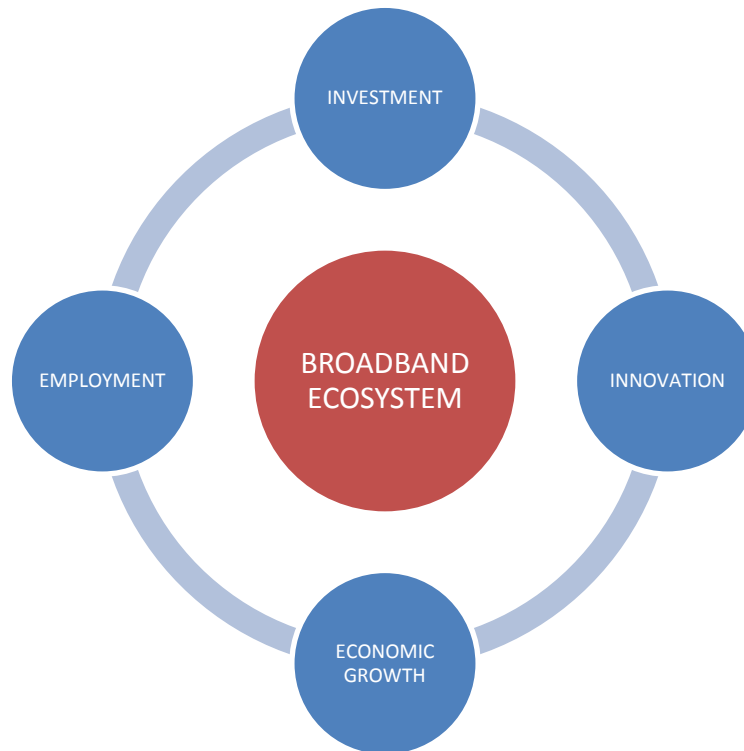


U.S. Wireless Industry: Leading the World

Dramatic, rapid, disruptive growth

Significant direct & indirect impact on Kansas economy



Wireless in Kansas January 22, 2013

- More than 2 ½ million wireless subscribers in Kansas
- 28.7% of Kansas households are wireless-only households (2009)
- 16 facilities-based wireless carriers operate in Kansas (CTIA)
- More than 50% of Kansas adults own a smartphone (two years ago, 36%)
- Average smartphone has 41 apps
- Projected that wireless **data** traffic in 2016 will be more than 100 X the volume it was in 2009

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- Substantial capital investments with developing 4G wireless networks will generate job creation
- Each dollar invested in wireless deployment is estimated to result in as much as \$7 to \$10 higher GDP
- Research shows economic benefits of broadband investment are broadly distributed across the many businesses, governments, non-profits that use IT & communications services, as well as consumers

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- Wireless has profound effects on the larger economy
- Two years ago, wireless data transmissions averaged 1 megabit of throughput, today 10-15 megabits
- Apps – employs more than 519,000 developers & related jobs and grew from almost 0 to nearly \$10B in 4 years
- Devices – today, nearly 50 LTE-enabled smartphones, tablets, e-readers & other Internet devices made by multiple manufacturers (Tablets will outsell PCs this year)
- By 2020, 30 billion **connected** machines, buildings & electronics – M2M

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- Wireless Investment Improving Lives: Ecosystem for Spreading Innovation
- Next stage: Machine-to-Machine (M2M)
 - Retail – wave your smartphone over item in store & instantly see customer reviews, comparative prices or videos about the product
 - E-commerce – secure wireless networks are transforming electronic payment system
 - Smart homes – appliances are connected via cloud so you can control home security & energy systems with smartphone
 - Public Safety – 278 wireless 911 calls every minute; “Next Gen 911”
 - “Connected car”
 - Healthcare
 - By 2016, there will be more than 100M wearable wireless sensors, including many to promote fitness & well-being
 - **Transformative moment for digital health care** – industry is developing a secure, private way for patients, doctors & insurance companies to exchange information & medical records in a mobile environment
 - Real-time video consultations with doctors; greater use of biometric devices for home health monitoring of vital signs, glucose levels, medication tracking and or even heart attack detection

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- ✓ Current [non]regulatory approach is working
- ✓ Economy will continue to see productivity improvements
- ✓ Entrepreneurship will flourish
- ✓ Nationally -- continued 4G wireless network investments could mean investments of \$25B to \$53B, bring \$73B to \$151B in GDP growth & provide 371,000 to 771,000 jobs by 2016 (Deloitte)
- ✓ Threats: specter of regulation, excessive fees/taxes on consumers; taxes on those making investments

U.S. Wireless vs. The World

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- At year-end 2011, average U.S. wireless consumer used 945 minutes a month for an average revenue/minute of \$0.03.
- Meanwhile, the average wireless consumer in Europe's developed countries used 170 minutes a month for an average rev/min of \$0.11.
- Despite having less than 5% of the world's population and less than 6% of the world's total wireless subscribers, the U.S. has more than half of the global LTE subscribers.
- U.S. wireless providers reported making capital investments of more than \$25B from July 2011 to June 2012; wireless providers in 15 European countries spent \$18.6B combined during same period.

Wireless in Kansas

January 22, 2013

- Sources:
 - CTIA: The Wireless Association, www.ctia.org
 - Lawrence H. Summers speech, June 2010, National Economic Council, www.whitehouse.gov/administration/eop/nec/speeches/technological-opportunities-job-creation-economic-growth
 - Lowell McAdam speech, January 2013, Consumer Electronics Show 2013, <http://news.yahoo.com/verizon-ceo-touts-wireless-potential-191131068--sector.html; ylt=A2KJjbyFo VQDFYAIvfQtDMD>

