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# Comparing U.S. and European Broadband Coverage



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December 13, 2013

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# A Clash of Perspectives

U.S. is falling behind in broadband, ranking 15th in broadband adoption (OECD) and 9th in broadband speeds (Akamai).

- Numerous news reports

“Europe can’t afford to fall behind [in ICT]. But we are... I don’t want us to be the US.... But I do think we could learn from them, celebrate risk and support innovation.”

- Neelie Kroes, Oct. 11, 2013

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# Background

- Europe's population density is 3.5x higher than U.S.
- U.S. per capita GDP is 48% higher than Europe
- Europe follows local loop unbundling (LLU):  
expect low prices, high penetration, low investment
- Reasons for nonsubscription
  - Europe: not needed, lack of skills, equipment cost, price
  - U.S.: not needed, lack of skills, cost, availability
- My focus is on coverage, not subscriptions

# Broadband Coverage, YE 2012

Pct. households	Europe	U.S.
Total coverage		
- Standard	99.4% (144 kbps)	99.7% (768 kbps)
- Standard fixed	95.5%	96.2%
- <b>NGA (25 Mbps)</b>	<b>53.7%</b>	<b>82.9%</b>
Rural coverage		
- Standard	96.1%	98.4%
- Standard fixed	83.2%	82.1%
- <b>NGA (25 Mbps)</b>	<b>12.4%</b>	<b>48.1%</b>

# Broadband Coverage, YE 2012

<b>Pct. households</b>	<b>Europe</b>	<b>U.S.</b>
DSL	92.9%	86.7%
VDSL	24.9%	22.9%*
<b>FTTP</b>	<b>12.3%</b>	<b>23.3%</b>
<b>Standard cable</b>	<b>42.0%</b>	<b>88.7%</b>
<b>DOCSIS 3.0</b>	<b>39.3%</b>	<b>81.9%</b>
HSPA	96.3%	98.9%
<b>LTE</b>	<b>27.0%</b>	<b>85.6% (Oct.)</b>

