

Asia Pacific Mobile & LBS Outlook



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Asia Pacific's Wireless Market in Context

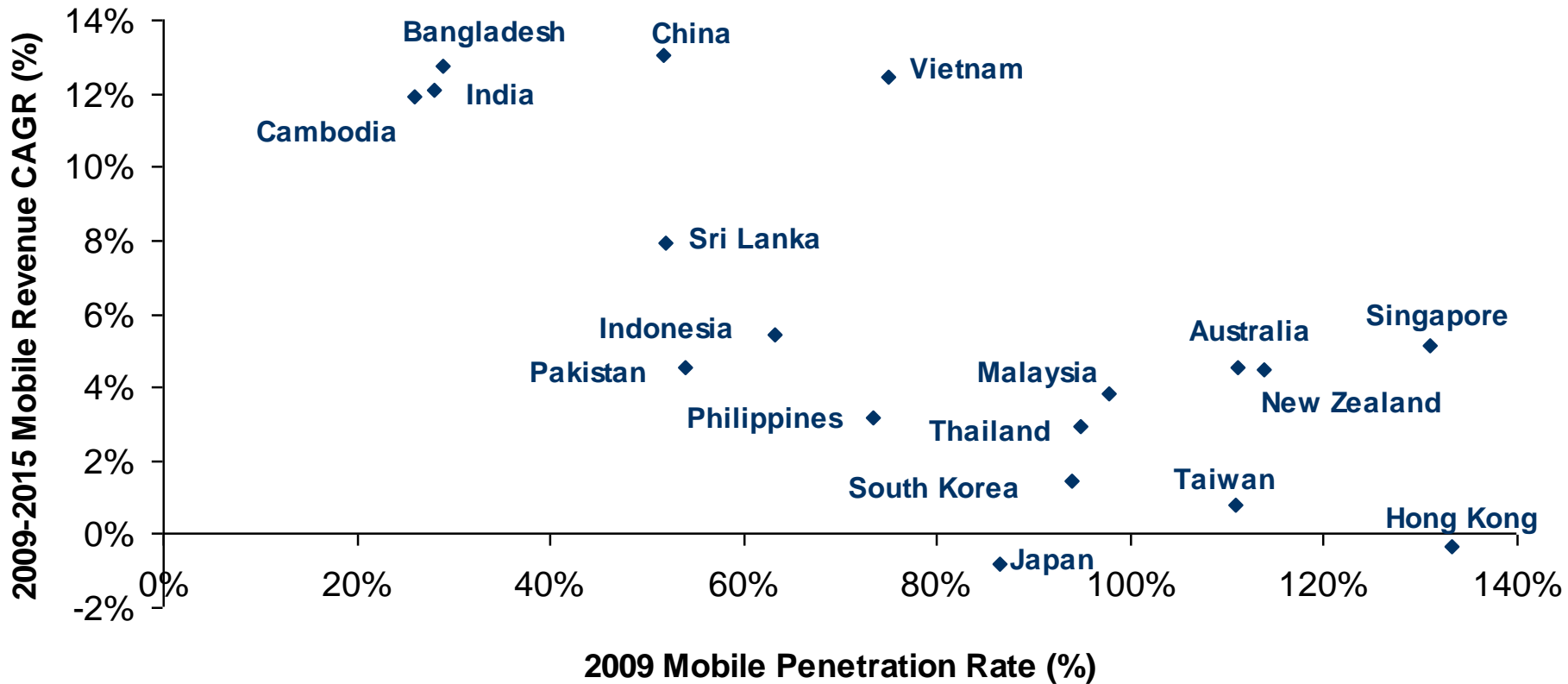
APAC's markets are among the most competitive in the region and have the largest number of operators.

