GSMA MOBILE™ WORLD CONGRESS

BARCELONA 2-5 MAR 2015

MOBILE WORLD CONGRESS

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GSMA Seminar Theatre 2015

Mobile – Wi-Fi

Is there room for both licensed and unlicensed networks?

Cisco Visual Networking Index (VNI) Forecast

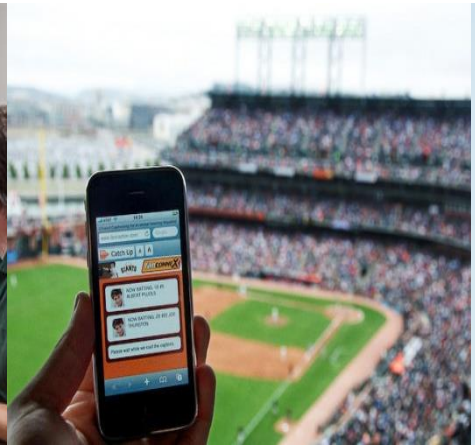
Mobile Data Traffic Update, 2014–2019

GSMA Seminar: Mobile, WiFi Continuum

Dr. Robert Pepper
Vice President - Global Technology Policy

3 March 2015

Day in a Connected life



Home 45%*

Work 29%*

Hotspot 16%*

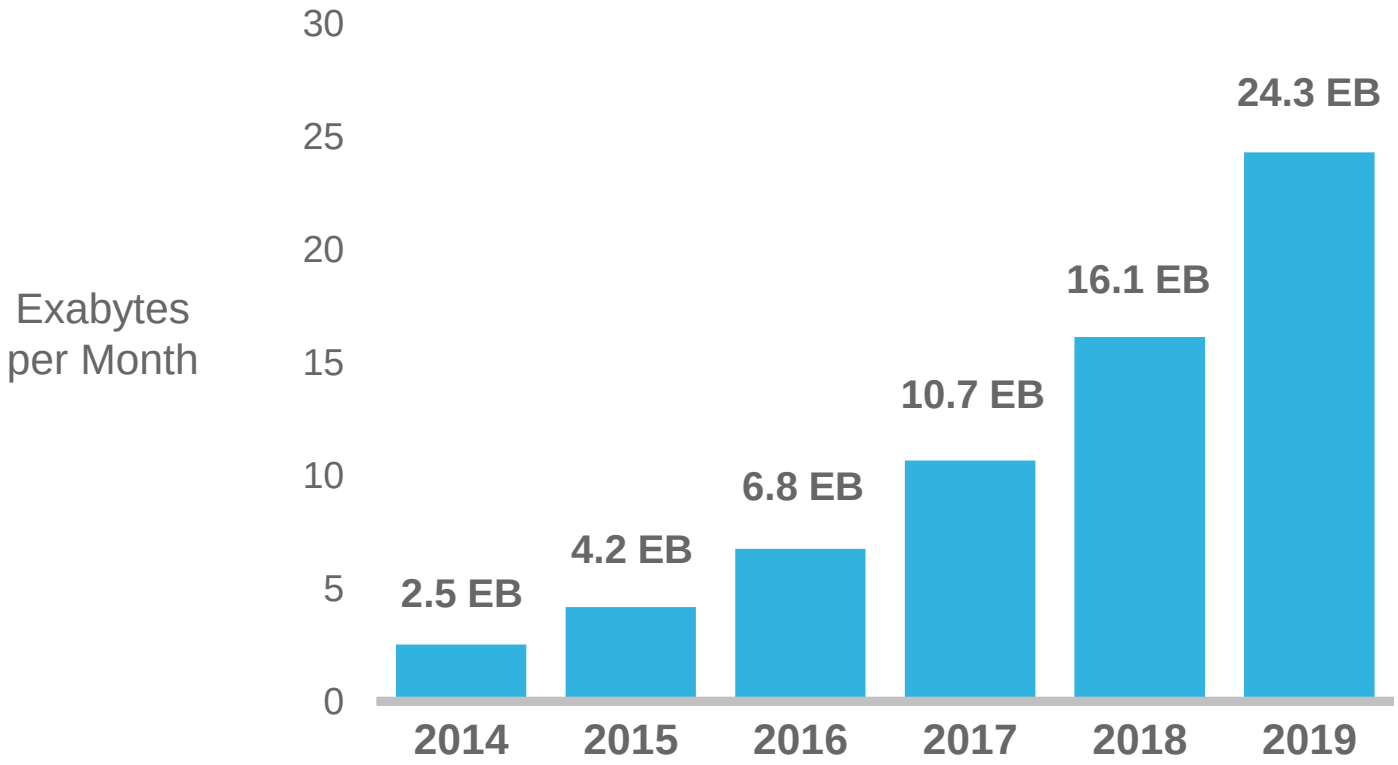
On the go 9%*

*consumption of data by 2019 Source- Cisco VNI

Global Mobile Data Traffic Growth / Top-Line

Global Mobile Data Traffic will Increase 10-Fold from 2014–2019

57% CAGR 2014–2019



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

Global Mobile Data Traffic Drivers

By 2019:

More Mobile Users

2014	2019
4.3 Billion	5.2 Billion

More Mobile Connections

2014	2019
7.4 Billion	11.5 Billion

Faster Mobile 4G Speeds

2014	2019
9.8 Mbps	14.1 Mbps

More Mobile Video

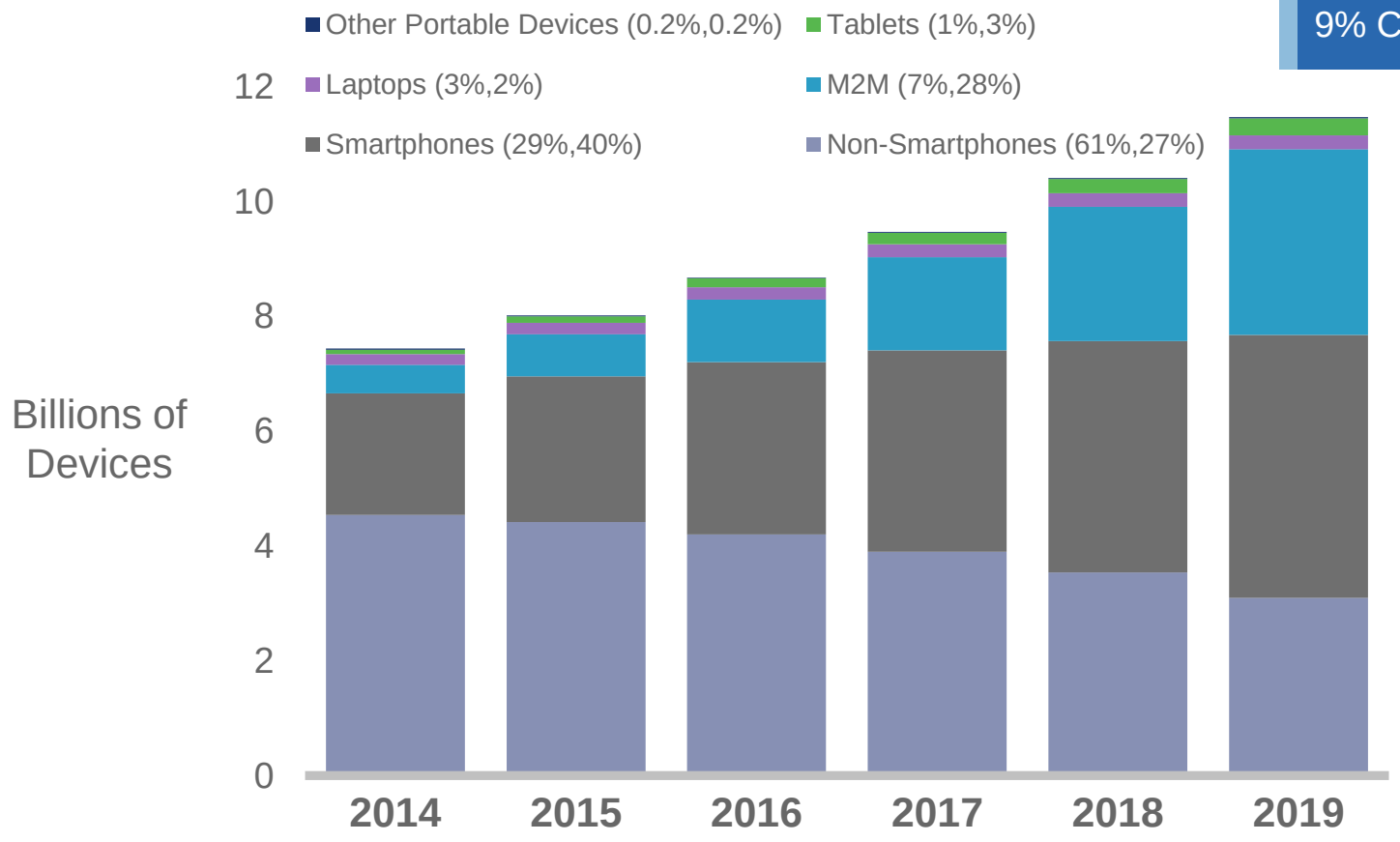
2014	2019
55% of Traffic	72% of Traffic

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

Global Mobile Device Growth by Type

By 2019, Smartphones Will Attain Largest Share to Reach Nearly 40%

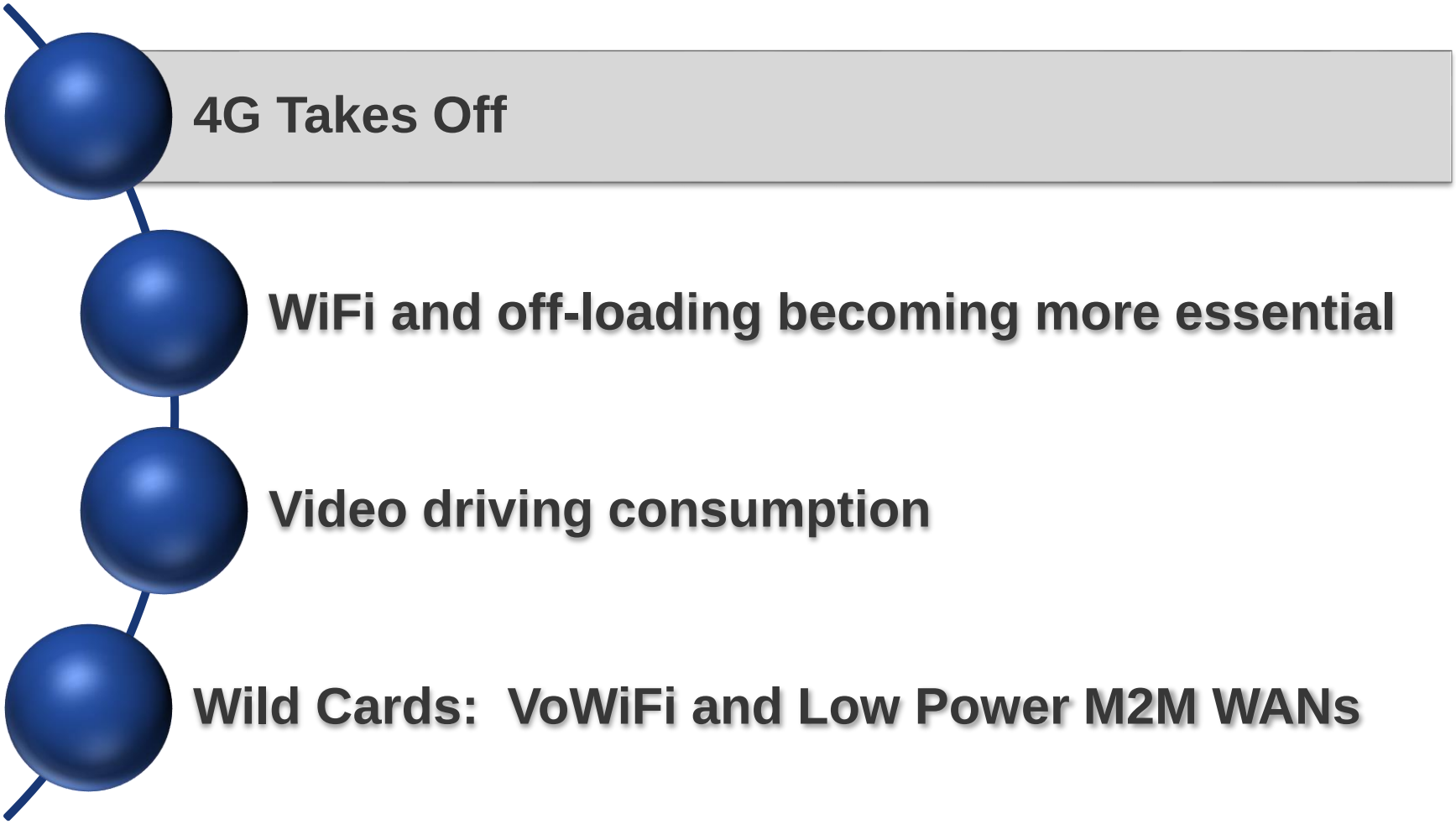
9% CAGR 2014–2019



*** Figures (n) refer to 2014 and 2019 device shares**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

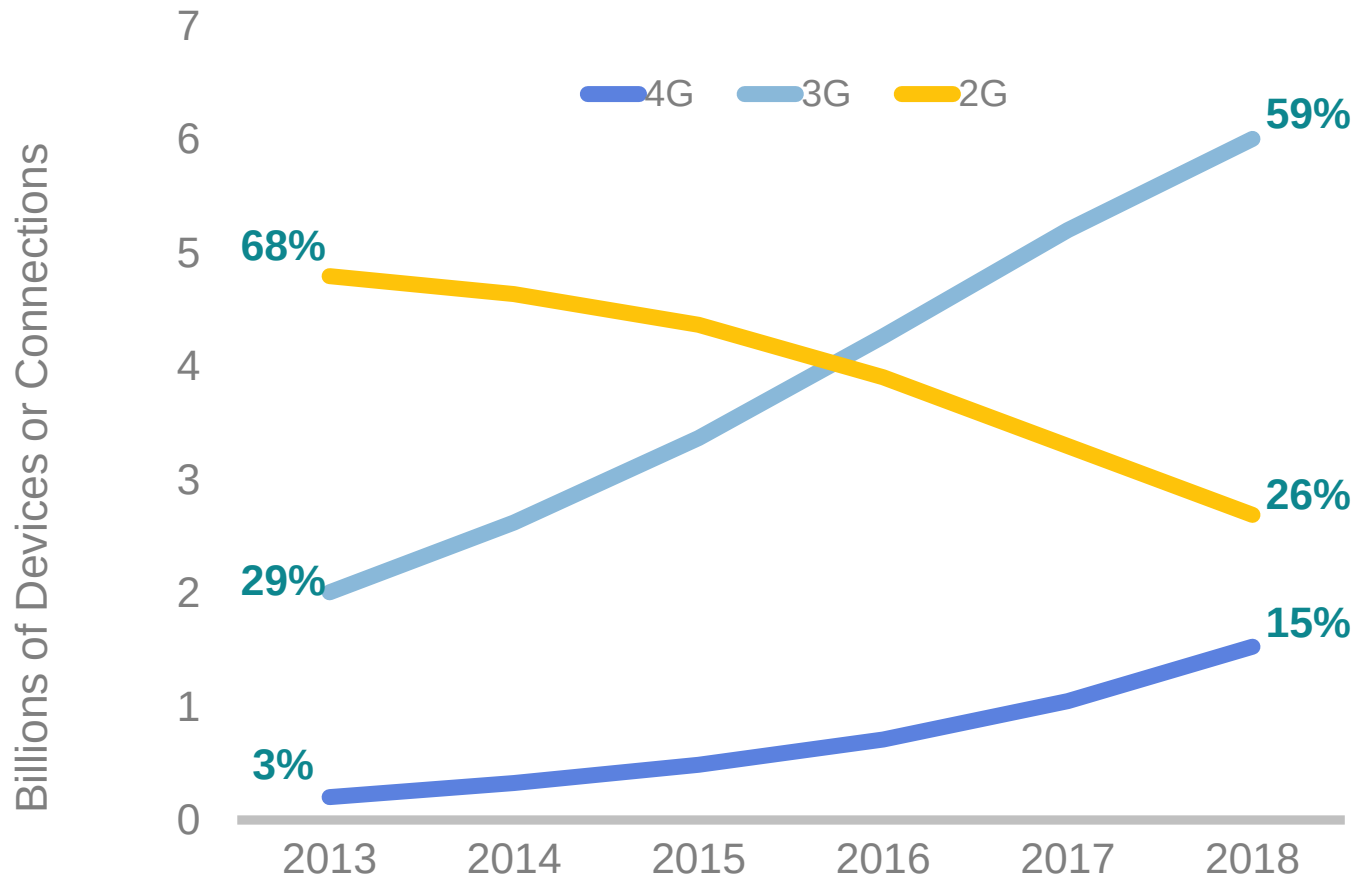
VNI Mobile Forecast Update, 2014–2019
Top Mobile Networking Trends



LAST YEAR

Global Connections by Network Type

2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global Connections by Network Type

