United States: Leading the Mobile Broadband Revolution

Ralph de la Vega
Chairman of the Board, CTIA—The Wireless Association

Agenda

- Mobile Broadband Transforming How We Live and Work
- U.S. Mobile Broadband Deployment
- U.S. Wireless Industry at an Inflection Point
- Staying Ahead: Industry Imperatives

Mobile Broadband Transforming How We Live And Work

The U.S. is leading the world in delivering on the promise of mobile broadband to customers

Mobile Broadband Transforming
How We Live and Work

U.S. Mobile Broadband Deployment

U.S. Wireless Industry
at an Inflection Point

Staying Ahead: Industry Imperatives

U.S. Ranks 1st in World in 3G Subscribers

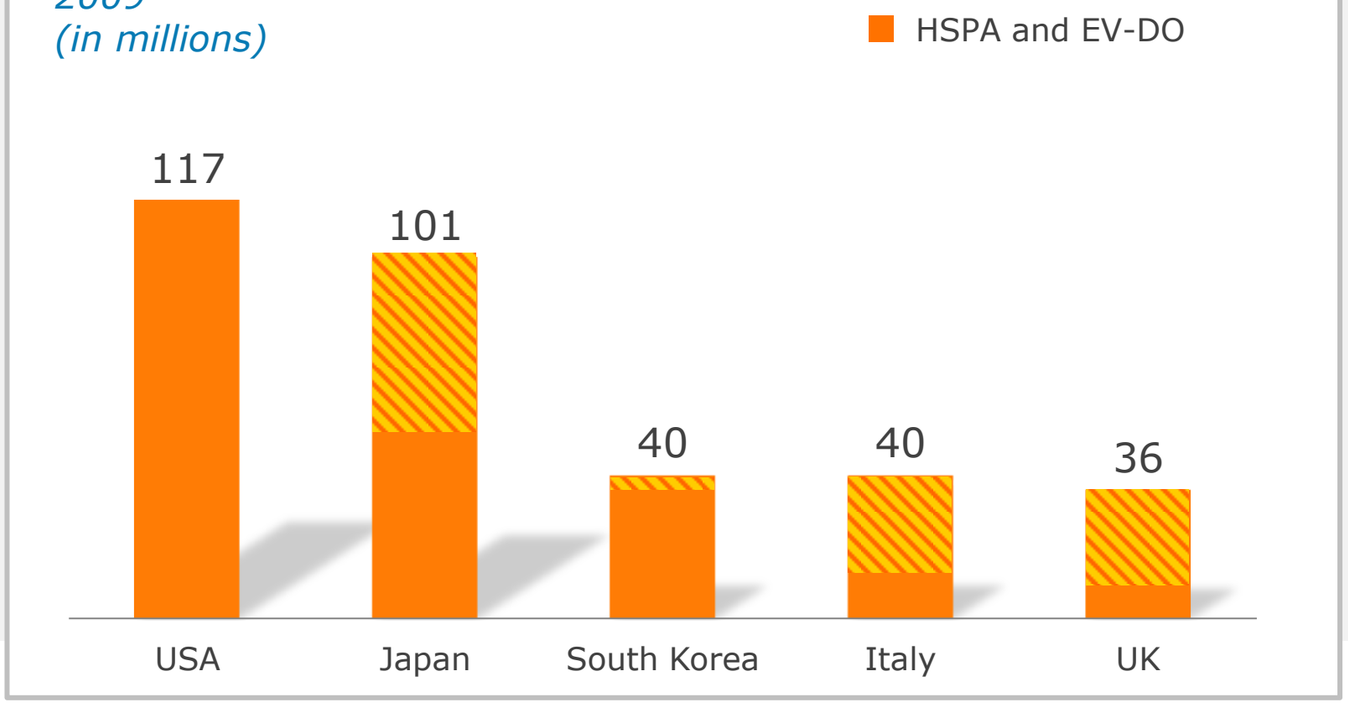
'3G is Key to Success of Mobile Internet'*

- U.S. has 18% of world's 3G subscribers*
- U.S. leads in most advanced 3G networks – HSPA and EV-DO – with 33% of global subscribers*
- U.S. led the world in 3G net adds in 2009 (through 3Q), with about 1 in 5 new 3G subs**

**Source: Morgan Stanley, Mobile Internet Report, Dec. 15, 2009

Estimated 3G Subscribers in Major Countries Worldwide

2009
(in millions)

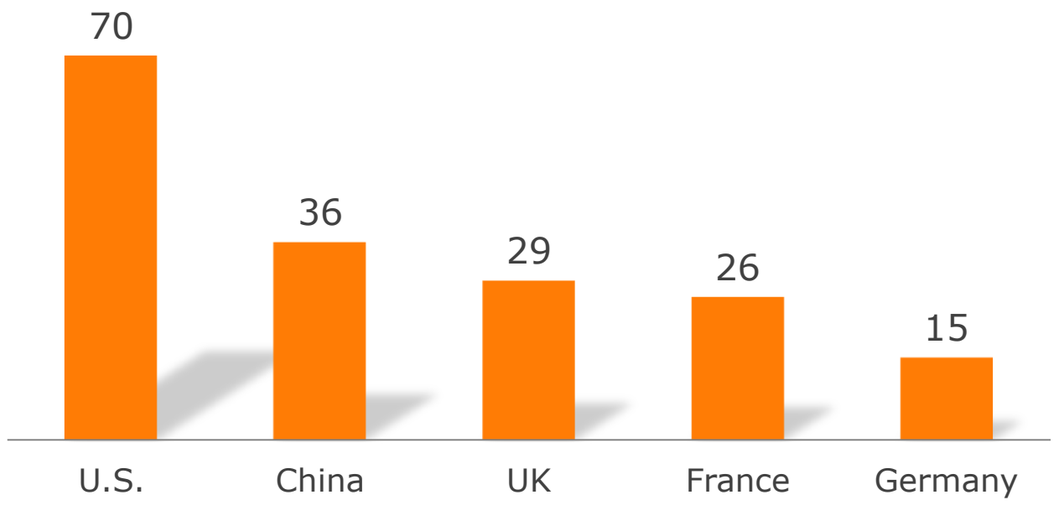


*Source OVUM, Mobile Technology Forecast, Dec. 2009

U.S. Significantly Ahead in Wi-Fi

Public Wi-Fi Hot Spots in Major Countries

4Q09
(in thousands)



**Source: JiWire, Mobile Audience Insights Report, Oct.-Dec. 2009*

Wi-Fi complementary to mobile broadband and enhances ubiquity

- "Wi-Fi increasingly connecting devices in homes, businesses and schools"**

Usage soaring in U.S.