Country	2009 Penetration Rate	Mobile Operators	2009 Population	2009 GDP per Capita
India	45.0%	14	1,176m	US\$2,800
Indonesia	76.3%	11	231m	US\$3,900
Cambodia	32.0%	9	15m	US\$2,000
Vietnam	108.7%	7	86m	US\$2,800
Bangladesh	34.8%	6	162m	US\$1,500
Pakistan	61.9%	6	169m	US\$2,600
Taiwan	119.8%	6	23m	US\$31,900
Hong Kong	139.8%	5	7m	US\$43,800
Japan	90.6%	5	128m	US\$34,200
Sri Lanka	65.8%	5	20m	US\$4,300
Thailand	101.5%	5	64m	US\$8,500
Malaysia	103.8%	4	28m	US\$15,300
Australia	114.4%	3	22m	US\$38,100
China	58.9%	3	1,335m	US\$6,000
New Zealand	143.5%	3	4m	US\$27,900
Philippines	81.5%	3	92m	US\$3,300
Singapore	138.8%	3	5m	US\$52,000
South Korea	96.8%	3	48m	US\$26,000

Note: All figures are rounded; the base year is 2009. Source: Frost & Sullivan

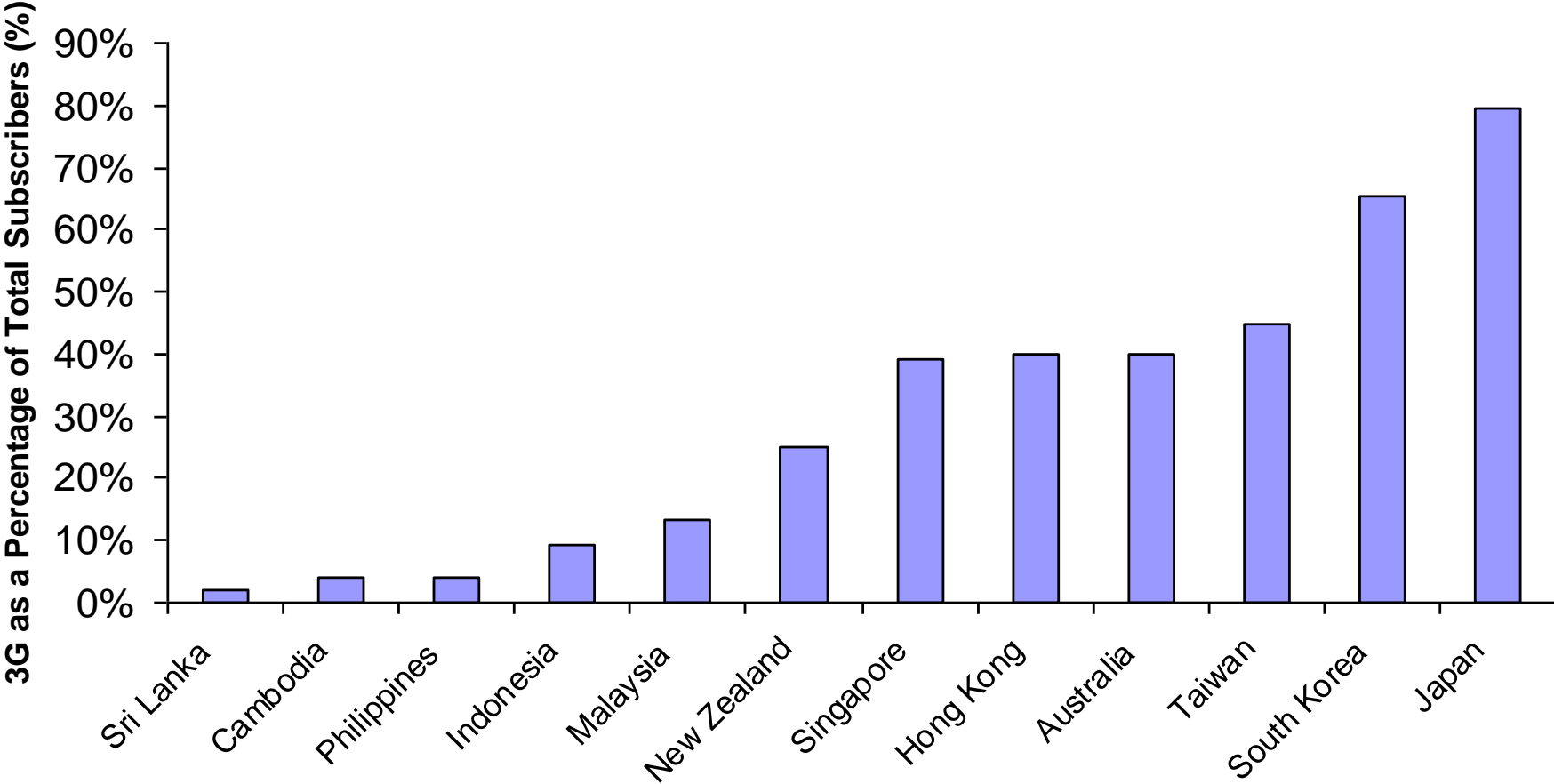
Asia Pacific's Wireless Market in Context

