

Q2 2012

www.businessmonitor.com

VIETNAM

TELECOMMUNICATIONS REPORT

INCLUDES BMI'S FORECASTS





VIETNAM TELECOMMUNICATIONS REPORT Q2 2012

INCLUDES 5-YEAR FORECASTS TO 2016

Part of BMI's Industry Report & Forecasts Series

Published by: **Business Monitor International**

Copy deadline: March 2012

Business Monitor International

85 Queen Victoria Street

London

EC4V 4AB

UK

Tel: +44 (0) 20 7248 0468

Fax: +44 (0) 20 7248 0467

email: subs@businessmonitor.com

web: <http://www.businessmonitor.com>

© 2012 **Business Monitor International**.

All rights reserved.

All information contained in this publication is copyrighted in the name of Business Monitor International, and as such no part of this publication may be reproduced, repackaged, redistributed, resold in whole or in any part, or used in any form or by any means graphic, electronic or mechanical, including photocopying, recording, taping, or by information storage or retrieval, or by any other means, without the express written consent of the publisher.

DISCLAIMER

All information contained in this publication has been researched and compiled from sources believed to be accurate and reliable at the time of publishing. However, in view of the natural scope for human and/or mechanical error, either at source or during production, Business Monitor International accepts no liability whatsoever for any loss or damage resulting from errors, inaccuracies or omissions affecting any part of the publication. All information is provided without warranty, and Business Monitor International makes no representation of warranty of any kind as to the accuracy or completeness of any information hereto contained.

CONTENTS

Executive Summary	7
SWOT Analysis	8
<i>Vietnam Mobile SWOT</i>	<i>8</i>
<i>Vietnam Wireline SWOT</i>	<i>9</i>
<i>Vietnam Political SWOT</i>	<i>10</i>
<i>Vietnam Economic SWOT</i>	<i>11</i>
<i>Vietnam Business Environment SWOT</i>	<i>11</i>
Risk Reward Ratings	12
<i>Asia Pacific</i>	<i>12</i>
<i>Table: Asia Telecoms Risk/Reward Ratings</i>	<i>16</i>
<i>Vietnam</i>	<i>17</i>
Industry Forecast Scenario	19
<i>Mobile</i>	<i>19</i>
<i>Table: Telecoms Sector – Mobile – Historical Data And Forecasts</i>	<i>19</i>
<i>ARPU</i>	<i>21</i>
<i>Table: Telecoms Sector – Mobile ARPU – Historical Data And Forecasts (US\$)</i>	<i>21</i>
<i>Fixed Line</i>	<i>23</i>
<i>Table: Telecoms Sector – Fixed Line – Historical Data And Forecasts</i>	<i>23</i>
<i>Internet</i>	<i>25</i>
<i>Table: Telecoms Sector – Internet – Historical Data And Forecasts</i>	<i>25</i>
Market Data Analysis	27
<i>Mobile</i>	<i>27</i>
<i>Table: Vietnam Mobile Market, December 2010</i>	<i>28</i>
<i>3G</i>	<i>31</i>
<i>Mobile Contract Wins</i>	<i>35</i>
<i>Table: Mobile Contract Wins</i>	<i>35</i>
<i>Mobile Operator Data</i>	<i>36</i>
<i>Table: Vietnam Mobile Market Overview</i>	<i>36</i>
<i>Mobile Content</i>	<i>36</i>
<i>Regional Outlook</i>	<i>36</i>
<i>Table: Selected NFC Developments, 2011</i>	<i>38</i>
<i>Country Outlook</i>	<i>41</i>
<i>Value-Added Services Timeline</i>	<i>43</i>
<i>Table: Selected VAS Services</i>	<i>43</i>
<i>Fixed Line</i>	<i>44</i>
<i>Long-Distance Services</i>	<i>45</i>
<i>Fixed Wireless</i>	<i>45</i>
<i>Internet</i>	<i>46</i>
<i>Broadband</i>	<i>47</i>
<i>Mobile Broadband</i>	<i>49</i>
<i>Table: Vietnam – 4G Trialists</i>	<i>52</i>
<i>IPTV</i>	<i>52</i>
<i>Wireline Contract Wins</i>	<i>54</i>
<i>Table: Wireline Contract Wins</i>	<i>54</i>
Regulatory Environment	55

<i>Vietnam: Regulatory Bodies And Their Responsibilities.....</i>	<i>55</i>
<i>Legislation And Market Liberalisation</i>	<i>56</i>
<i>Regulation.....</i>	<i>56</i>
<i>Licensing And Spectrum</i>	<i>57</i>
<i>Regulatory Developments</i>	<i>58</i>
Competitive Landscape	59
<i>Competitor Analysis.....</i>	<i>59</i>
<i>Table: Key Players – Vietnam Telecoms Sector.....</i>	<i>59</i>
Company Monitor	60
<i>Alcatel-Lucent.....</i>	<i>60</i>
<i>Opportunity For Improvement</i>	<i>61</i>
<i>Alcatel-Lucent's Recent Major Contracts In Asia</i>	<i>63</i>
Selected Operators Profiles	64
<i>Vietnam Posts & Telecommunications (VNPT).....</i>	<i>64</i>
<i>Viettel.....</i>	<i>68</i>
<i>MobiFone</i>	<i>72</i>
<i>VinaPhone</i>	<i>75</i>
<i>S-Fone (S-Telecom)</i>	<i>78</i>
<i>EVN Telecom</i>	<i>80</i>
<i>FPT Telecom.....</i>	<i>83</i>
Regional Telecommunications Penetration Overview	86
<i>Fixed Line.....</i>	<i>86</i>
<i>Table: Regional Fixed-Line Penetration Overview.....</i>	<i>86</i>
<i>Mobile.....</i>	<i>87</i>
<i>Table: Regional Mobile Penetration Overview.....</i>	<i>87</i>
<i>Broadband</i>	<i>88</i>
<i>Table: Regional Broadband Penetration Overview</i>	<i>88</i>
BMI Telecoms Industry Glossary	89
<i>Table: Glossary Of Terms.....</i>	<i>89</i>
Country Snapshot: Vietnam Demographic Data	90
<i>Section 1: Population.....</i>	<i>90</i>
<i>Table: Demographic Indicators, 2005-2030.....</i>	<i>90</i>
<i>Table: Rural/Urban Breakdown, 2005-2030</i>	<i>91</i>
<i>Section 2: Education And Healthcare</i>	<i>91</i>
<i>Table: Education, 2002-2005</i>	<i>91</i>
<i>Table: Vital Statistics, 2005-2030.....</i>	<i>91</i>
<i>Section 3: Labour Market And Spending Power</i>	<i>92</i>
<i>Table: Employment Indicators, 1999-2004.....</i>	<i>92</i>
<i>Table: Consumer Expenditure, 2000-2012 (US\$).....</i>	<i>92</i>
BMI Methodology	93
<i>How We Generate Our Industry Forecasts</i>	<i>93</i>
<i>Table: Key Indicators For Telecommunications Industry Forecasts.....</i>	<i>93</i>
<i>Telecoms Business Environment Ratings</i>	<i>95</i>
<i>Risk/Reward Ratings Methodology</i>	<i>95</i>
<i>Table: Ratings Indicators</i>	<i>96</i>
<i>Weighting.....</i>	<i>97</i>
<i>Table: Weighting Of Indicators</i>	<i>97</i>

Sources 97

Executive Summary

Despite its growth opportunities, the Vietnamese telecoms industry remains relatively unattractive in the short term due to the dominance of state-owned entities in a highly competitive landscape. Recent data from the General Statistics Office indicated that the mobile sector is experiencing sluggish growth, which could be attributed to market saturation, although this has alleviated some pressure on the fixed-line market. By end-2016, we envisage 132.373mn mobile subscribers in Vietnam, up from 122.304mn in 2012. Meanwhile, we continue to expect the fixed-line sector to contract, with the number of subscribers declining to 13.035mn in 2016.

Although Vietnamese companies have already launched 4G trials, the response from consumers has been muted. This has partially resulted in the Ministry of Information and Communications announcing in February 2012 that 4G services will be put on hold until 2018 to allow mobile operators to recoup their investments on 3G technology. While Vietnam's draft national strategy on telecoms developments has called for commercial services in 2015, we welcome the flexibility by the regulator to postpone the licensing process, especially when operators have also demonstrated little interest in offering the service.

There is still plenty of growth potential in Vietnam's 3G market as seen by operators' recent aggressive strategy to pursue consumers. According to **VietNamNet Bridge**, **MobiFone** was reported to have triggered the price competition by launching a mobile internet package that comes with unlimited 3G data usage for VND60,000 a month in October 2011. By contrast, a GPRS connection with slower speeds costs twice as much. By lowering the tariff benchmark to such a low level, Vietnamese operators are running the risk of unrealistic consumer expectations in the future, in addition to a sudden spike in demand.

Vietnam retained its 15th position in **BMI**'s latest Asia Pacific Telecoms Risk/Reward Ratings. The recent surge in crude oil prices has presented significant upside risks to cost-push inflationary pressures in Vietnam. However, we believe this is not enough to reverse the present downtrend in headline consumer price inflation, given that credit conditions remain tight. Furthermore, we expect demand for credit to continue to cool in H112 as foreign direct investment eases as a result of a bleak outlook for exports.

Despite growing concerns that recent political uprisings in the Middle East would spread towards other authoritarian regimes including Vietnam, we believe the risk of a major political upheaval in Vietnam remains remote in the medium term. We note there has been a decisive shift in the Communist Party of Vietnam (CPV)'s direction towards allowing for democratic reforms and addressing rampant corruption. We believe that further reforms will be crucial in reinforcing confidence in the CPV's leadership over the coming years.

SWOT Analysis

Vietnam Mobile SWOT

Strengths	<ul style="list-style-type: none">▪ Highly competitive mobile sector.▪ Continued positive growth in mobile sector in 2011, with subscribers up by 5.4%.▪ Joining the WTO in 2008 has made Vietnam a more appealing investment centre – stronger growth in the mobile market could be the result of this.
Weaknesses	<ul style="list-style-type: none">▪ Market's dependency on prepaid services exerts strong downward pressures on ARPU levels.▪ Lack of key strategic investors in the sector's main operators.▪ Although communications are relatively advanced in the larger cities, many rural areas have little or no access to telecommunications services.
Opportunities	<ul style="list-style-type: none">▪ Entrance of the eighth operator, Indochina Telecom, as an MNVO and the ninth operator, Vietnam Multimedia Corporation, would raise the level of competition. At the time of writing, both operators had yet to launch their services.▪ The government would allow non-3G licensees to partner with established network operators to provide 3G services.▪ Government approach to liberalise the telecoms industry could see the entrance of more foreign investors.
Threats	<ul style="list-style-type: none">▪ Nearly one-third of Vietnam's villages lie in mountainous areas and are without access to telecommunications services; this makes the deployment of new network technologies prone to delays.▪ Aggressive pricing by the country's three leading operators are likely put sustained downward pressure on mobile ARPU levels.▪ Number of inactive mobile subscribers is unknown in what is still a market that lacks transparency and reliable data.