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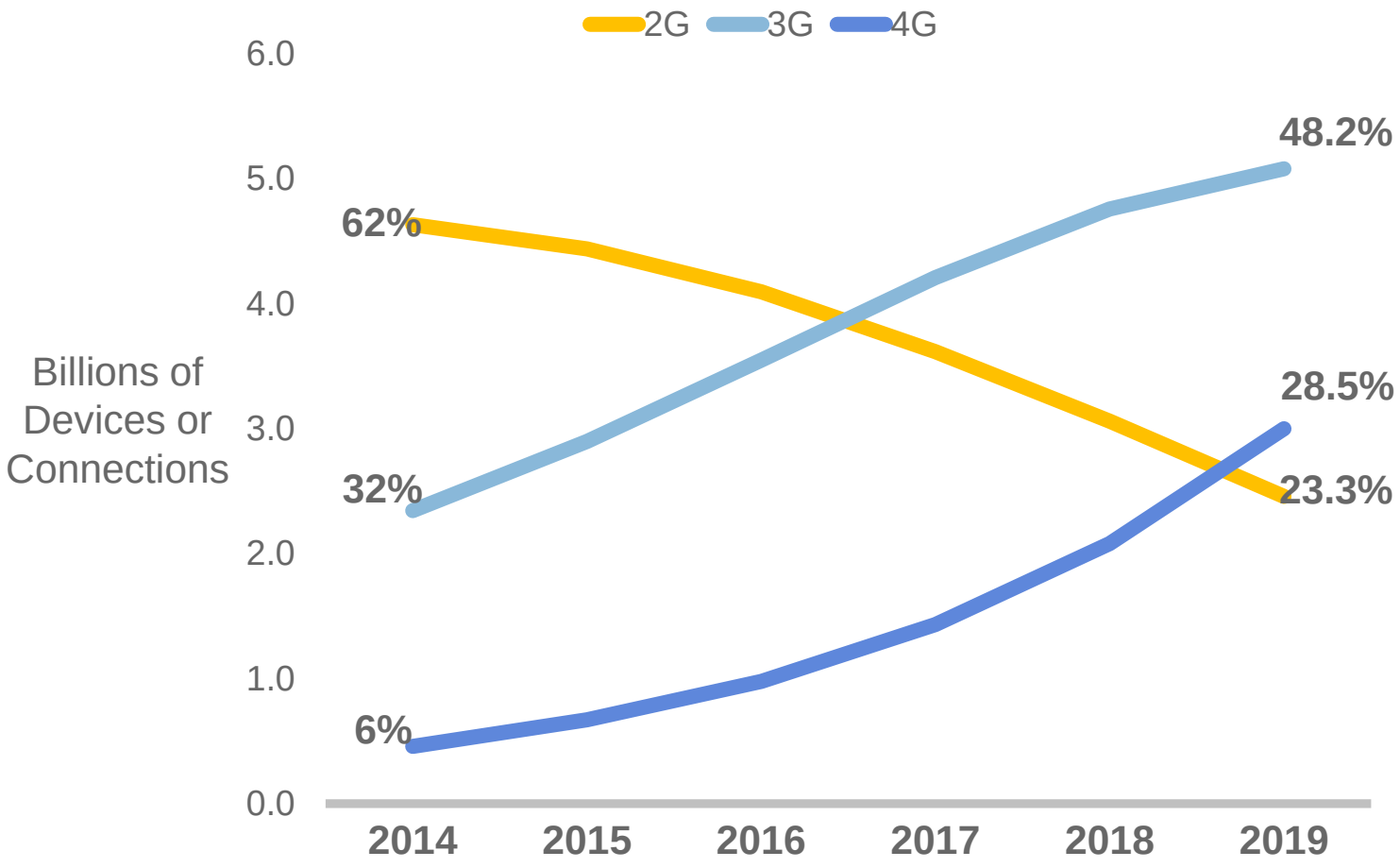
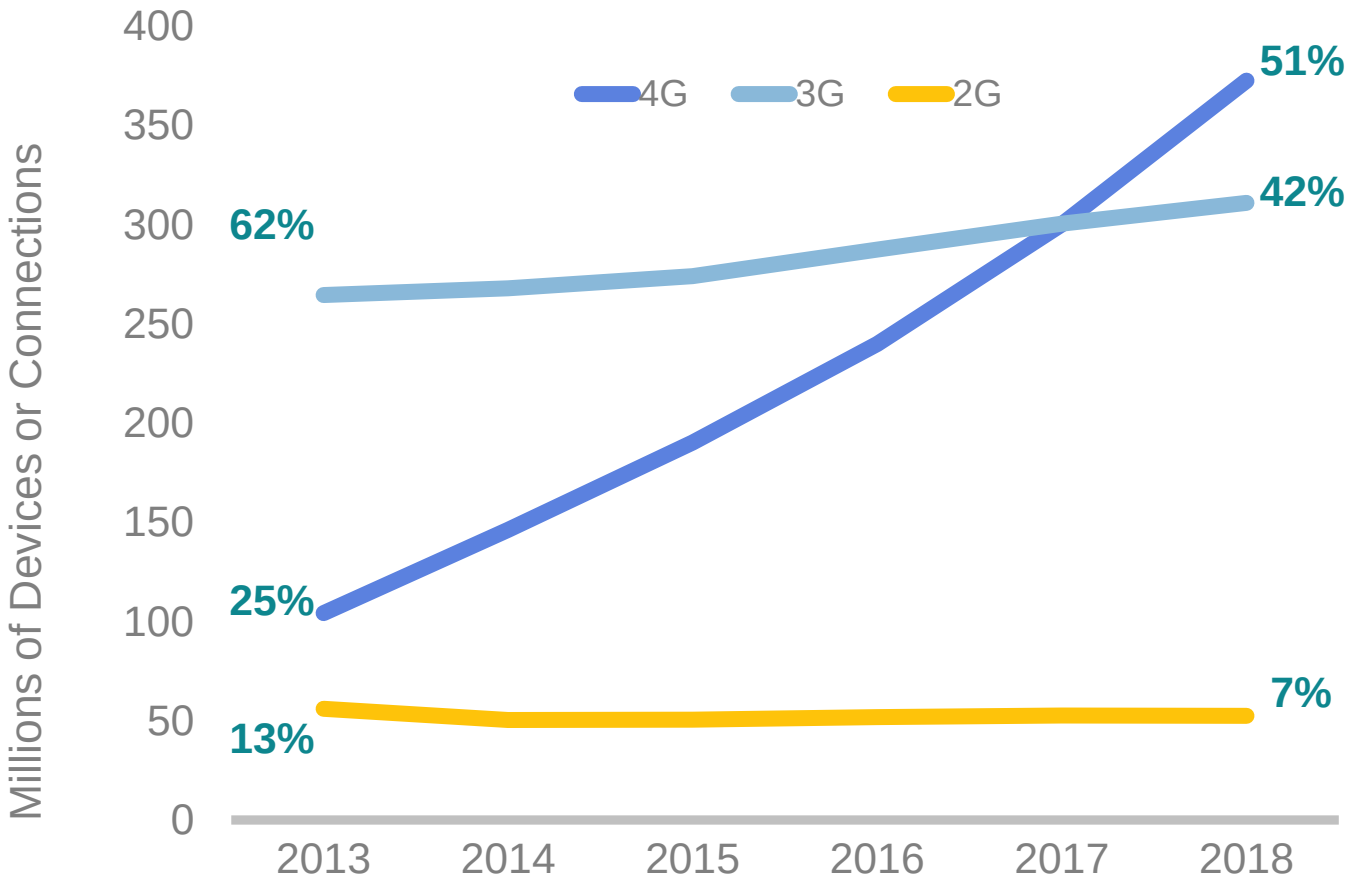


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LAST YEAR

North America Connections by Network Type

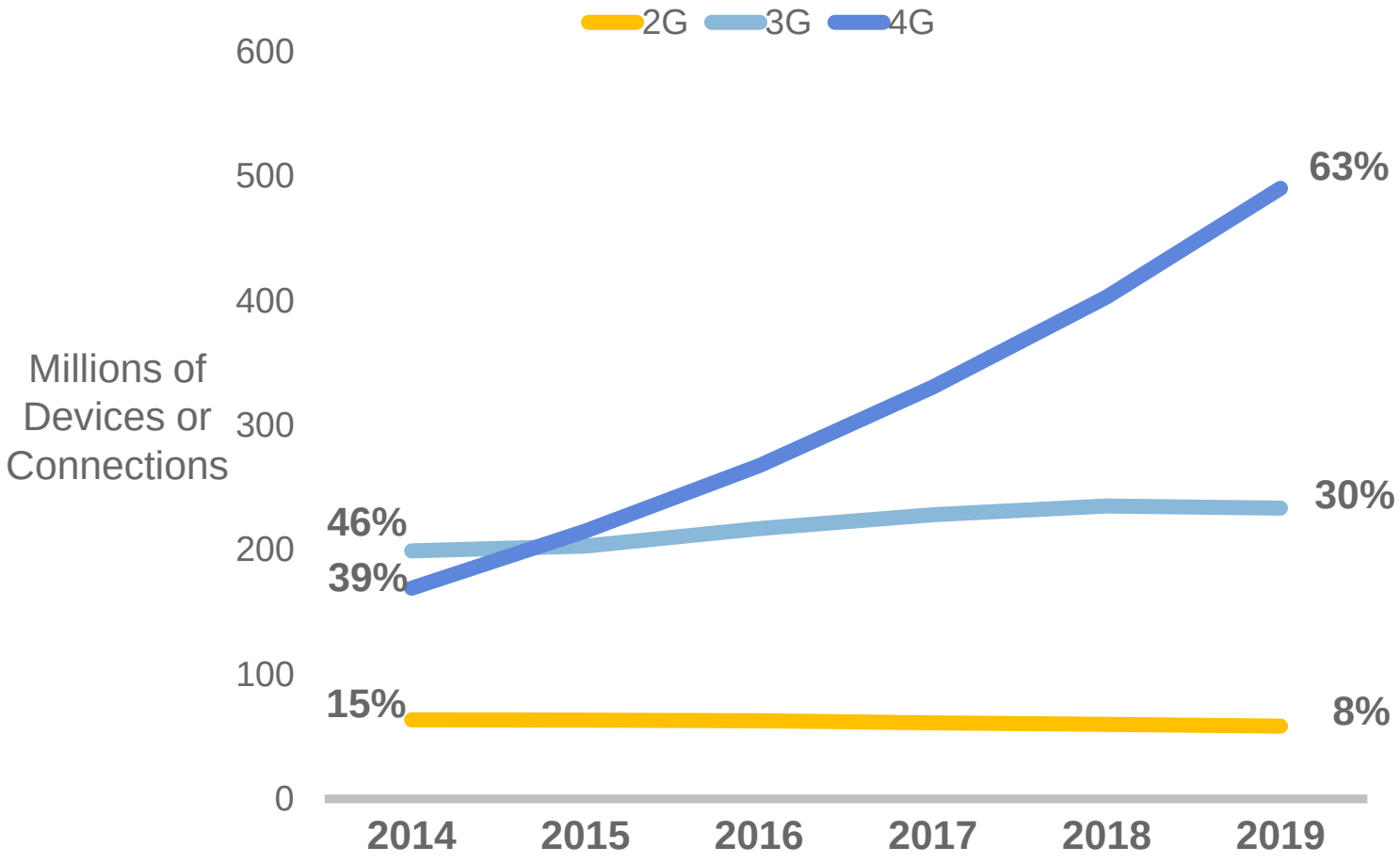
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

North America Connections by Network Type

2G, 3G, and 4G Technology Connection Share

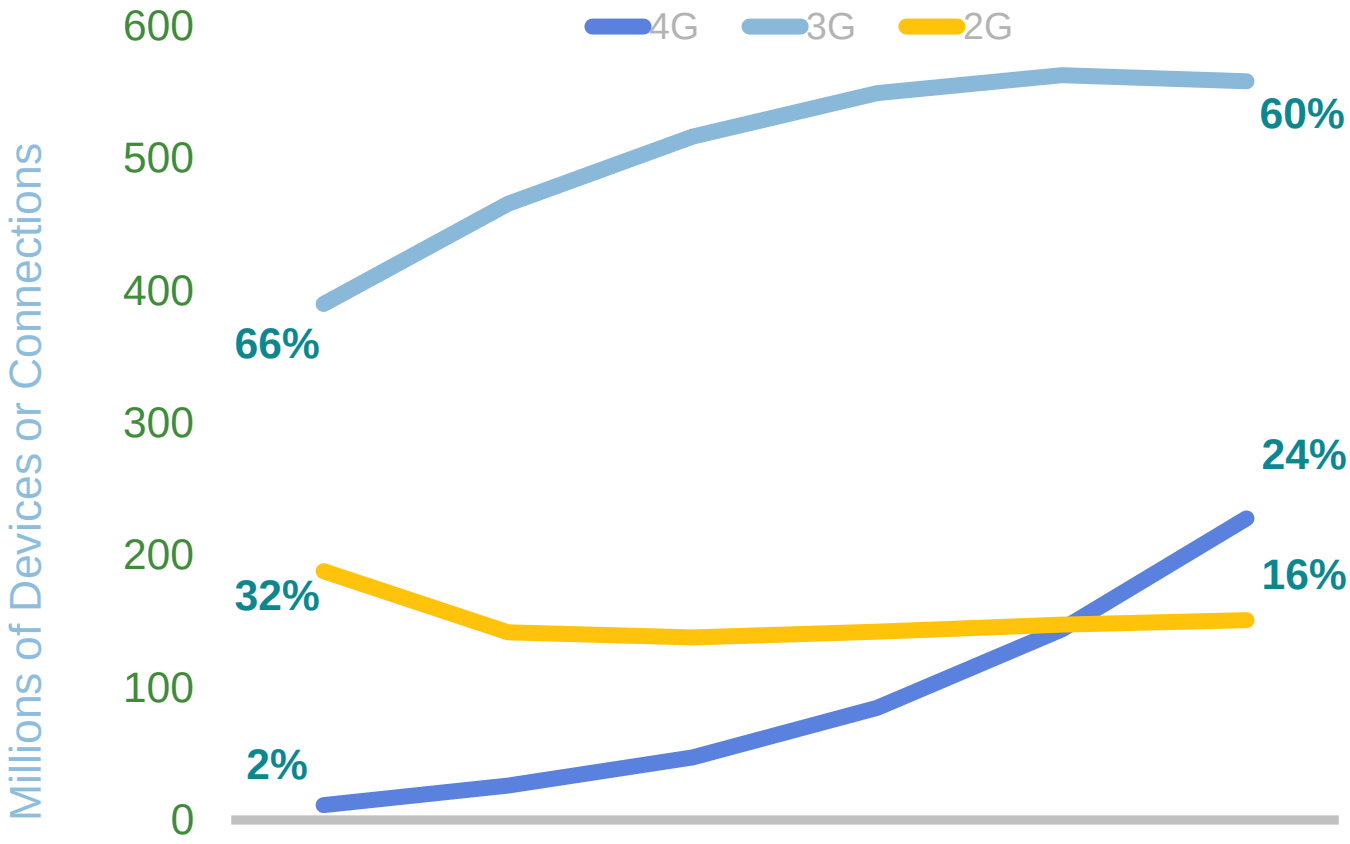


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LAST YEAR

Western Europe Connections by Network Type

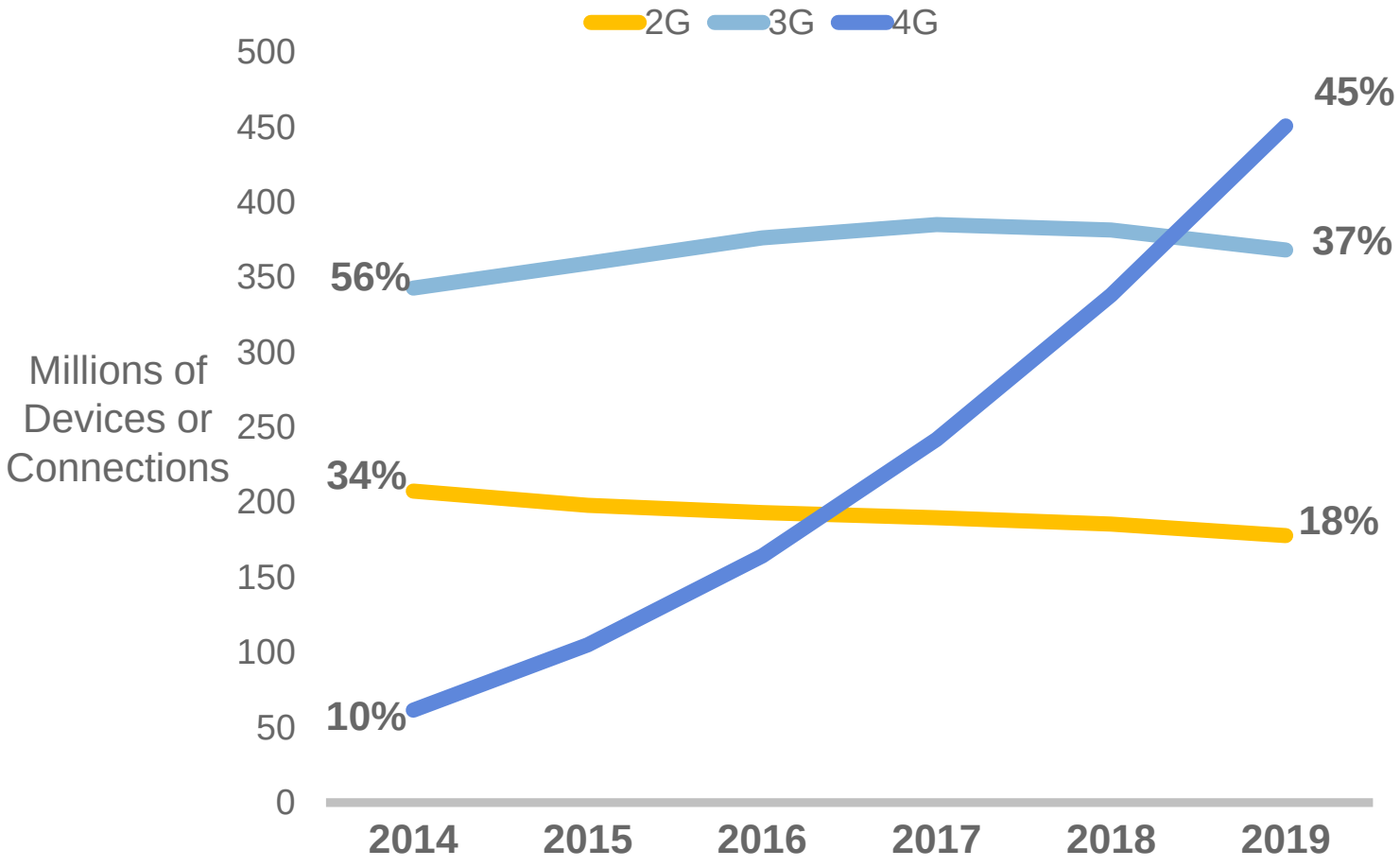
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

