

**Global Mobile Data
Forecast, 2016-2021:
*Still Growing and No
Signs of Slowing***

Market Study
First Quarter 2017





Global Mobile Data Forecast, 2016 – 2021: *Still Growing and No Signs of Slowing*

A Market Study

Published First Quarter, 2017
Version 1.0
Report Number: 01Q2017-04

iGR
12400 W. Hwy 71
Suite 350 PMB 341
Austin TX 78738

Table of Contents

Abstract	1
Executive Summary	2
Figure A: Global Mobile Data Traffic by Region, 2016-2021 (TB/Month)	2
Figure B: Total Global Mobile Data Traffic by Region, 2016-2021 (percent).....	3
Methodology	4
Introduction	5
Developed Markets	6
Developing Markets	7
Factors Influencing Mobile Data Demand	9
Population and Connections	9
Table 1: Worldwide Connections, Population, and Penetration, 2016-2021	9
Figure 1: Worldwide Connections and Population, 2016-2021(000)	10
Networks	10
Table 2: Worldwide Connections by Technology Generation, 2016-2021(000)	11
Figure 2: Worldwide Connections by Technology Generation, 2016-2021(000)	11
Devices	13
Price	15
Content	16
Internet of Things	19
Mobile Data Forecast Methodology	21
Connections, not Subscribers	22
Quartiles	22
World Mobile Data Usage	24
Table 3: Total Global Mobile Data Traffic per Month by Region, 2016-2021 (TB)	24
Figure 3: Total Global Mobile Data Traffic per Month by Region, 2016-2021 (TB)	25
Table 4: Total Global Mobile Data Traffic by Region, 2016-2021 (percent)	25
Figure 4: Total Global Mobile Data Traffic by Region, 2016-2021 (percent).....	26
Table 5: Total Global Mobile Data Traffic by Quartile, 2016-2021 (percent)	27
Figure 5: Total Global Mobile Data Traffic by Quartile, 2016-2021 (percent).....	27
Table 6: Average Mobile Data Consumption per Region, 2016-2021 (MB/month)	28
Figure 6: Average Mobile Data Consumption per Region, 2016-2021 (MB/month).....	29
North America	30
Table 7: North America Connections, Population, and Penetration, 2016-2021	30
Figure 7: North America Connections and Population, 2016-2021(000)	31
Table 8: Connections per Quartile in North America, 2016-2021 (000s)	31
Table 9: Per-Connection Mobile Data Use (MB/month) in North America, 2016-2021.....	32
Figure 8: Per-Connection Mobile Data Use (MB/month) in North America, 2016-2021	32
Table 10: Total Mobile Data Traffic (TB/month) in North America, 2016-2021.....	33