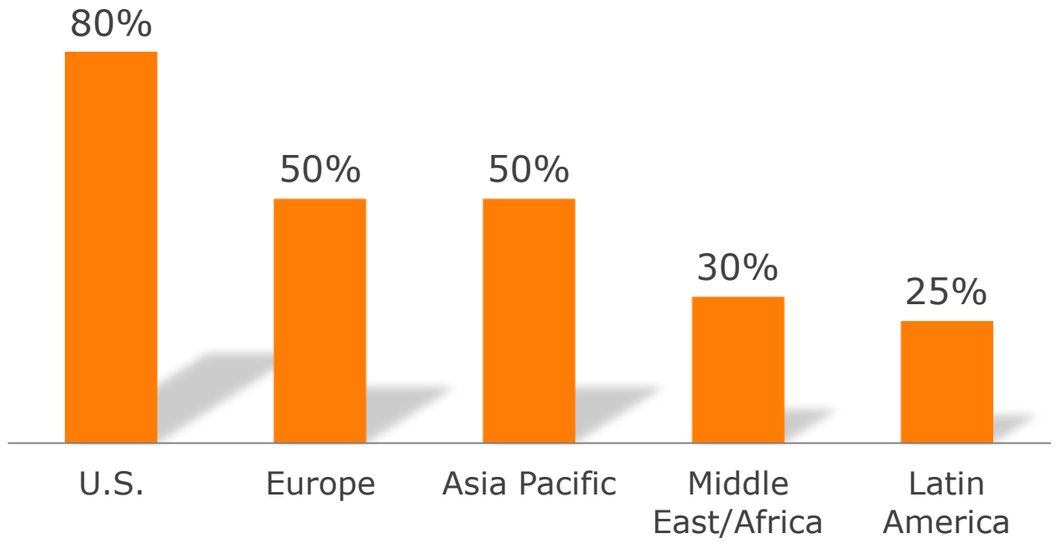
- 56% use mobile devices to connect*
- Projected leadership in Wi-Fi devices***

***Source: Morgan Stanley, Mobile Internet Report, Dec. 15, 2009*
****Source: IDC Worldwide Wi-Fi-Enabled Mobile Phone 2009-2013 Forecast, Doc # 219628, August 2009*

U.S. Leading in Mobile Broadband Investments

Estimated Percentage of Wireless Cap-Ex Spent on Mobile Broadband

2010E



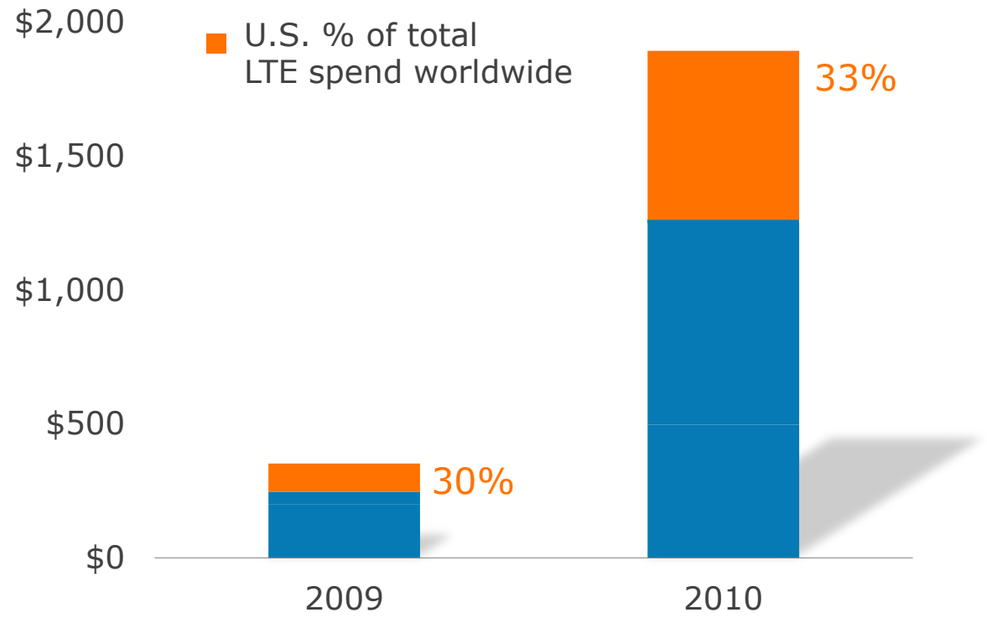
*Source: GSM Association, Deutsche Bank Global Markets Research, Feb. 2010

- U.S. carriers projected to spend $45 billion in total cap-ex in 2010**
  - Mobile broadband drives fiber investments and wireline broadband investments enhance mobile broadband
- U.S. carriers projected to spend $22-23 billion in wireless cap-ex in 2010*

**Source: Oppenheimer, 4Q09 Post View, March 2010

U.S. Leading in Commercialization of Next Generation Mobile Broadband Networks

U.S. to Account for ~30% of Global LTE Investment
(in millions)



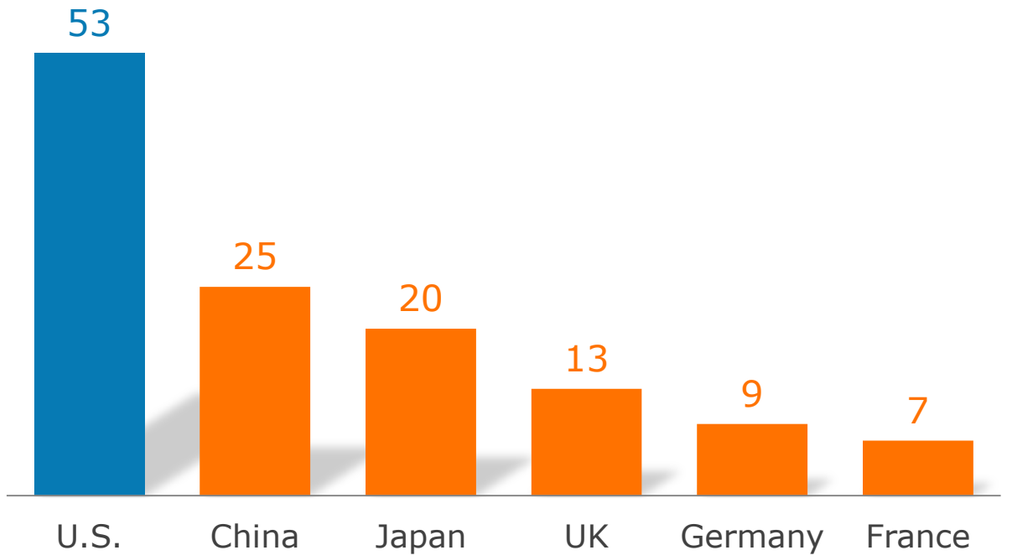
*Source: AT&T internal analysis based on IDC data, LTE Update, March 8, 2010

- U.S. GSM operators are deploying advanced HSPA to give customers 3G+ performance now
- LTE expected to be leading 4G technology
  - 59 operators in 28 countries committed to LTE**
- U.S. leads in deployment of LTE*

**Source: Global Mobile Suppliers Association, GSM/3G Market Update, March 2010

U.S. Ahead in Smartphone Sales

Smartphone Sales by Major Country
2010E
(in millions)