Vietnam Wireline SWOT

Strengths	<ul style="list-style-type: none"> Fixed-line penetration levels and internet user rates are high in major urban centres such as Ho Chi Minh City, Hanoi, Danang and Haiphong. Competition exists in fixed-line and internet access markets; VNPT faces competition from several other state-owned companies and privately-owned operators. High levels of literacy and other demographic factors bode well for strong and continued demand for wireline services over the next few years.
Weaknesses	<ul style="list-style-type: none"> Vietnam's fixed-line and internet access markets are dominated by state-controlled operator VNPT. Although alternative broadband infrastructures are currently being explored, broadband growth continues to be highly dependent on DSL. Low fixed-line penetration rates in rural regions limit the scope for DSL broadband growth. Although internet user growth is improving, rural Vietnam still has limited access to internet infrastructure. Broadband tariffs remain high, creating a barrier for low-income subscribers to access.
Opportunities	<ul style="list-style-type: none"> The privatisation of VNPT could help to bring about increased investment revenue and the arrival of new skills. On a national level, broadband penetration rates remain low – this means that the sector has considerable growth potential. Significant opportunities exist to develop alternative broadband technologies, including WiMAX, LTE and fibre; WiMAX and LTE internet services have the potential to raise the level of internet user penetration in rural parts of Vietnam. Draft Bill of Law on Telecommunication has been put forward for discussion at the National Assembly Steering Committee. If passed, the bill will allow private companies to build network infrastructure for the first time and will open up the telecoms market to foreign investors.
Threats	<ul style="list-style-type: none"> Fixed-line sector may enter a period of decline, with potentially negative consequences for DSL growth. As the market for mobile data services grows, this could have potentially negative consequences for the growth of fixed broadband services. Slower economic growth in 2012 could undermine wireline investment and expansion plans.

Vietnam Political SWOT

Strengths	<ul style="list-style-type: none">▪ The Communist Party of Vietnam remains committed to market-oriented reforms and we do not expect major shifts in policy direction over the next five years. The one-party system is generally conducive to short-term political stability.▪ Relations with the US have witnessed a marked improvement, and Washington sees Hanoi as a potential geopolitical ally in South East Asia.
Weaknesses	<ul style="list-style-type: none">▪ Corruption among government officials poses a major threat to the legitimacy of the ruling Communist Party.▪ There is increasing (albeit still limited) public dissatisfaction with the leadership's tight control over political dissent.
Opportunities	<ul style="list-style-type: none">▪ The government recognises the threat corruption poses to its legitimacy, and has acted to clamp down on graft among party officials.▪ Vietnam has allowed legislators to become more vocal in criticising government policies. This is opening up opportunities for more checks and balances within the one-party system.
Threats	<ul style="list-style-type: none">▪ Macroeconomic instabilities in 2011 and 2012 are likely to weigh on public acceptance of the one-party system, and street demonstrations to protest economic conditions could develop into a full-on challenge of undemocratic rule.▪ Although strong domestic control will ensure little change to Vietnam's political scene in the next few years, over the longer term, the one-party-state will probably be unsustainable.▪ Relations with China have deteriorated over recent years owing to Beijing's more assertive stance over disputed islands in the South China Sea and domestic criticism of a large Chinese investment into a bauxite mining project in the central highlands.

Vietnam Economic SWOT

- | | |
|----------------------|---|
| Strengths | <ul style="list-style-type: none"> ▪ Vietnam has been one of the fastest-growing economies in Asia in recent years, with GDP growth averaging 7.1% annually between 2000 and 2011. ▪ The economic boom has lifted many Vietnamese out of poverty, with the official poverty rate in the country falling from 58% in 1993 to 12% in 2010. |
| Weaknesses | <ul style="list-style-type: none"> ▪ Vietnam still suffers from substantial trade, current account and fiscal deficits, leaving the economy vulnerable to global economic uncertainties in 2012. The fiscal deficit is dominated by substantial spending on social subsidies that could be difficult to withdraw. ▪ The heavily managed and weak dong currency reduces incentives to improve quality of exports, and also keeps import costs high, contributing to inflationary pressures. |
| Opportunities | <ul style="list-style-type: none"> ▪ WTO membership has given Vietnam access to foreign markets and capital, while making Vietnamese enterprises stronger through increased competition. ▪ The government will, despite the current macroeconomic woes, continue to move forward with market reforms, including privatisation of state-owned enterprises and liberalising the banking sector. ▪ Urbanisation will continue to be a long-term growth driver. The UN forecasts the urban population rising from 29% of the population to more than 50% by the early 2040s. |
| Threats | <ul style="list-style-type: none"> ▪ Inflation and deficit concerns have caused some investors to re-assess their hitherto upbeat view of Vietnam. If the government focuses too much on stimulating growth and fails to root out inflationary pressure, it risks prolonging macroeconomic instability, which could lead to a potential crisis. ▪ Prolonged macroeconomic instability could prompt the authorities to put reforms on hold as they struggle to stabilise the economy. |

Vietnam Business Environment SWOT

- | | |
|----------------------|---|
| Strengths | <ul style="list-style-type: none"> ▪ Vietnam has a large, skilled and low-cost workforce that has made the country attractive to foreign investors. ▪ Vietnam's proximity to China and South East Asia and its good sea links make it a good base for foreign companies to export to the rest of Asia, and beyond. |
| Weaknesses | <ul style="list-style-type: none"> ▪ Vietnam's infrastructure is still weak. Roads, railways and ports are inadequate to cope with the country's economic growth and links with the outside world. ▪ Perceptions of corruption in Vietnam remain high. According to Transparency International's 2011 Corruption Perceptions Index, Vietnam ranks 112 out of 182 countries. |
| Opportunities | <ul style="list-style-type: none"> ▪ Vietnam is increasingly attracting investment from key Asian economies, such as Japan, South Korea and Taiwan. This offers the possibility of the transfer of high-tech skills and know-how. ▪ Vietnam is pressing ahead with the privatisation of state-owned enterprises and the liberalisation of the banking sector. This should offer foreign investors new entry points. |
| Threats | <ul style="list-style-type: none"> ▪ Ongoing trade disputes with the US, and the general threat of American protectionism, which will remain a concern. ▪ Labour unrest remains a lingering threat. A failure by the authorities to boost skills levels could leave Vietnam a second-rate economy for an indefinite period. |

Risk Reward Ratings

Asia Pacific

In this quarter's **BMI** Asia Pacific Telecoms Risk/Reward Ratings update, countries largely remained in their respective positions. Unsurprisingly, developed countries occupied the top half of the ratings table due to greater technological advancements, which mitigate the effects of market saturation, and stronger economic factors. Although we do not expect emerging markets to overhaul developed countries in the near future, we see scope for an improvement in the former group's Telecoms Rating scores in 2012 due to positive developments such as the launch of 3G services.

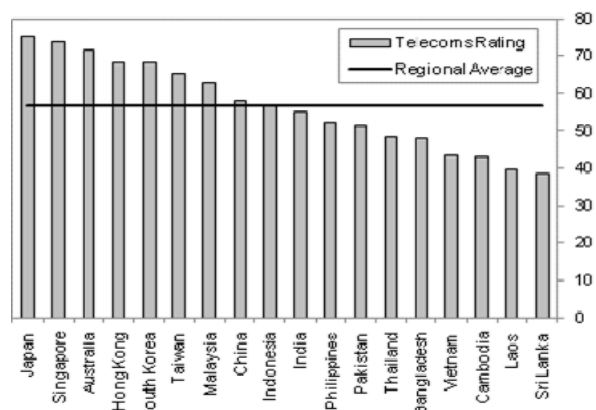
The Japanese telecoms industry has turned to new products and services in order to stimulate revenue growth and mitigate the negative effects of market saturation. Most notably, LTE-compatible smartphones and tablet computers have made their way into the market in order to leverage on the next generation mobile service provided by market leader **NTT DoCoMo**. We expect competition to intensify as rivals launch their LTE services in 2012, which would spur consumer adoption, thereby helping Japan to remain attractive to investment. However, we expect Japan's private consumption growth to remain lacklustre at best as employment growth is hit by fiscal tightening and a weaker currency (which we are forecasting in 2012). This in turn would undermine real incomes. We see private consumption growth coming in at 1.5% in 2012 and 2013.

Singapore and Australia swapped positions once again with the former emerging on top in the Q212 Risk/Reward Ratings

update. Although Australia (61.8) had a higher Industry Rewards score compared with Singapore (57.5) due to its larger population size, Singapore came out on top in the remaining three components - Country Rewards, Industry Risks and Country Risk. Australian real GDP growth came in at an impressive 1.0% quarter-on-quarter (q-o-q) on a seasonally adjusted basis, beating consensus expectations of 0.8%. Our call for a domestic demand-led recession, however, remains intact. We have seen domestic housing sector conditions deteriorate since Q311, and we expect falling home prices and falling credit growth to place huge pressure on consumer confidence. Meanwhile, although Singapore's non-oil domestic exports rose by 1.6% y-o-y in November 2011, we continue to believe that the country's export sector will remain

Developed Countries: The Unsurprising Leaders

Asia Pacific Telecoms Risk/Reward Ratings Q212



Source: BMI

weak moving into 2012. Even as the sector has held up relatively well against a deteriorating economic outlook as a result of the eurozone debt crisis and slack demand from the US, further challenges are set to arise as China's hard landing begins to play out in full.

Hong Kong and South Korea were ranked fourth and fifth respectively with no changes in their positions compared with the previous quarter. While Hong Kong continued to hold a slight lead over South Korea, we see upside potential for South Korea to overtake its peer. Our view is supported by the fact that LTE services have received strong demand from consumers following commercial launches by **SK Telecom** and **LG Uplus** in July 2011. Furthermore, second-ranked **KT** received a court approval in December 2011 to end its 2G services in order to refarm the spectrum for LTE services. By contrast, only one mobile operator in Hong Kong has launched commercial LTE services. However, South Korea's economy is likely to face the same external headwinds as other trade-dependent economies within the region. Given the exposure that South Korea's exporters have to the US, Europe and China, we remain particularly bearish on South Korea's economy chiefly because its domestic demand will be highly constricted by its household debt levels.

Taiwan's Industry Rewards score was upgraded to 55.0 from 50.0 in the previous quarter, which helped the island to consolidate its sixth position. The improvement was due to positive developments such as increased ARPU levels as a result of higher smartphone and data service adoption. Furthermore, we believe that the government has realised that WiMAX is increasingly being marginalised by rival LTE technology, and further efforts to accelerate the adoption of LTE should aid the country's IT and consumer electronics manufacturing industries.

Malaysia continued to spearhead emerging markets in Asia Pacific, although its Industry Rewards score is only slightly above par. Malaysia's seventh position was attributed to its strong Country Rewards, Industry Risks and Country Risk scores. The government has established the Economic Transformation Programme, which should help the country's telecoms and IT industries develop next generation products and services. While we forecast Malaysia's real GDP growth to witness a significant slowdown from an expected 4.5% in 2011 to 3.2% in 2012, we expect the country to retain its ranking due to the substantial lead over China.

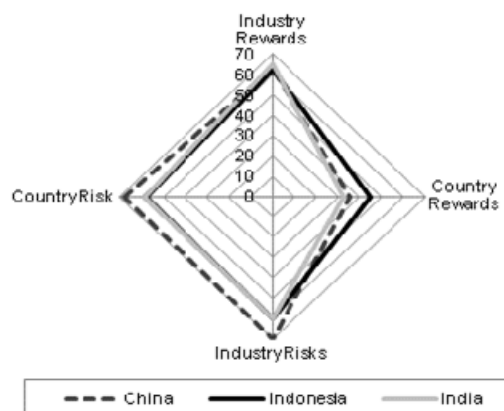
The three most populous countries in Asia Pacific held on to their positions with no changes to their Telecoms Rating scores. China led Indonesia (57.1) and India (55.1) with a Telecoms Rating score of 58.0, and we expect their positions to hold firm in the near future. However, Indonesia possesses the ability to rise up the ranks, particularly after **Fitch** upgraded the country to investment grade in December 2011, which was in line with our long-held

view on Indonesia's improving sovereign risk outlook. India also has potential but this is heavily dependent on the government introducing the National Telecom Policy 2011, which is likely to be delayed from January to June 2012.

