Annex H: General Reference

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4. Ofcom Communications Market Update
5. Analysys Mason, Indoor Traffic
6. JD Power Satisfaction Survey
7. Nokia Siemens Networks, What drives Efficiency in mobile
8. JD Power Satisfaction Survey
9. Communications Consumer Panel
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Footnote 14a: Barclays Capital, July 2011

"Winners and Losers from Mobile Data"

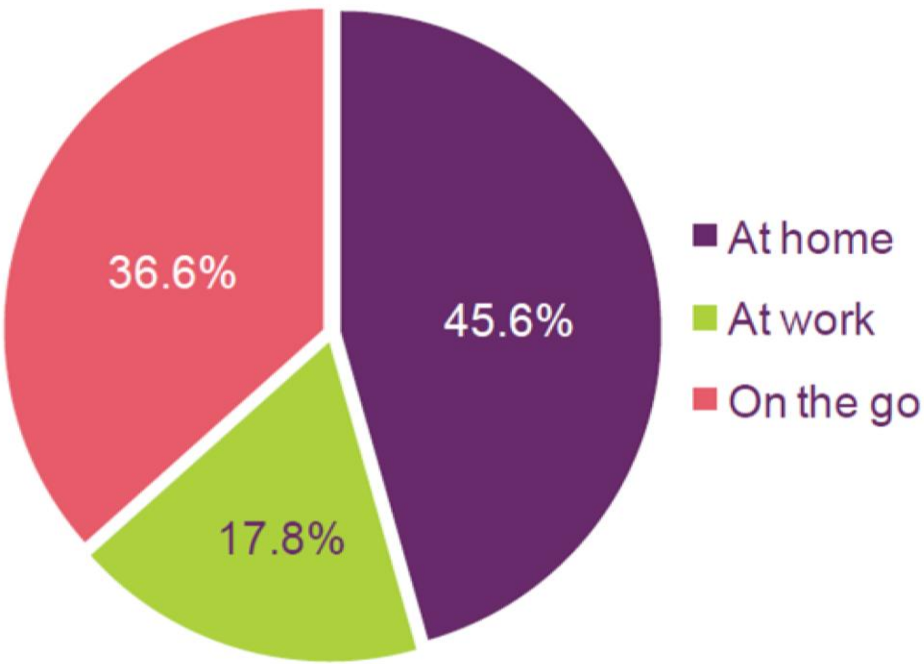
- **Value of 800/900MHz = 4x2.6GHz.** As mobile data will be the principal user of additional incremental spectrum, indoor penetration (we estimate 95% of mobile data is indoor) will become increasingly important. The weaker propagation characteristics of 2.6GHz will likely reduce the cell capacity compared to 800MHz. We therefore estimate a further 2x value delta versus 1800MHz.

We estimate the cost per Gbyte falls by 50% for an additional 2x5MHz of spectrum if an operator can add additional carriers to an existing site rather than site upgrades or a new site. *See appendix 1 for more detail.*

General Reference

***Footnote 14b:** Ofcom Communications Market Update, August 2010*

Figure 5.88 Location of internet access using a mobile device

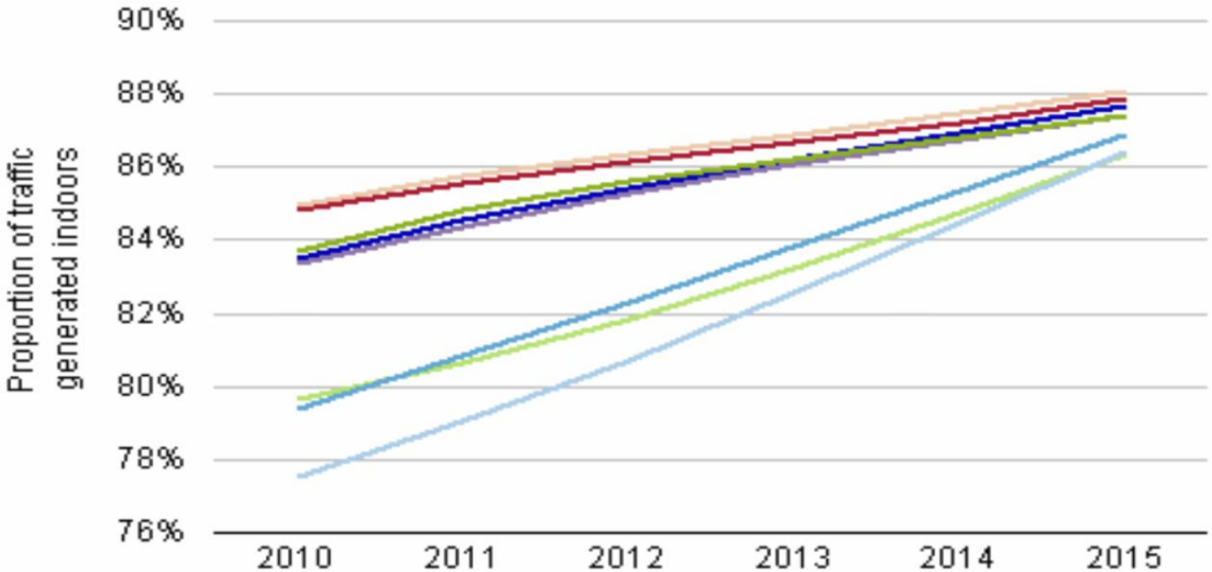


Source: Cisco Visual Networking Index Global Mobile Data Forecast, 2009-2014

General Reference

Footnote 14c: Analysys Mason, December 2010

Proportion of mobile network traffic that is generated indoors, by region, 2010–2015