W. Europe Connections by Network Type

2G, 3G, and 4G Technology Connection Share

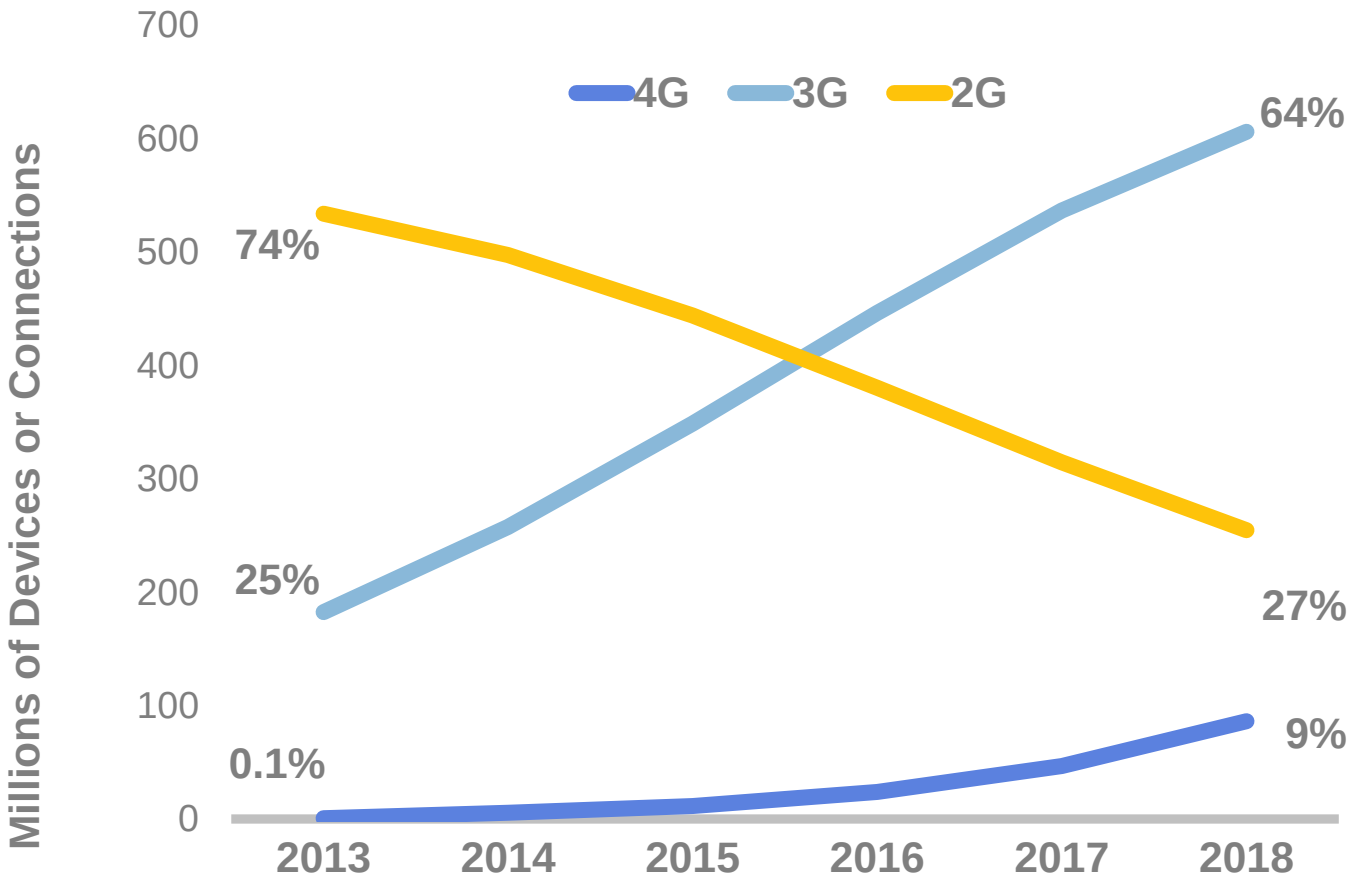


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LAST YEAR

Latin America Connections by Network Type

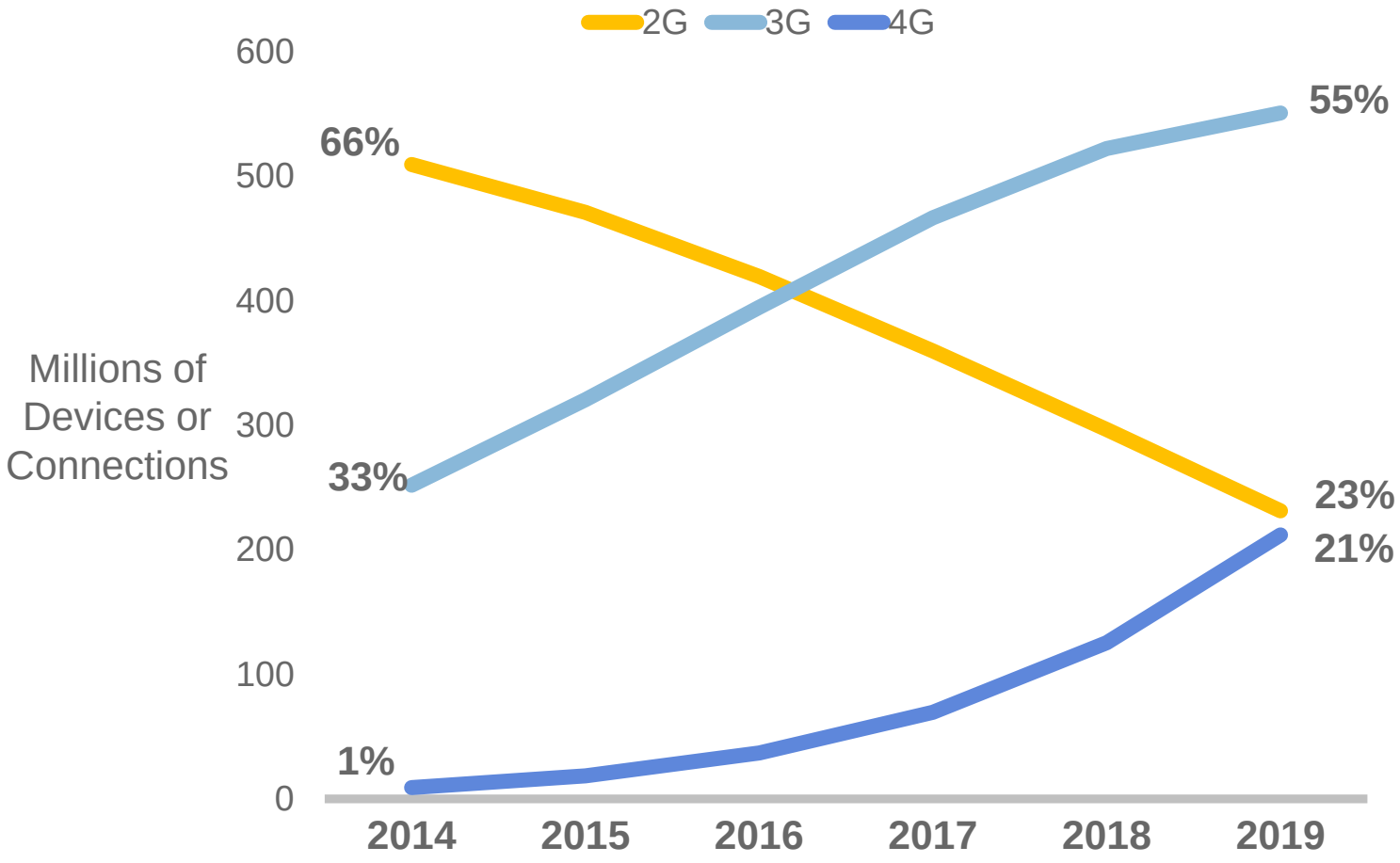
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Latin America Connections by Network Type

2G, 3G, and 4G Technology Connection Share

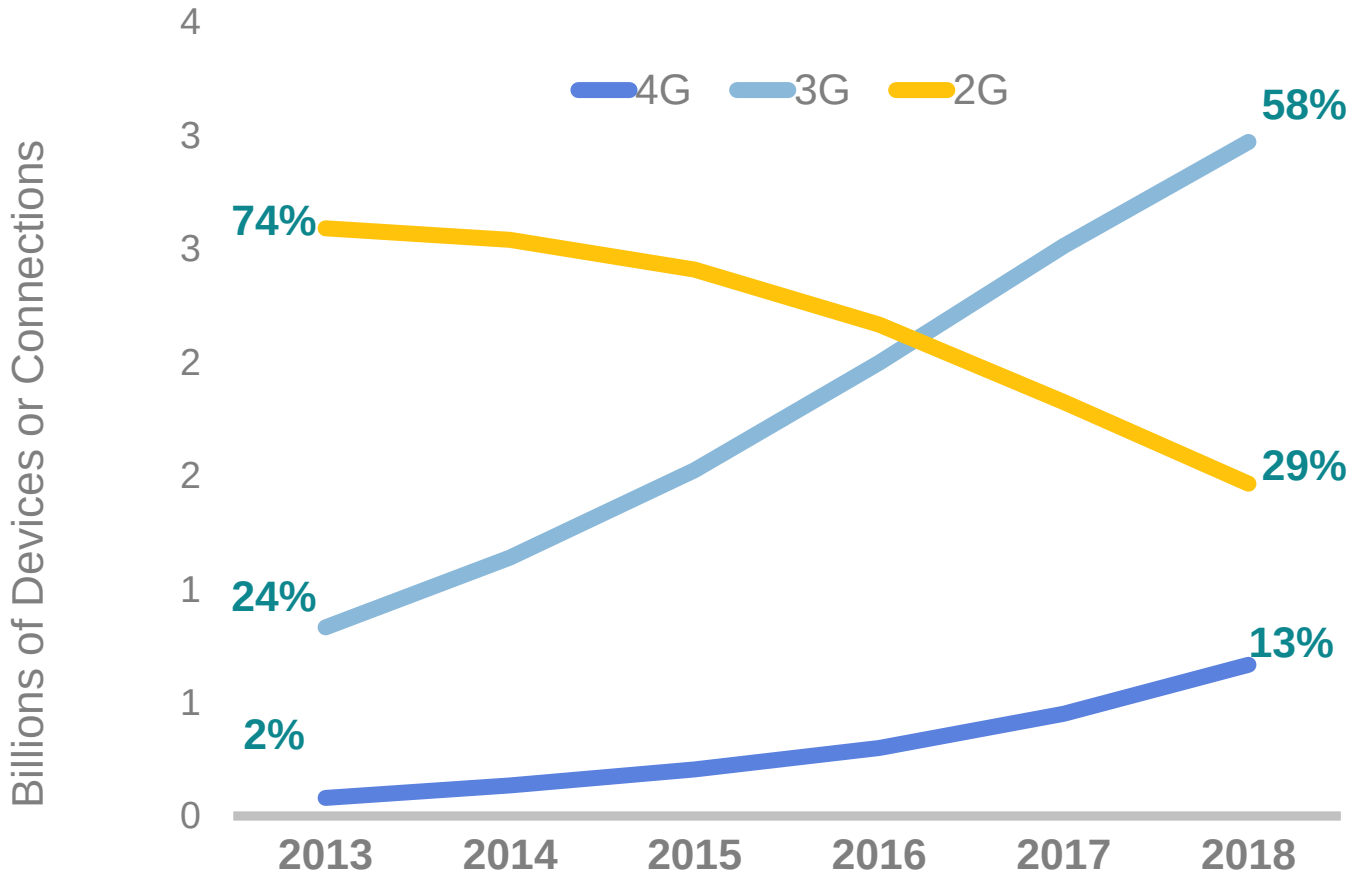


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LAST YEAR

Asia Pacific Connections by Network Type

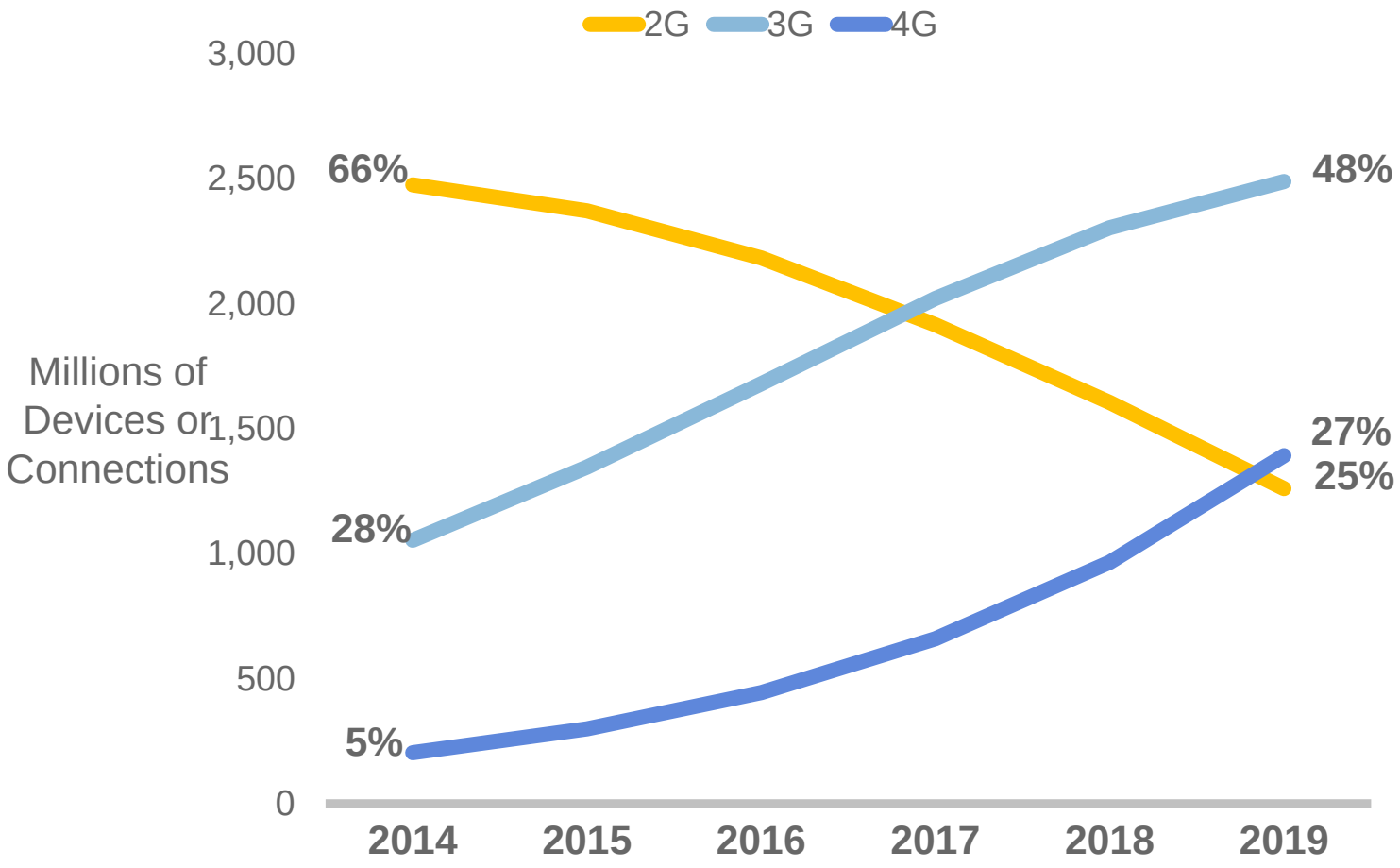
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Asia Pacific Connections by Network Type

2G, 3G, and 4G Technology Connection Share

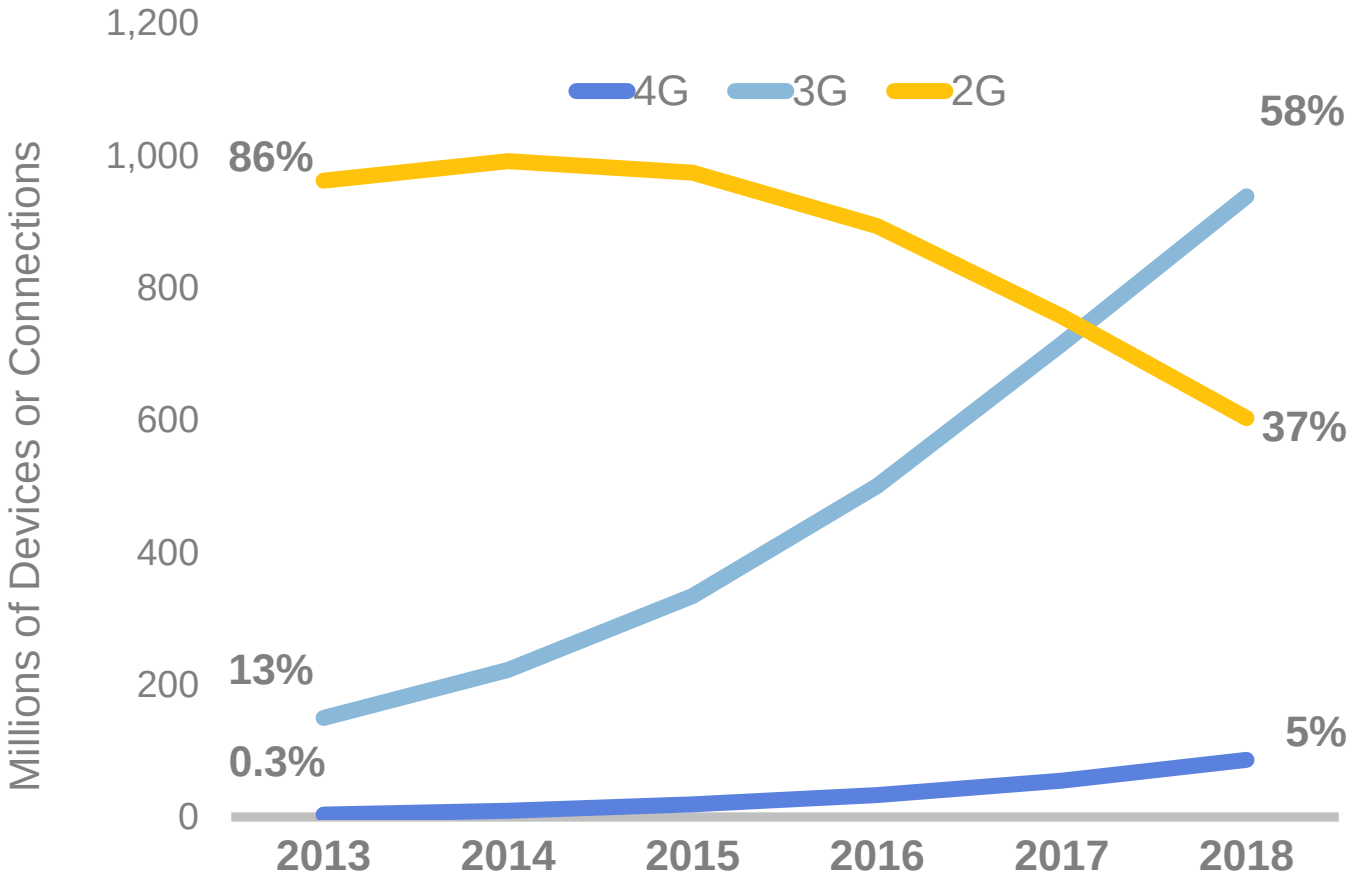


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LAST YEAR

MEA Connections by Network Type

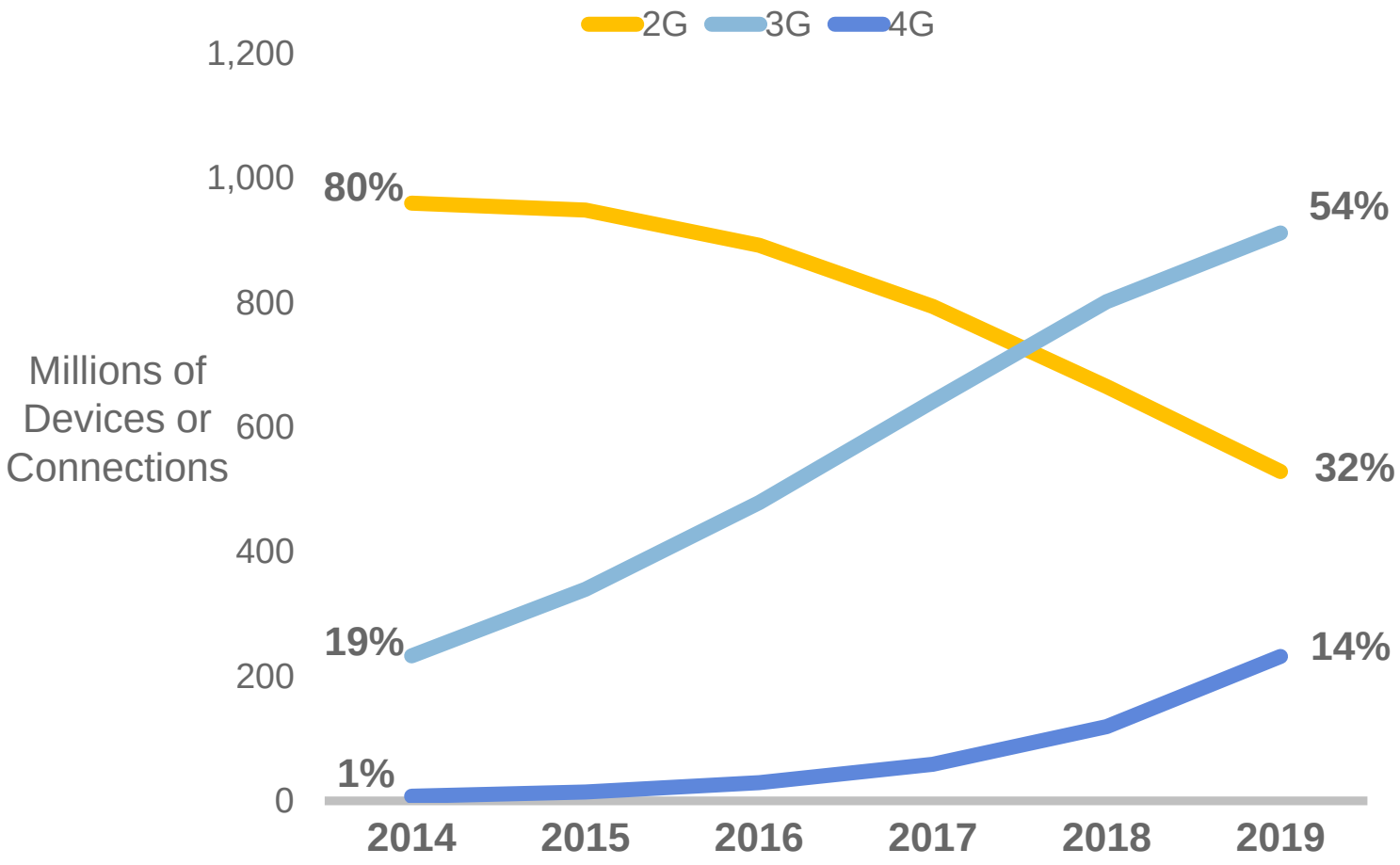
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