**Source: Strategy Analytics, Global Smartphone Sales Forecast by Country, Aug. and Oct. 2009*

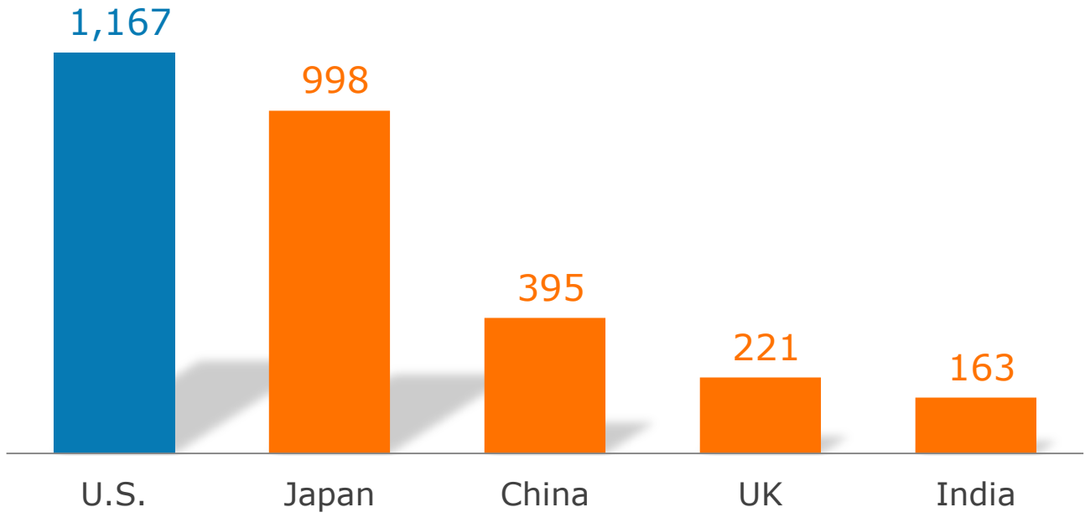
- Took the global leadership position in 2008 and projected to maintain it through 2013 with 28% CAGR**
- "… the U.S. smartphone market is currently the world's most important …" —*Strategy Analytics**

*** Source: IDC, Worldwide Converged Mobile Device 2009-2013 Forecast Update: December 2009, Doc # 221081, December 2009*

U.S. Driving Global Application Growth

Top Countries Worldwide by Consumer Application Downloads

2009 Downloads
(in millions)



** Source: Strategy Analytics, March 2010*

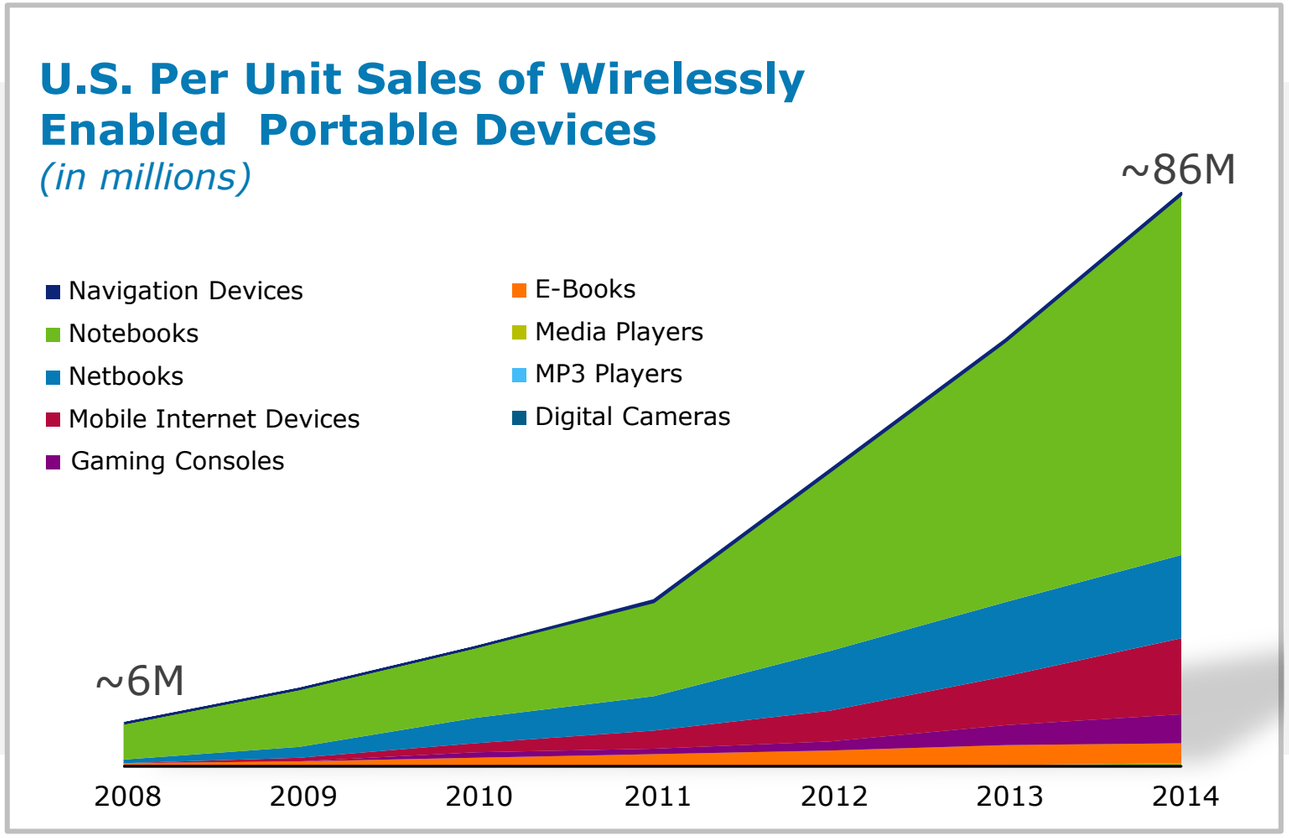
App store proliferation will help drive growth

- New stores – Android, Palm, Microsoft, others – will drive growth

Carrier initiatives will broaden app distribution

- Wholesale Application Community
- AT&T, Qualcomm
- Sprint, GetJar

Emerging Devices Taking Off and Expected to Maintain Growth



*Source: Strategy Analytics, U.S. Connected Device Forecast, Jan. 2010

By 2014:

- About 86 million devices
- More than a quarter of emerging devices in the world projected to be in U.S.**
- Annual U.S. retail market value of wirelessly enabled consumer devices estimated to be $39B*