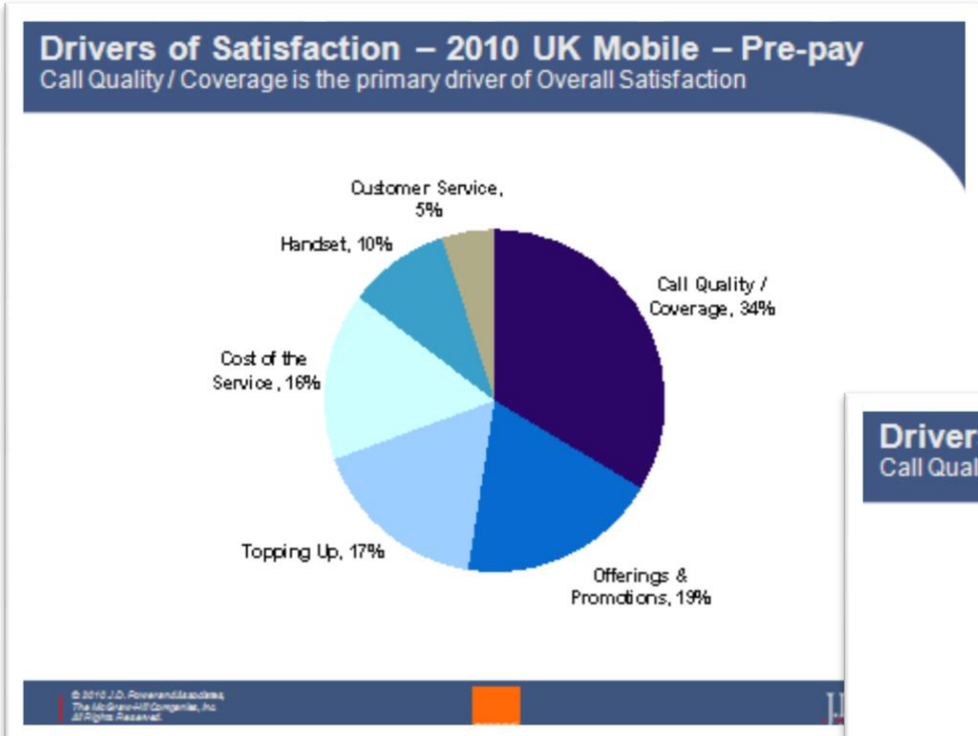


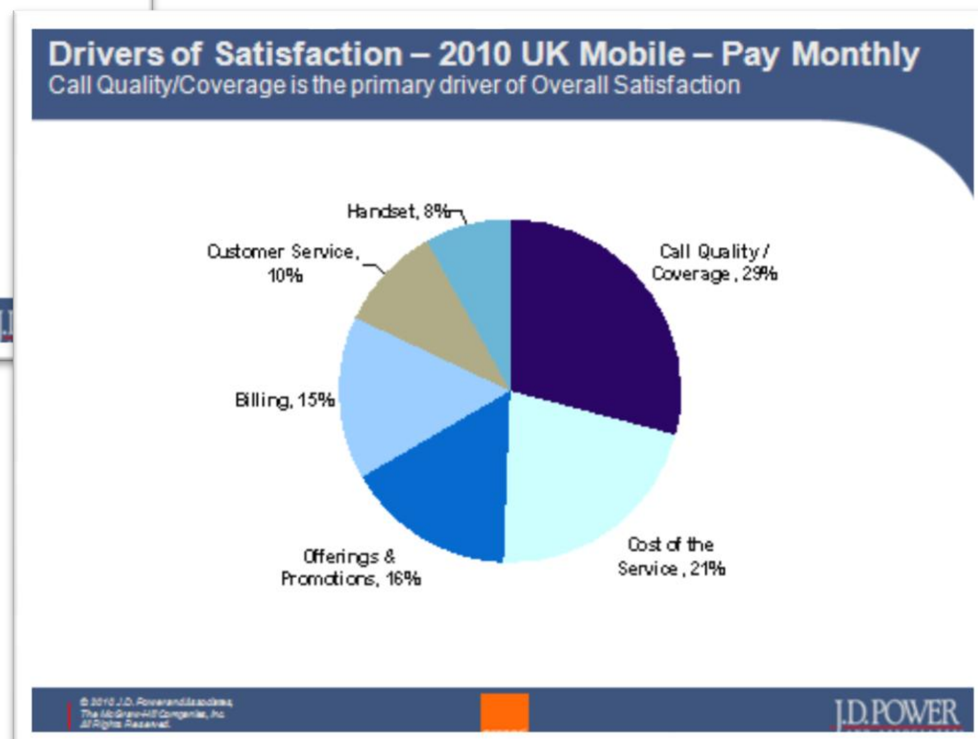
	2010	2011	2012	2013	2014	2015
WE	85%	86%	86%	87%	87%	88%
NA	84%	85%	85%	86%	87%	88%
DVAP	85%	86%	86%	87%	87%	88%
CEE	83%	84%	85%	86%	87%	87%
CALA	84%	85%	86%	86%	87%	87%
EMAP	80%	81%	82%	83%	85%	86%
MENA	79%	81%	82%	84%	85%	87%
SSA	78%	79%	81%	83%	85%	86%

WE Western Europe
NA North America
DVAP Developed Asia Pacific
CEE Central and Eastern Europe
CALA Central and Latin America
EMAP Emerging Asia–Pacific
MENA Middle East and North Africa
SSA Sub-Sarahan Africa