Meanwhile, our hard landing thesis for China gained further credence with the release of the non-manufacturing purchasing managers' index figure on December 4 2011. The figure hit a nine-month low of 49.7, marking the weakest November figure since the 2008 crisis. The series is extremely seasonal, thus the actual figure is of lesser importance to the fact that the growth rate is at a new low for the cycle.

Neck And Neck

Asia Pacific Telecoms Risk/Reward Ratings Q212



Source: BMI

The Philippines rose to 11th position this quarter after an improvement in its Telecoms Rating score due to a higher Industry Rewards score. Although the merger between the **Philippine Long Distance Telephone Company** (PLDT) and **Digital Telecommunications Philippines** has relegated the mobile market to a duopoly, the telecoms regulator has laid down conditions to ensure that PLDT does not abuse its 70% market share in the industry. Furthermore, we continue to expect new entrants, which would once again shake up the sector.

Pakistan fell to 12th position in spite of a higher Telecoms Rating score. The Pakistan Telecommunication Authority announced in late December 2011 that three blocks of 10MHz of technology-neutral spectrum in the 1900MHz and 2.1GHz frequency bands will be auctioned in March 2012. While data services have the potential to boost operators' revenue-generating ability, we remain cautious as companies tend to offer steep discounts in order to drive adoption, thereby setting a low benchmark for future premium services.

Thailand's Telecoms Rating score increased to 48.4 from 47.3 in the previous quarter even though the country was negatively affected by major floods during the 2011 monsoon season. This was because the telecoms industry, unlike the hard disk drive manufacturing sector, was largely shielded from the effect,

with only slight delays in the deployment of 3G infrastructure. Thai operators have announced network expansion plans and the launch of a variety of smartphones in 2012, which should meet consumers' pent-up demand and spur 3G subscriber growth.

Although there was no change to Bangladesh's Telecoms Rating score, the country fell to 14th position. Like Pakistan, Bangladesh has yet to auction 3G licences with only state-owned **Teletalk** given the permission to trial the service in early 2012. Assuming the telecoms ministry fulfils its promise to auction licences in September 2012, we expect the Bangladeshi telecoms market to become more attractive following the availability of smartphones, tablets and next-generation services such as cloud computing.

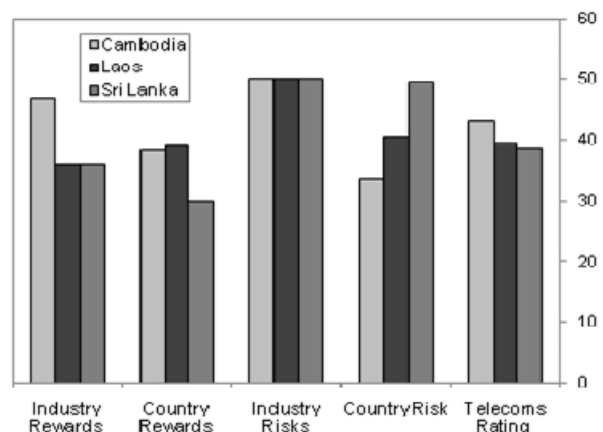
We have downgraded Vietnam's Industry Rewards score after the government gave **Viettel** the go-ahead to acquire troubled **EVN Telecom** in December 2011. While we agree that Viettel is best placed to efficiently capitalise on EVN Telecom's assets, we are concerned that the continued dominance of state-owned entities in Vietnam's high-growth telecoms sector could dent foreign investor confidence and the long-term outlook of smaller players.

Cambodia's mobile market remains overcrowded due to the impending entry of **Camintel**, which negated the merger between **Smart Mobile** and **TeliaSonera**-owned **Star-Cell** in December 2010. While we agree with the Ministry of Posts and Telecommunications that an additional operator will be beneficial to competition, existing operators are already struggling to generate profit. The regulator had to impose price floors, which indicated that there is no lack of competition in the Cambodian mobile market. Strained profitability would be to the detriment of long-term investment and industry development.

Laos remained near the bottom of our Asia Pacific Telecoms Risk Reward Ratings with a Telecoms Rating score of 39.5, which was significantly less than the regional average of 56.7. Despite the global economic downturn, we find Laos's investment climate to be relatively attractive, especially for the hydropower and mining sectors. Strong demand for power and resources, and the government's commitments to developing the sector bode well for both industries. We expect foreign direct investment to remain strong over the medium-to-long term. That said, we believe that a dependence on resource wealth is not a sustainable growth model and risks marginalising other industries within the economy.

The Laggards Falling Significantly Behind

Asia Pacific Telecoms Risk/Reward Ratings Q212



Source: BMI

Although Sri Lanka continues to occupy the last spot in our ratings table, there was a slight improvement in the country's Industry and Country Rewards scores. The Sri Lankan telecoms market is gradually expanding with the public and private sectors engaging in network expansions and new product launches. Companies are particularly interested in improving fixed and mobile broadband connectivity, which should help fuel growth in other sectors such as business process outsourcing. However, despite a consensus-beating Q311 GDP print, we believe that the Sri Lankan economy is set to slow in the year to come. We continue to see investment expenditure outperforming in the domestic demand sphere. In terms of external trade, imports are still expected to outperform exports as net exports continue to be a drag on growth. Looking forward, against the backdrop of a slowing global economy, we believe that Sri Lanka will not be left unscathed. We are pencilling in real GDP growth to fall to 6.0% in 2012.

Table: Asia Telecoms Risk/Reward Ratings

Country	Rewards		Risks		Telecoms Rating	Regional Rank	Previous Rank
	Industry Rewards	Country Rewards	Industry Risks	Country Risk			
Japan	71.3	66.7	90.0	86.7	75.3	1	1
Singapore	57.5	83.3	90.0	92.2	73.9	2	3
Australia	61.8	80.0	80.0	80.2	71.7	3	2
Hong Kong	57.5	73.3	80.0	80.2	68.2	4	4
South Korea	65.0	57.0	90.0	74.0	68.1	5	5
Taiwan	55.0	60.0	90.0	80.3	65.3	6	6
Malaysia	55.0	57.0	90.0	69.0	62.8	7	7
China	63.3	35.0	70.0	67.9	58.0	8	8
Indonesia	62.5	45.0	60.0	57.7	57.1	9	9
India	65.0	32.1	60.0	58.1	55.1	10	10
Philippines	52.5	46.7	60.0	51.0	52.0	11	12
Pakistan	57.5	42.0	60.0	38.4	51.2	12	11
Thailand	50.0	32.7	60.0	57.7	48.4	13	14
Bangladesh	50.0	36.7	60.0	46.8	47.8	14	13
Vietnam	42.5	33.3	60.0	46.9	43.5	15	15
Cambodia	46.8	38.3	50.0	33.5	43.2	16	16
Laos	36.0	39.0	50.0	40.5	39.5	17	17
Sri Lanka	36.0	30.0	50.0	49.7	38.7	18	18

Scores out of 100, with 100 highest. The Telecoms Risk/Reward Rating is comprised of two sub-ratings 'Rewards' and 'Risks'. Scores are weighted as follows: 'Rewards': 70%, of which Industry Rewards 65% and Country Rewards 35%; 'Risks': 30%, of which Industry Risks 40% and Country Risks 60%. The 'Rewards' rating evaluates the size and growth potential of a telecoms market in any given state, and country's broader economic/socio-demographic characteristics that impact the industry's development; the 'Risks' rating evaluates industry specific dangers and those emanating from the state's political/economic profile, based on BMI's proprietary Country Risk Ratings that could affect the realisation of anticipated returns. Source: BMI

Vietnam

Vietnam remained in 15th position in **BMI**'s latest Asia Pacific Telecoms Risk/Reward Ratings, with a Telecoms Rating of 43.5, down from 44.7 in the previous quarter. This was due to a slight downward revision in Vietnam's Industry Rewards score, which fell to 42.5 from 45.0 over the same period. Vietnam's Country Rewards, Industry Risks and Country Risk scores were unchanged.

The attractiveness of the Vietnamese telecoms market has been largely sustained by its impressive growth momentum and potential. However, recent data from official channels revealed that the market is approaching saturation. This would not be a concern if operators had been showing signs of trying to shift away from intense price competition, but we have yet to see an aggressive push to improve ARPU levels. The latest unsustainable development came in the form of 3G service providers lowering tariff rates to below that of 2G services to drive adoption. Furthermore, the telecoms market continues to be dominated by state-owned entities, with little progress in reform attempts.

The **Vietnam Posts and Telecommunications Group** has said it will submit its restructuring plan to the prime minister in Q112, which should pave the way for the privatisation of **MobiFone**, **VinaPhone** or both mobile operators. We remain sceptical, given that the divestment has been in negotiation for a number of years, which has hit investor confidence. We expect the government and regulator to eventually level the playing field, but Vietnam continues to have an Industry Risks score of 60 until there is positive progress.

We are beginning to see increasing evidence of a China-led slowdown in South East Asian growth, with Malaysia and Thailand being the most vulnerable as a result of their deep trade and investment links to China. On the other hand, we expect countries with robust domestic demand, and which are less reliant on exports, to outperform over the coming months. In this respect, we see Indonesia and Vietnam being in a better position to weather the effect of a China hard landing. Accordingly, we are happy to maintain our real GDP growth forecasts of 5.8% for Indonesia and Vietnam.

Vietnam's headline consumer price inflation (CPI) accelerated from 1% month-on-month (m-o-m) in January to 1.4% in February, in line with our expectation that inflationary pressure would resurface during the Tet holiday season (Vietnamese lunar new year). However, we remain convinced that this seasonal effect on inflation will begin to wear off over the coming months, a trend that has occurred consistently in recent years. The recent surge in crude oil prices has presented significant upside risks to cost-push inflationary pressures in Vietnam. However, this is unlikely to reverse the present downtrend in headline CPI, given that credit conditions continue to remain tight. We note that lending rates remain high at 14-15% for agricultural and export-related sectors, and 22-25% for non-productive sectors such as mining and retail. From our perspective, high lending rates will help keep demand-pull inflationary pressures in check over the coming months. Moreover, we expect demand for credit to continue to cool in H112 as global economic headwinds keep investors on the sidelines.

The need for political reforms has become increasingly crucial in reinforcing public confidence in Vietnam's single-party system of government, which the ruling Communist Party of Vietnam (CPV) has fervently tried to defend over the decades. In light of the recent political turmoil in the Middle East and large-scale protests against authoritarian governments in countries such as China and Russia, international political observers are beginning to warn of a similar political uprising in Vietnam. From our perspective, we believe that examples of successful uprisings in the Middle East, which have toppled authoritarian governments and paved the way for democratic reforms in the case of Libya and Egypt, could in turn, fuel political dissidents' desire for reforms in Vietnam. However, we believe that concerns of a major political upheaval are unwarranted, at least for now.

Industry Forecast Scenario

Mobile

Table: Telecoms Sector – Mobile – Historical Data And Forecasts

	2009	2010	2011e	2012f	2013f	2014f	2015f	2016f
No. of mobile phone subscribers ('000)	98,224	111,570	117,600	122,304	125,973	128,493	131,062	132,373
No of mobile phone subscribers/100 Inhabitants	113.0	127.0	132.4	136.3	139.0	140.3	141.8	141.9
No. of mobile phone subscribers/ 100 fixed line subscribers	563.6	776.2	758.7	830.6	891.2	937.1	985.4	1,015.6
No. of 3G phone subscribers ('000)	1,500	7,500	8,400	9,660	11,109	12,442	13,686	15,055
No of 3G Phone Subscribers/100 Inhabitants	1.7	8.5	9.5	10.8	12.3	13.6	14.8	16.1

e/f = estimate/forecast. Sources: BMI, ITU, MIC, GSO, operators

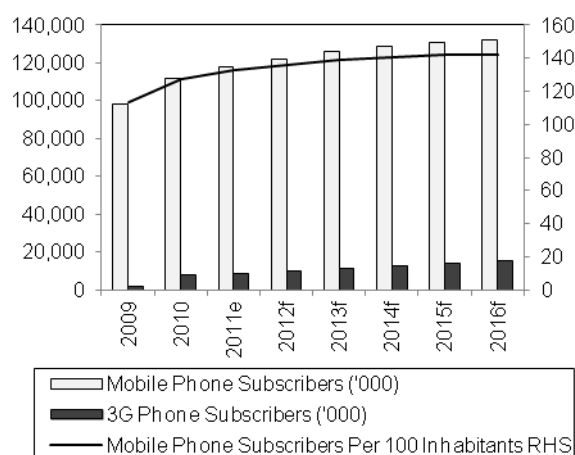
In the past, Vietnam's General Statistics Office (GSO) and the Ministry of Information and Communications (MIC) had provided conflicting data on the mobile sector. The GSO reported that there were 153.7mn mobile subscribers at the end of December 2010. By comparison, the MIC said there were only 111.570mn subscribers in the same period.