In 4Q09, U.S. led the world in e-book downloads.***

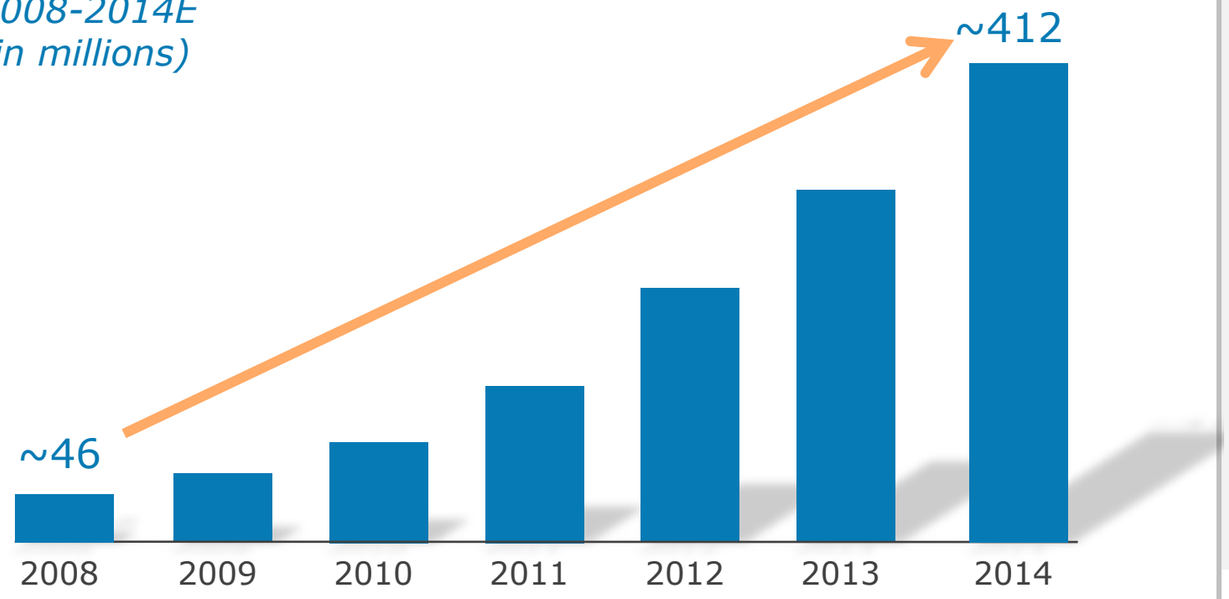
** Source: Strategy Analytics, U.S. Connected Device Forecast, Jan. 2010 and Strategy Analytics, Wireless Consumer Electronics Global Market Forecast May 2009

***Source: Wattpad, Global 4Q09 Ebook Metrics Reports, Dec. 2009

Wireless Connectivity Growing – and Expected to Influence Nearly Every Business

Global Machine-to-Machine Mobile Connected Devices

2008-2014E
(in millions)



**Source: Juniper Research, Embedded Mobile and M2M Strategies 2009-2014, Jan. 2010*

- Worldwide Machine-to-Machine devices rise to 412M by 2014*
- U.S. has highest percentage of mobile workers today – growing to an estimated 75% workers by 2013**
- Mobile applications spending growing for U.S. businesses with a 20%+CAGR through 2012***

*** Source: IDC, Worldwide Mobile Worker Population 2009-2013 Forecast, Doc # 221309, December 2009*
****Source: Compass Intelligence, July 2009*

Mobile Broadband Transforming How We Live and Work

U.S. Mobile Broadband Deployment

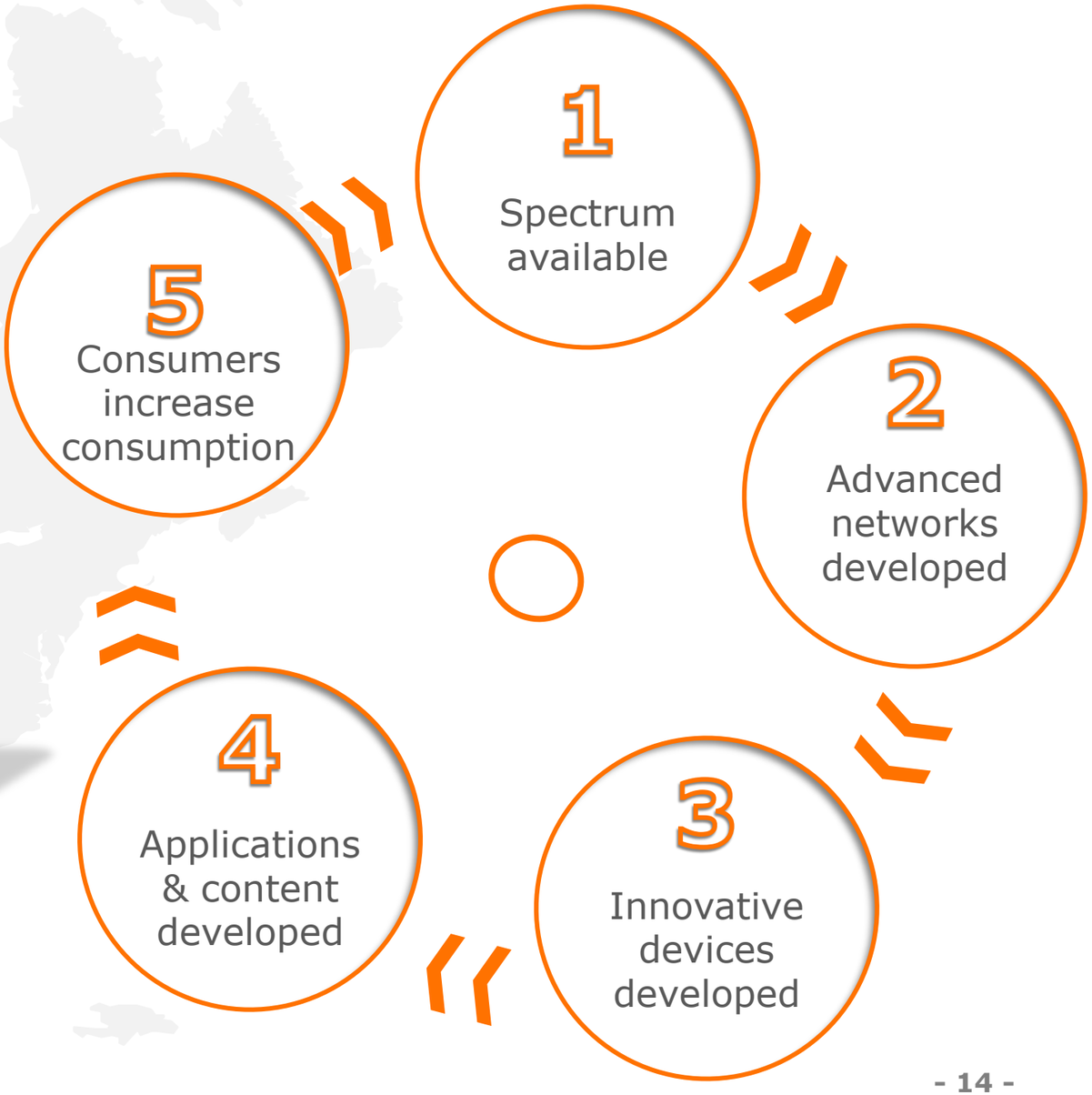
U.S. Wireless Industry at an Inflection Point

Staying Ahead: Industry Imperatives

U.S. Wireless Industry is Virtuous Cycle of Investment and Innovation

"Consumers have gotten a taste of what the U.S. mobile broadband ecosystem can deliver and now their appetite seems unlimited."