General Reference

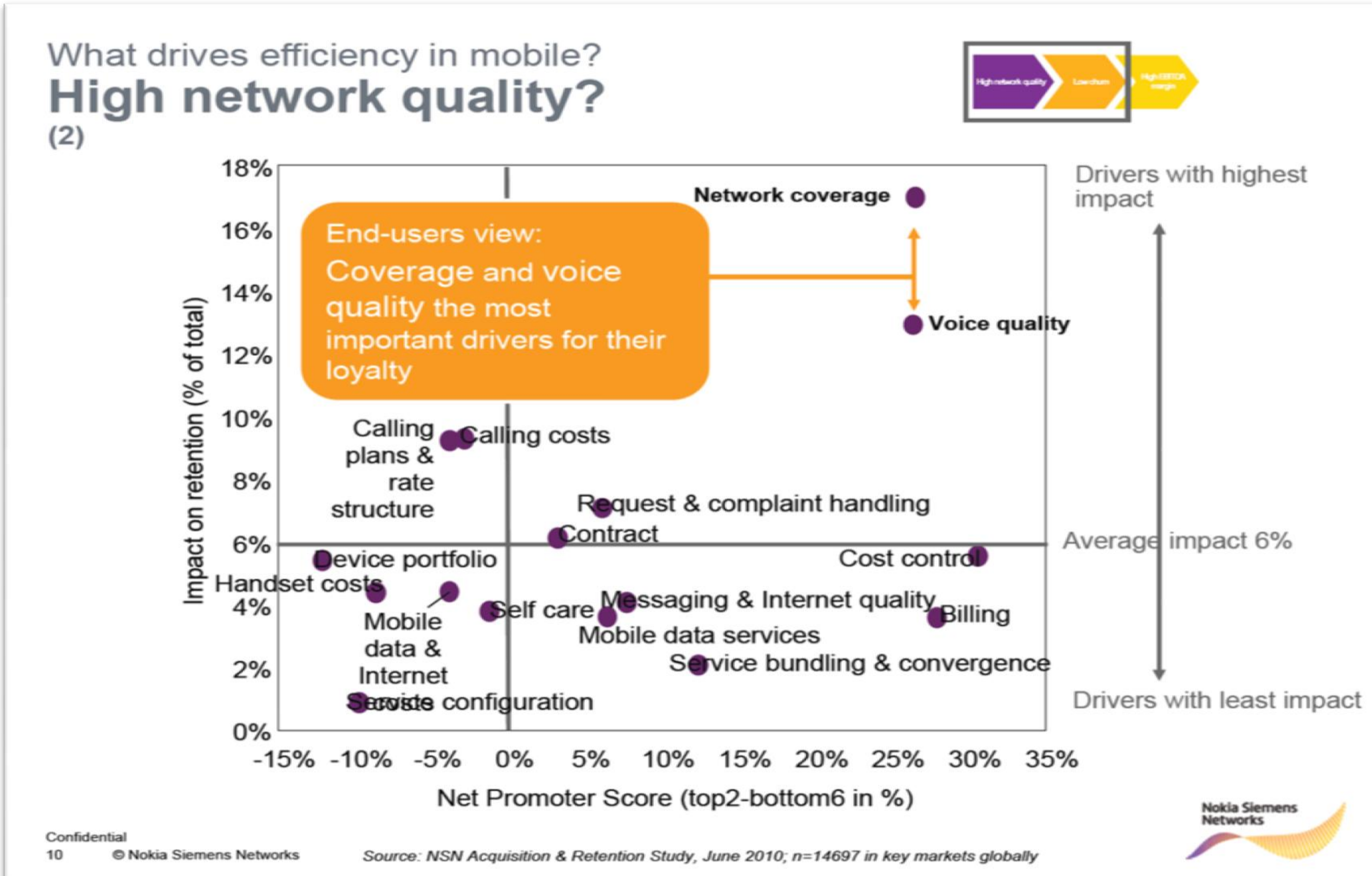
Footnote 15a: JD Power Satisfaction Survey, May 2010





General Reference

Footnote 15b: Nokia Siemens Networks, September 2010



General Reference

Footnote 16a: JD Power Mobile Satisfaction Survey, May 2010

Call Quality / Coverage Summary

	Weight	Industry Average	3	O2	Orange	Tesco Mobile	T-Mobile	Virgin Mobile	Vodafone
Call Quality/Coverage	34%	708	697	740	682	748	691	699	706
Coverage in your locality or where you use your mobile most	22%	7.17	6.90	7.47	6.88	7.70	6.98	7.02	7.24
Coverage across the UK when you travel	11%	7.15	6.83	7.53	6.87	7.54	6.91	6.93	7.21
Call quality (calls free of echoes, distortion and static)	14%	7.16	7.02	7.40	7.05	7.58	7.00	7.09	7.07
Ease of making or receiving calls when inside a building	18%	6.84	6.74	7.18	6.51	7.22	6.69	6.75	6.80
Ability to get calls through on the first try	12%	7.38	7.33	7.65	7.16	7.69	7.18	7.33	7.41
Timeliness of voicemail/text message notifications	12%	6.78	7.18	7.13	6.49	7.09	6.65	6.80	6.60
Ability to keep dropped or disconnected calls to a minimum	14%	6.92	6.83	7.20	6.65	7.27	6.80	6.89	6.89

☐ Significantly BETTER than Industry Average
☐ Significantly WORSE than Industry Average
All significance testing at 95% confidence

↑ Significantly BETTER than 2009 ↓ Significantly WORSE than 2009

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Call Quality / Coverage Summary

	Weight	Industry Average	3	O2	Orange	T-Mobile	Virgin	Vodafone
Call Quality/Coverage	29%	707	686	728	700	694	709	726
Coverage in your locality or where you use your mobile most	16%	7.08	6.30	7.38	6.96	6.79	7.22	7.30
Coverage across the UK when you travel	16%	7.09	6.11	7.35	6.97	6.90	6.87	7.42
Ability to get calls through on the first try	15%	7.27	6.67	7.41	7.23	7.23	7.41	7.42
Timeliness of voicemail/text message notifications	15%	7.09	6.55	7.25	6.94	7.05	7.17	7.29
Call quality (calls free of echoes, distortion and static)	14%	7.14	6.63	7.19	7.16	7.22	7.19	7.25
Ease of making or receiving calls when inside a building	11%	6.81	6.08	7.12	6.79	6.58	6.73	6.93
Ability to keep dropped or disconnected calls to a minimum	11%	6.88	6.18	7.12	6.75	6.71	6.91	7.09