However, recent figures from the GSO suggest it has aligned its data with that of the MIC. This came after a drastic revision of data by the GSO in May 2011

where the number of mobile subscribers declined to 112.3mn from 157.8mn in April 2011. Consequently, we believe the GSO figures, which are published on a monthly basis, could be used as a relatively reliable source for monitoring market growth.

According to the GSO, there were 115.2mn mobile subscribers in Vietnam in September 2011, which increased to 117.6mn in December 2011. Assuming that the GSO data paints an accurate picture of the

**Industry Trends – Mobile Forecast
2009-2016**



f = forecast. Sources: ITU, MIC, GSO, Operators, BMI

Vietnamese mobile market, growth in 2011 could come in significantly lower than 2010. The sector grew by 31.2% in 2009 and 13.6% in 2010. In 2011, growth came in at a mere 5.4%. The slow growth momentum continued into the first two months of 2012 as the market expanded to 119mn.

The slowdown is not surprising considering that the mobile penetration rate has exceeded 100% following attractive tariff rates introduced by operators in order to drive subscriber growth. Furthermore, the regulator has been quick to stop promotions that breached regulations. **GTel Mobile** (Beeline VN) was cautioned by the MIC and the Hanoi Department of Information and Communications in November 2011. We have long highlighted the unsustainable nature of the aggressive competition arising from seven mobile operators competing on the same landscape. The scaling back of promotions would put a dampener on the mobile industry's growth momentum.

That said, despite that sharper than expected decline in growth momentum, the development is in line with our broader expectations. We continue to envisage a slowdown due to market saturation and heavier emphasis on generating greater revenue from operators' existing subscriber base, compared to acquiring more subscribers. New subscriber growth opportunities are likely to come from rural regions where subscribers are generally of lower value. By the end of 2016, we forecast 132.373mn mobile subscribers in Vietnam, a 142% penetration rate.

It remains a difficult task to assess the exact size of the Vietnamese 3G market. According to the MIC, there were 7.029mn subscribers at the end of April 2010, which increased to 7.669mn in December 2010. This data rendered claims by operators **VinaPhone** and **MobiFone**, which said that there had 7mn and 6mn subscribers respectively, as unrealistic. However, the latest figure from the ministry through local report said there were 8mn 3G subscribers in July 2011. We have retained our expectations of 8.4mn 3G subscribers in Vietnam at the end of 2011. At the end of 2016, we expect 15.055mn 3G subscribers in Vietnam, a penetration rate of 16.1%. While the aggressive price competition by operators, which has driven tariff rates to be less than that of 2G services, should bolster consumer adoption, the 3G industry still needs a sizeable portfolio of local content to cater to the Vietnamese market. We foresee upside potential to our forecast scenario if operators continue to improve their value-added services.

ARPU

Table: Telecoms Sector – Mobile ARPU – Historical Data And Forecasts (US\$)

	2009	2010	2011e	2012f	2013f	2014f	2015f	2016f
Market average	5.52	5.00	4.49	4.11	3.85	3.60	3.51	3.41

e/f = estimate/forecast. Sources: BMI, operators

Given limited available data on Vietnam's mobile ARPU rates, we have retained our current forecasts. **BMI** calculates ARPU, which is expressed in US dollars, as a market average for the sector. Blended ARPU was estimated at US\$5 at the end of 2010, down from US\$5.52 in 2009. This followed similar patterns with ARPUs of US\$6 in 2008, US\$6.5 in 2007 and US\$7 in 2006.

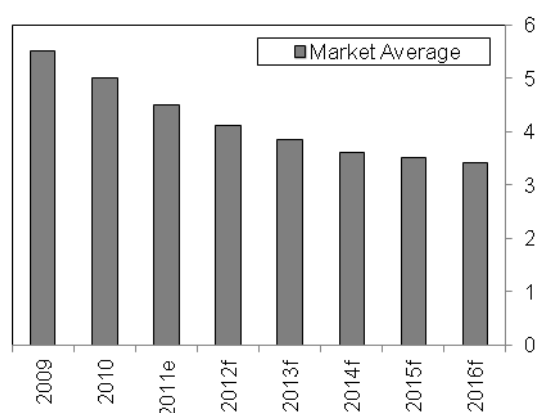
Russia's **VimpelCom** is the only operator in Vietnam to publish its ARPU data. According to the firm, its Vietnamese operation, **GTel Mobile** (Beeline VN) had an ARPU of

US\$0.70 in the quarter ended September 2011. Prior data was unavailable, which makes it difficult to identify a trend. However, Beeline VN's low ARPU is in line with the operator's aggressive pricing strategy. While we expect larger operators **Viettel**, **MobiFone** and **VinaPhone** to have a significantly higher ARPU, given their greater market share, the average ARPU level for the Vietnamese market should remain in the region of US\$4.5 at the end of 2011 given the strong level of competition and the occasional aggressive pricing promotion.

Besides intense competition, the market is dominated by prepaid users. Vietnam's mobile operators have been forced to compete aggressively with price and various promotions in order to win customers and maintain market share. The regulator has done little to prevent further escalation in competition. While the regulator cautioned Beeline VN in November 2011 about a promotion that breached regulations, we question if a similar treatment would be dished out to the top three mobile operators, which have a stronger ability to dictate the market direction.

Unless there is further consolidation in the market, we envisage ARPU levels in Vietnam to continue to decline over the next five years. Although the move to halt detrimentally low tariff rates could alleviate some downside pressure on ARPU levels, it is still too early to tell if mobile operators are able to build on

**ARPU Market Average
2009-2016 (US\$)**



e/f = estimate/forecast. Sources: BMI, operators

reversing the slide. Local media reports that 3G tariff rates are lower than that of 2G services reaffirms our view that competition remains intense.

We continue to forecast that the market average ARPU in Vietnam will fall to US\$4.11 by end-2012 and reach US\$3.41 in 2016. However, we could revise our forecasts if the Vietnamese regulator and operators are able to show more concrete efforts to reverse the downtrend.

Fixed Line

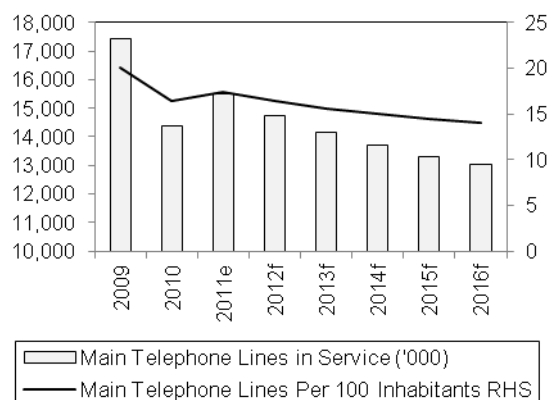
Table: Telecoms Sector – Fixed Line – Historical Data And Forecasts

	2009	2010	2011e	2012f	2013f	2014f	2015f	2016f
No. of main telephone lines in service ('000)	17,427	14,374	15,500	14,725	14,136	13,712	13,301	13,035
No. of main telephone lines/100 inhabitants	20.1	16.4	17.5	16.4	15.6	15.0	14.4	14.0

f = BMI forecast. Source: ITU, MIC, BMI

Fixed-line data provided by the General Statistics Office (GSO) and the Ministry of Information and Communications (MIC) differs. The MIC reported that there were 17.427mn and 14.374mn fixed-line subscribers at the end of 2009 and 2010 respectively. By comparison, the GSO said there were 18.1mn and 16.4mn fixed-line subscribers in 2009 and 2010 respectively. Recent data from the GSO showed that the number of fixed-lines in Vietnam fell to 15.5mn in May 2011 and has remained at that level at the end of January 2012. In February 2012, the number of subscribers declined to 15.3mn.

Industry Trends – Fixed-Line Sector 2009-2016



f = forecast. Sources: BMI, ITU, MIC

Given that the MIC does not publish fixed-line data on a regular basis, we are relying on the GSO's figures, at least for data after 2010. The GSO reported that after it experienced a decline in 2010 and early 2011, the Vietnamese fixed-line segment has largely stagnated. We believe that the contraction was largely the result of the prevalence of affordable mobile services in light of the fact that there are seven mobile operators. By contrast, there are four fixed-line operators, with the **Vietnam Posts and Telecommunications Group** (VNPT) controlling more than 70% of the market 2010.

The recent stagnation in the fixed-line market could be explained by the slowing growth momentum in the mobile sector as a result of market saturation. Consequently, we continue to expect a more moderate decline in the number of fixed lines in Vietnam, compared with the sharp drop experienced in 2010. By 2016, we expect 13.035mn fixed-line subscribers, down from 14.725mn in 2012.

Our scenario for Vietnam's fixed-line market is that major players VNPT, **Viettel** and **EVN Telecom** (which has since merged with Viettel) will continue their rural expansion projects to sustain their fixed-

line subscriber bases, the declining demand could soon convince them to channel their capital to more profitable segments such as mobile and broadband. Further, the traditional fixed-line voice service is also under threat from cheaper alternatives such as VoIP.

Internet

Table: Telecoms Sector – Internet – Historical Data And Forecasts

	2009	2010	2011e	2012f	2013f	2014f	2015f	2016f
No. of internet users ('000)	22,780	26,784	30,552	33,608	35,288	36,347	37,255	38,000
No. of internet users/100 inhabitants	26.2	30.5	34.4	37.5	38.9	39.7	40.3	40.7
No. of fixed broadband internet subscribers ('000)	2,967	3,644	4,085	4,493	4,853	5,192	5,504	5,779
No. of fixed broadband internet subscribers/100 inhabitants	3.4	4.1	4.6	5.0	5.4	5.7	6.0	6.2

f = forecast. Sources: BMI, ITU, VNNIC

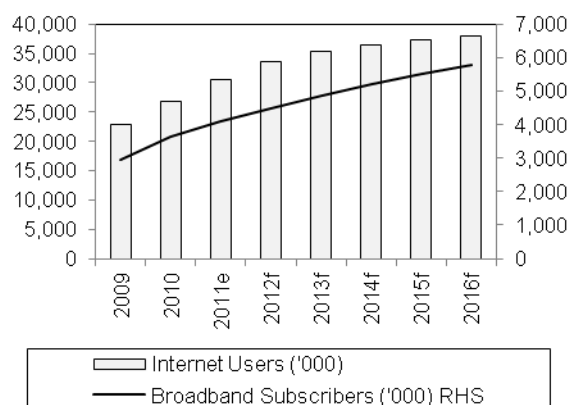
According to data provided by the Vietnam Internet Network Information Centre, there were 30.552mn internet users in Vietnam at the end of December 2011, up from 30.249mn in September 2011. This was lower than our previous estimate of 31.093mn. By January 2012, the number of internet users increased to 30.645mn.