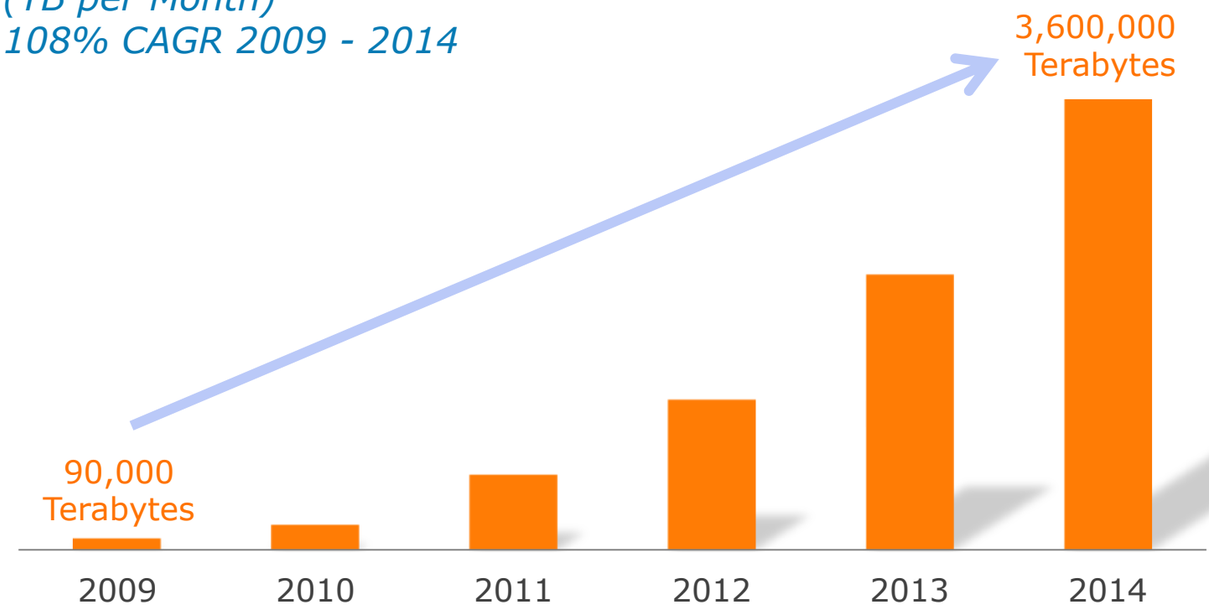
–CTIA-The Wireless Association



Customer Demand Surging

Cisco Forecasts 3.6 Million Terabytes per Month of Global Mobile Data Traffic by 2014

(TB per Month)
108% CAGR 2009 - 2014



*Source: Cisco, VNI Mobile, 2010

- Mobile broadband growth outpaces every other platform**
- Pew estimates that by 2020, mobile devices will be the primary Internet devices for most people in the world ***
- The average smartphone user generates 10 times the amount of traffic generated by the average non-smartphone user*

**Source: CTIA, Written Ex Parte to FCC, Sept. 29, 2009
***Source: Pew Internet & American Life Project, Dec. 2008

Mobile Broadband Transforming How We Live and Work

U.S. Mobile Broadband Deployment

U.S. Wireless Industry at an Inflection Point

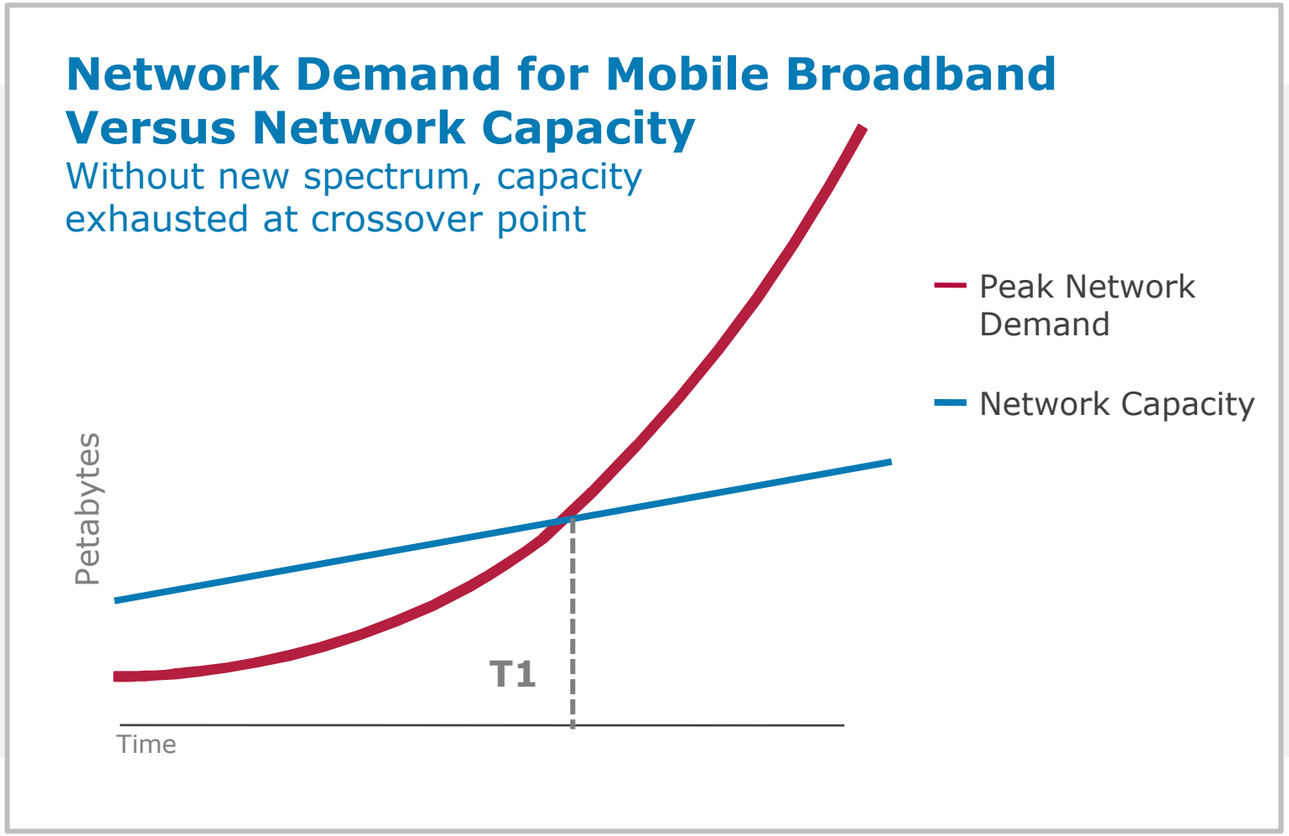
Staying Ahead: Industry Imperatives

U.S. Wireless Industry Needs a Sustainable Model to Meet Demand

Keys to a sustainable model:

- Increasing available spectrum
- Accelerating network efficiencies
- Capitalizing on complementary technologies
- Ensuring application efficiencies

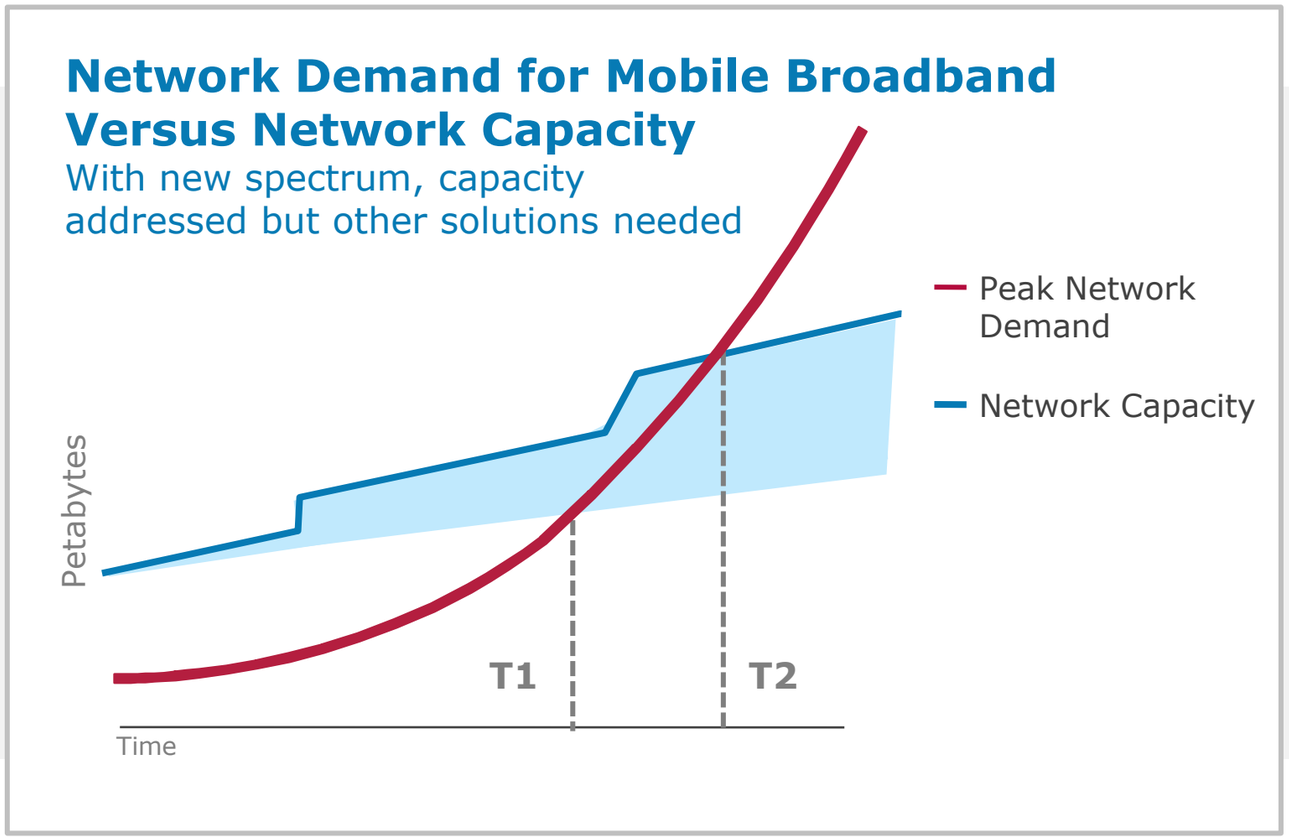
Increasing Available Spectrum



- "…the biggest threat to the future of mobile in America is the looming spectrum crisis."
  – FCC Chairman Genachowski
- "…800 MHz of additional spectrum needed …" *CTIA--The Wireless Association*

** Source: CTIA, Written Ex Parte to FCC, Sept. 29, 2009*

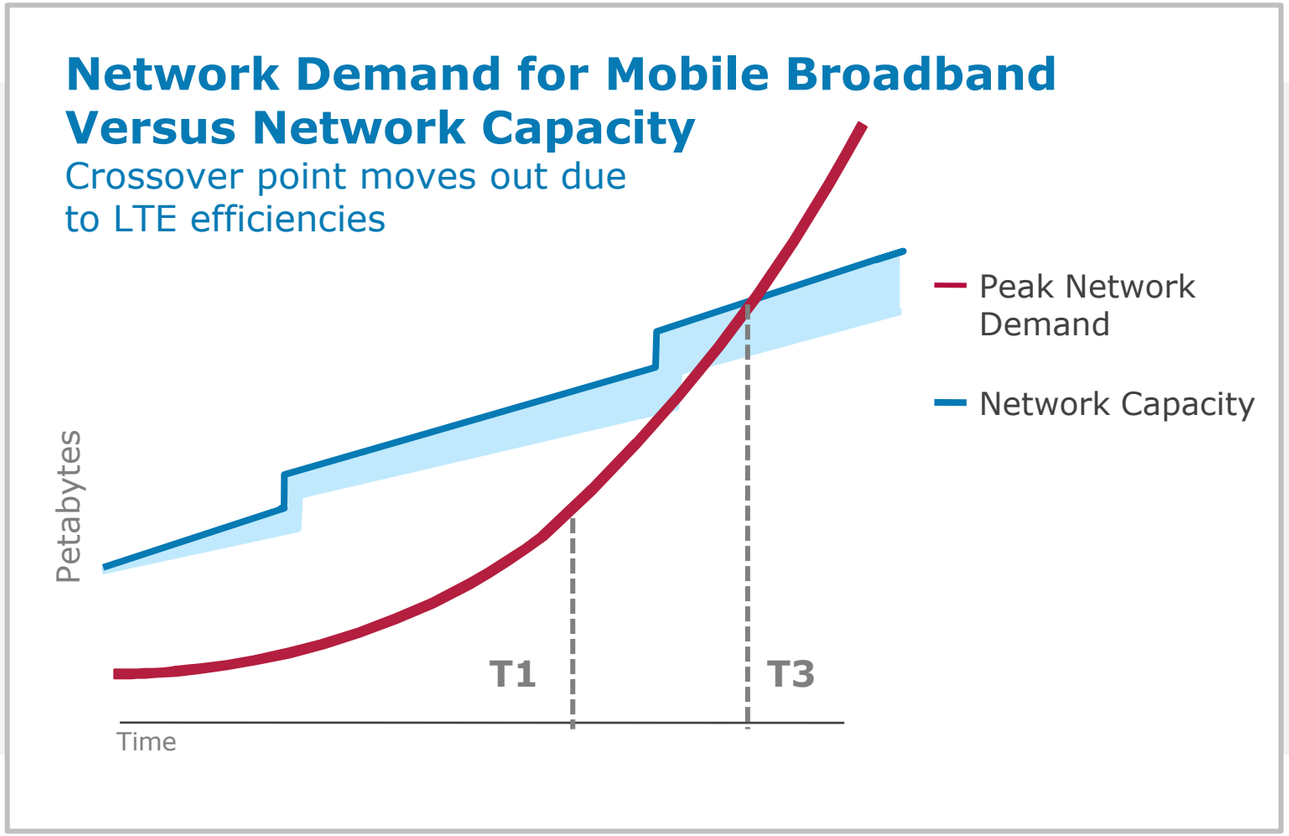
Increasing Available Spectrum



- "…the biggest threat to the future of mobile in America is the looming spectrum crisis."
  – FCC Chairman Genachowski
- "…800 MHz of additional spectrum needed …" *CTIA--The Wireless Association*
- Industry encouraged by FCC proposal to free up 500 MHz of spectrum – but deploying new spectrum could take years **