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All significance testing at 95% confidence

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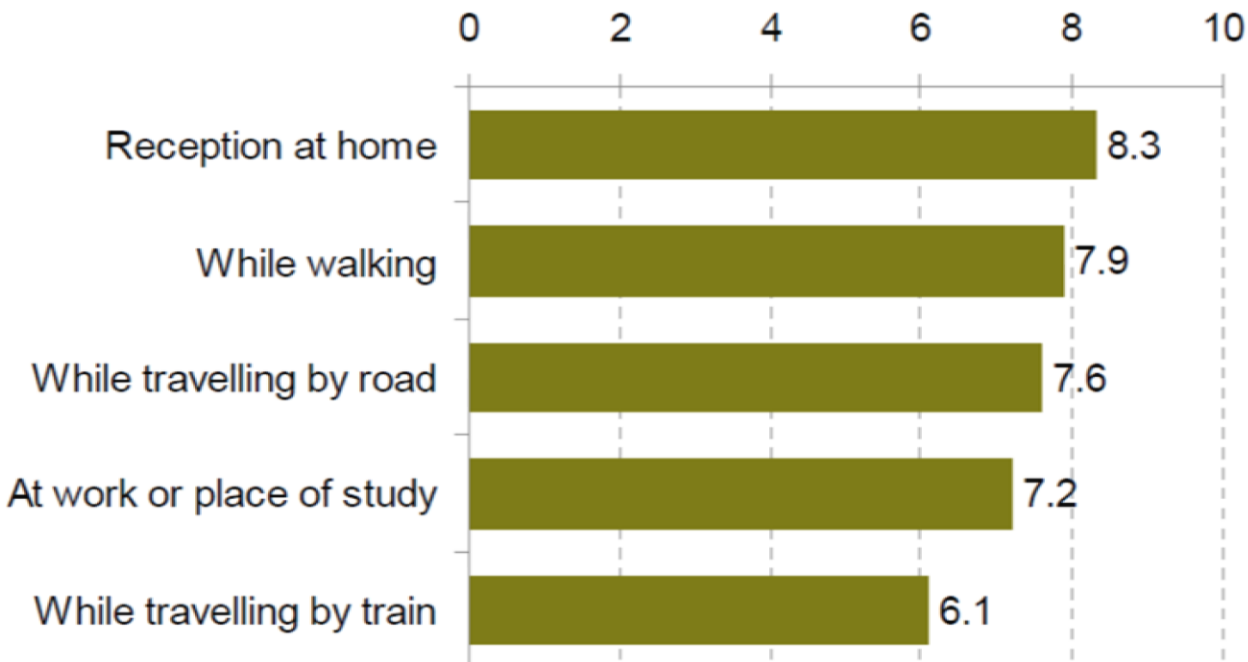
General Reference

***Footnote 16b:** Communications Consumer Panel, October 2009*

Communications Consumer Panel – Mobile Coverage: The Consumer Perspective (October 2009)

Figure 4: Importance of mobile coverage in different locations and situations



Question: Thinking about the quality of reception or signal you get in various places and situations, how important are each of the following to you…?
Base: All those who use a mobile for personal use (n = 1716)

General Reference - CONFIDENTIAL

Footnote 17a:

General Reference

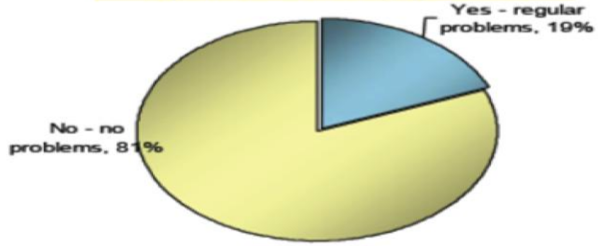
***Footnote 17b:** Vodafone Femtocell Presentation, July 2008*

4 Market Opportunities – Coverage

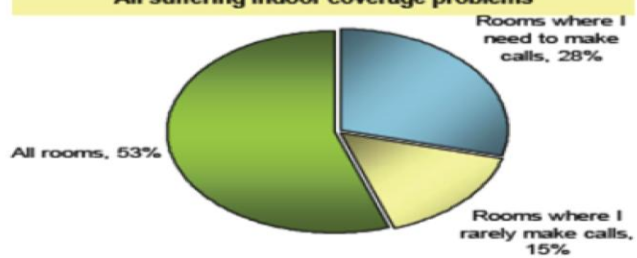
What is the real size of the addressable market of the UK? What's the real size of the prize?

- **Just under 1 in 5 (19%) of mobile phone owners regularly encounter coverage problems in the home**
  - **9.2m UK adults**
- **Amongst those who have in-home coverage problems. Just over half (53%) report that coverage is poor throughout the house – the remainder report coverage problems in selected rooms**
- **Typical claimed churn rate through coverage related issues are around 10-15%**

% of All Mobile Phone Users report in-home coverage problems



All suffering indoor coverage problems



All UK mobile networks

Femtocells Solutions USA – July 2008 Meredith Sharples

General Reference

Footnote 18: JD Power Mobile Satisfaction Survey, May 2010

Call Quality / Coverage Summary

		Industry Average	3	O2	Orange	Tesco Mobile	T-Mobile	Virgin Mobile	Vodafone
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Significantly WORSE than Industry Average
All significance testing at 95% confidence
Significantly BETTER than 2009 Significantly WORSE than 2009

J.D.P

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Significantly WORSE than Industry Average
All significance testing at 95% confidence
Significantly BETTER than 2009 Significantly WORSE than 2009