Most markets in the region will continue to expand rapidly over the next five years, although some developed markets like Hong Kong and Japan will contract due to extreme price competition and saturation.



3G Subscriber Update

Japan and South Korea remain the only markets in the region where 3G devices account for more than 50% of all subscribers, although other developed markets like Taiwan, Singapore and Australia have seen significant growth in the past year.



Mobile Handset Vendor Performance

Vendor competition is fierce on the global level, with Nokia losing the largest market share, although it remains the largest player globally. Motorola and Sony Ericsson have lost considerable ground to rivals over the past 18 months, while LG and Samsung are still looking to find their niche in the smartphone market.

Mobile Device Market: Handset Sales by Vendor (Global) 2008, 2009 & H12010

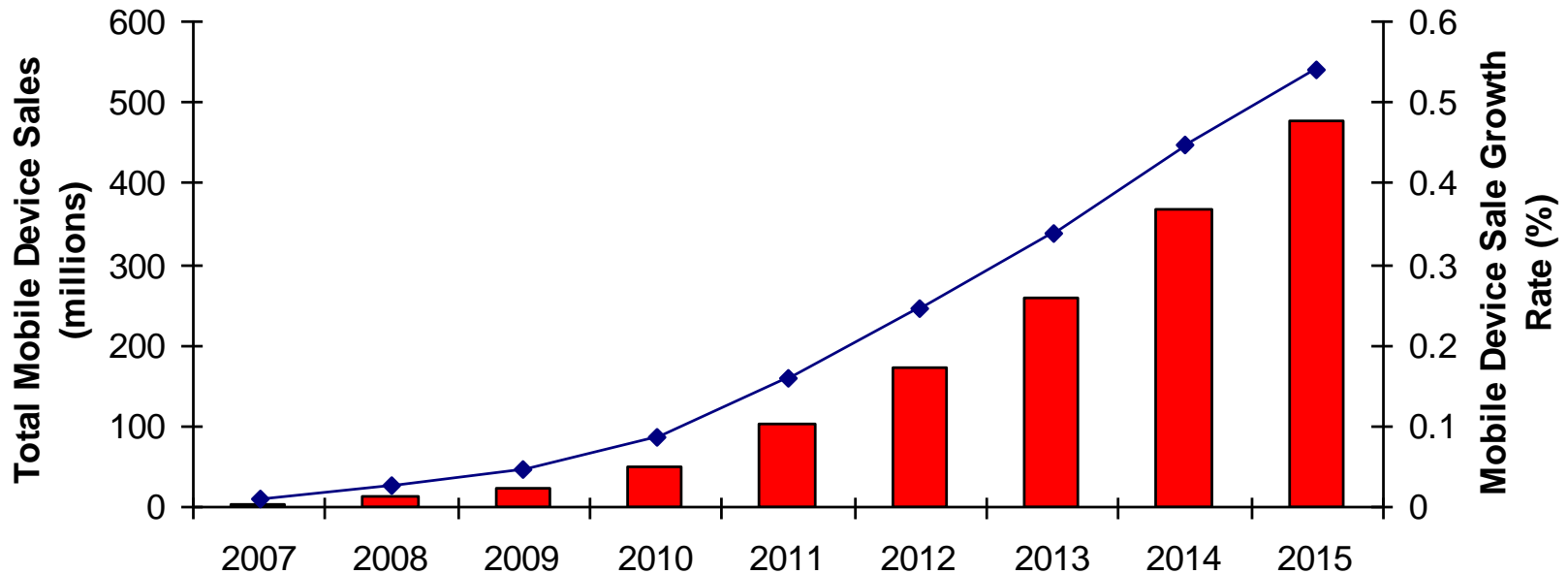
Total Devices	2008	2009	H1 2010	Smartphones	2008	2009	H1 2010
Nokia	39.7%	38.1%	36.5%	Nokia	43.9%	39.3%	39.6%
Apple	1.0%	2.2%	2.9%	Apple	8.2%	14.5%	15.0%
Blackberry	2.0%	3.1%	3.7%	Blackberry	17.3%	20.2%	19.1%
HTC	1.0%	1.0%	1.5%	HTC	4.2%	6.8%	7.6%
LG	8.6%	10.4%	9.7%	LG	1.4%	1.2%	1.7%
Samsung	16.7%	20.1%	21.3%	Samsung	4.3%	3.5%	3.5%
Sony Ericsson	8.2%	5.0%	3.7%	Sony Ericsson	0.7%	1.2%	2.6%
Motorola	9.0%	4.9%	2.8%	Motorola	1.4%	1.7%	4.3%
Others	13.8%	15.1%	18.1%	Others	18.5%	11.7%	6.6%
Total (Millions)	1,179	1,132	600	Total (Millions)	139	173	115