MEA Connections by Network Type

2G, 3G, and 4G Technology Connection Share

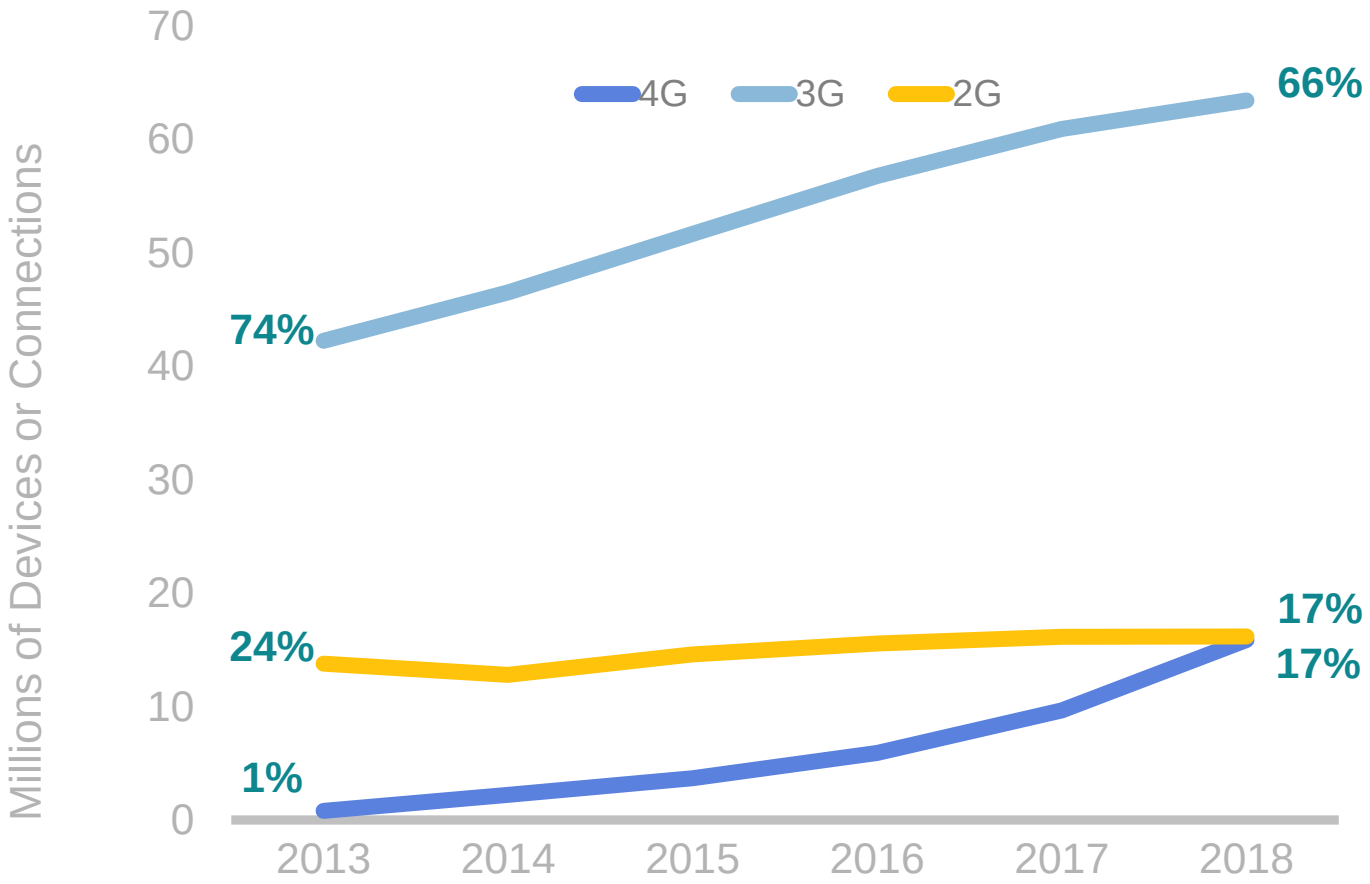


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LAST YEAR

Spain Connections by Network Type

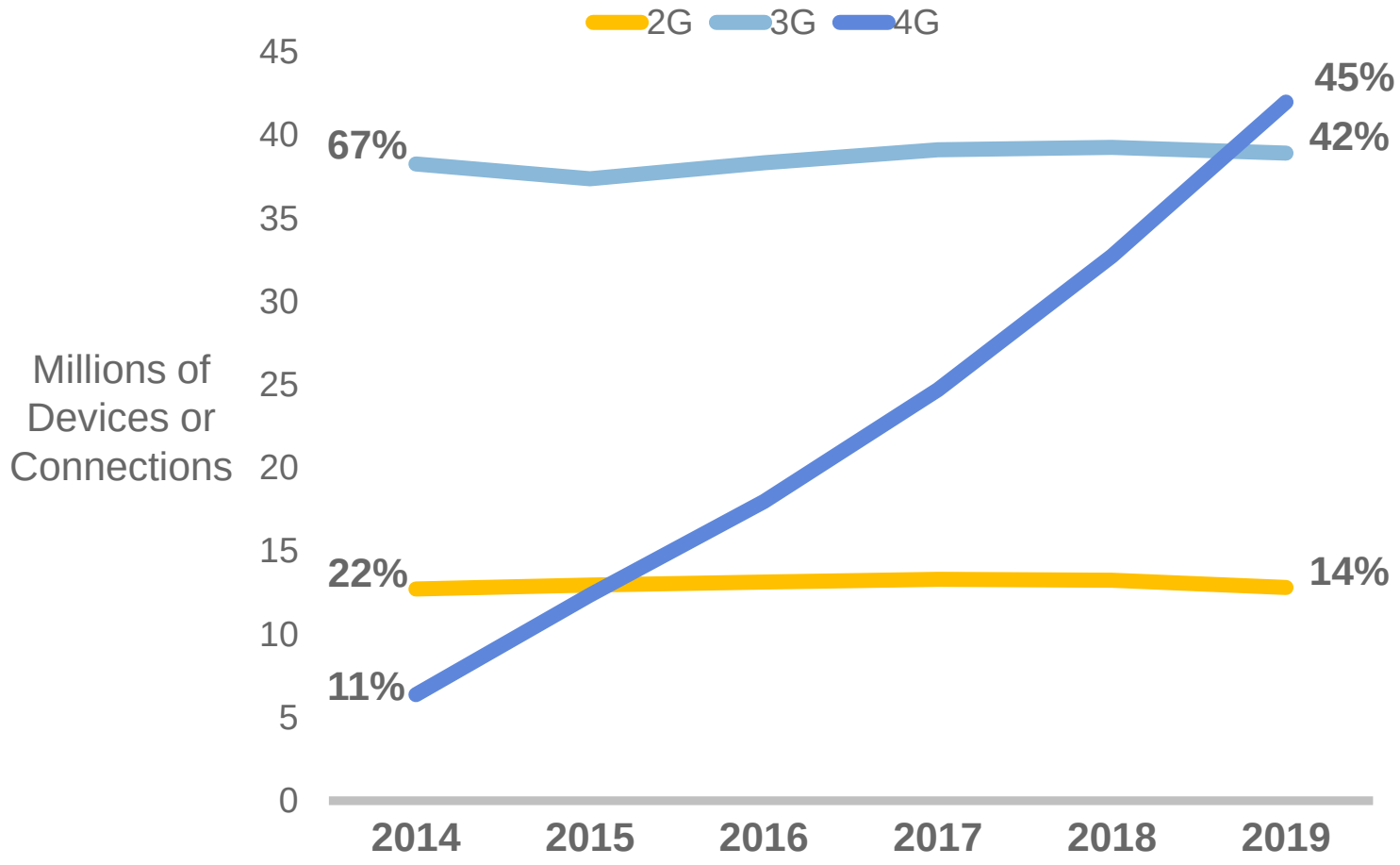
2G, 3G, and 4G Technology Connection Shares



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Spain Connections by Network Type

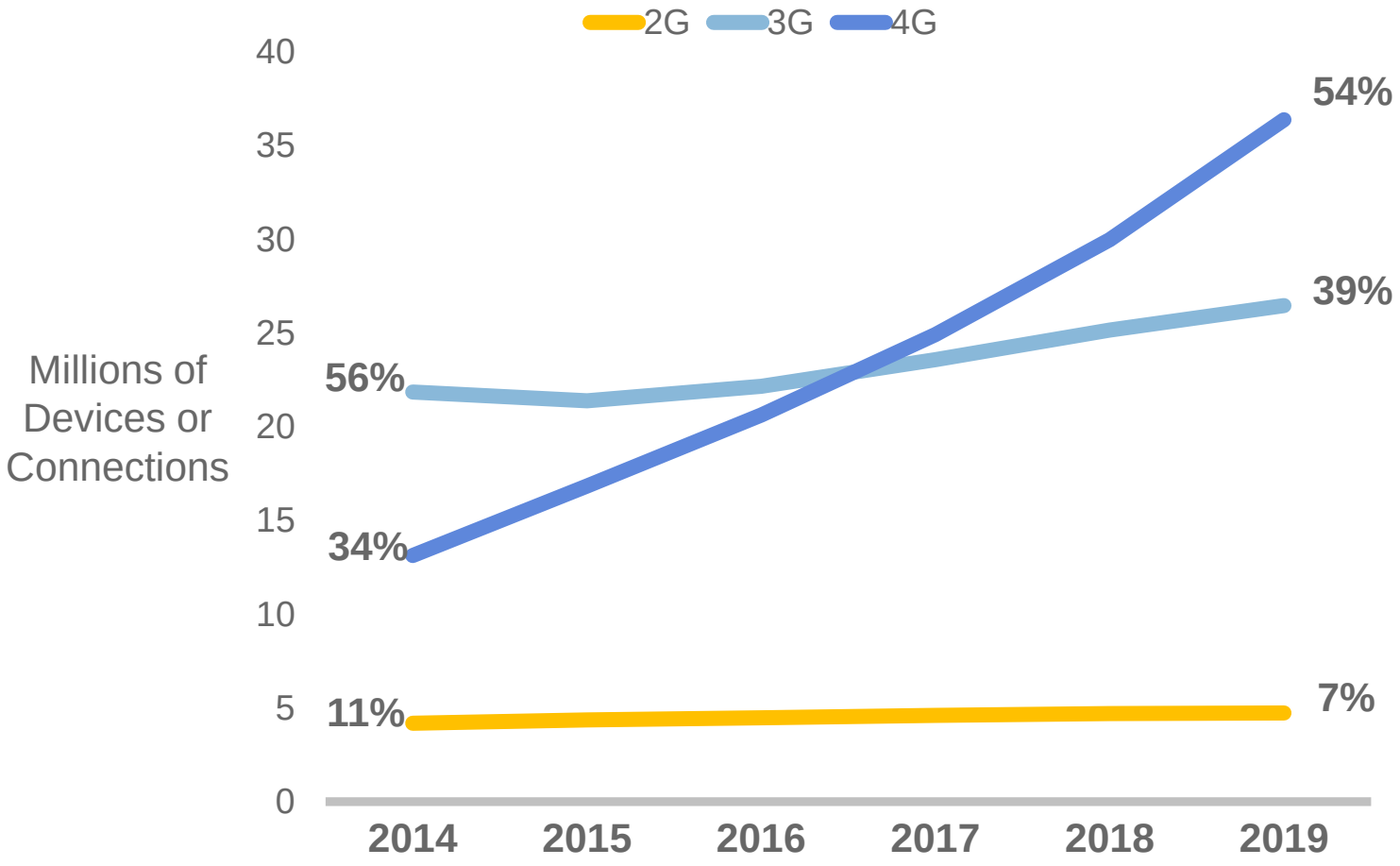
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

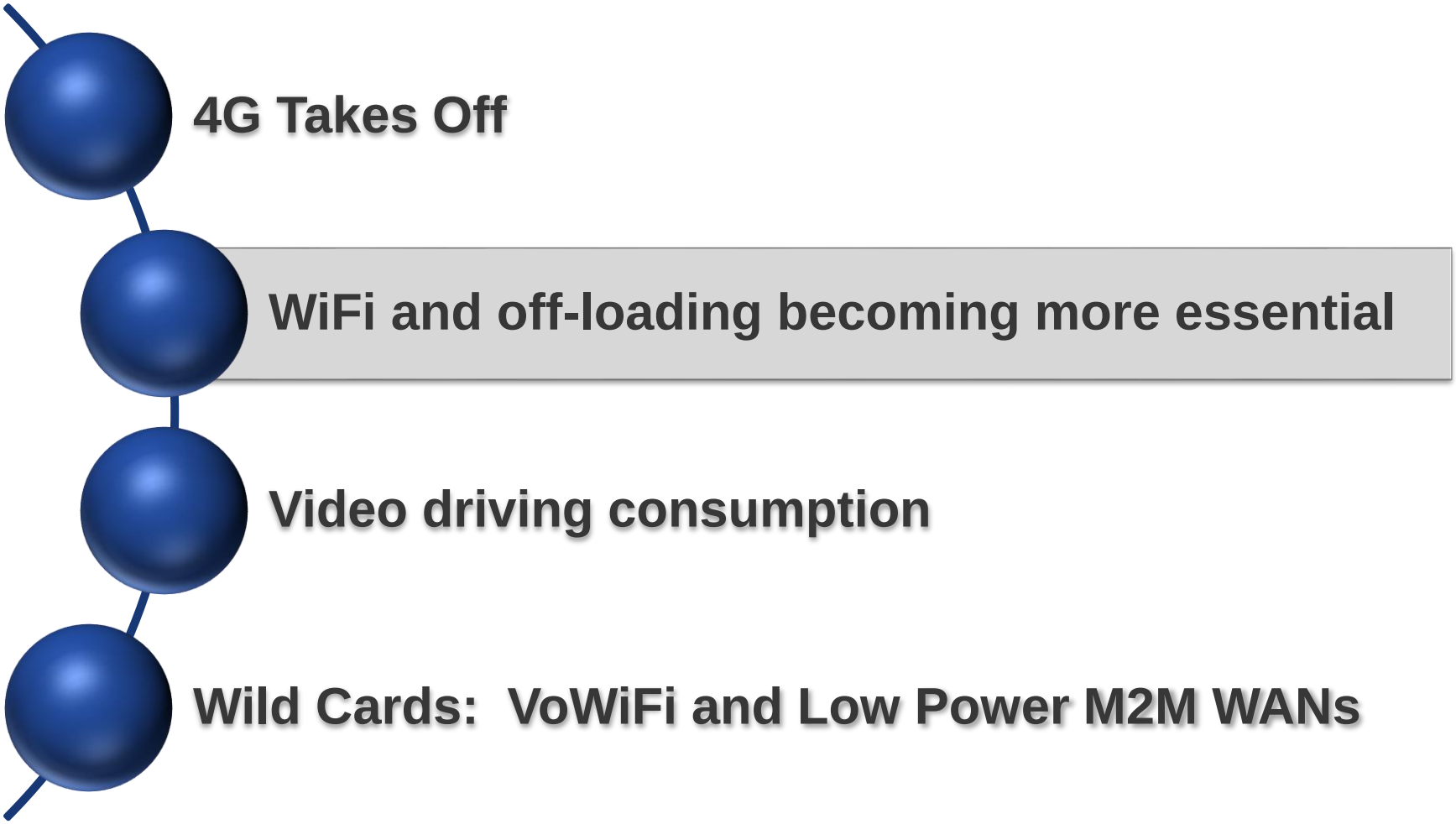
Australia Connections by Network Type

2G, 3G, and 4G Technology Connection Share



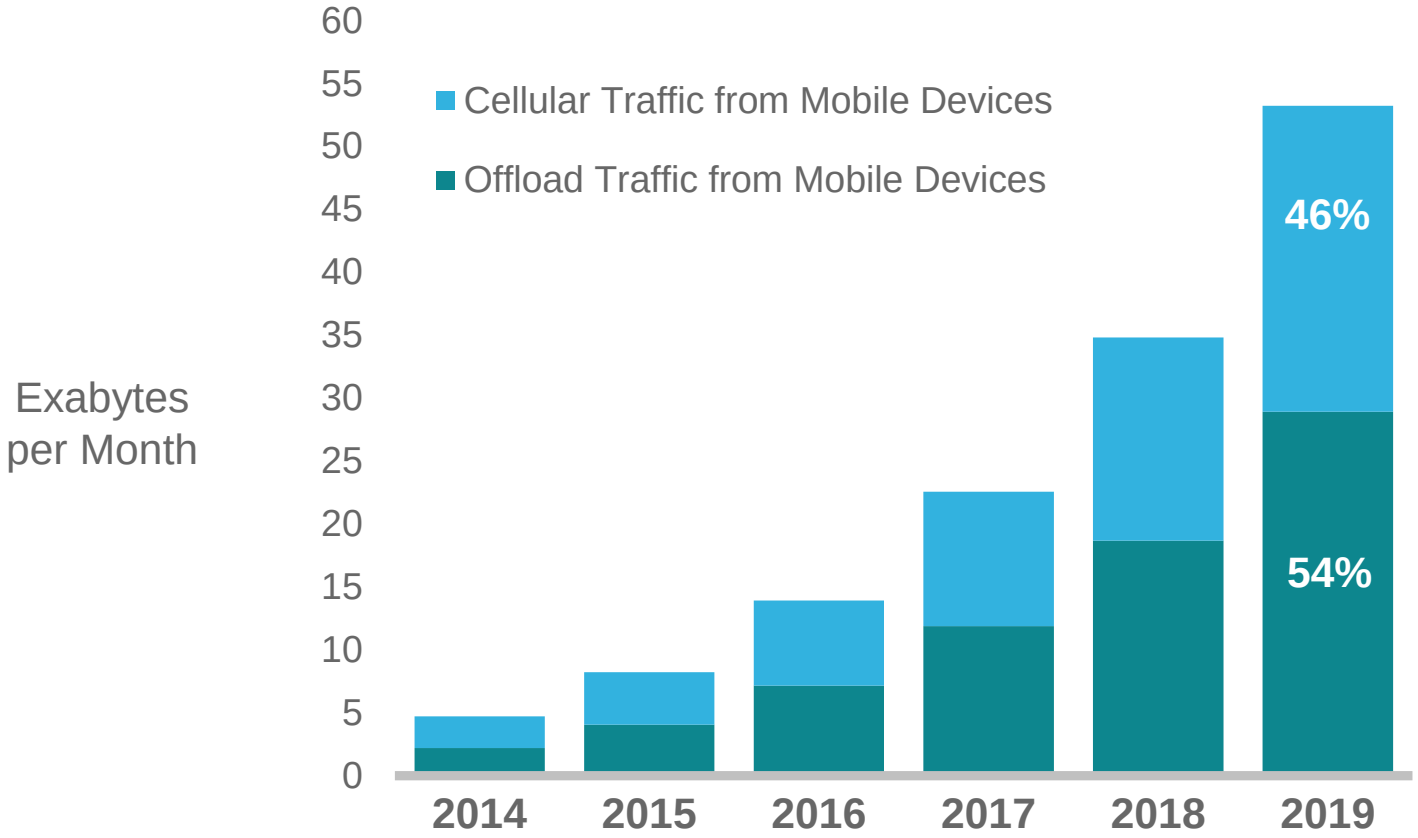
Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

VNI Mobile Forecast Update, 2014–2019
Top Mobile Networking Trends



Global Mobile Data Traffic Offload*

54% of Mobile Traffic to be Offloaded by 2019
46% of Mobile Traffic Offloaded in 2014