Vietnam's internet sector continued to exhibit slower growth in 2011. The average monthly growth rate for 2011 was 1.1%, which was lower than the

growth average in 2010 (1.4%). Nevertheless, we believe that the increasing demand for mobile connections could contribute to continued growth in internet subscriptions. By the end of 2016, we expect this figure to reach 38mn, a penetration rate of 40.7%.

In future, we believe that Vietnam's internet sector offers strong growth potential. On one hand, internet user growth to date has been largely confined to urban centres, but the internet user penetration rate is expected to be approaching saturation in major cities and towns. Rural Vietnam remains comparatively untapped as a result of consumers' lower purchasing power. This means that the ability to achieve higher growth rates in the future will depend on the pace of internet infrastructure development in rural parts of the country and the prices of consumer electronics and internet services.

Vietnam's fixed broadband subscriber market grew by 22.8% in 2010, which was a significant slowdown from 44.8% in the preceding year. The market registered growth rates of 150.3% in 2007 and 58.3% in

**Industry Trends – Internet Sector
2009-2016**


f = forecast. Sources: BMI, ITU, VNNIC

2008, but the higher growth momentum could be attributed to a low-base effect. Unlike the country's internet sector, growth in Vietnam's broadband industry hit a rocky patch in the first ten months of 2011. The market contracted in three of the months, most notably 5.2% month-on-month in June 2011, but rebounded sharply in August 2011 by growing by 8.1% m-o-m. By end-2011, there were 4.085mn fixed broadband subscribers, a 12.1% increase y-o-y, which was slightly higher than our estimate of 4.081mn.

Although Vietnamese telecoms companies continue to deploy broadband services such as Fibre-to-the-X, affordability remains a key concern in the emerging market. Furthermore, demand for traditional fixed broadband services is increasingly under threat from mobile alternatives due to a lower cost structure. While we believe there will be limited growth potential for the fixed broadband industry in Vietnam in the near future, we retain an optimistic view in light of Vietnam's growing affluence and expanding middle class. Although next-generation mobile technologies LTE and WiMAX could cannibalise demand for fixed broadband solutions, companies could attempt to generate consumer interest by introducing bandwidth-intensive services such as IPTV.

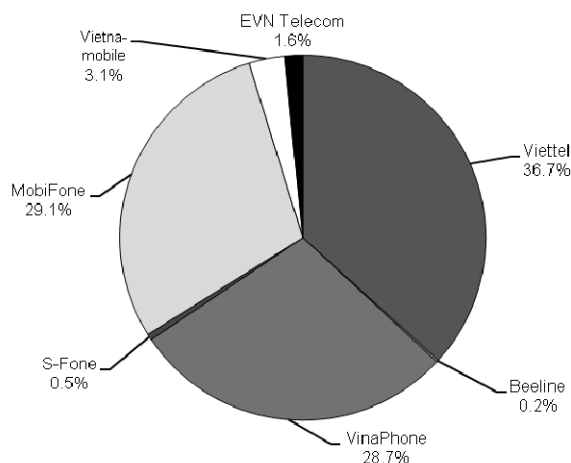
We expect the growth rate of the Vietnamese broadband market to decline in the next few years as consumers opt for mobile alternatives. That said, declining prices of products and services should help the sector to maintain a healthy growth rate of 7.2% from 2012 to 2016 to bring the total number of fixed broadband subscribers in Vietnam to 5.779mn.

Market Data Analysis

Mobile

Figures provided by Vietnam's General Statistics Office (GSO) reported there were 117.6mn mobile subscribers by December 2011. This was down from a peak of 157.8mn in April 2011, and the drastic decline could be partially attributed to the removal of inactive subscriptions, a clean-up of subscriber data and an attempt to bring its mobile subscriber data in line with the Ministry of Information and Communications (MIC). According to the latest figure from the GSO, there were 119mn mobile subscribers at the end of February 2011.

Vietnam Mobile Market Share (%)
December 2010



Source: MIC

Obtaining accurate mobile subscriber data in Vietnam remains a daunting task. According to the GSO, there were 153.7mn mobile subscribers at the end of December 2010. However, according to MIC's 2011 white book, there were 111.570mn (previously, the MIC said there were 112.691mn) mobile subscribers at the same period. These conflicting information presents a challenge when it comes to assessing the market share and growth momentum of the Vietnamese mobile market. However, it is clear that **Viettel**, **MobiFone** and **VinaPhone** remain the market leaders with the majority portion of the mobile market. We have used data from the MIC when analysing the performance of the Vietnamese industry and operators. That said, the recent data provided by the GSO suggests it could be used as a more accurate gauge (compared to before April 2011) to measure growth in the Vietnamese mobile market. Further, the GSO publishes monthly data, while the MIC tends to release data on an annual basis.

Although the mobile penetration rate in Vietnam passed the 100% mark in 2009, operators continue to report strong subscriber growth. This could be attributed to inactive subscriptions and multiple SIM ownership, which inflates the actual size of the market. Nevertheless, assuming that the recent data by the GSO is accurate, there is a strong indication that the mobile subscriber growth momentum in Vietnam is weakening. At the end of February 2012, the mobile market expanded by 0.4% m-o-m, down from 0.8% in January 2012 and 1.2% in December 2011.

Operator Market Share

Viettel retained its mobile market leader position with 40.969mn subscribers at the end of December 2010

(latest available data), based on data from the MIC, representing an annual net addition of 7.749mn users. This gave the operator a market share of 36.7%, an improvement from 33.8% at the end of 2009. Viettel's success in extending its lead in the Vietnamese market could be attributed to its extensive network coverage and attractive tariff rates. However, we have long highlighted that the low tariff rate is unsustainable in the long term and we are encouraged by the fact that Viettel was considering stopping the offer of 100% value of coupons to prepaid subscribers in July, following the suspension of big promotions by main rivals MobiFone and VinaPhone.

Table: Vietnam Mobile Market, December 2010

Operator	No. of subscribers ('000)	Market share (%)
Viettel	40,969	36.7
MobiFone	32,478	29.1
VinaPhone	32,032	28.7
Vietnamobile	3,548	3.2
EVN Telecom	1,774	1.6
S-Fone	591	0.5
GTel Mobile (Beeline VN)	190	0.2
Total	111,570	100.0

Total does not add up as figures rounded off. Sources: BMI, MIC, operators

According to the MIC, the **Vietnam Posts and Telecommunications Group (VNPT)**'s two mobile units, MobiFone and VinaPhone had a combined mobile subscriber base of 64.510mn at the end of December 2010. MobiFone had 32.478mn mobile subscribers, up from 26.668mn at the end of December 2009 and 21.713mn in December 2008. As a percentage of the total market, MobiFone accounted for 29.1% at the end of December 2010. VinaPhone was not too far behind with 32.032mn mobile subscribers in December 2010, a market share of 28.7%. The operator had 26.707mn in 2009 and 21.189mn in 2008.

In light of the fact that VNPT controls 57.8% of the Vietnamese mobile market, it was announced in May 2011 by the MIC that a new regulation would be introduced to ensure fairer competition in the mobile market. Effective from June 1 2011, the regulation states that an investor holding more than a 20% stake in a telecoms company may not own more than a 20% stake in another. This would therefore place VNPT in violation of such a regulation as it is the sole owner in MobiFone and VinaPhone. However, VNPT was expected to put up strong objections to such a regulation, considering that for 2010 MobiFone posted revenue of VND36trn – which paid for nearly half of VNPT's tax – while VinaPhone netted gross income of more than VND28.1trn.

Local analysts are also dubious whether VNPT can be forced to give up its position in one of the operators. The government did not specify a specific timeframe for VNPT to satisfy the new ruling, but the MIC has announced that it has given the state-owned entity a two-year extension to divest its stakes in the two mobile operators. The extension was given after the ministry had considered the complexity of VNPT's situation, but **BMI** believes that there could be greater urgency if the government wants to instil investor confidence and improve the industry's competitive landscape. Plans to privatise MobiFone have been mooted for at least five years and although investors are still keen on investing in Vietnam's high-growth telecoms industry, we believe that they are becoming increasingly frustrated at the lack of progress. In February 2012, it was reported that VNPT will submit its reform plans to the Vietnamese Prime Minister in Q112 and it will not release the details until the group has received approval.

The remaining four mobile operators – **Vietnamobile**, **S-Fone**, **EVN Telecom** and **GTel Mobile** (Beeline VN) – accounted for a mere 5.5% of the market at the end of December 2010. This was a sharp decline from December 2009 when the four players combined for 11.8% of the market. According to data from the MIC, only EVN Telecom reported an increase in its mobile subscriber base, which grew by 100.7% y-o-y to 1.774mn in December 2010. Vietnamobile, S-Fone and Beeline VN experienced declines in their subscriber figures.

Vietnamobile is a joint venture between **Hanoi Telecom** and Hong Kong's **Hutchison Telecommunications**. The operator had about 3.548mn mobile subscribers in December 2010, down from 4.037mn in December 2009. Vietnamobile has received renewed support from parents in the form of an additional investment of US\$350mn, which should help the operator consolidate its position as the fourth-largest mobile operator in Vietnam. Vietnamobile's subscriber base was built on low mobile tariff rates, but the company has not neglected the importance of having comprehensive network coverage. The operator announced in June 2011 that it has extended its network to the Hai Van tunnel, following similar moves by VinaPhone, MobiFone and Viettel. Vietnamobile said it will continue offering low rates to attract consumers and this would sustain its appeal to Vietnamese consumers with low purchasing power.

S-Fone, which had been invested in by South Korea's **SK Telecom** until recently, managed to end the business cooperation contract it has with SK Telecom in September 2011, in favour of a joint venture licence with **Saigon Post and Telecommunications (SPT)**, which has invested US\$13mn in the company so far. As a result, SPT will hold an 80% stake in S-Fone, with SK Telecom retaining the remainder to be purchased by SPT over a two-year period. S-Fone's ability to grow has been stunted by SK Telecom's decision not to invest in the Vietnamese operator. Local reports had suggested that, by August 2010, S-Fone's subscriber base had risen to 7mn. However, MIC's data showed that S-Fone had only approximately 591,000 mobile subscribers at the end of December 2010.

EVN Telecom had 884,000 subscribers at the end of December 2009, according to the MIC, which increased to 1.774mn by end-2010. Despite the increase, EVN Telecom had been unsuccessful in generating a profit and was constantly identified as a target for acquisition. In April 2011 Vietnam's

Corporation for Financing and Promoting Technologies (FPT) officially withdrew its plans to acquire EVN Telecom from its parent **EVN**. FPT said the State Bank of Vietnam's move to raise bank rates and devalue the Vietnamese dong by 9.3% in February 2011 amid inflationary pressure, which increased the investment costs for EVN Telecom's 3G network, was the main reason behind FPT's decision to withdraw from the deal. However, **BMI** believed that the deal would have collapsed regardless, due to the underlying reason that EVN Telecom's immediate outlook looks bleak in light of the dominance of VNPT and Viettel in the Vietnamese telecoms market. Further, although EVN Telecom has a 3G licence, attempts to expand the network has been derailed by a lack of financing.

In October 2011, Vietnam's deputy minister of information and communications, Le Nam Thang, announced that EVN Telecom should be merged with a state-owned telecoms company, and Viettel was touted as a firm capable of reversing the troubled firm's fortunes. Hanoi Telecom and **Vietnam Multimedia Corporation** (VTC) also expressed interest in acquiring EVN Telecom due to its 3G spectrum and infrastructure. Although we believe Hanoi Telecom has a conceivable chance of convincing the government to let it acquire EVN Telecom, as it had a joint venture with EVN Telecom to offer 3G services, the government gave the go-ahead for Viettel to purchase EVN Telecom in December 2011. While **BMI** agrees that Viettel is best placed to efficiently capitalise on EVN Telecom's assets, we are concerned that the continued dominance of state-owned entities in Vietnam's high-growth telecoms sector could dent foreign investor confidence and the long-term outlook of smaller players. The merger was reportedly completed on January 1 2012.