Note: All figures are rounded; the base year is 2010. Source: Frost & Sullivan

APAC Smartphone Unit Sale Forecasts

Smartphones are also making significant headway in the Asia Pacific region. In 2009 the region accounted for 22 million smartphones, representing 4.5% of all devices sold in the region. We expect robust growth in smartphone sales in the coming years and predict that by 2015 the region will sell over 477 million smartphones representing 54% of all devices sold in the region.

Mobile Device Market: Smartphone Unit Sale Forecasts (Asia Pacific), 2007-2015



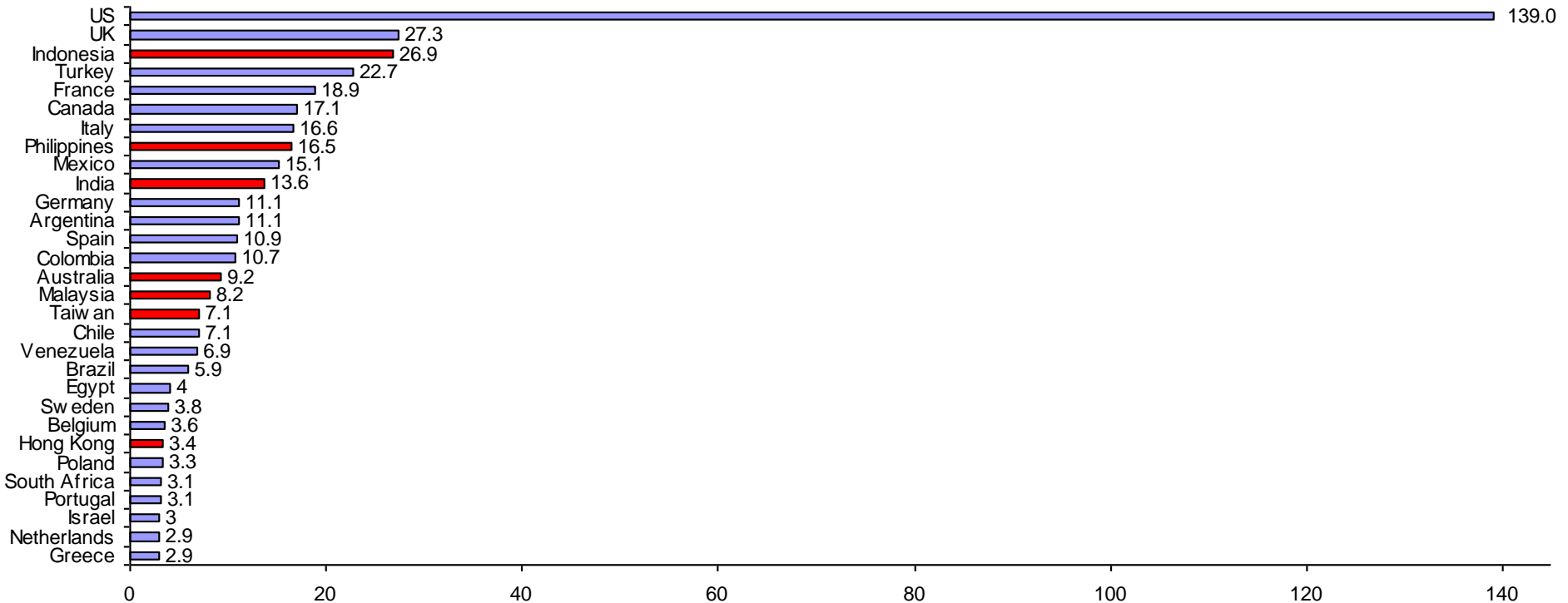
■ Total Smartphone Sales (000s) ◆ Smartphone Sales as a Percentage of Total Device Sales (%)