■ \* symmetric DSL

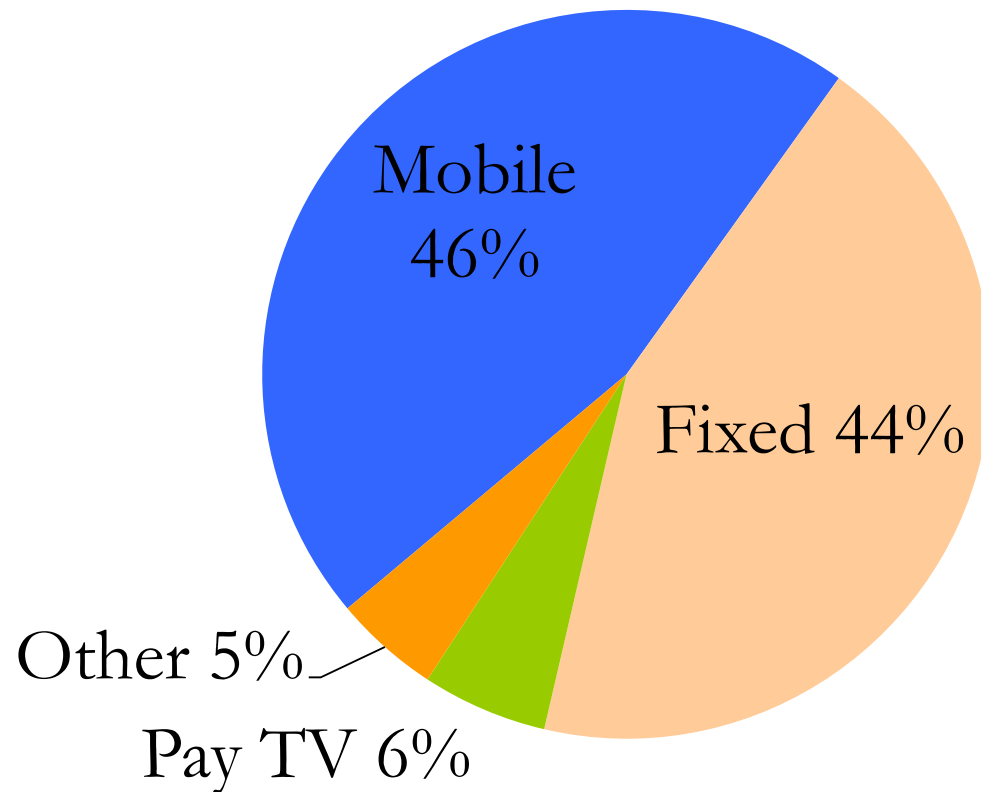
# Investment

	Europe	U.S.	Difference
Per capita			
- 2010	\$107	\$213	+99%
- 2011	\$108	\$211	+95%
Per household			
- 2010	\$260	\$587	+126%
- 2011	\$260	\$579	+122%

- P/E for European providers 9.9 vs. U.S. 17.6

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# Revenues, 2011



- European revenues are falling ~1% annually

# Download Speeds, March 2012

	Europe	U.S.
All technologies	19.5 Mbps	14.6 Mbps
xDSL	7.2 Mbps	5.3 Mbps
Cable	33.1 Mbps	17.0 Mbps
FTTx	41.0 Mbps	30.2 Mbps

- Latency slightly better in Europe
- Packet loss slightly better in U.S.



# Actual as a Percentage of Advertised Download Speeds

	Europe	U.S.
All technologies	74%	96%
xDSL	63%	85%
Cable	91%	99%
FTTx	84%	116%

# Pricing (EU Data)

	Europe	CA/CO/NY
0.5-1 Mbps	23.41	20.24
1-2 Mbps	29.30	20.89
2-4 Mbps	30.72	n/a
4-8 Mbps	33.89	26.84
8-12 Mbps	31.38	33.95
12-30 Mbps	34.16	38.83

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# Pricing (FCC – not just Europe)

- Fixed standalone broadband
  - 14th out of 24 countries for 1-5 Mbps service
  - 21st out of 33 countries for 5-15 Mbps service
  - 26th out of 32 countries for 15-25 Mbps service
- Broadband with usage limits
  - 3rd out of 16 countries for fixed broadband
  - 9th out of 37 countries for smartphones
  - 17th out of 30 countries for tablets
- U.S. has second lowest entry-level broadband price

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# Competition

- U.S. (June 2012)
    - Fixed only: 52%/10%/9% have choice of three providers at 3 Mbps/6 Mbps/10 Mbps
    - Fixed + wireless: 92%/62%/23% have choice of three providers at 3 Mbps/6 Mbps/10 Mbps
  - Europe (year-end 2012)
    - Incumbents' market share 42% (DSL 54%, cable 4%, NGA 22%)
    - LLU 73%, bitstream 12%, shared access 8%, resale 6%, own network 1%
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# Country Studies

	<b>NGA</b>	<b>Rural</b>	<b>VDSL</b>	<b>FTTP</b>	<b>Cable</b>	<b>LTE</b>
Denm	73%	3%	21%	12%	63%	65%
France	24%	1%	0%	7%	26%	6%
Germa	66%	26%	46%	3%	59%	52%
Italy	14%	0%	5%	12%	0%	17%
Nether	98%	85%	60%	18%	99%	0%
Spain	64%	13%	11%	18%	51%	0%
Swede	57%	6%	17%	46%	41%	93%
UK	70%	18%	47%	1%	48%	17%
EU	54%	12%	25%	12%	42%	27%

# Country Studies

	Dens	LLU	Rev PC	Inv PC	Inv/Rev	Rev+	Incum
Den	130	10.19	761	158	21%	-3%	61%
Franc	103	10.36	708	75	11%	-2%	41%
Germ	229	10.94	766	80	10%	-4%	45%
Italy	202	10.28	801	126	16%	-3%	51%
Neth	495	7.18	720	101	14%	-3%	42%
Spain	92	8.99	809	131	16%	0%	49%
Swed	23	14.88	856	95	11%	1%	38%
UK	257	10.29	741	76	10%	10%	31%
EU	117	9.56	646	83	13%	-1%	42%