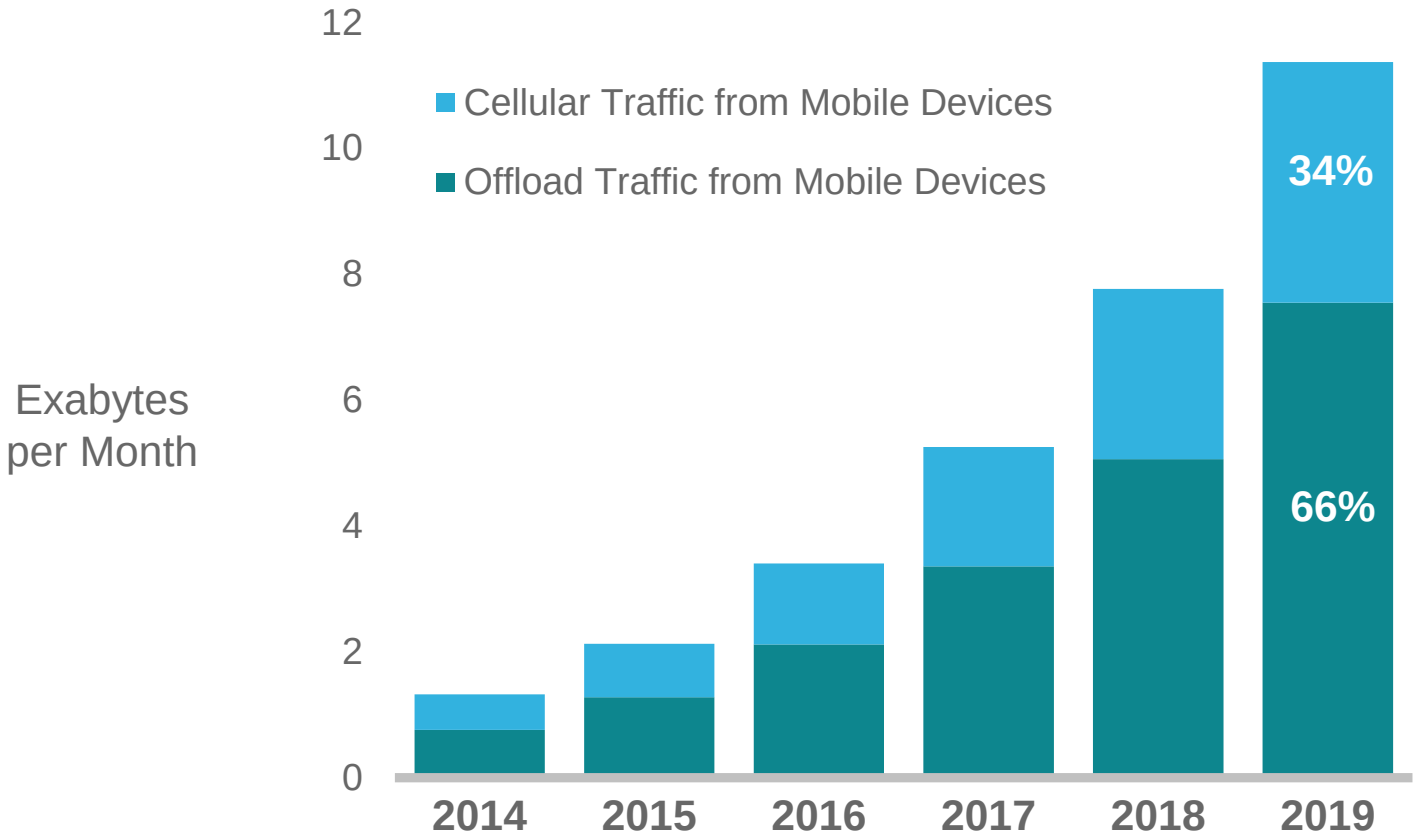


*Offload includes traffic from dual-mode devices (i.e., supports cell & Wi-Fi, excl. laptops) over Wi-Fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

NA Mobile Data Traffic Offload*

66% of Mobile Traffic to be Offloaded by 2019
57% of Mobile Traffic Offloaded in 2014

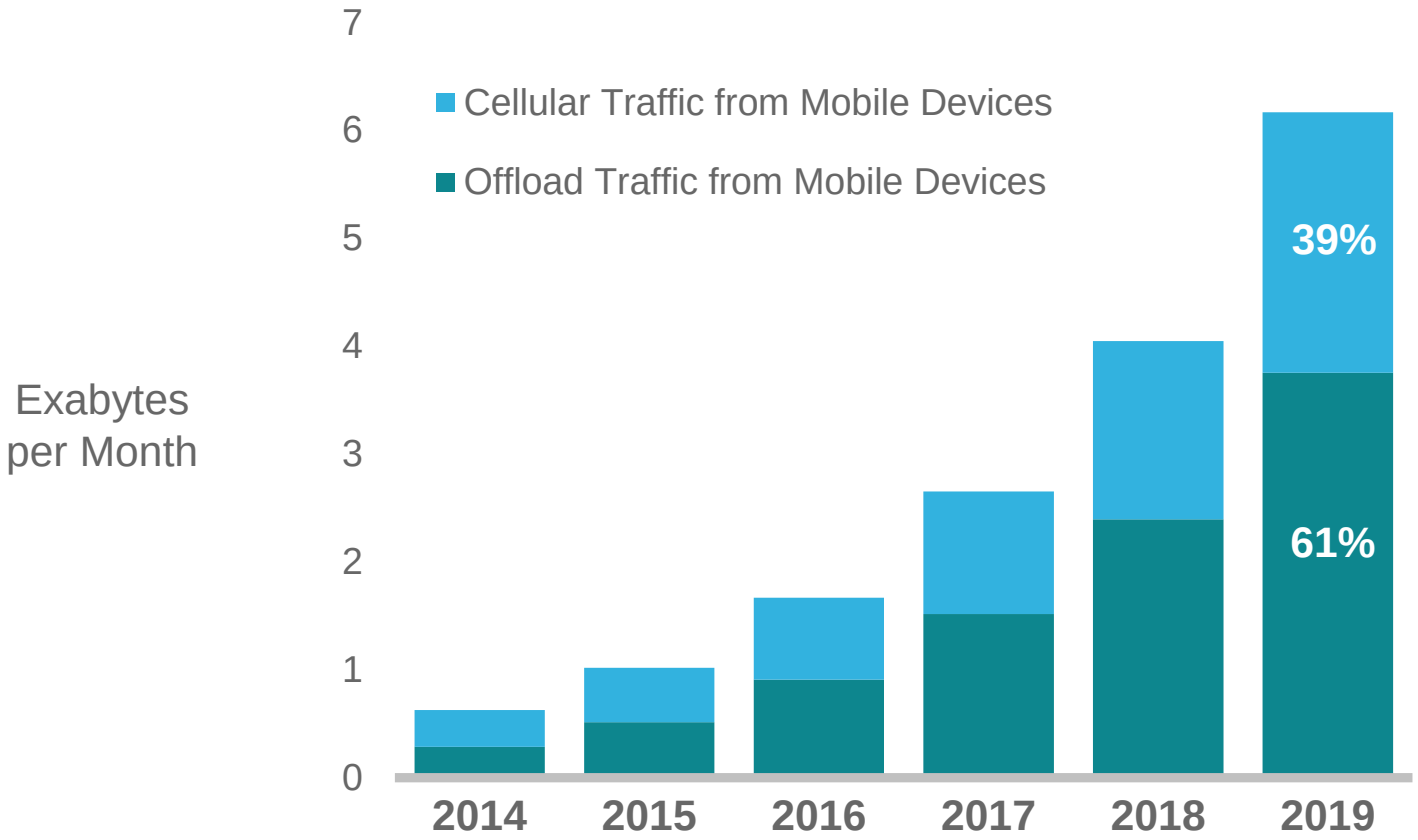


*Offload includes traffic from dual-mode devices (i.e., supports cell & Wi-Fi, excl. laptops) over Wi-Fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

WE Mobile Data Traffic Offload*

61% of Mobile Traffic to be Offloaded by 2019
45% of Mobile Traffic Offloaded in 2014

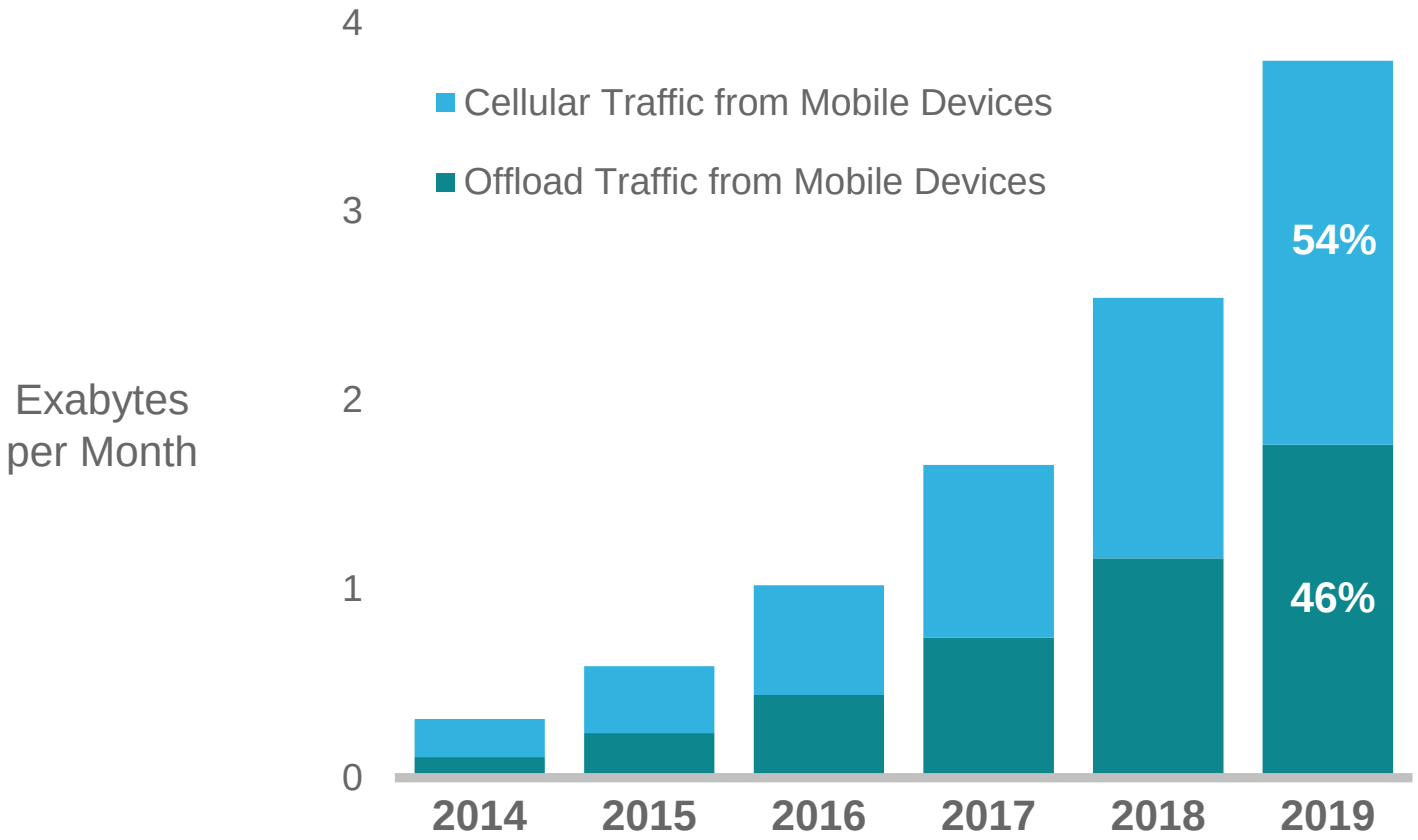


*Offload includes traffic from dual-mode devices (i.e., supports cell & Wi-Fi, excl. laptops) over Wi-Fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LATAM Mobile Data Traffic Offload*

46% of Mobile Traffic to be Offloaded by 2019
35% of Mobile Traffic Offloaded in 2014

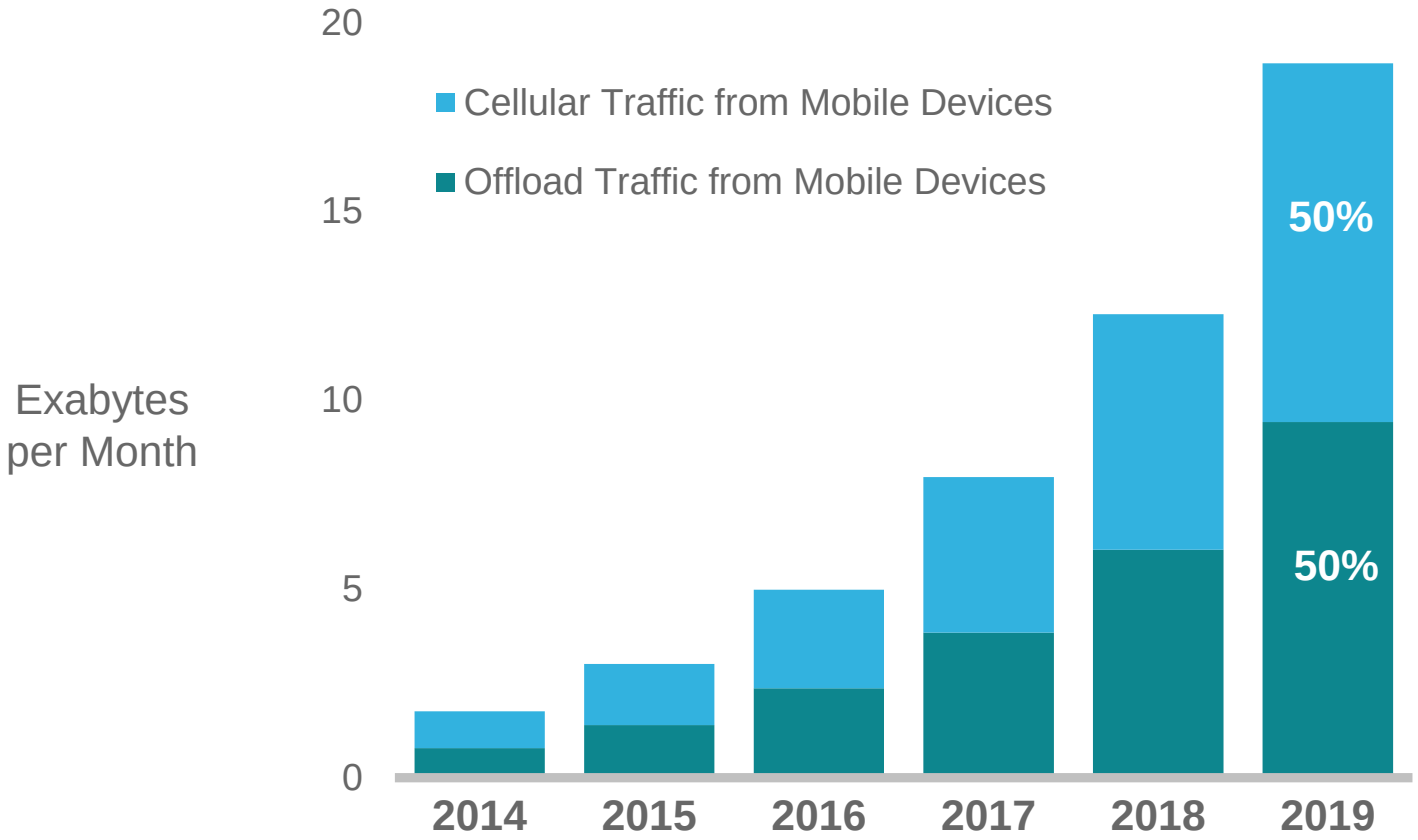


*Offload includes traffic from dual-mode devices (i.e., supports cell & Wi-Fi, excl. laptops) over Wi-Fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

APAC Mobile Data Traffic Offload*

50% of Mobile Traffic to be Offloaded by 2019
44% of Mobile Traffic Offloaded in 2014

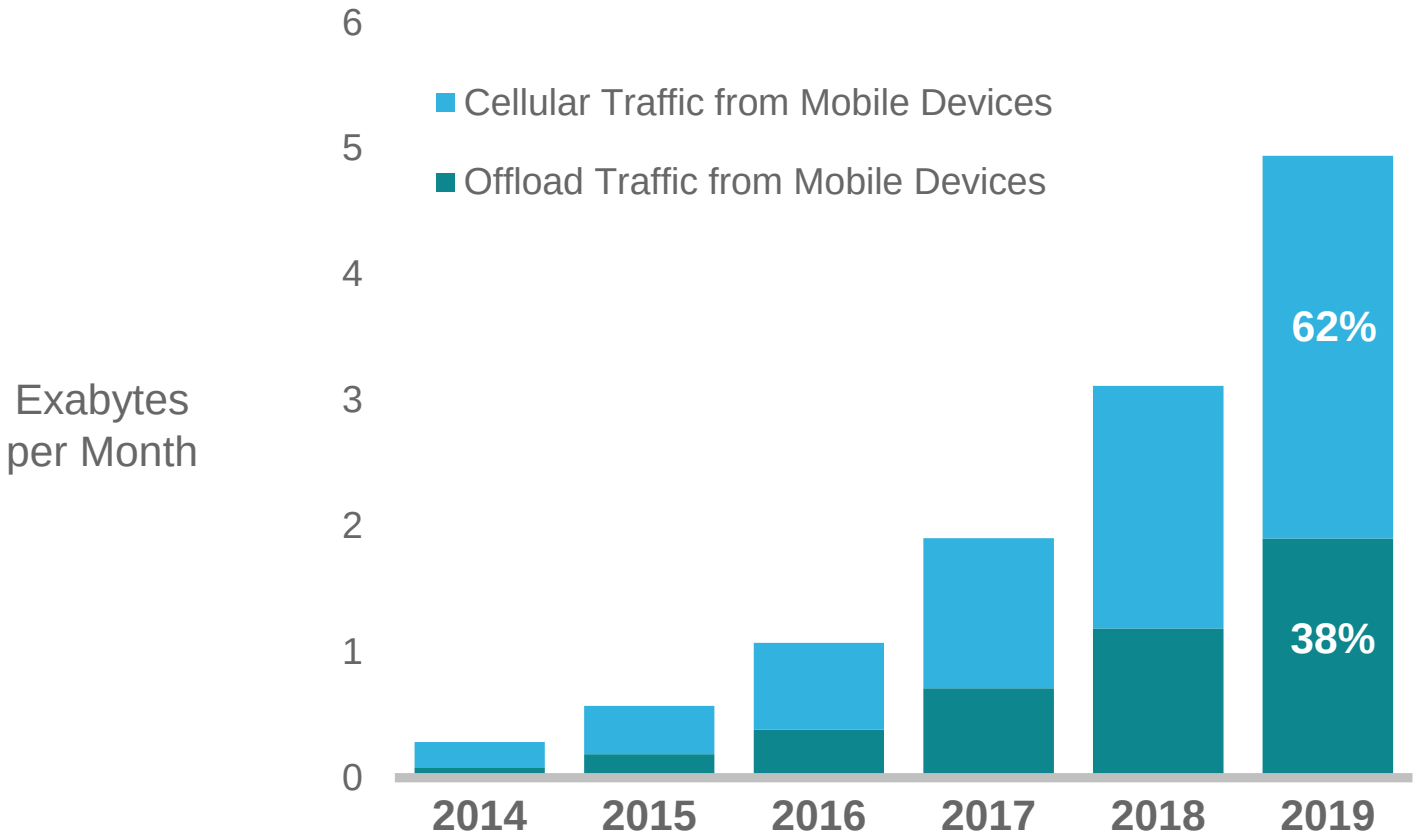


*Offload includes traffic from dual-mode devices (i.e., supports cell & Wi-Fi, excl. laptops) over Wi-Fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

MEA Mobile Data Traffic Offload*

38% of Mobile Traffic to be Offloaded by 2019
29% of Mobile Traffic Offloaded in 2014