Note: All figures are rounded; the base year is 2009. Source: Frost & Sullivan

Asia Pacific's Wireless Market in Context

Social networking site usage is seeing explosive growth in the region, even in emerging markets with low Internet penetration and is expected to be an important driver of location based service use going forward.

Active Facebook Users (September 2010), Millions



Non Facebook-Dominated Markets: Japan/Mixi – 21 million users, South Korea/Cyworld – 18 million users, China/Kaixin Wang – 80 million users, Thailand/Orkut – 13 million users

Note: All figures are rounded; the base year is 2010. Source: Frost & Sullivan

Emerging Market Smartphones

Operators in other markets are taking steps to provide entry-level smartphones at a lower cost. In Indonesia Indosat has partnered with Simpli Mobile to provide the Wigo, an Android-based device which is similar to the Blackberry in its form factor but significantly cheaper.

Indosat Wigo

OS: Android
Network: GSM/EDGE
256 MB ROM, 128 MB RAM
External Micro SD (up to 8 GB)
TFT QVGA Screen type, 65K color, size 320x240, size 2,5"
Bluetooth: V2.0 + EDR and A2DP
USB v2.0
Ringtone & playback
SMS, MMS, IM, Mail
2 Mega Pixels
Resolution: 1,200 x 1,600 pixels
Talktime: 3 hours
Charging: 4 hours (depend on usage)
Qwerty keypad & trackball



Retail Price:

US\$156

VS.

Blackberry Bold



Retail Price:

US\$446

OS: RIM
Network: GSM/EDGE/UMTS/HSPA
1 GB storage, 128 MB RAM
External Micro SD (up to 8 GB)
TFT QVGA Screen type, 65K colors size 480 x 320 pixels, 2.6 inches
Bluetooth: V2.0 + EDR and A2DP
Wi-Fi 802.11 a/b/g
USB v2.0
Ringtone & playback
SMS, MMS, IM, Mail
2 Mega Pixels
Resolution: 1,200 x 1,600 pixels
Talktime: 5 hours
Charging: 3 hours
Qwerty keypad & trackball