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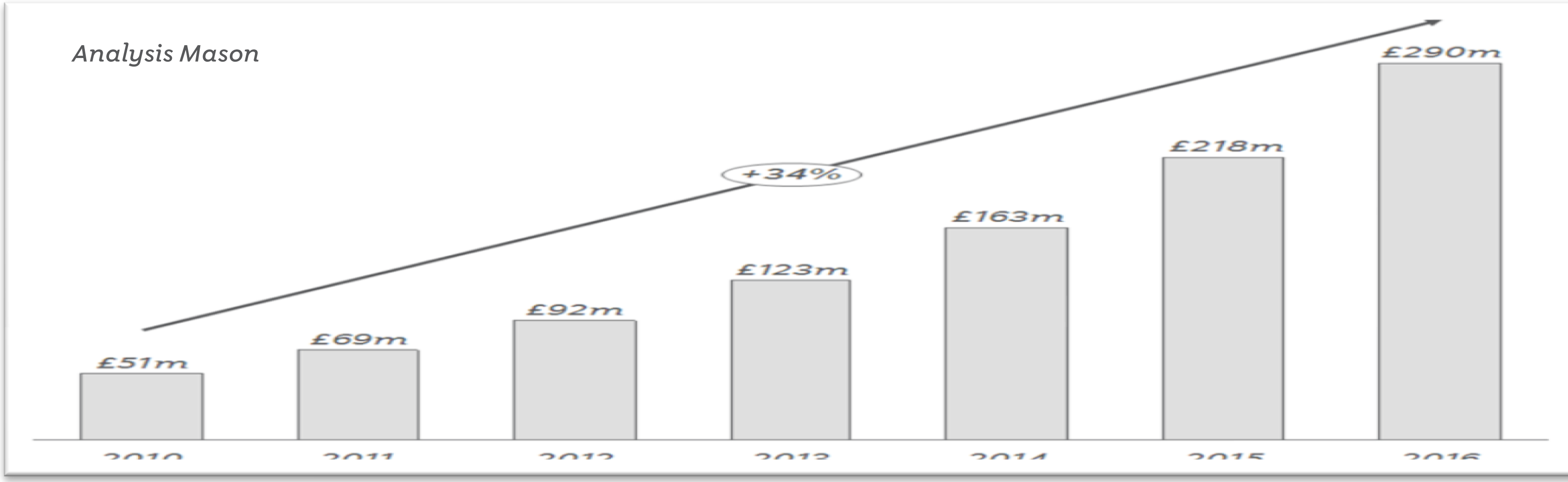
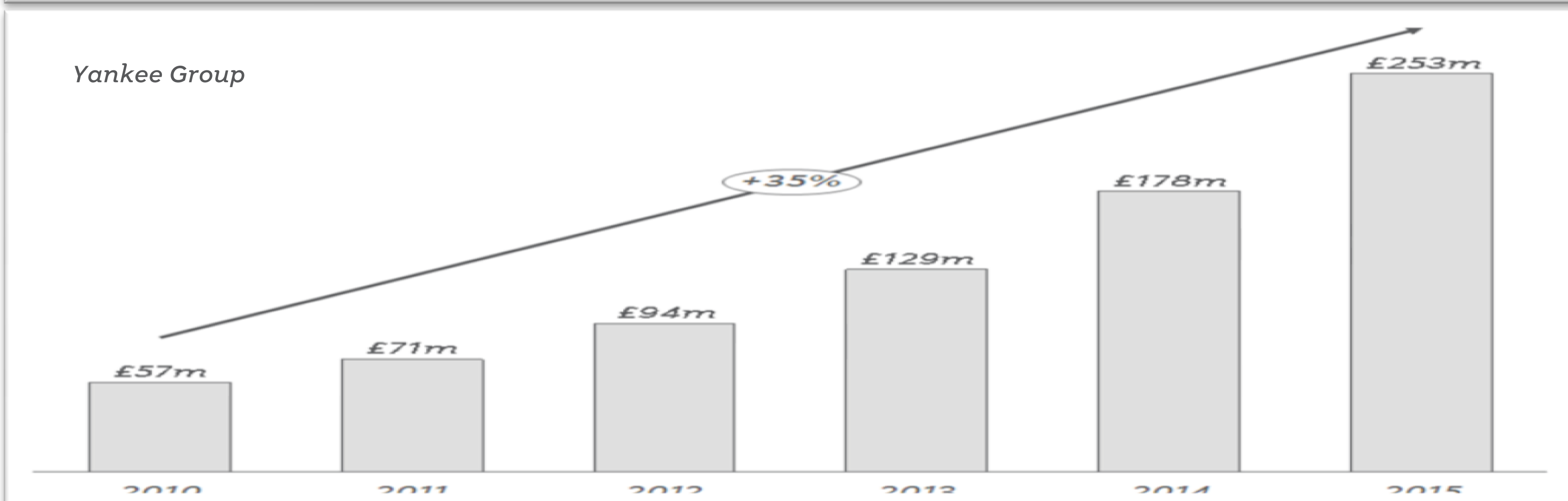
General Reference - CONFIDENTIAL