In July 2009, a seventh mobile operator GTel Mobile, which is a JV between **VimpelCom** of Russia and Vietnamese state-owned enterprise **Global Telecommunications Corporation**, was launched. Mobile services are offered under VimpelCom's Beeline brand. VimpelCom obtained its licence to build and operate a GSM cellular network in early 2009. According to reports, VimpelCom plans to invest approximately US\$1.8bn in Vietnam over the next several years for the development of GSM-based wireless services and has so far invested US\$267mn into Beeline VN. Further to its investment plans, VimpelCom agreed with Global Telecommunications Corporation in April 2011 to invest up to US\$500mn in the joint venture by 2013, of which US\$304mn would be funded solely by VimpelCom. The agreement increases the Russian operator's interest in GTel from 49% to 65%. This follows a first round of funding by the Russian operator to pay US\$196mn for newly issued shares, increasing its stake in GTel from 40% to 49%.

However, local news media reported in January 2011 that the number of Beeline VN subscribers in Vietnam has fallen to less than 100,000, a significant decline from its peak of more than 2mn. According to the MIC, the operator had 190,000 mobile subscribers at the end of December 2010, down from 2.122mn in December 2009. Beeline VN's initial rapid ascent was attributed to aggressive tariff rates and large-scale advertising campaigns that undercut rivals and drummed up consumer interest. However, such short-term strategies proved to be unsustainable especially if operators do not invest adequately to ensure that their networks are able to cope with the fast-growing subscriber base.

VimpelCom has announced that it will move away the intense price war that has engulfed the mobile industry. We welcome Beeline VN's decision to build 5,000 base transceiver stations in Vietnam in 2012 in the light of the new capital injection. VimpelCom recently published its subscriber base data. In the quarter ended September 2011, its Vietnamese operation had 1.7mn mobile subscribers, up from 639,000 in June 2011. By end-December 2011, Beeline VN had 2.957mn mobile subscribers with an ARPU of US\$0.9.

Strong competition among the country's seven operational service providers has not stopped new entrants to the market. As previously reported the MIC has shown no signs of curtailing the issuance of mobile network operating licences. In June 2010, the regulator awarded the sector's ninth mobile licence to VTC, with commercial services yet to be launched. The issuance of a network operating licence to VTC came not long after a mobile virtual network operator (MVNO) licence was awarded to the company. In August 2009, the MIC awarded VTC and **Dong Duong Telecom** (also known as **Indochina Telecom**) with licences to provide MVNO services. VTC signed a partnership agreement with EVN Telecom in early 2010 and said at that time it would begin offering services in June 2010. However, it was reported in February 2011 that VTC, noting the strong competition in the country's mobile market, was hesitant to launch commercial mobile services.

Meanwhile, Indochina Telecom was originally expected to offer services in Q110 through Viettel's 2G and 3G networks, but the plan was delayed. **BMI** believes that this was partially because the company needed to see if WiMAX would be a viable alternative path. VTC and Indochina Telecom reportedly blamed difficulties in developing customer bases and marketing strategies to compete with other providers, with existing telecoms infrastructure, for the delay in introducing services.

The operator's aim to acquire a WiMAX licence was granted in May 2010 after the MIC awarded Indochina Telecom a WiMAX trial licence. Since then, Indochina has announced plans to deploy more than 100 WiMAX base stations by end-2011 and another 500 in the next few years, as well as signing a network sharing agreement with **EVN Hanoi** in April to accelerate the expansion process. Indochina Telecom expects to launch WiMAX services in Hanoi in Q311 before expanding to Ho Chi Minh City in 2012. Indochina Telecom was expected to start providing mobile services in mid-August 2011, according to conditions laid out in its licence, which was awarded in August 2009. In early December 2011, it was reported that Indochina Telecom's mobile licence was extended even though it has been unable to launch services as scheduled. The firm promised the MIC that it will introduce services in the next few months.

3G

Following a tender in the early part of the year, it was announced in June 2009 that four Vietnamese companies had won a total of three 3G mobile concessions. These concessions were finally issued to the winning operators in August 2009. The recipients of Vietnam's first 3G licences are military-owned **Viettel**, **Vietnam Posts and Telecommunications Group** subsidiaries **MobiFone** and **VinaPhone**, and a

JV between **EVN Telecom** and **Hanoi**

Telecom. According to their licence obligations, over the next three years ended 2012 the operators will invest a combined VND33trn in their 3G networks, with a total of 30,000 base transceiver stations. As of June 2010, the operators had deposited VND8.1trn with the Ministry of Information and Communications (MIC), accounting for one-quarter of the total.

Although applications were received from six operators, a lack of available spectrum was the deciding factor behind

3G licences being limited to three. Operating on the 1900-2200MHz band of frequency, the MIC's Deputy Minister Le Nam Thang said splitting the available frequency any further would result in 3G services becoming ineffective and had followed the global norm of four licences.

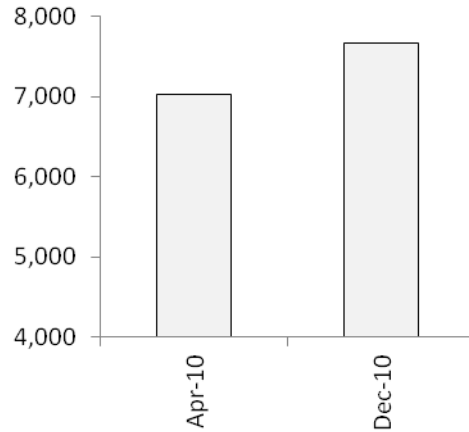
The other licence applicants were **GTel Mobile** (Beeline VN) and **Saigon Postel**, which is a major shareholder in **S-Fone**. Although Beeline VN and S-Fone were not granted a concession, they were permitted to partner with one of the four winners to provide 3G services in the country. Meanwhile, in December 2011, **Vietnamobile** commercially deployed its HSPA+ network in the country. The move has enabled Vietnamobile to become the fifth wireless operator in Vietnam to launch 3G services, reports Saigon GP Daily. The operator aims to cover 94% of the population in Ho Chi Minh City, Da Nang and Hanoi with its new network, supporting maximum download speeds of up to 21Mbps. Vietnamobile secured a joint 3G licence in collaboration with EVN Telecom in April 2009.

Meanwhile, in June 2009 it was reported that two other companies planned to provide 3G services over the network of one of the market's established telecoms firms: they are state-run **Vietnam Multimedia Corporation** (VTC), and local company **Dong Duong Telecom (Indochina Telecom)**. Both of these companies hold licences to provide MVNO services.

MobiFone and VinaPhone appeared to be adopting a regional approach to the deployment of their 3G infrastructures. In October 2009, VinaPhone became the first operator to launch 3G services, and claimed to have around 7mn subscribers five months later. In August 2009, VinaPhone announced an agreement with **Motorola** for the deployment of a 3G network in northern Vietnam and parts of Hanoi. Then in September 2009, VinaPhone announced a separate agreement with **ZTE** for the development of the firm's 3G network in Vietnam's central provinces.

Vietnam 3G Subscriber Growth ('000)

2010



Source: MIC

MobiFone also appeared to be employing a regional approach to developing its 3G network. In September 2009, MobiFone signed a deal with **Ericsson** for the deployment of 3G radio access network infrastructure in Ho Chi Minh City and in southern Vietnam.

Viettel launched its 3G service offering in early 2010. In May and June 2009, Viettel signed two separate agreements with **Huawei Technologies** and ZTE. Huawei was appointed as Viettel's main network supplier while ZTE assumed responsibility for the supply of Soft Defined Radio (SDR) solutions to support the network rollout. In July 2009, Viettel announced a further agreement with **Nokia Siemens Networks** for the supply of radio network infrastructure. In December 2009, Viettel had begun trialling 3G services in 17 cities and provinces, ahead of plans to commercially launch services in early 2010. The operator put a pilot network in service in Ho Chi Minh City in October 2009. Reportedly, infrastructure in the southern provinces of Binh Duong, Binh Phuoc, Dong Nai, Ba Ria-Vung Tau and Can Tho – as well as some unidentified provinces in the north – has also gone live. Further to this, the operator increased 3G coverage in the south west of the country, installing a further 1,100 3G base transceiver stations in 13 provinces and cities in the region, as of May 2011, and bringing the total number of 2G/3G cell sites in the south west to 7,100.

In June 2009, EVN Telecom and Hanoi Telecom unveiled a VND6trn 3G network and services agreement. At the time of the agreement, the operator JV unveiled plans to provide 50% of residential areas with 3G coverage over the next three years. In November 2009, EVN Telecom awarded a 3G mobile network contract to Huawei Technologies. According to the terms of the contract, the vendor would be responsible for developing a 3G mobile network including the supply of equipment and technology for the development of the network.

The EVN Telecom and Hanoi Telecom joint venture finally announced the commercial launch of 3G services in June 2010. The operator initially targeted the roll-out of its service in highly populated cities such as Hanoi, Ho Chi Minh City, Hai Phong, Da Nang and Can Tho. At the time of launch, EVN Telecom had invested VND2trn in the installation of around 2,500 base transceiver stations (BTS) in 63 provinces and cities nationwide, covering 46% of the country's population. Under the second phase of its 3G network deployment, the company planned to deploy a further 5,000 BTS by the end of 2010. The operator expected to register 1mn 3G subscribers within one year of the launch of its services.

According to local press reports, the demand for 3G services has been increasing, served by a greater demand for internet access with Vietnam's current fixed-line infrastructure remaining poor. This has been driven by changing work patterns and leisure activities required for faster mobile internet access, as well as the cost of mobile handsets with integrated 3G internet access becoming cheaper. According to a survey published by **Yahoo!** in December 2011, the percentage of consumers accessing the internet via mobile in Vietnam increased to 30% in 2011, up from 19% in 2010. This growth was largely driven by the second-tier cities of Da Nang and Can Tho, where consumers preferred mobile internet over fixed alternatives.

Figures relating to the number of 3G subscribers in the market vary according to sources. The MIC reported that there were 7.029mn subscribers at the end of April 2010, while in mid-June 2010, a survey showed Viettel and VinaPhone to have 1.5mn subscribers each. Meanwhile, MobiFone had 4mn 3G subscribers. This is a significant difference from VinaPhone claiming 7mn subscribers in March 2010, while MobiFone had 6mn subscribers. As for Viettel, the operator estimated around 1mn subscribers at launch. Vietnam Business News reported that Viettel had 1.17mn 3G subscribers at the end of 2010.

Discrepancies in the available 3G subscriber figures make it difficult to know how large the market is. Figures released by the MIC could relate to actual 3G service usage, while operators may be counting in terms of 3G handsets rather than 3G services. However, this is unlikely to be the case, as Viettel Deputy General Director Nguyen Manh Hung announced in May 2010 that around 95% of mobile users did not own a 3G handset, while usage of 3G USB laptops remains modest. Such statements would also query VinaPhone and MobiFone's figures, which based on this, would appear over-inflated. Further, Hung believes that until 3G service tariffs fall to US\$5 per 1Gbps and laptop prices fall to US\$200 per unit, 3G subscriber growth is unlikely to rise significantly.

The MIC announced in July 2011 that the number of 3G subscribers in Vietnam has reached the 8mn mark. VinaPhone has said the number of subscribers regularly using its 3G services increased to about two million in June 2011 from about 800,000 a year earlier. The growth in the subscriber base was attributed to the introduction of several value-added services including music, news, mobile games and multimedia. Service providers announced that 3G services have helped them boost their incomes and the total revenue generated from these services reached VND3.6trn in 2010.