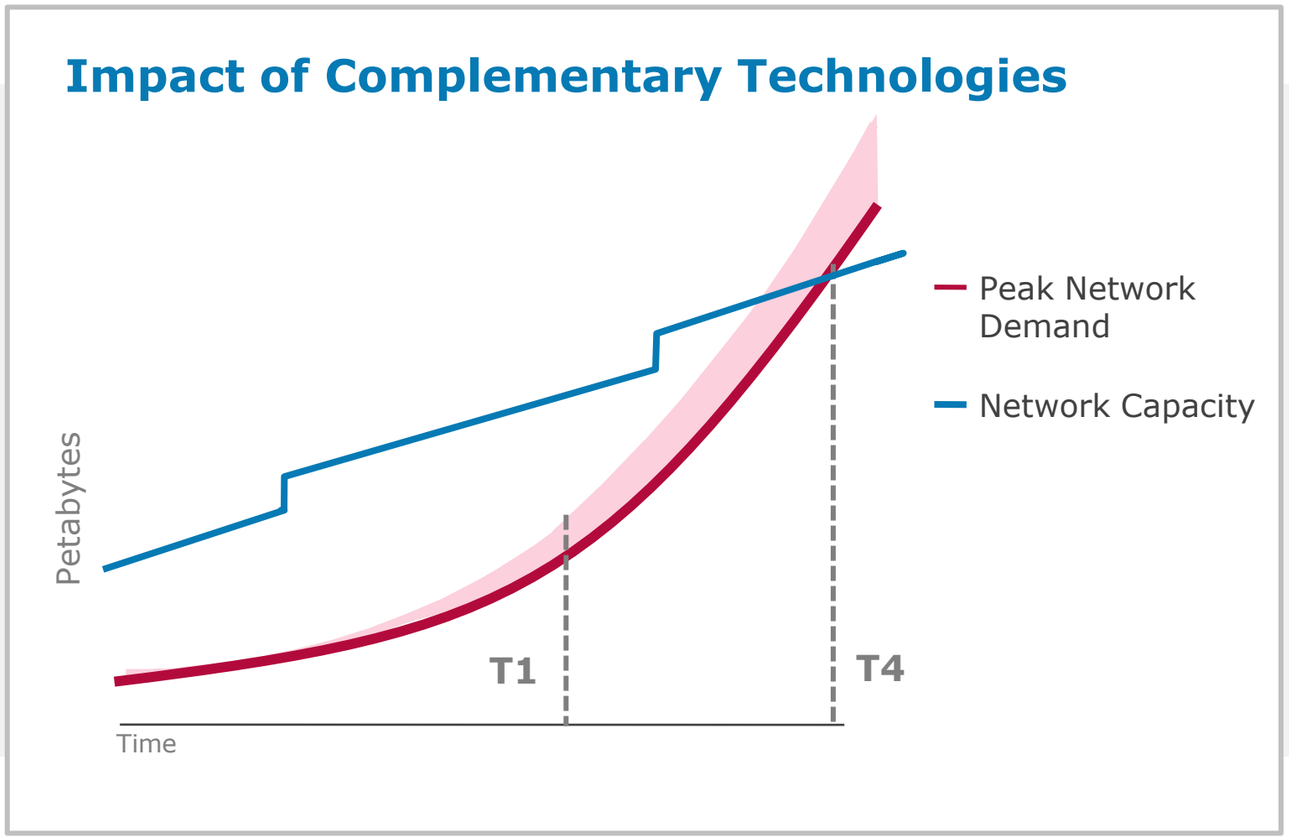
**Source: CTIA, Written Ex Parte to FCC, Sept. 29, 2009*
***Source: GigaOM Pro, Feb. 17, 2010*

Accelerating Network Efficiencies



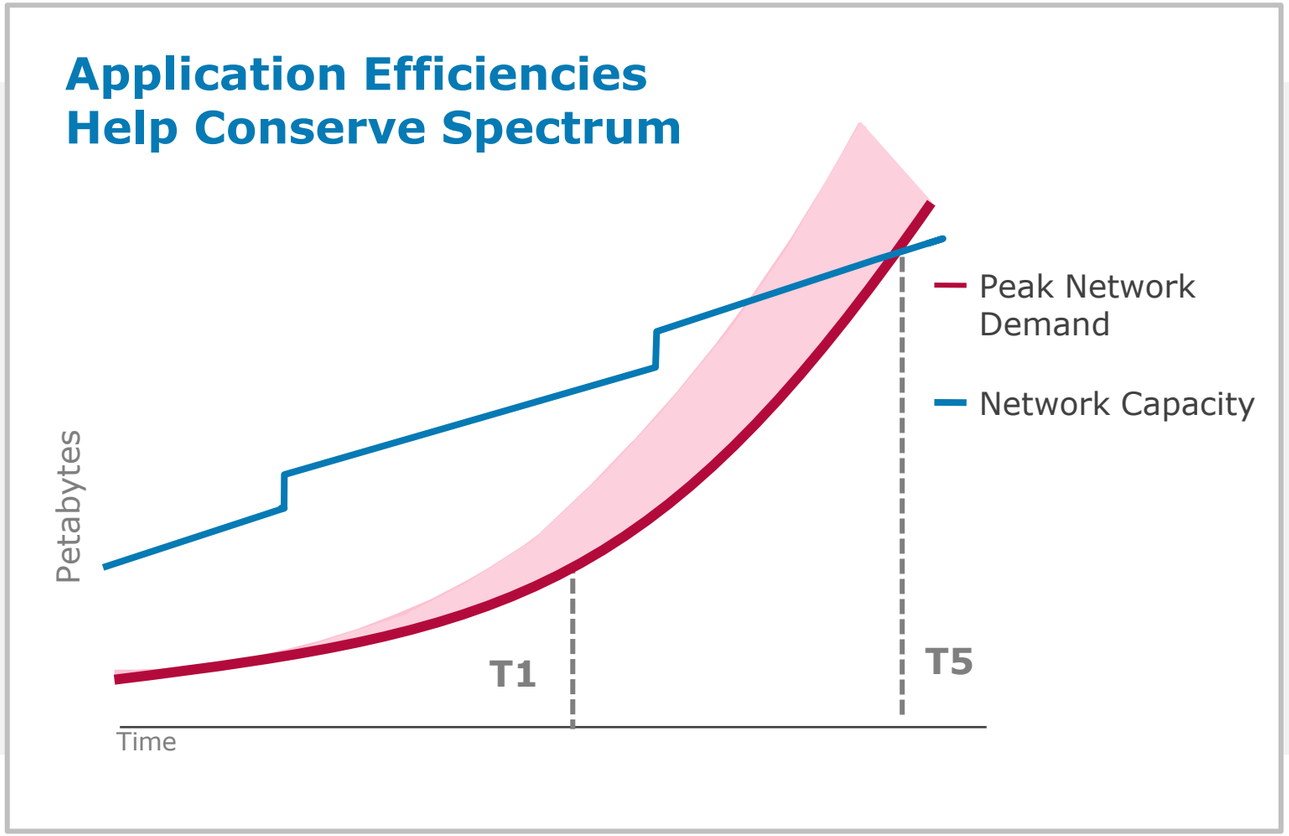
- LTE inherently a more efficient technology
- LTE potentially 2.5X more efficient than HSPA