Quoting information from an iGillottResearch publication: external – any iGillottResearch information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from iGillottResearch. iGillottResearch reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from iGillottResearch. The use of large portions or the reproduction of any iGillottResearch document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2017 iGillottResearch, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Figure 9: Total Mobile Data Traffic (TB/month) in North America, 2016-2021.....	33
Table 11: Percentage of Mobile Data Traffic by Quartile in North America, 2016-2021	34
Figure 10: Percentage of Mobile Data Traffic by Quartile in North America, 2016-2021	34
North America Mobile Operator Updates	35
AT&T.....	35
Sprint.....	36
T-Mobile US.....	36
Verizon Wireless.....	37
Rogers Communications.....	38
Telus Mobility.....	38
Latin America and Caribbean.....	39
Table 12: Latin America Connections, Population, and Penetration, 2016-2021.....	39
Figure 11: Latin America Connections and Population, 2016-2021(000).....	40
Table 13: Connection per Quartile in Latin America (000s), 2016-2021	40
Table 14: Per-Connection Mobile Data Use (MB/month) in Latin America, 2016-2021	41
Figure 12: Per-Connection Mobile Data Use (MB/month) in Latin America, 2016-2021.....	41
Table 15: Total Mobile Data Traffic (TB/month) in Latin America, 2016-2021	42
Figure 13: Total Mobile Data Traffic (TB/month) in Latin America, 2016-2021	42
Table 16: Percentage of Mobile Data Traffic by Quartile in Latin America, 2016-2021	43
Figure 14: Percentage of Mobile Data Traffic by Quartile in Latin America, 2016-2021.....	43
Latin America Mobile Operator Updates.....	44
Telefonica	44
Table 17: Per Quarter Mobile Data Traffic, Telefonica 2015-2016	44
Figure 15: Per Quarter Mobile Data Traffic (in Terabytes), Telefonica 2015-2016	45
America Movil	46
Europe	48
Table 18: Europe Connections, Population, and Penetration, 2016-2021	48
Figure 16: Europe Connections and Population, 2016-2021(000)	49
Table 19: Connection per Quartile in Europe, 2016-2021.....	49
Table 20: Per-Connection Mobile Data Use (MB/month) in Europe, 2016-2021.....	50
Figure 17: Per-Connection Mobile Data Use (MB/month) in Europe, 2016-2021	50
Table 21: Total Mobile Data Traffic (TB/month) in Europe, 2016-2021.....	51
Figure 18: Total Mobile Data Traffic (TB/month) in Europe, 2016-2021.....	51
Table 22: Percentage of Mobile Data Traffic by Quartile in Europe, 2016-2021	52
Figure 19: Percentage of Mobile Data Traffic by Quartile in Europe, 2016-2021	52
Europe Mobile Operator Updates.....	52
Orange.....	53
Table 23: Orange's 4G Coverage, Third Quarter 2016	53
Turkcell Group.....	53
Vimpelcom	53
Table 24: Vimpelcom Italy.....	54
Table 25: Vimpelcom Russia.....	54
Table 26: Vimpelcom Ukraine	55
Vodafone.....	55
Table 27: Vodafone 4G Statistics by European Country.....	55

Quoting information from an iGillottResearch publication: external — any iGillottResearch information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from iGillottResearch. iGillottResearch reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from iGillottResearch. The use of large portions or the reproduction of any iGillottResearch document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2017 iGillottResearch, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Middle East and Africa	56
Table 28: Middle East and Africa Connections, Population, and Penetration, 2016-2021 ...	56
Figure 20: Middle East and Africa Connections and Population, 2016-2021(000).....	57
Table 29: Connection per Quartile in MEA, 2016-2021.....	57
Table 30: Per-Connection Mobile Data Use (MB/month) in MEA, 2016-2021.....	58
Figure 21: Per-Connection Mobile Data Use (MB/month) in MEA, 2016-2021	58
Table 31: Total Mobile Data Traffic (TB/month) in MEA, 2016-2021.....	59
Figure 22: Total Mobile Data Traffic (TB/month) in MEA, 2016-2021.....	59
Table 32: Percentage of Mobile Data Traffic by Quartile in MEA, 2016-2021	60
Figure 23: Percentage of Mobile Data Traffic by Quartile in MEA, 2016-2021	60
Middle East and Africa Mobile Operator Updates	60
Etisalat.....	61
Ooredoo	61
Vimpelcom	62
Table 33: Vimpelcom Algeria.....	62
Vodafone	62
Asia-Pacific.....	63
Table 34: Asia-Pacific Connections, Population, and Penetration, 2016-2021	63
Figure 24: Asia-Pacific Connections and Population, 2016-2021(000).....	64
Table 35: Connections per Quartile in Asia-Pacific, 2016-2021	64
Table 36: Per-Connection Mobile Data Use (MB/month) in Asia-Pacific, 2016-2021	65
Figure 25: Per-Connection Mobile Data Use (MB/month) in Asia-Pacific, 2016-2021.....	66
Table 37: Total Mobile Data Traffic (TB/month) in Asia-Pacific, 2016-2021	66
Figure 26: Total Mobile Data Traffic (TB/month) in Asia-Pacific, 2016-2021	67
Table 38: Percentage of Mobile Data Traffic by Quartile in Asia-Pacific, 2016-2021.....	67
Figure 27: Percentage of Mobile Data Traffic by Quartile in Asia-Pacific, 2016-2021.....	68
Asia-Pacific Mobile Operator Updates	68
Axiata Group.....	68
China Mobile	70
Table 39: China Mobile Customer and Network Statistics	70
China Unicom	71
China Telecom	71
Table 40: China Telecom Customer and Network Statistics.....	71
Idea Cellular.....	72
Ooredoo	72
Reliance Communications	72
SingTel Group	73
Vimpelcom	74
Table 41: Vimpelcom Pakistan	74
Table 42: Vimpelcom Bangladesh	74
Vodafone	75
Japan.....	76
Table 43: Japan Connections, Population, and Penetration, 2016-2021	76
Figure 28: Japan Connections and Population, 2016-2021(000).....	77
Table 44: Japan Connections by Quartile, 2016-2021(000)	77