Anecdotally, we have seen Vietnamese operators struggling to grow their 3G subscriber base. Local media reported in early March 2012 that 3G tariff rates are now lower than that of 2G services. According to **VietNamNet Bridge**, MobiFone was reported to have triggered the price competition by launching a mobile internet package that comes with unlimited 3G data usage for VND60,000 (US\$2.9) a month in October 2011. By contrast, a GPRS connection with slower speeds cost twice as much. In light of responses from alternative Vietnamese 3G providers such as Viettel, MobiFone subsequently reduced its price to VND40,000 (US\$1.9). Subscribers of this package enjoy a maximum download speed of 7.2Mbps for the first 400MB. Usage beyond this level will result in throttled speeds, but users will not have to pay more. MobiFone has also increased the data limit for its alternative data plans.

Mobile Contract Wins

Table: Mobile Contract Wins

Date	Contract value (US\$)	Details
Jul-11	na	Swiss electronics manufacturer TE Connectivity announced that its local partner Indochina Telecommunication Technology (ITT) has rolled out its FlexWave Prism distributed antenna system in Vietnam. The move will help to provide mobile services to Vietnam Mobile Services (VMS2) in the Phu My Hung region in Ho Chi Minh City. The FlexWave Prism system deployed by the firm offers mobile coverage and capacity with pole-mounted remote units. The system comprises 20 remote units and delivers 1,800MHz and 2,100MHz frequencies to offer services for VMS2 subscribers.
Nov-10	na	VNPT selected ZTE's high-end cluster router ZXR10 T8000 to upgrade its internet egress gateway in order to meet the increasing demand for high-speed broadband mobile connections. VNPT was using ZTE's ZXR10 10G platform but the system is facing problems meeting VNPT's growing subscriber base
Oct-10	na	VTN, a wholly owned subsidiary of VNPT, has selected US-based telecoms equipment vendor Ciena to upgrade its optical backbone network. According to the terms of the contract, Ciena will add its transponder cards to 6,500 shelves and provide a 40G solution to expand the operator's current 10G network to 40G. The network upgrade will enable the operator to meet increasing demand for mobile and broadband services in the country
Sep-10	na	VNPT awarded Alcatel-Lucent a contract to supply end-to-end IP Multimedia Subsystem (IMS) solution, which will facilitate the migration of the existing PSTN services in VNPT/VTN to provide improved network performance, security and workforce productivity, as well as new revenue streams and future advanced mobile services
Jan-10	US\$70mn	VinaPhone awarded Motorola with a contract for the expansion of the operator's GSM network. Motorola will deploy 3,000 more base station transceivers for VinaPhone until 2012. The base stations will expand the operator's 2G network in southern and northern provinces of the country
Nov-09	na	MobiFone signs a deal with Nokia Siemens Networks (NSN) for the deployment of the vendor's Flexi Multiradio Base Station to upgrade MobiFone's existing network to 3G and also implement an IP backbone. NSN will be responsible for the design and maintenance of the network
Nov-09	na	EVN Telecom awards a 3G mobile network contract to Huawei Technologies. The vendor will be responsible for developing a 3G mobile network including the supply of equipment and technology for the development of the network
Sep-09	na	MobiFone signs a deal with Ericsson for the deployment of 3G radio access network infrastructure in Ho Chi Minh (HCM) City and in southern Vietnam. The vendor, which has provided 2G equipment for MobiFone in previous years, said the contract would enable MobiFone to launch 3G services by December 2009
Sep-09	na	China's ZTE announces it has partnered with VinaPhone to roll out the cellco's 3G network in Vietnam's central provinces. Under the terms of the contract, ZTE will provide the Vietnam Posts and Telecommunications (VNPT) subsidiary with advanced SDR base stations to support the UMTS network and enable access to 3G high-speed data services
Sep-09	na	Singapore-based high-tech consultancy firm Cybercom Group, which offers global sourcing for end-to-end solutions, announces it has been awarded an optimisation contract by MobiFone. In a national outsourcing tender, Cybercom and its local partner TTCl were awarded a large proportion of territory in Vietnam to benchmark and optimise MobiFone's network quality
Aug-09	na	Motorola announces it has been awarded a contract by VinaPhone to deploy a 3G network in northern Vietnam and parts of Hanoi. Over the next 12 months, Motorola will upgrade the VNPT subsidiary's GSM network with 3G radio access network equipment. Motorola and VinaPhone signed a contract to expand and enhance the cellco's GSM network in major cities including Hanoi and HCM City in December 2007. A US\$28mn contract followed in June 2008 to expand coverage in 12 northern provinces. Motorola has also supplied GSM infrastructure and network optimisation and maintenance to expand VinaPhone's network and services in suburban and rural areas

na = not available. Source: BMI

Mobile Operator Data

Table: Vietnam Mobile Market Overview

	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11
Total Mobile Subscribers ('000)	98,224	101,560	104,897	108,233	111,570	112,085	112,600	115,200	117,600
Number of Net Additions ('000)	6,757	3,337	3,337	3,337	3,337	515	515	2,600	2,400

Data from March-September 2010 and March 2011 are BMI estimates. Sources: BMI, MIC, GSO, operators

Mobile Content

Regional Outlook

The Asia Pacific region comprises a mix of well-established highly developed countries and emerging markets that are trying to balance economical, political and social issues in order attract investors. As a result, there is a combination of telecoms industries in various stages of technological development and maturity, which gives rise to a wide spectrum of value-added services (VAS) that cater to the diverse needs of consumers and businesses.

As expected, developed countries such as Japan and South Korea are well ahead of the curve with the introduction of next-generation technologies such as nationwide fibre networks, LTE and near-field communication (NFC). The presence of high-speed connectivity and increasingly sophisticated devices has lifted the constraints for integration between industries and services that were previously believed to be mutually exclusive. While emerging markets are still primarily reliant on the traditional SMS and voice services for communication, we are seeing a rapidly growing appetite for the latest technologies and services in these countries, which has not been hindered by lower purchasing power.

Shifting Market Warrants New Strategy

As the market approaches saturation, telecoms operators cannot expect to maintain their revenue growth momentum through acquiring new subscribers. Instead, companies need to source for new revenue streams in uncharted territories or engineer means to extract higher earnings from their existing subscriber base. Venturing into new industries or countries is often a costly and risky proposition, especially amid an uncertain global economy that has yet to fully bounce back from the 2008 financial crisis. Consequently, there is an increasing emphasis on VAS, which leverages on telecoms companies' existing infrastructure and knowledge. Further, the ubiquitous nature of telecoms services and their deep integration into the daily life of consumers and businesses have attracted the attention of other industries. This, in turn, has presented new business opportunities such as mobile payment and ehealth.

NFC: The Next Big Thing?

Google launched its mobile payment service, Google Wallet, on September 19 2011, which enables users to perform financial transactions using their NFC-enabled devices. NFC is a wireless technology that allows data transmission between two objects in close proximity, and replacing existing credit cards and coupons is just one of the many possibilities. While Google Wallet is currently only available in the US, Asian telecoms companies have been exploring opportunities to take advantage of the technology.

Japanese and South Korean mobile operators announced in February 2011 strategic partnerships to launch NFC-based cross-border mobile services. South Korea's SK Telecom planned to complete mutual compatibility tests with Japan's KDDI and Softbank Mobile by H111 before launching NFC-based mobile services in both countries by end-2011. Similarly, Japanese mobile operator NTT DoCoMo and South Korea's KT plan to launch commercial services using NFC in their respective markets by end-2012. Although both companies have prior experience with NFC-based services in their respective domestic markets, it is no longer sufficient to have a narrow business scope when the global market is several times larger. In order to ensure that its NFC technology could be widely adopted, the companies have submitted their technological specifications to global industry associations and standardisation bodies. **BMI** believes that this is an important step to minimise fragmentation, which frustrates consumers and businesses, thereby hindering adoption.

Meanwhile, the South Korean telecoms regulator has formed an NFC alliance that brings together domestic mobile network operators, financial institutions, equipment manufacturers, billing services providers and government organisations. The rationale was to rope in various stakeholders while the market is still in its infancy in order to ensure the entire industry moves in the same direction. The Korea Communication Commission (KCC) went a step further by planning to mandate domestic smartphone manufacturers to offer NFC-enabled mobile phones in the country. The concerted approach is largely due to the potential size of the market. The KCC has reckoned that its NFC mobile industry would generate KRW1.034trn in production revenue, KRW347.5bn in 'added values', as well as create 5,707 jobs in the next five years.

Despite the publicity generated by NFC-based mobile payment services, we believe that companies have yet to devise a definitive business model to generate significant revenue from the technology. Consumers and businesses would expect lower transaction costs or there would be few incentives to embrace another new system. However, we believe that at present, companies are keen to quickly bring the technology to mass-market status before concocting novel and profitable methods to capitalise on the capabilities.

Table: Selected NFC Developments, 2011

Date	Country	Details
Jan-11	South Korea	LG Electronics announced plans to launch NFC-based B2B products in 2012. Products, which include interactive TV sets and payment terminals, will be initially launched in Europe.
Jan-11	Japan	Softbank plans to offer polyurethane stickers to allow iPhone 4 users to use mobile payment services Edy, Waon and Nanaco.
Jan-11	China	China Telecom a launched commercial NFC service in Beijing, which allows users to make payments on public transport systems and at more than 2,000 businesses.
Feb-11	Japan, South Korea	KDDI partnered with Softbank and SK Telecom, while NTT DoCoMo teamed up with KT to explore cross-border NFC opportunities.
Feb-11	China	ZTE announced that it will include NFC functionality in all of its next generation handsets from Q211 after signing a deal with semiconductor manufacturer NXP.
Mar-11	South Korea	SK Telecom launched its Q-Store, which allows consumers to browse items in-store and purchase them online via their mobile handset. Around 200 products such as consumer electronics products and luxury items are available in the first store in Seoul.
Apr-11	South Korea	Samsung Electronics plan to release two more NFC-enabled Bada-based smartphones in 2011, which it did in August 2011, on top of the Samsung Wave 578 NFC device launched in February 2011.
Jun-11	South Korea	The Grand NFC Korea Alliance was formed by the Korea Communications Commission, which brought stakeholders such as handset manufacturers, financial institutions, payment service providers and mobile operators together.
Jun-11	Taiwan	FarEasTone announced that it plans to introduce NFC technology after it has launched its mobile payment service in 2011.
Jul-11	New Zealand	Vodafone New Zealand announced that it was trialling NFC, and plans to roll out services in 2012.
Jul-11	Australia	The Commonwealth Bank of Australia said it plans to launch a mass-market microSD-based NFC service in the next three months. The system will be powered by a microSD card programmed with consumers' banking information and inserted into an NFC-enabled mobile handset.
Sep-11	Australia	Australian supermarket Coles ran a two-week advertising campaign that allowed consumers to download exclusive digital Coles content such as recipes and cookbook videos via an NFC-enabled handset.
Sep-11	South Korea	SK Telecom introduced an NFC-enabled USIM card that brings NFC functionality to any mobile phone. Besides payments, the USIM also supports peer-to-peer communications.
Sep-11	Taiwan	Chunghwa Telecom, FarEasTone and Taiwan Mobile have agreed to partner to promote NFC-based mobile e-commerce and e-wallet services. The companies have approached HTC, Samsung Electronics, contactless smartcard provider EasyCard, VIBO Telecom and Asia Pacific Telecom to join the collaboration.