***Footnote 19:** Everything Everywhere Internal Surveys, prepared by GfK, February 2010*

General Reference

***Footnote 21:** Analysys Mason, March 2011 &*
Yankee Group UK Connected View Forecast, March 2011

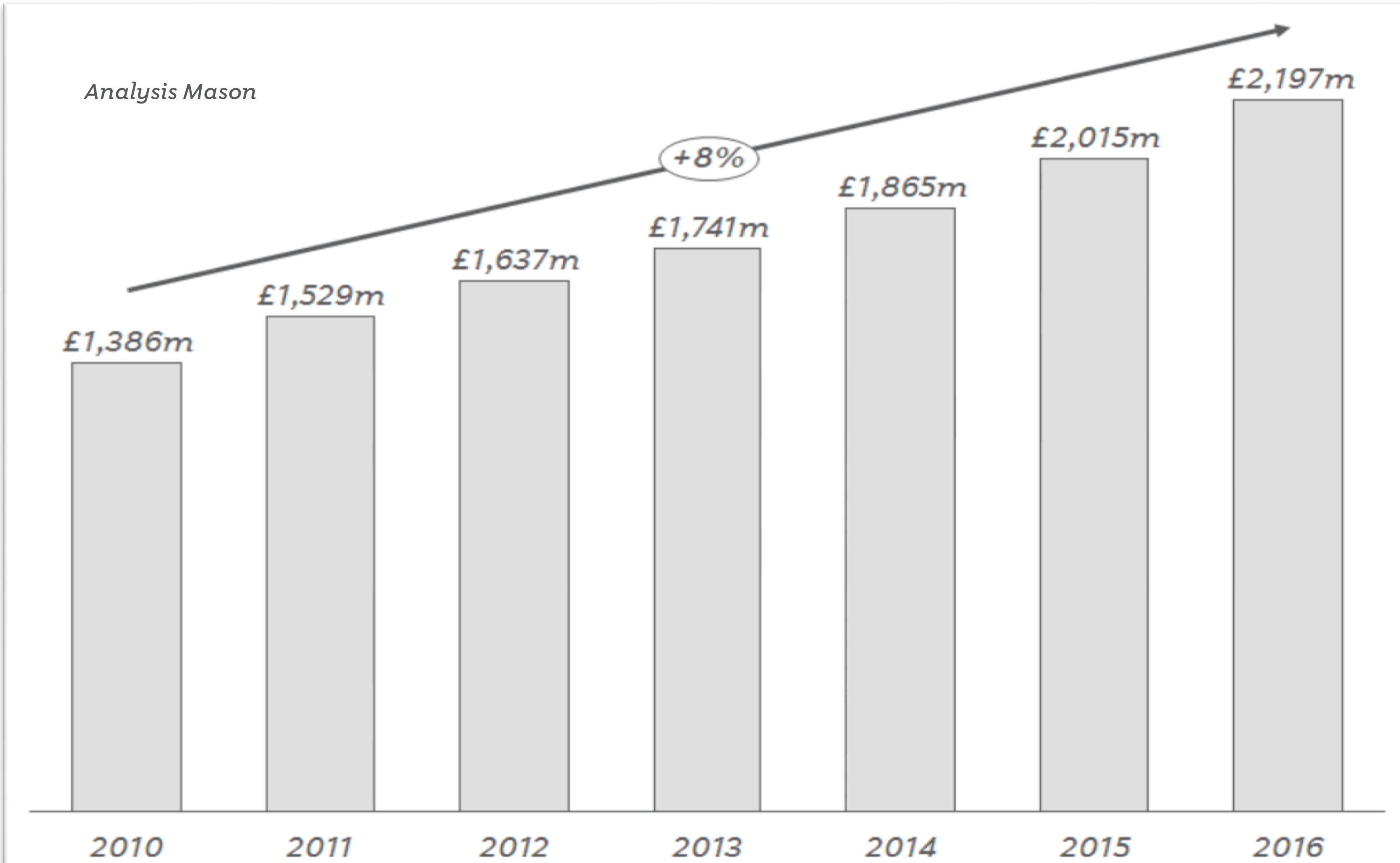




M2M Data Revenue growth

General Reference

Footnote 22: Analysys Mason, March 2011



Business Data Revenue growth

General Reference

Footnote 24: Cisco Visual Networking Index, February 2011

Table 8. Projected Average Mobile Network Connection Speeds (in kbps) by Region and Country