Quoting information from an iGillottResearch publication: external – any iGillottResearch information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from iGillottResearch. iGillottResearch reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from iGillottResearch. The use of large portions or the reproduction of any iGillottResearch document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2017 iGillottResearch, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Table 45: Per-Connection Mobile Data Use (MB/month) in Japan, 2016-2021	78
Figure 29: Per-Connection Mobile Data Use (MB/month) in Japan, 2016-2021.....	78
Table 46: Total Mobile Data Traffic (TB/month) in Japan, 2016-2021	79
Figure 30: Total Mobile Data Traffic (TB/month) in Japan, 2016-2021	79
Table 47: Percentage of Mobile Data Traffic by Quartile in Japan, 2016-2021.....	80
Figure 31: Percentage of Mobile Data Traffic by Quartile in Japan, 2016-2021.....	80
Japan Mobile Operator Updates	80
NTT DoCoMo	80
KDDI.....	81
SoftBank	81
Definitions	82
General	82
Device Types.....	82
Services	83
Network Technology.....	84
Regions.....	88
About iGR.....	89
Disclaimer	89

Quoting information from an iGillottResearch publication: external — any iGillottResearch information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from iGillottResearch. iGillottResearch reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from iGillottResearch. The use of large portions or the reproduction of any iGillottResearch document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2017 iGillottResearch, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Abstract

Due to both the increasing number of mobile connections in the world and the subscribers' desire to stay constantly connected through their mobile device, the amount of data flowing over the world's mobile network is increasing exponentially. *iGR* estimates that in 2016, approximately eight million terabytes of mobile data traffic flowed over the world's cellular data networks per month, and by 2021, the expected first year of commercial 5G network deployments, *iGR* forecasts mobile data traffic will rise to 76 million terabytes per month.

This report forecasts the mobile data traffic from 2016 to 2021 at the global level, as well as for the following regions: North America, Latin America, Europe, Middle East and Africa, Asia-Pacific, and Japan.

For each region, *iGR* forecasts the number of connections, the amount of data usage per connection per month in four different quartiles, and the total amount of mobile data traffic per month.

Key questions addressed:

- What are the drivers of mobile data traffic?
- What are some of the limiting factors on the amount of mobile data traffic?
- What is mobile data usage today in all regions of the world and at what rate is mobile data usage expected to grow over the forecast period?
- For each region, how much mobile data traffic is used by an average mobile connection?
- For each region, how much mobile data traffic is used by each quartile?
- What levels of mobile data usage are some of the major mobile operators in each region experiencing and what initiatives are they using to meet the demand?

Who should read this report:

- Mobile operators
- Device OEMs
- Mobile infrastructure and equipment OEMs
- Content providers and distributors
- Financial analysts and investors.

Quoting information from an *iGillottResearch* publication: external — any *iGillottResearch* information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from *iGillottResearch*. *iGillottResearch* reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from *iGillottResearch*. The use of large portions or the reproduction of any *iGillottResearch* document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2017 *iGillottResearch*, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.