHz recommended for commercial sharing.



AT&T participated in auction, but did not win any PALs.



Verizon spent \$1.89 B on 557 PALs in 157 counties.

Sources:
[Fiercewireless](#)
[FCC](#)

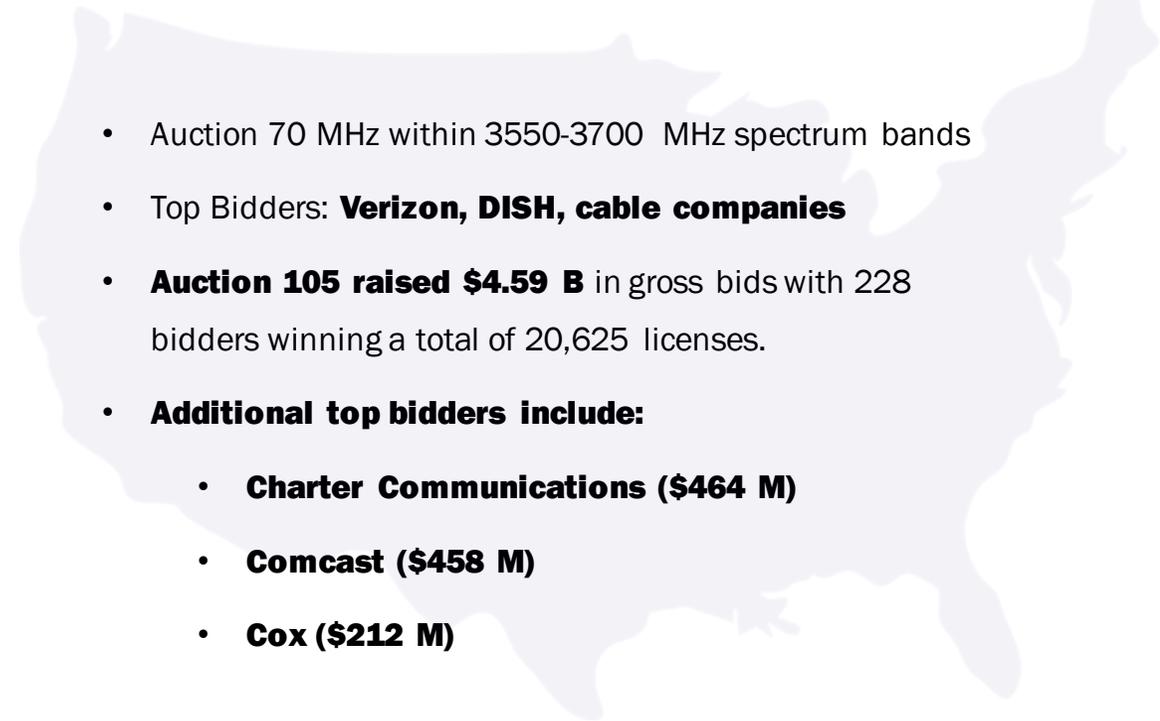


T-Mobile bid about \$5.58M million on eight PALs in six counties. Shentel won 262 PALs in 74 counties, spending \$16.18 M. T-Mobile in process of buying Shentel wireless assets.



As “Wetterhorn Wireless” spent \$912 million on 5,492 PALs.

RECENT CBRS AUCTION RESULTS (USA)



- Auction 70 MHz within 3550-3700 MHz spectrum bands
- Top Bidders: **Verizon, DISH, cable companies**
- **Auction 105 raised \$4.59 B** in gross bids with 228 bidders winning a total of 20,625 licenses.
- **Additional top bidders include:**
 - **Charter Communications (\$464 M)**
 - **Comcast (\$458 M)**
 - **Cox (\$212 M)**