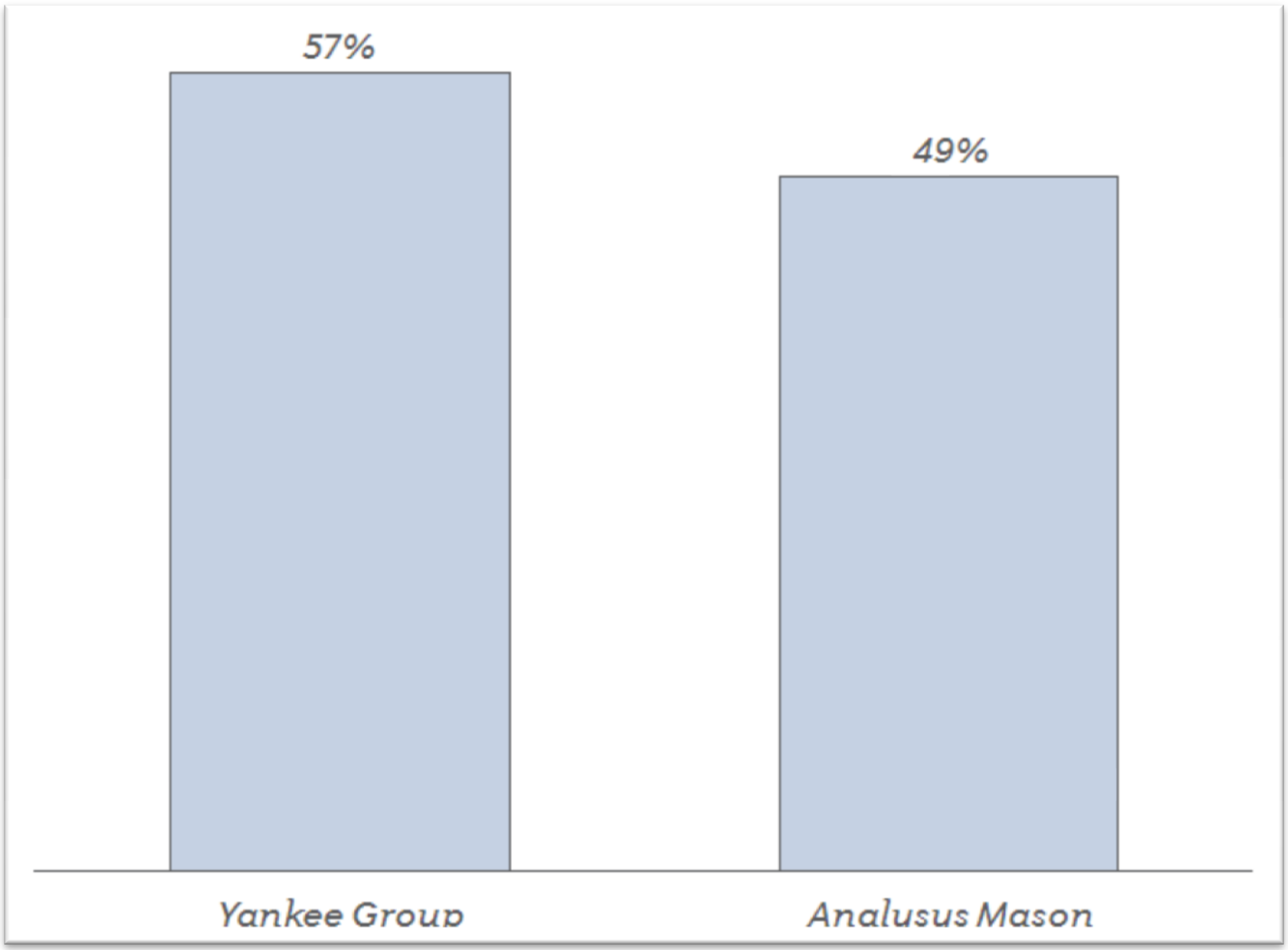
	2009	2010	2011	2012	2013	2014	2015	CAGR 2010-2015
Global								
Global speed: All handsets	101	215	359	584	934	1,465	2,220	60%
Global speed: Smartphones	614	1,038	1,443	1,953	2,608	3,424	4,404	34%
By Region								
Asia Pacific	37	74	115	188	328	584	984	68%
Latin America	13	50	103	206	402	744	1,260	91%
North America	376	707	1,071	1,556	2,198	2,996	3,994	41%
Western Europe	151	444	932	1,696	2,708	3,919	5,336	64%
Japan	769	1,394	2,009	2,631	3,353	4,282	5,509	32%
Central and Eastern Europe	43	117	246	499	955	1,704	2,786	89%
Middle East and Africa	13	59	141	309	620	1,142	1,948	101%
By Country								
Australia	413	953	1,397	1,967	2,674	3,556	4,649	37%
Brazil	26	74	145	275	508	895	1,458	82%
Canada	216	683	1,217	1,931	2,860	4,109	5,680	53%
China	13	50	99	208	428	816	1,384	94%
France	111	530	1,307	2,516	3,992	5,662	7,510	70%
Germany	61	306	730	1,462	2,486	3,668	4,929	74%
India	1	19	61	125	262	546	1,037	124%
Italy	158	465	1,073	2,092	3,475	5,142	7,037	72%
Japan	769	1,394	2,009	2,631	3,353	4,282	5,509	32%
Korea	868	1,447	1,950	2,521	3,193	3,981	4,984	28%
Mexico	6	36	80	175	384	822	1,557	112%
New Zealand	352	715	1,355	2,048	2,986	4,213	5,738	52%
Rest of Asia Pacific	24	85	168	321	608	1,103	1,860	85%
Rest of Central and Eastern Europe	56	140	292	577	1,070	1,854	2,966	84%
Rest of Latin America	6	38	79	165	326	598	997	93%
Rest of Middle East and Africa	10	43	105	238	503	977	1,738	110%
Rest of Western Europe	153	353	701	1,245	2,001	2,950	4,077	63%
Russia	20	75	163	356	741	1,422	2,448	101%
South Africa	51	268	655	1,386	2,474	3,842	5,454	83%
U.K.	306	820	1,466	2,338	3,398	4,668	6,155	50%
U.S.	389	709	1,059	1,526	2,143	2,902	3,848	40%

Source: Cisco VNI Mobile, 2011

General Reference

Footnote 30: Yankee Group, March 2011 & Analysis Mason, June 2010

UK Voice Revenue as % of 2015 total



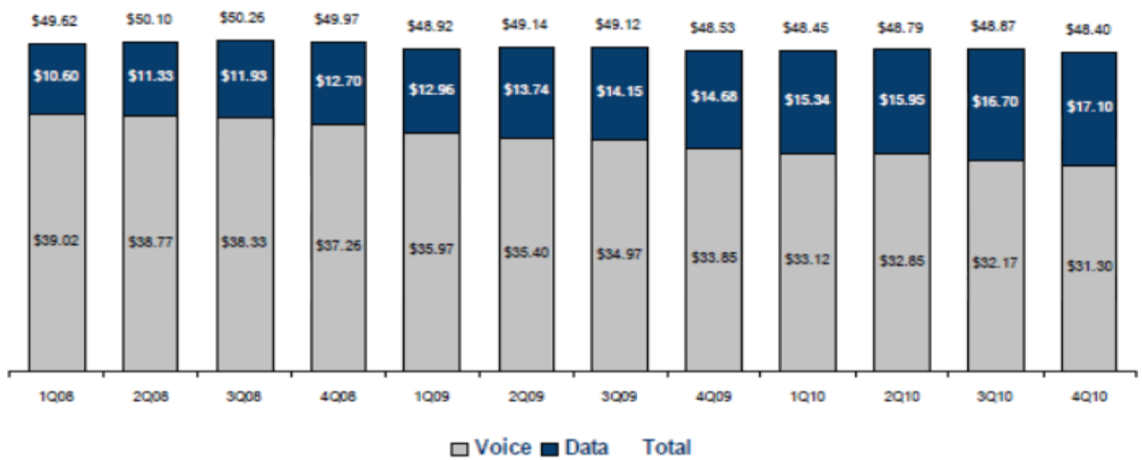
General Reference

Footnote 33: Credit Suisse US Q4 Wireless Trends
March 2011

Wireless ARPU Data and Voice Components for National Carriers

Data ARPU now composes 35% of service revenue at the national carriers, up from 30% in 4Q09.