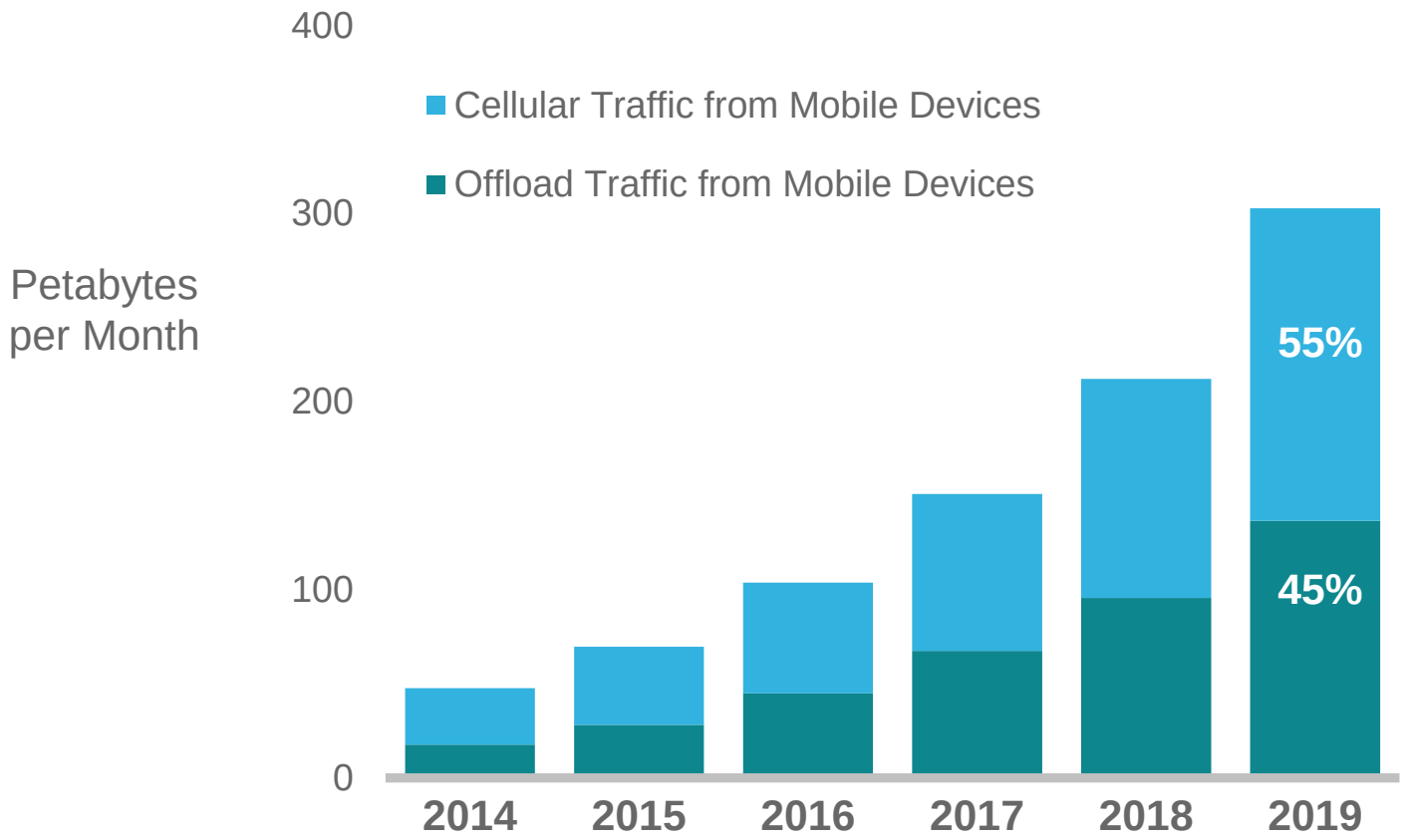


*Offload includes traffic from dual-mode devices (i.e., supports cell & Wi-Fi, excl. laptops) over Wi-Fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

Australia Mobile Data Traffic Offload*

45% of Mobile Traffic to be Offloaded by 2019
37% of Mobile Traffic Offloaded in 2014

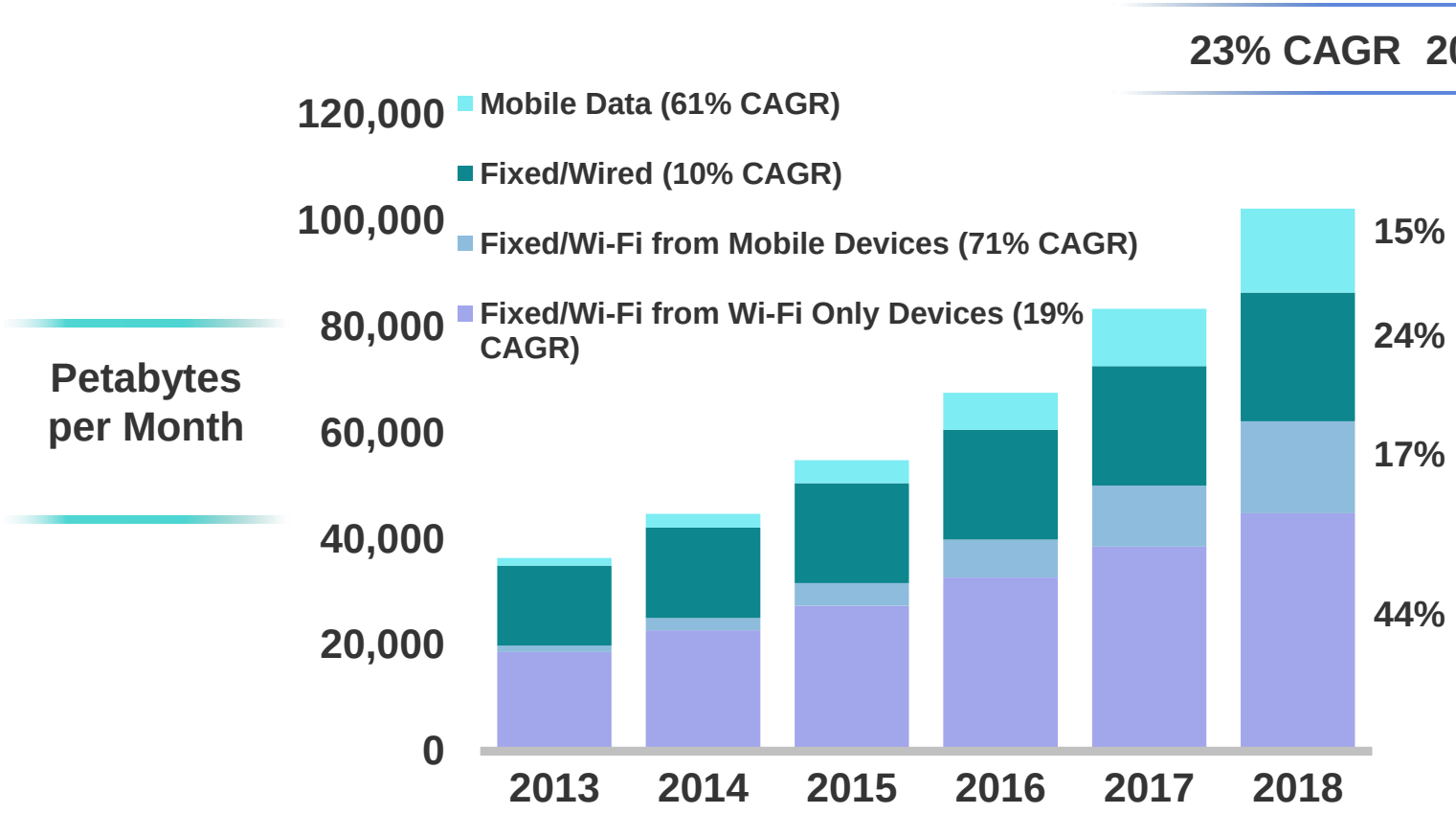


*Offload includes traffic from dual-mode devices (i.e., supports cell & Wi-Fi, excl. laptops) over Wi-Fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

Global Internet Traffic by Local Access Technology

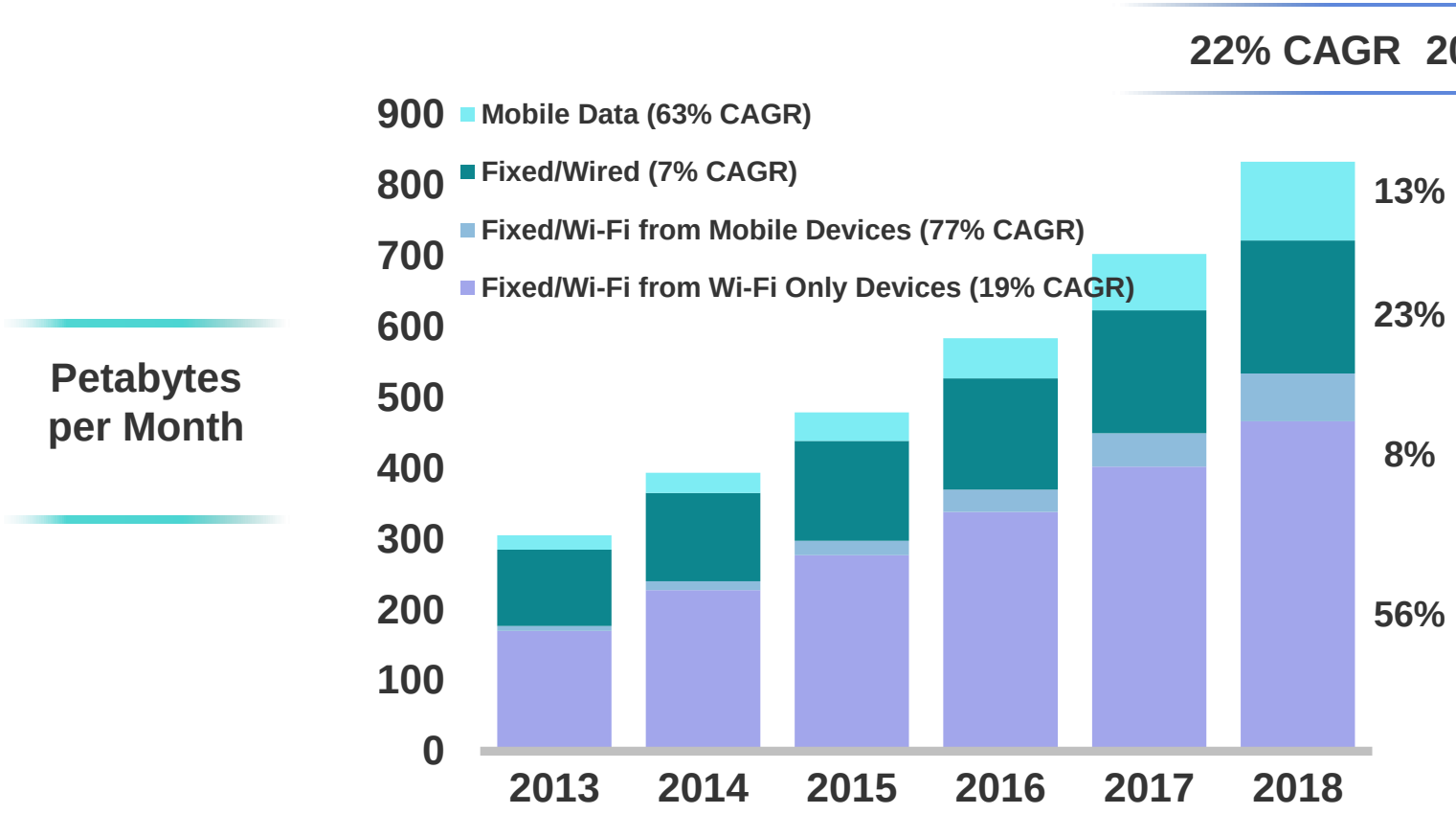
76% Internet Traffic Access is Wireless



Source: Cisco VNI Global IP Traffic Forecast, 2013–2018

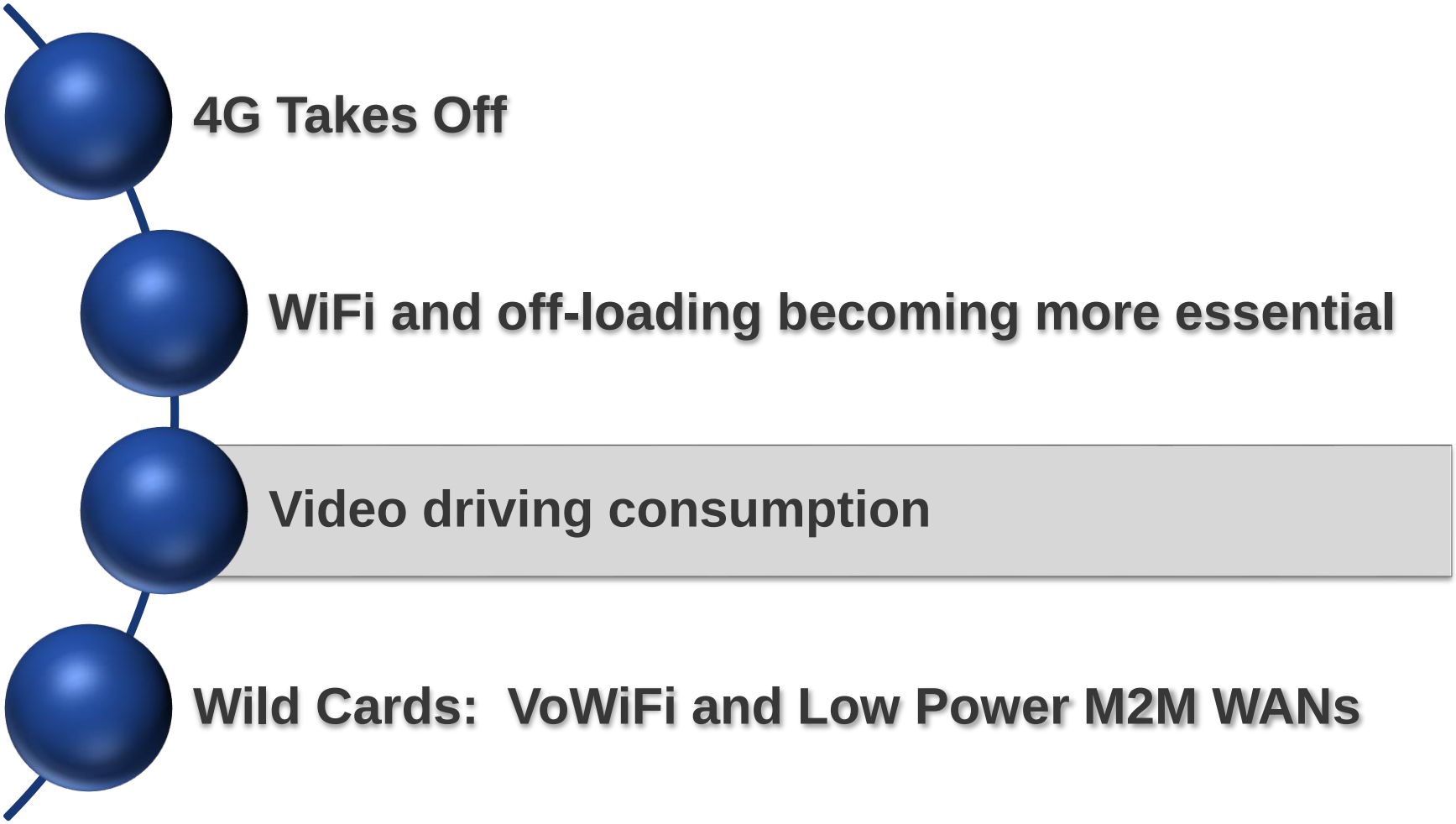
Australia Traffic by Local Access Technology

77% Internet Traffic Access is Wireless



Source: Cisco VNI Global IP Traffic Forecast, 2013–2018

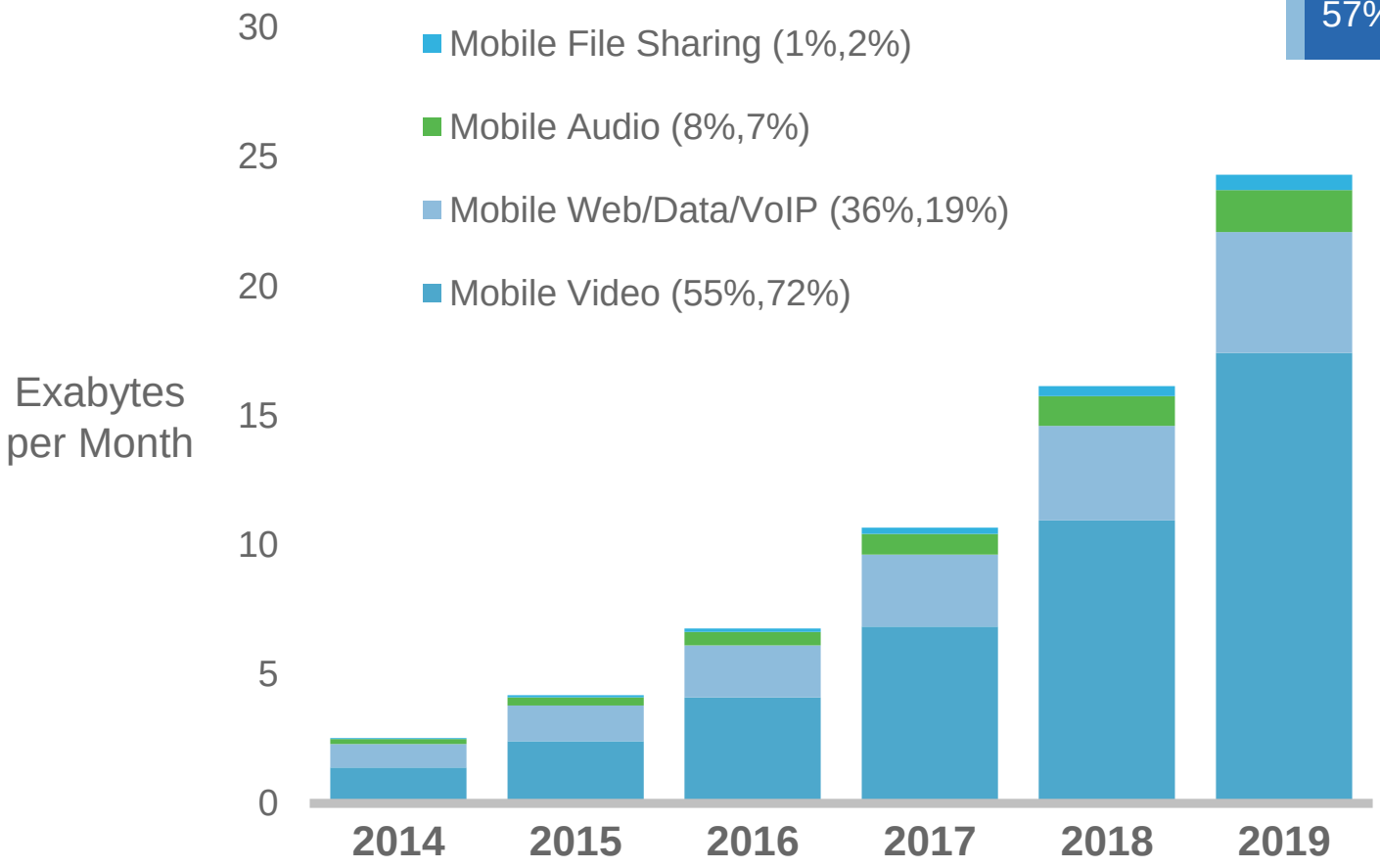
VNI Mobile Forecast Update, 2014–2019
Top Mobile Networking Trends



