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# **IEEE 802.3 NEA AD HOC**

## **UPDATE TO BANDWIDTH INFORMATION**

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# INTRODUCTION

- Update to Bandwidth Information
  - Internet Users
  - 5G Deployment
  - Impact of COVID19

# INTERNET USERS

1. BWA, PART II
2. [HTTPS://WWW.INTERNETWORLDSTATS.COM/STATS.HTM](https://www.internetworldstats.com/stats.htm)
3. [HTTPS://WWW.INTERNETWORLDSTATS.COM/TOP20.HTM](https://www.internetworldstats.com/top20.htm)

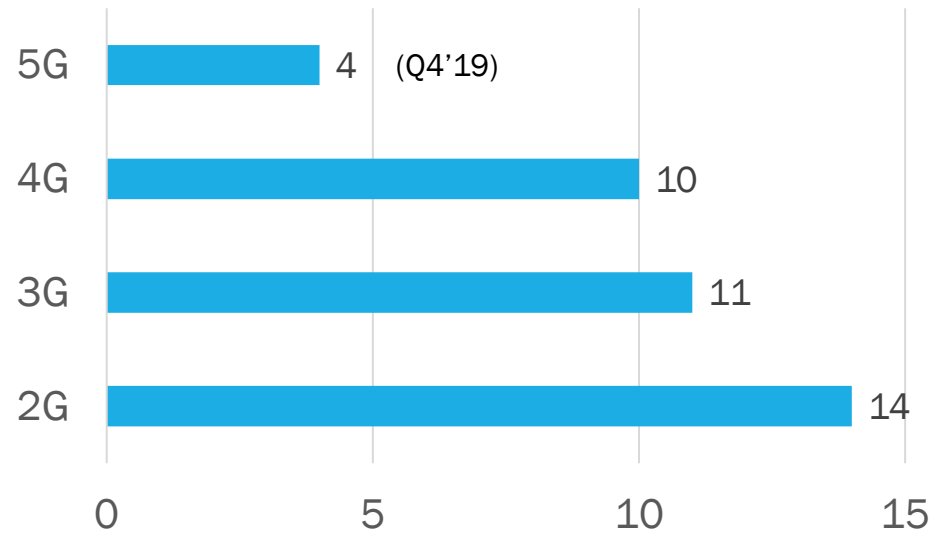
Total World	As of 3/31/19 <sup>1</sup>	As of 5/31/20 <sup>2</sup>	Increase
Population	7,716,223,209	7,796,949,710	+80,726,501
Internet Users	4,383,810,342	4,648,228,067	+264,417,725
Internet Usage	57%	59.6%	+2.6%
Top 20 Countries	As of 3/31/19 <sup>1</sup>	As of 12/31/19 <sup>3</sup>	Increase
Population	5,187,499,066	5,233,377,837	+45,878,771
Internet Users	3,117,533,898	3,241,273,512	+123,739,614
Internet Usage	60%	61.9%	+1.9%
Test of World	As of 3/31/19 <sup>1</sup>	As of 12/31/19 <sup>3</sup>	Increase
Population	2,565,984,143	2,563,237,873	-2,746,270
Internet Users	1,229,027,955	1,332,876,622	+103,848,667
Internet Usage	48%	52.0%	+4.0%

# MOBILE NETWORK DEPLOYMENTS (5/15/20)

	LTE	LTE Advanced	5G
Africa	144	41	2
Asia & Pacific	162	70	17
Eastern Europe	93	58	8
Latin America & Caribbean	126	49	5
Middle East	44	29	11
U S & Canada	20	9	6
Western Europe	88	71	25
Global Totals	677	327	74

Source: <https://www.5gamericas.org/resources/deployments/>

# 5G DEPLOYMENT FACTS



# of quarters to  $\approx$ 17.8 million connections

- Omdia projects 91 million global 5G connections by end of 2020

Source: <https://www.5gamericas.org/5gs-year-one-fast-start-and-healthy-growth/>

# IMPACT OF COVID-19 ON BROADBAND NETWORK TRAFFIC GROWTH

Traffic Growth	2/1- 3/1	3/1 - 4/1	4/1 - 4/19	2/1 - 4/19
Upstream	+2.07%	+123.18%	-2.95	+121%
Downstream	-2.39%	+11.72%	+13.67%	+23%
Total	-1.74%	+28.69%	+9.28%	+38%

Source: Sandvine – The Global Internet Phenomena Report COVID-19 Spotlight, May 2020,  
<https://www.sandvine.com/phenomena>

# THE EXPONENTIAL FACTOR

“The greatest shortcoming of the human race is our inability to understand the exponential function.”

Albert Bartlett – American Scholar



# CONCLUSIONS

- New trend data indicating growth in # of users continues to be discovered
  - Increased internet users
  - 5G Deployments
- Further quantification of impact of COVID-19
- This additional data will only increase the pressure on developing the next speed of Ethernet