Source: Frost & Sullivan

Popular NTT DoCoMo LBS Applications

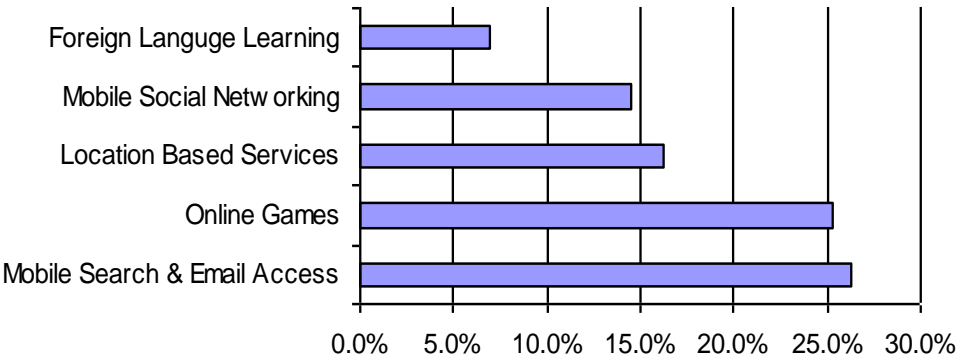
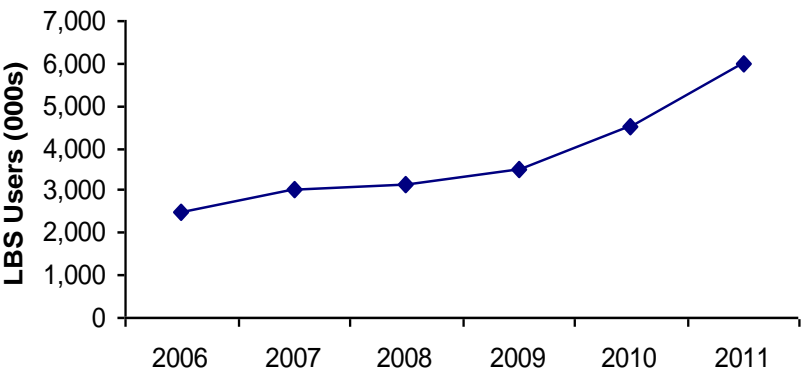
Japan is the largest market for location based services, with GPS navigation and people locator services being the most popular applications.

Name	Description	Pricing	Estimated Subscriber Base
<u>Maps and GPS navigation</u>	Just enter a destination to search for a route, then let the GPS function guide you there in real time.	Monthly Charge : ¥300 (¥315 incl. tax)	1,000,000 paid subscribers per month
<u>imadoco search</u>	Use i-mode or My docomo on a PC to check where your loved ones are on a map.	Monthly Charge : ¥200 (¥210 incl. tax) / Usage Charge (per request) : ¥5.25 incl. tax	500,000 paid subscribers per month
<u>imadoco kantan search</u>	Use i-mode to easily find friends and family on a map without making an application in advance.	Monthly Charge : FOC / Usage Charge (per request) : ¥10 (¥10.5 incl. tax)	950,000 requests per month
<u>Vehicle Finder Lite</u>	The PC and mobile phone Lite VehicleFinder (with three carriers) to a GPS service for NTT DoCoMo's mobile phones can find the location. Know when and where my family out of the office when you lose GPS-enabled handsets, and you can see displayed on the map.	Monthly Charge : ¥105 incl. tax	150,000 subscribers
<u>KoKo-P°</u>	GPS services and can easily determine the location of children with mobile phones. Equipped with useful features such as watchdog timer search zone. Further locate the mobile, free delivery too elementary Asahi News. Family to use and affordable.	Monthly Charge : ¥630 incl. tax (including 50 times usage and if it exceed for 50 times, additional charge for ¥5 per usage)	100,000 subscribers