Capitalizing on Wi-Fi and Femtocells



- Win-win for customers and industry
- Industry should ensure seamless connectivity to the best available network

Ensuring Application Efficiencies

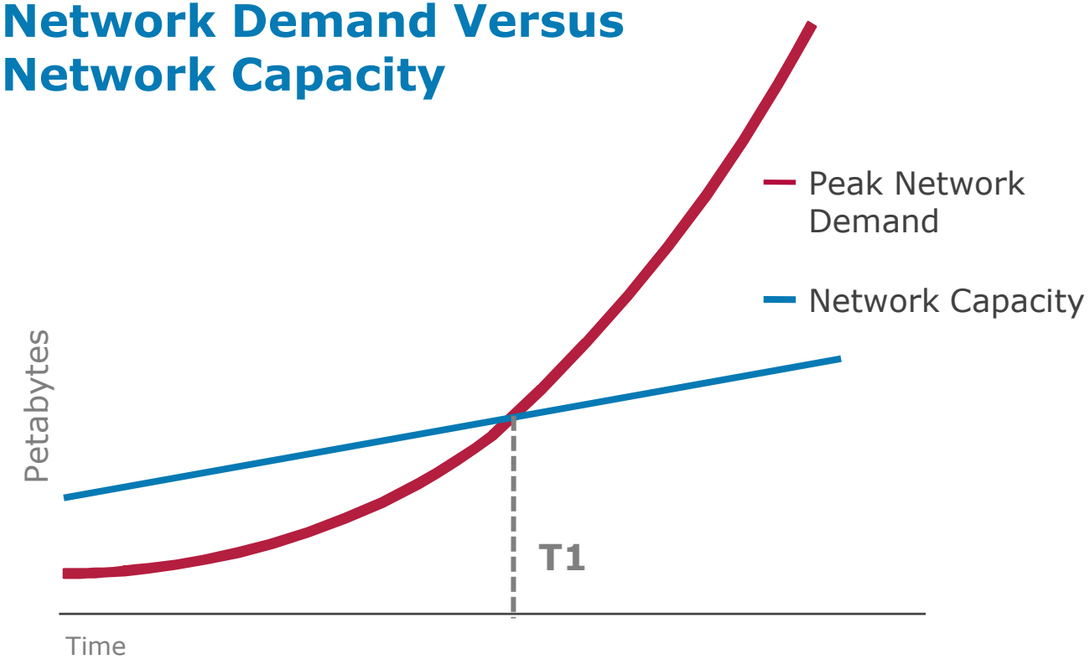


- Priority for entire ecosystem
- Efforts underway but must be accelerated

Meeting the Mobile Broadband Bandwidth Demand

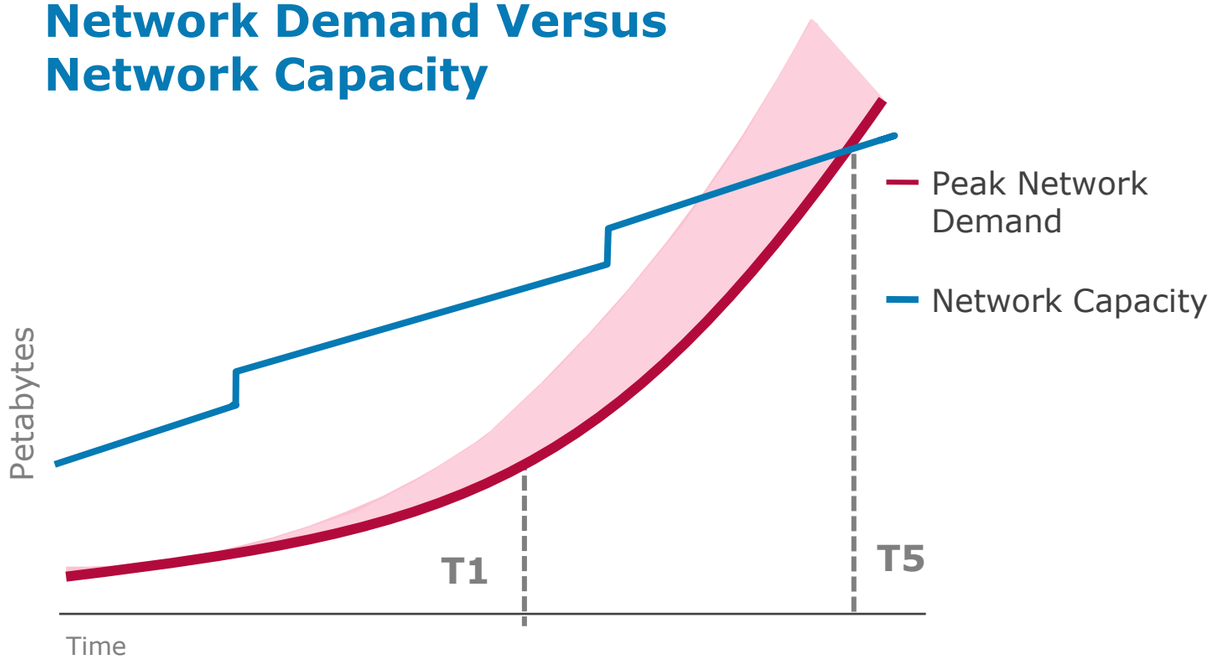
Without Action

Network Demand Versus Network Capacity



With Action

Network Demand Versus Network Capacity



Leading the Mobile Broadband Revolution

- Leading in 3G Subscribers
- Leading in Wi-Fi
- Leading in Investment
- Leading in Next Generation Networks
- Leading in Smartphones
- Leading in Applications
- Leading in Emerging Devices and M2M

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