Latin American Spectrum Considerations



Country	Potential spectrum capacity (MHz)	Bands	Status / Outlook	Currently assigned spectrum (MHz)
Argentina*	170	700 MHz, AWS, 1.9 GHz, 2.5 GHz	To be defined	400
Brazil*	3,710	700 MHz, 2,3 GHz, 3,5 GHz, 26 GHz	2021 (2Q 21)	609
Chile	1,820	700 MHz, AWS-3, 3.5 GHz, 26 GHz	October 2020	470
Colombia*	445	700 MHz, 1.9 GHz, 2.5 GHz, 3.5 GHz	To be defined. Between 4Q 20 and 2021.	492.5
Costa Rica*	130	700 MHz, 900 MHz	To be defined. Bands mentioned in spectrum planning documentation.	400
Ecuador*	510	700 MHz, 2.5 GHz, 3.5 GHz	2020 (4Q 20) – Tentative	290
El Salvador*	105 Of which: 20 MHz (1.9 GHz) were awarded on 1Q20. Available: 85 MHz.	AWS (30 MHz remaining from the 2019 auction). 850 MHz, 1.9 GHz (America Movil must return 25 MHz and 30 MHz, respectively as a condition of the purchase of Telefonica)	To be defined	249
Guatemala*	250	600 MHz, 700 MHz, AWS	To be defined	210,6
Honduras*	310	700 MHz, 900 MHz, 2.5 GHz	To be defined	290
Mexico*	241.95	600 MHz, 800 MHz, 850 MHz, 1.9 GHz, AWS-3, 2.5 GHz, 3.5 GHz	800 MHz, 1.9 GHz, AWS-3 and 2.5 GHz in 2020 (~72 MHz) – Auction terms published on AUG 2020. 600 MHz and 3.5 GHz during 2021.	524.9
Panama*	140	AWS	To be defined. Currently the AWS band was awarded on a temporary basis as part of the COVID-19 measures.	240
Paraguay*	190	2.5 GHz	To be defined.	350
Peru*	360	AWS-3, 2.3 GHz, 2.5 GHz, 3.5 GHz	2021 (tentative)	554.4
Uruguay*	50	1.8 GHz, AWS-3, AWS-4, 2.5 GHz	Available spectrum from the 2019 auction. To be defined.	515
Venezuela*	251	700 MHz, 900 MHz, AWS, 1.8 GHz 1.9 GHz, 2.5 GHz	Available	324
Potential spectrum (total)	8,682.95 MHz			

* Regulators in these countries have not issued final terms or/and conditions of the process and are subject to change. The quantities reflect an estimate by 5G Americas based on recent auctions and tenders and the current assignment of the bands.

A group of five people are seated around a table in a modern meeting room. On the left, a large screen displays a video call with a woman. In the background, a whiteboard is covered with diagrams and notes, including the heading "Meeting Tools". The room features large windows on the right side, providing a view of the outdoors. The overall atmosphere is professional and collaborative.

TECHNICAL RECOMMENDATIONS & FACILITATION

5G Americas Whitepapers 2019

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



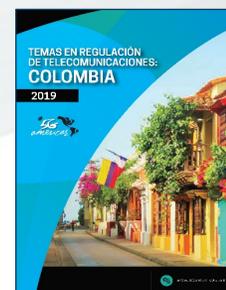
Jul 2019
Historia Clínica
Electrónica en
América Latina



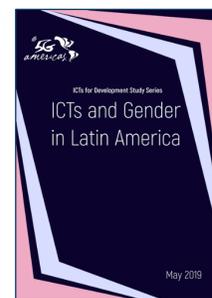
Jul 2019
5G: The Future
of IoT



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



5G Americas Whitepaper Submissions

For MRP Report

English: 5gamericas.org/white-papers/

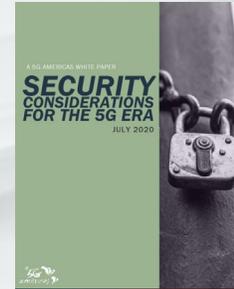
Spanish: brechacero.com/white-papers/

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



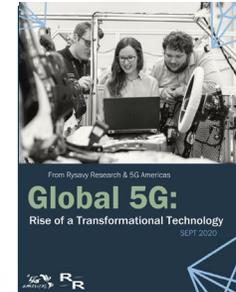
Jun 2020

Innovations in
Backhaul
Technologies



July 2020

Security
Considerations
for the 5G Era



Sept 2020

Global 5G: The
Rise of a
Transformational
Technology



Thank you

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