Source: Frost & Sullivan

South Korea Example

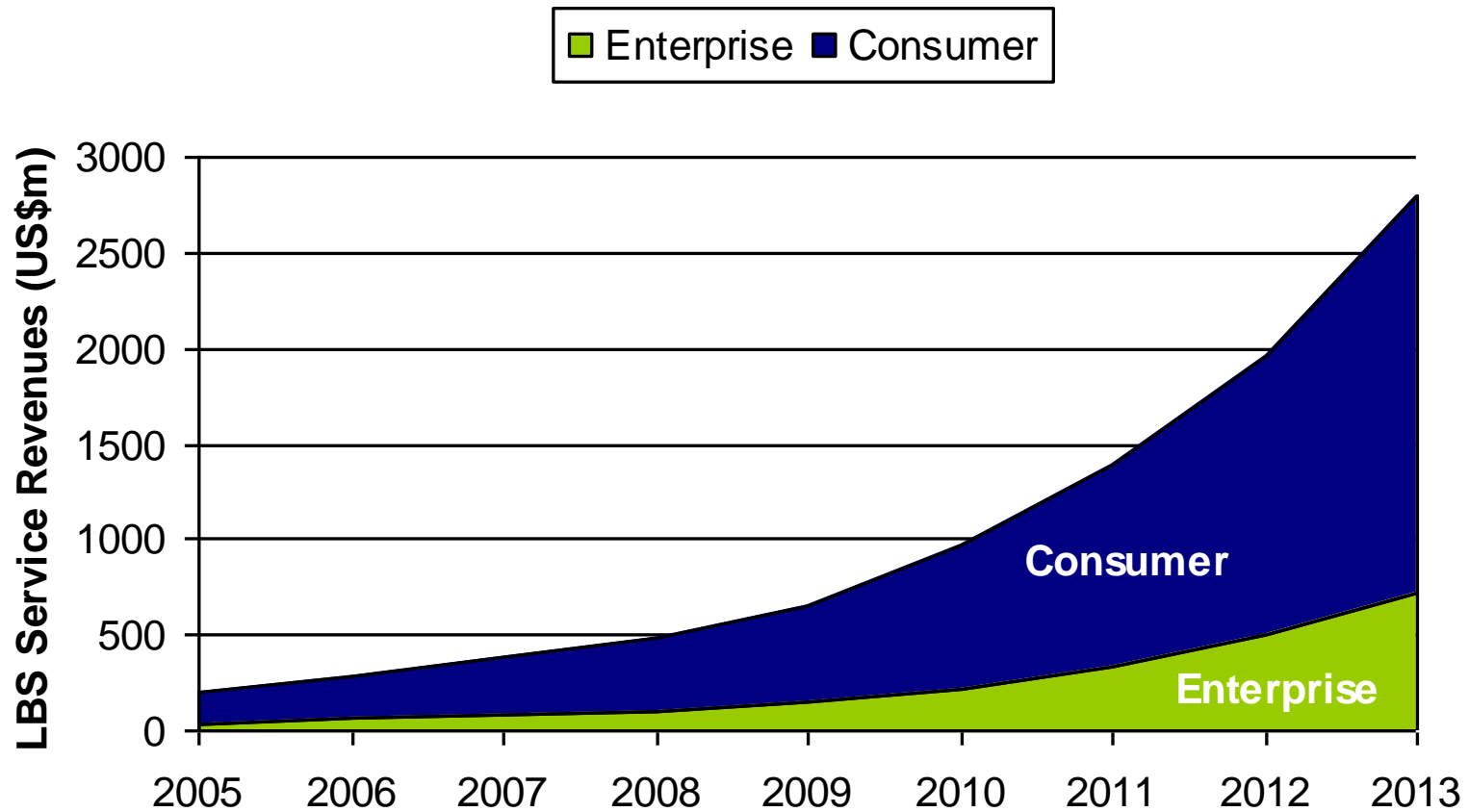
After years of a relatively stagnant market, the South Korean LBS market is growing again as smartphone adoption increases. LBS are the third-most popular service used by customers in the market.



Source: Frost & Sullivan

APAC LBS Market Sizing

Asia's location based services market is expected to grow substantially, from roughly US\$700m in 2009 to US\$2.7bn in 2013.



Note: All figures are rounded; the base year is 2009. Source: Frost & Sullivan



Thank you!

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