Global Mobile Data Traffic Growth / Apps

Video to Exceed 72 Percent of Mobile Data Traffic by 2019

57% CAGR 2014–2019



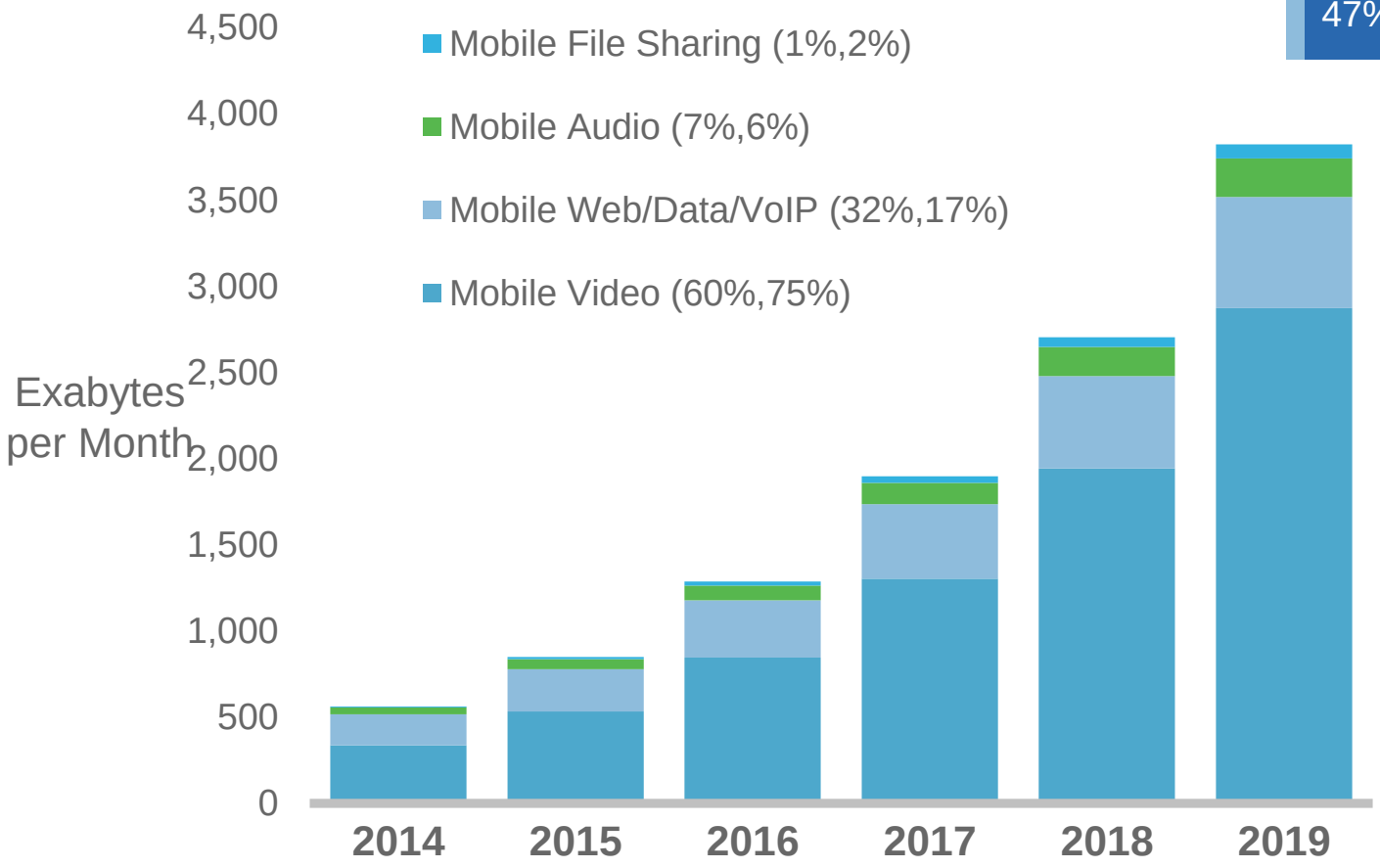
*** Figures (n) refer to 2014 and 2019 mobile data traffic shares**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

NA Mobile Data Traffic Growth / Apps

Video to Account for 75 Percent of Mobile Data Traffic by 2019

47% CAGR 2014–2019



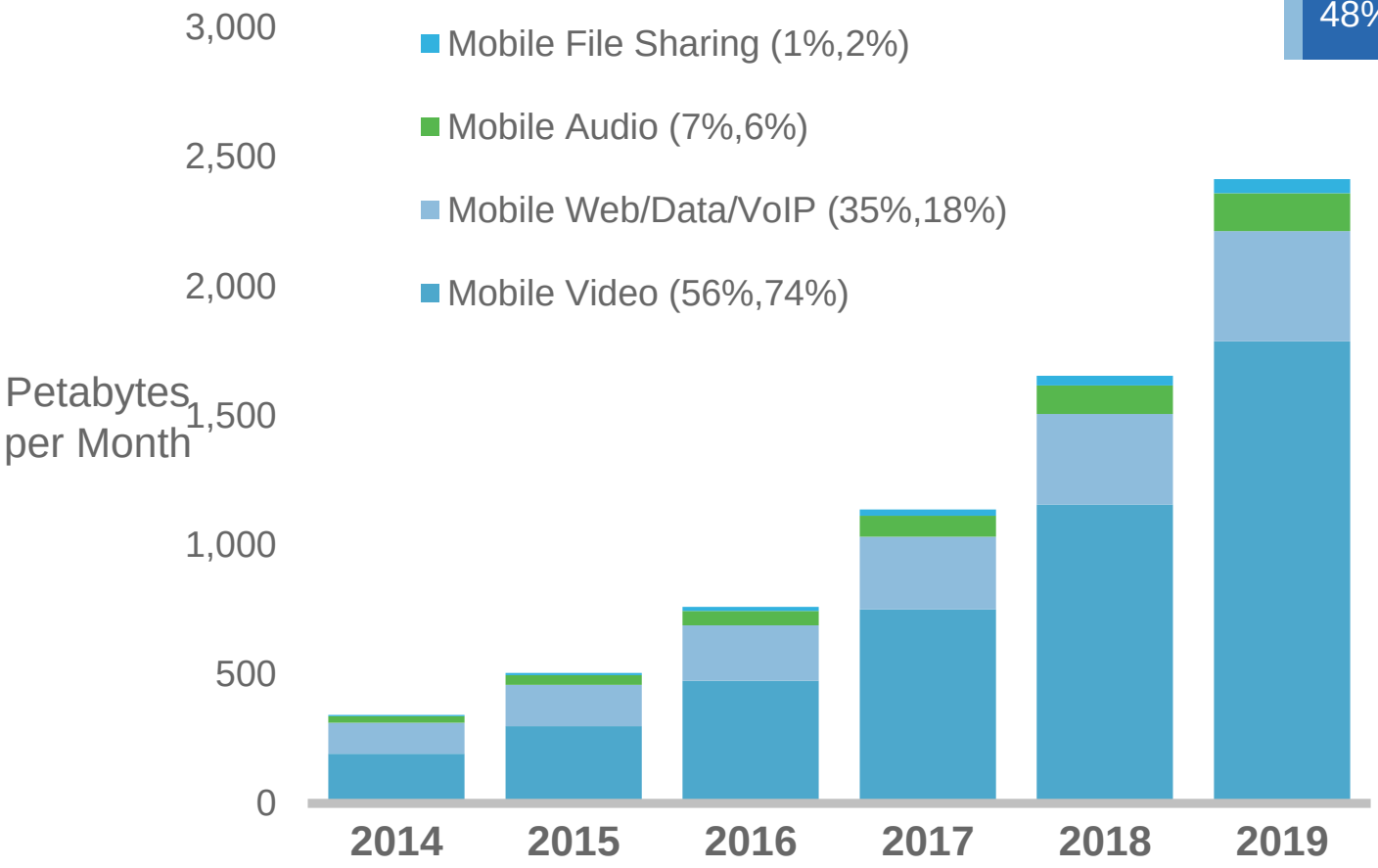
*** Figures (n) refer to 2014, 2019 mobile data traffic share**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

WE Mobile Data Traffic Growth / Apps

Video to Account for 74 Percent of Mobile Data Traffic by 2019

48% CAGR 2014–2019



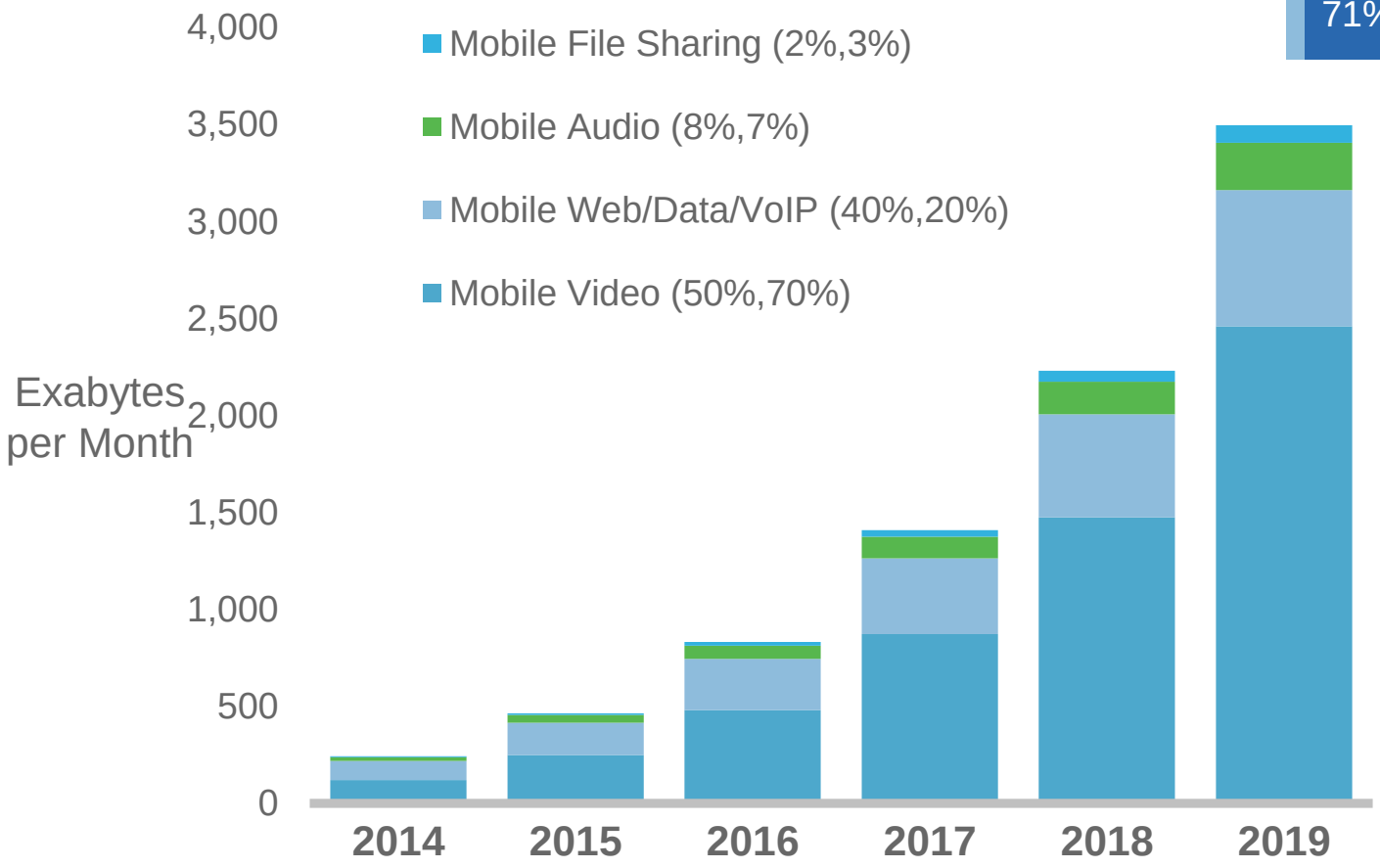
*** Figures (n) refer to 2014, 2019 mobile data traffic share**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

CEE Mobile Data Traffic Growth / Apps

Video to Account for 70 Percent of Mobile Data Traffic by 2019

71% CAGR 2014–2019



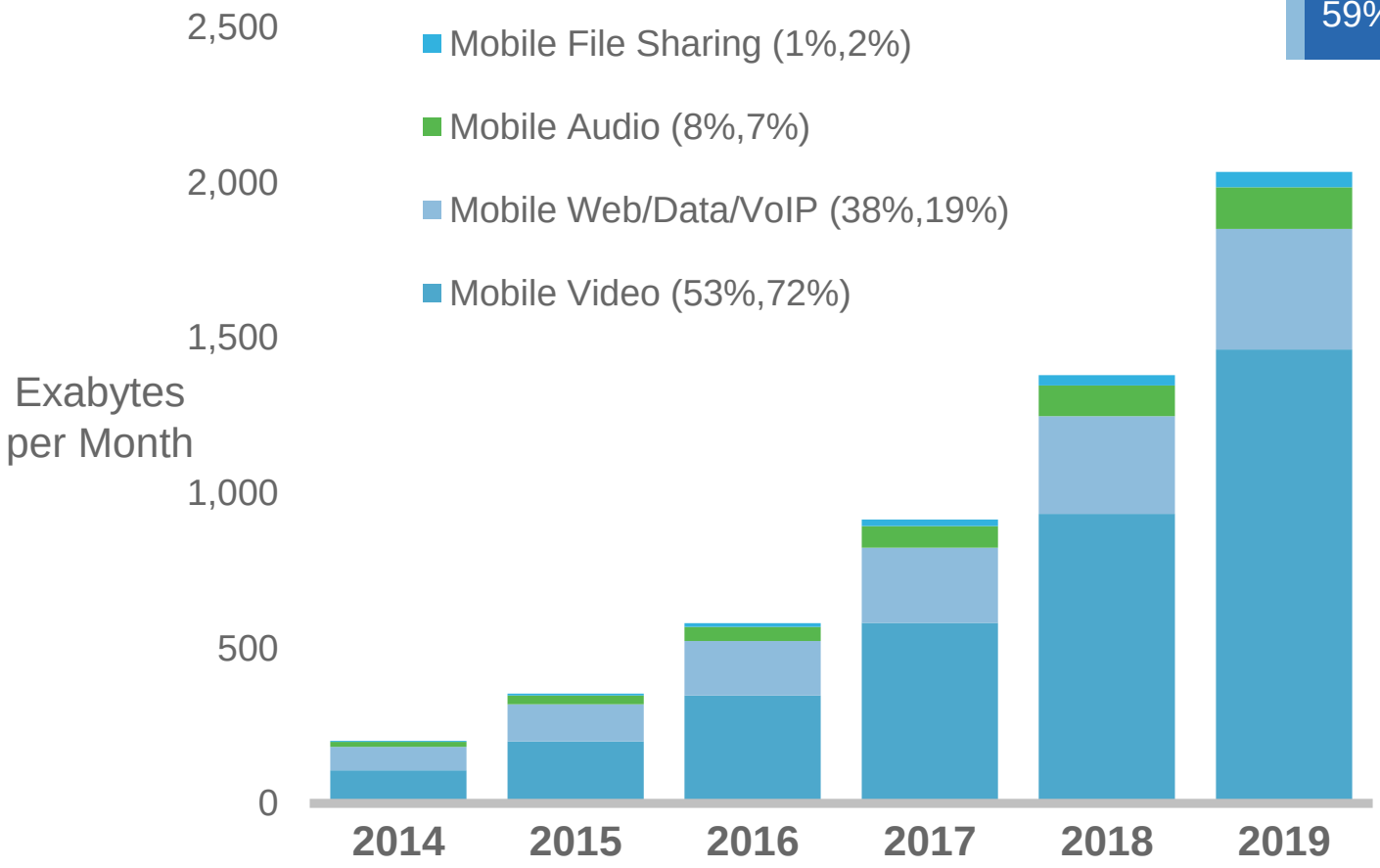
*** Figures (n) refer to 2014, 2019 mobile data traffic share**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