Telecom Services
Equity Research



Includes: Includes AT&T (Retail, Connected and Reseller), Verizon (Retail and Reseller), T-Mobile (Retail), Sprint (Retail and Reseller)

Source: Company Data, CS estimates.

CREDIT SUISSE

Jonathan Chaplin | 212.325.9876 | jonathan.chaplin@credit-suisse.com

General Reference

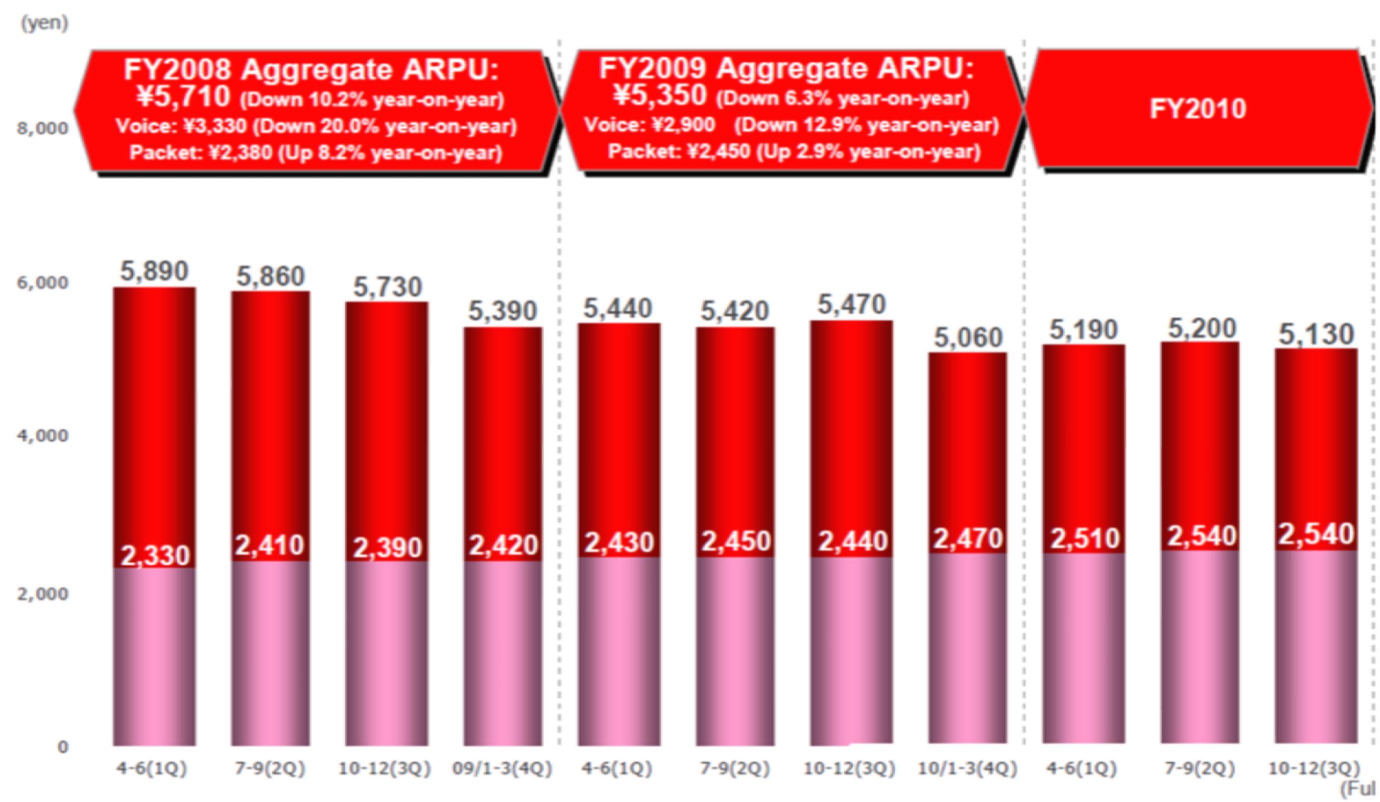
Footnote 34: JD Power US Wireless Call Quality Survey
March 2011

The study finds the percentage of wireless calls made indoors has increased considerably during the past eight years—to an average of 56 percent in 2011 from 40 percent in 2003. During this time frame, the proportion of wireless calls made from homes increased most notably, averaging 35 percent in 2011, compared with 25 percent in 2003. Among wireless calls made outside of buildings, the greatest decrease has occurred among calls made in vehicles, which has declined to 20 percent in 2011 from 37 percent in 2003. Typically, wireless calls placed indoors result in slightly more problems, on average, than calls placed outdoors.

General Reference

Footnote 35: NTT DoCoMo Calendar

Q4 2010 results



	4-6(1Q)	7-9(2Q)	10-12(3Q)	09/1-3(4Q)	4-6(1Q)	7-9(2Q)	10-12(3Q)	10/1-3(4Q)	4-6(1Q)	7-9(2Q)	10-12(3Q)
Voice ARPU	3,560	3,450	3,340	2,970	3,010	2,970	3,030	2,590	2,680	2,660	2,590
Packet ARPU	2,330	2,410	2,390	2,420	2,430	2,450	2,440	2,470	2,510	2,540	2,540
(Ind.) Int'l services ARPU	80	90	80	70	70	80	80	80	80	90	90