LATAM Mobile Data Traffic Growth / Apps

Video to Account for 72 Percent of Mobile Data Traffic by 2019

59% CAGR 2014–2019

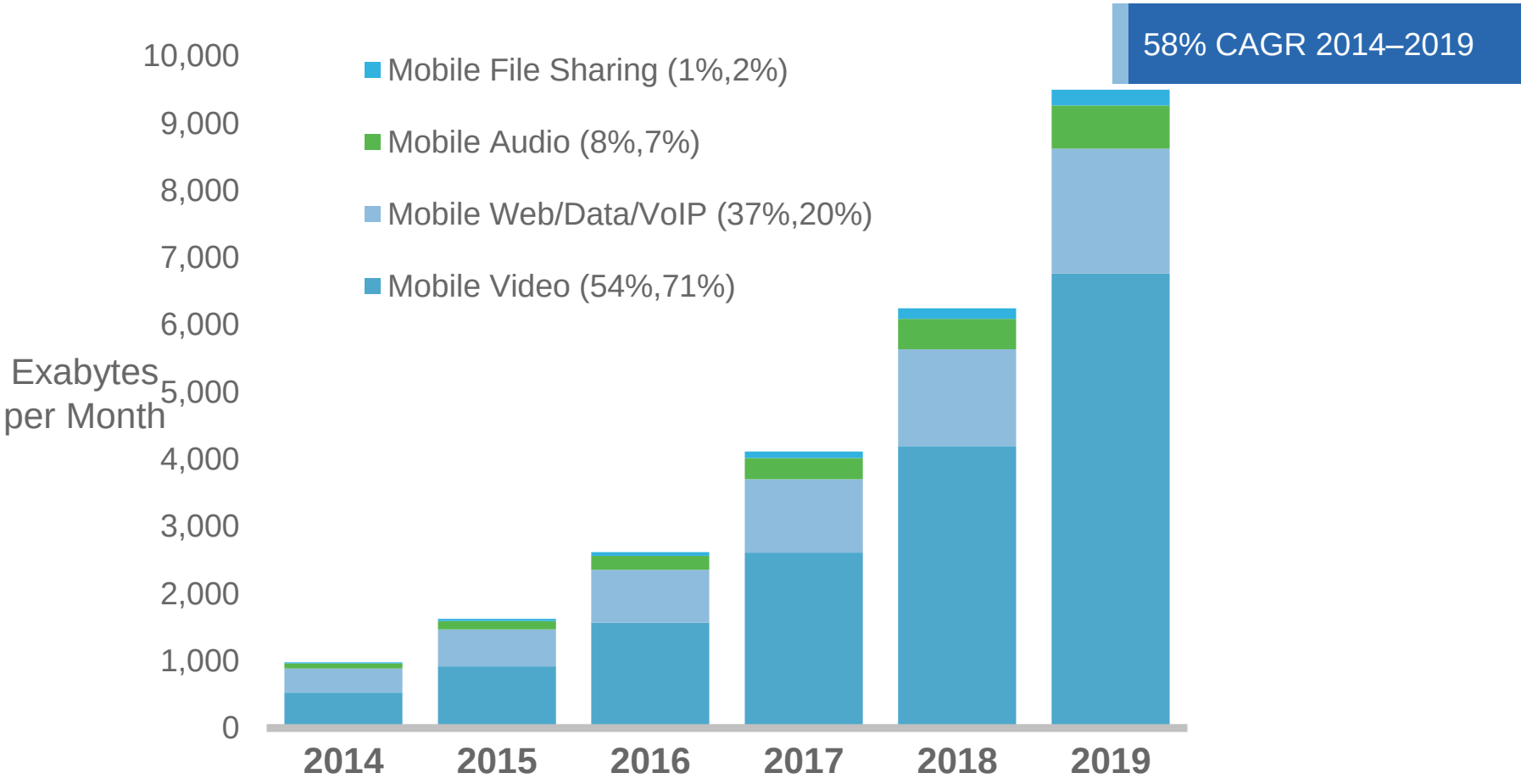


*** Figures (n) refer to 2014, 2019 mobile data traffic share**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

APAC Mobile Data Traffic Growth / Apps

Video to Account for 71 Percent of Mobile Data Traffic by 2019



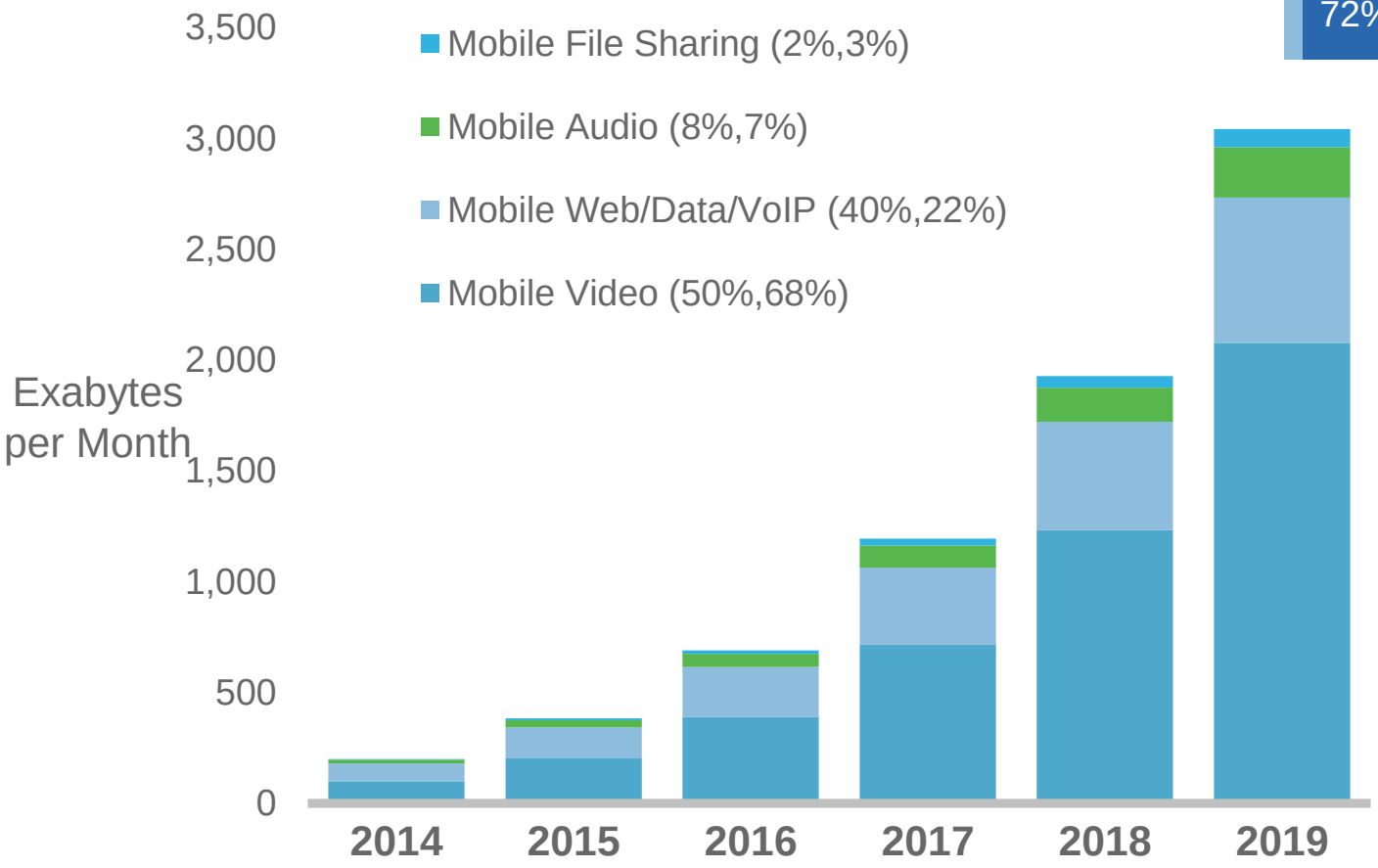
*** Figures (n) refer to 2014, 2019 mobile data traffic share**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

MEA Mobile Data Traffic Growth / Apps

Video to Account for 68 Percent of Mobile Data Traffic by 2019

72% CAGR 2014–2019

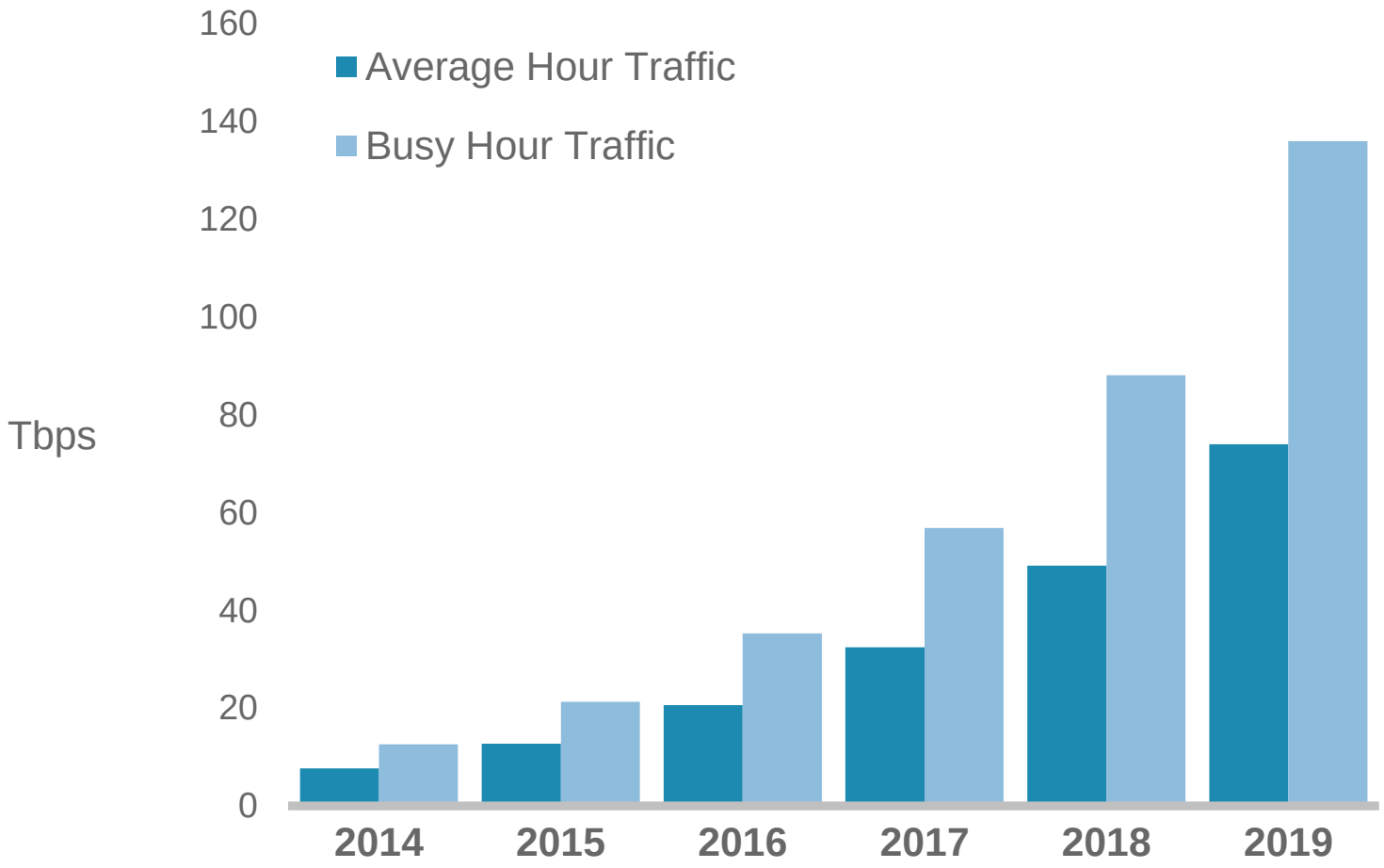


*** Figures (n) refer to 2014, 2019 mobile data traffic share**

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

Busy Hour Mobile Data Traffic

Busy Hour Is 64% Higher than Average Hour in 2014, 84% in 2019



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

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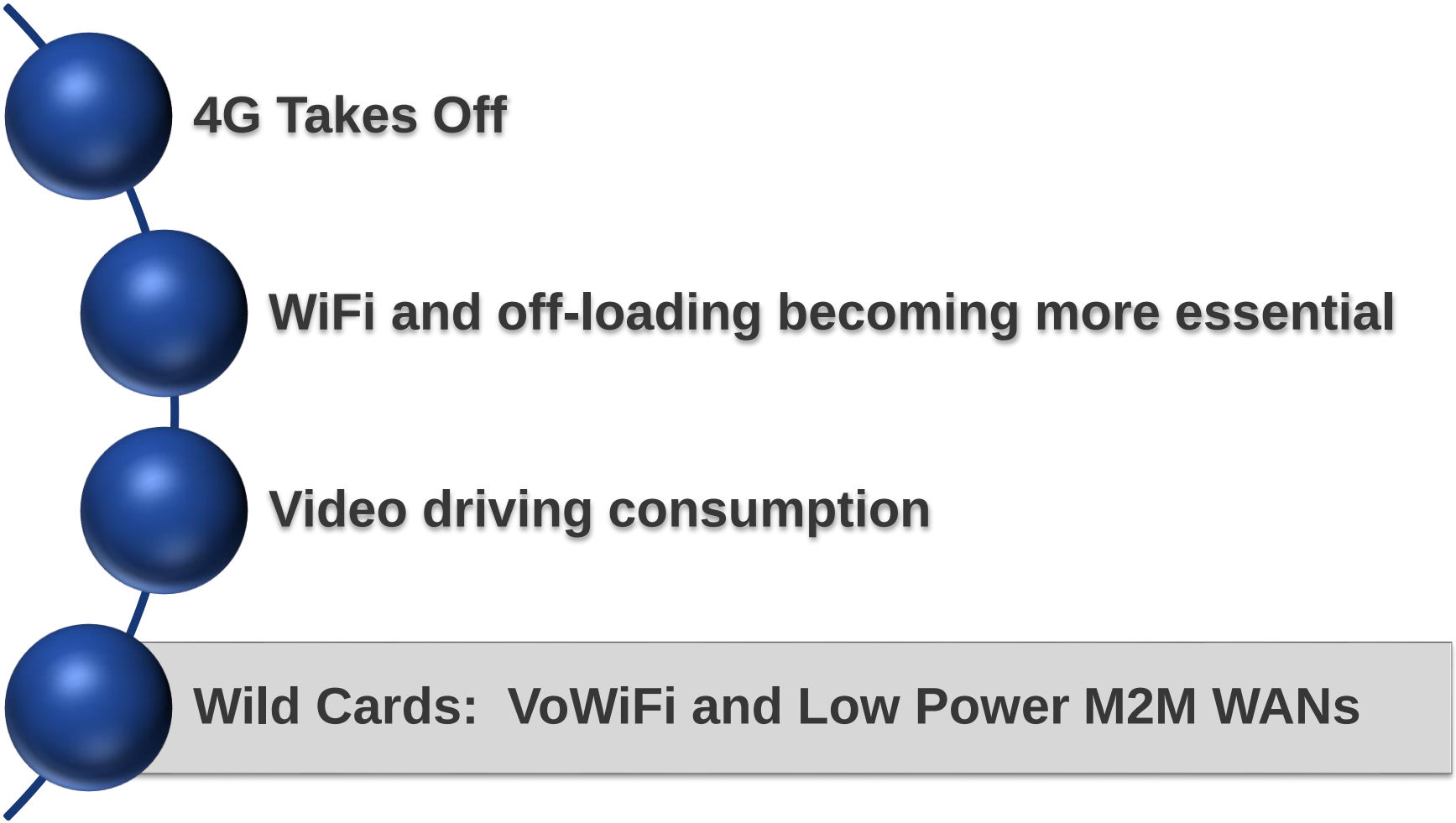
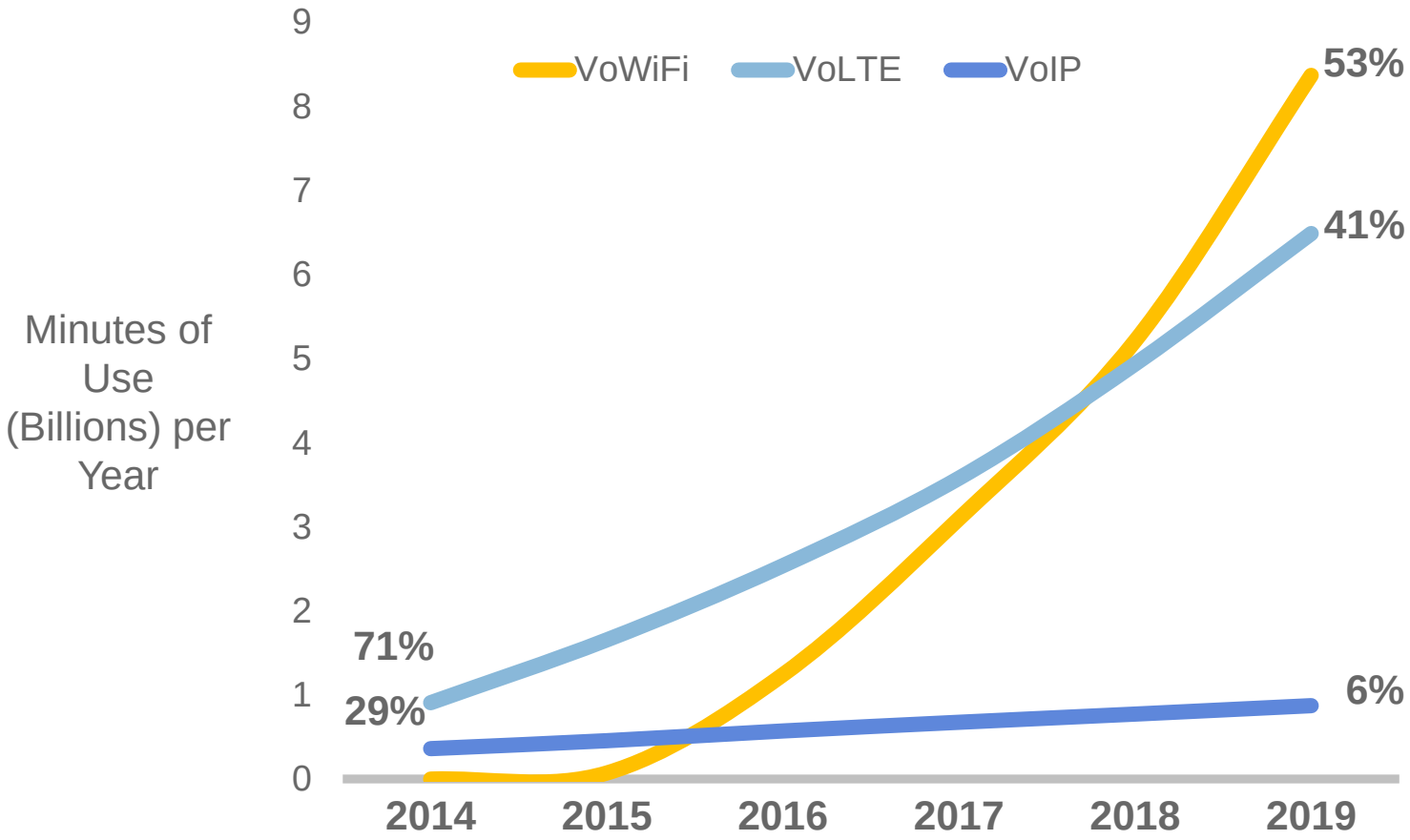


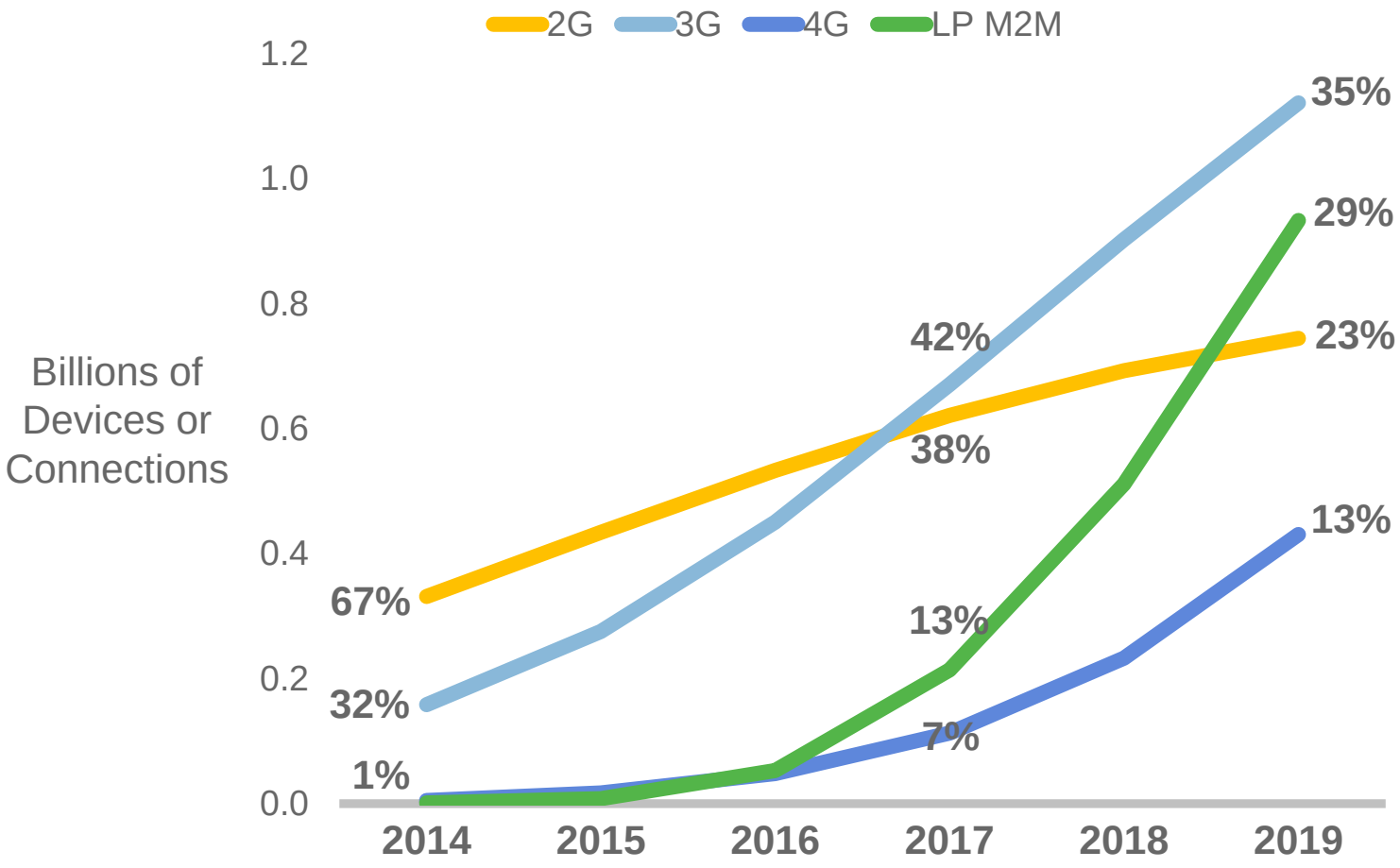
Wild Card: VoWiFi MoU Exceeds VoLTE by 2018

VoWiFi Accounts for 53% of Mobile IP Voice by 2019



Source: ACG, Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

Wild Card: Global M2M Connections By Network Type



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2014–2019

Key Takeaways

- 4G taking off…3G dominate…2G past peak
- WiFi essential as complement to mobile macro cell networks
- Video driving mobile data
- Need more investment in networks to meet demand
- Need more spectrum—licensed and unlicensed
- Wild cards: new business models

Cisco VNI Mobile Forecast; 2014–2019

Get more info—see Tools and Resources

www.cisco.com/go/vni
traffic-inquiries@cisco.com

TOMORROW starts here.

MOBILE WORLD CONGRESS

BARCELONA 2-5 MAR 2015

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spectrum4all@gsma.com

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