Source: NFC World, BMI

4G Brings New Opportunities

Next-generation LTE technology has been making its presence felt across the Asia Pacific region as mobile operators progressively roll out commercial services. Hong Kong's CSL New World Mobility was the quickest off the blocks with a limited launch of its LTE/Dual Cell-HSPA+ network in November 2010, which was swiftly followed by Japan's NTT DoCoMo. Operators such as Singapore's M1 and Australia's Telstra have also hopped on the bandwagon in mid-2011. At present, LTE services are largely

limited to USB modems due to a lack of compatible mobile devices. However, we expect the situation to begin changing in 2012, and the large-scale launch of 4G smartphones and tablet computers should herald a new generation of mobile VAS.

Mobile devices with 3G connectivity has enabled consumers to engage in activities such as web browsing, email, internet messaging and a vast variety of mobile applications. However, many of these features do not strictly require high-speed mobile internet access promised by 4G. That said, we believe that companies are moving towards introducing data-intensive VAS that fully utilise the ability of next-generation mobile connections. For example, Australia's Optus formed a partnership with FetchTV in May 2011 to launch an IPTV service in the country in H211. The collaboration will go beyond the traditional method of delivering content via a fixed-broadband network by integrating mobile functionality, which will enable subscribers to access the IPTV service on smartphones and tablet computers. **BMI** believes that Optus' push to develop a multi-device IPTV service is in line with consumers' changing behaviour where mobility is highly sought after, and would spur interest in next-generation high-speed 4G technologies.

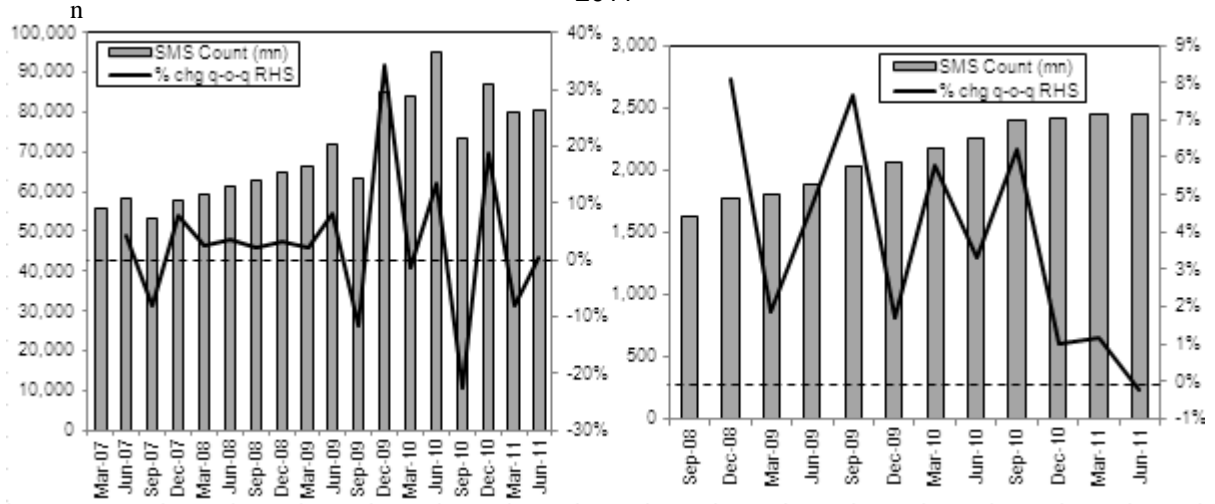
Besides services such as video streaming and video conferencing, the machine-to-machine (M2M) market could be one area that could receive more attention from Asian companies following the launch of LTE services. M2M technologies refer to the ability of different devices to communicate and relay information. They can be used in areas such as smart utility metering, ehealth, telematics and digital billboards, and Western European mobile operators and M2M vendors have been actively developing the market to pursue greater adoption. By comparison, the momentum in Asia has yet to gain significant traction, but we see companies increasing their emphasis on the new growth prospect. The Philippines' Globe Telecom launched its first M2M service - a GPS vehicle tracking system - in 2008 and expanded its portfolio further in August 2011 to encompass monitoring of fixed assets, surveillance and security, as well as tracking of various objects ranging from vending machines to tanks.

SMS Still King In Emerging Markets For Now

Although there is growing consumer demand for 3G and next-generation variants in emerging markets, and it is in the general interest of mobile operators to push out data services to offset declining voice revenue in light of decreasing tariff rates due to competition, industry developments tend to be held back by poor planning and lack of foresight from the governments and regulators. Thailand is a prime example after its long-awaited 3G auction, which was supposed to take place in September 2010, was derailed after a legal challenge by state-owned operators. A similar situation exists in Pakistan, where an auction scheduled to happen by end-2011 is looking increasingly unlikely to materialise.

C SMS Losing Its Shine Faster In Developed Countries

SMS Count For Philippine Long Distance Telephone Company And Entire Singapore Market, 2007-2011



Sources: BMI, Infocomm Development Authority, Philippine Long Distance Telephone Company

Basic SMS-based VAS still has a vital role to play, especially considering that a significant proportion of consumers in emerging markets are still using feature phones. For example, although 3G services have made their way into China, 2G subscribers accounted for 90% of the total market (by August 2011), which is 846mn subscribers, according to the Ministry of Industry and Information Technology. A similar situation exists in India, where we forecast that 98% of the 940mn mobile subscribers would still be using 2G subscription by end-2011.

Untapped Population Bring Financial And Telecoms Industries Together

Mobile banking is one area in Asia's emerging markets where there have been significant developments due to rural consumers' lack of access to traditional financial services. The Bangladesh Bank released a guideline on mobile financial services in September 2011 and it aims to bring formal banking and payment services to its unbanked population at an affordable cost. The increasingly prevalent mobile service (49% at the end of June 2011) is an efficient means to raise the accessibility of financial services, particularly in rural regions where mobile operators are currently expanding their network coverage. Reportedly, just 15% of Bangladesh's population has bank accounts. We expect a close collaboration between mobile operators and financial institutions to order to introduce easy-to-use and affordable SMS-based mobile banking services, which could become a profitable venture if a critical subscriber mass is achieved.

While Bangladesh is only starting to embrace mobile banking, the Philippines already has a robust domestic mobile money transfer system, powered by Globe Telecom's GCASH and **Smart**

Communications' Smart Money. The **Philippine Long Distance Telephone Company**, Smart Communications' parent, reported that 26mn financial-related SMS were sent in 2010, which generated PHP40mn in revenue. The number of SMS increased to 16mn in the half year ended June 2011 and earned the company revenue of PHP21mn.

Besides extending their domestic service coverage - Globe Telecom and its wholly owned unit, **G-XChange**, partnered with the **Philippine Savings Bank** and **UnionBank** respectively in August 2011 - Philippine mobile operators have also set their sights on the significant population of overseas Filipino workers (OFW). Globe Telecom and Smart Communications teamed up with **Ericsson** to launch an SMS-based international remittance service between Europe and the Philippines. The Ericsson Money Services portfolio was previously available in seven European markets - the UK, Italy, Germany, Spain, France, Sweden and Poland - but Ericsson has connected the Philippines to the loop. The Bangko Sentral ng Pilipinas reported that OFW remittances from the seven countries grew by 5.7% year-on-year (y-o-y) to US\$885mn in the January-May 2011 period, which was 62.0% of the total in Europe.

The basic SMS serves as a convenient and possibly affordable means for OFWs to quickly remit money, and we envisage strong demand for Ericsson's money service, especially if transaction costs are lower compared with traditional third-party international remittance providers.

3G Gaining Momentum

Although the traditional SMS and voice services are still the dominant communication modes, we are starting to see 3G taking centre stage, especially with increasingly more affordable smartphones due to Google's open Android mobile operating system and low-cost manufacturers hopping on the bandwagon. Sales of smartphones in Vietnam surged by 73% y-o-y to almost 850,000 units in the first seven months of 2011, according to GfK Vietnam. By comparison, sales of feature phone units grew by 24% y-o-y, down from 34% in the same period in the preceding year. While SMS and voice revenue would come under threat, companies could more than offset the decline by adapting to the changing consumer preference by introducing 3G-based VAS catered to consumer needs.

Country Outlook

Since the commercial introduction of 3G mobile services in late 2009 and early 2010, the range and quality of mobile value-added services available has greatly expanded. Despite this, it appears that the actual use of advanced value-added services which utilise data and video remains confined to a small proportion of 3G subscribers. In part this relates to high prices and the limited availability of smartphone handsets and similar 3G devices, although a study by the **Nielsen Group** of South East Asian consumer interests in buying a smartphone handset during 2011-2012 revealed for Vietnam that 46% of respondents were keen to acquire a smartphone in the next year, while 32% said they would not.

In July 2010, MIC Department of Radio Frequency Chief Doan Quang Hoan said operators are not effectively utilising value-added services. He also indicated that 3G subscribers mainly used their connections to access the internet and download music. All four 3G operators provide the same services such as mobile internet, video calling, mobile camera and mobile TV. It was believed that operators are increasingly unlikely to recoup their investments within the target five-year period if 3G services continue to grow at the current pace.

In December 2011, **Yahoo!** published a survey that showed that the mobile internet penetration rate in Vietnam increased to 30% in 2011, up from 19% in 2010. David Jeffs, head of Yahoo! Insights, expects the rate to sharply increase, especially in second-tier cities Danang and Can Tho. According to the findings, Vietnamese consumers used mobile internet for chat, email and search services, unless other South East Asian countries where social networking websites came out on top.

SMS

Text messaging remains the most widely used value-added service among Vietnamese. Affordability is the main reason for this. Since 2006, mobile network operators have significantly reduced tariffs on SIM cards, which have enabled content providers to buy up these SIM cards and deliver cheap advertising SMS.

However, this has caused complaints from mobile customers, stating that they are constantly being bombarded by advertising text messages. In an effort to stave off the onslaught of unwelcome text messages, **MobiFone** has created a second promotional account, while **Viettel** has launched an advertising free sharing policy.

In the case of MobiFone, the promotional account is used only for sending text messages and making calls between subscribers on the same network, while the normal account is used for sending SMS and making phone calls to subscribers of another network, and to use content services provided by content providers. However, mobile content providers say they earn nothing from this policy, and have also suggested that the operators use unfair business practices which cause them serious losses.

In order to compete with the spam, the Ministry of Information and Communications announced a new regulation under which SMS advertisements must carry a code and provide methods for customers to opt out of receiving advertisements. In turn, advertisers must stop their service if requested within a period of 24 hours. Failure to comply will result in some form of penalisation, largely expected to be fines.

Although alternatives such as internet messaging and social networks are gaining popularity, SMS remains an attractive way of communicating due to its affordability and compatibility with feature phones. Operators have taken the extra step to integrate the basic SMS into growing services. For example, in May 2011 **Beeline VN** rolled out a new Facebook SMS service for its subscribers in the country. The new service will enable Beeline's subscribers to send messages, update status and write wall

posts on Facebook, as well as use its other features through SMS. The subscribers will have to pay VND300 for each SMS sent for this service.

Value-Added Services Timeline

Table: Selected VAS Services

Date	Details
Feb-12	Mobifone, in association with media firm Zing, introduced Zing.vn service packages in the country, reports Viet Nam News. The packages enable subscribers to listen to music, download MP3s and watch news. Subscribers can also access the Zing Me social network for a monthly tariff of VND15,000
Jan-12	Viettel and Vietcombank introduced Mobile BankPlus, enabling the operator's mobile subscribers to bank with Vietcombank through mobile devices since January. The service allows Viettel's subscribers to transfer money from one account to another within Vietcombank, as well as pay phone bills and access their account balance and transaction details. Subscribers can access their banking accounts via their mobile phones without connecting to 3G or Wi-Fi. The strategic cooperation would allow both parties to take full advantage of the number of customers and network of both sides, said director of Viettel, Hoang Son.
Dec-11	Beeline VN re-launched its Ty Phu package, which offers free on-net calls from the second to the 12th minute. A SIM card costs VND20,000 and the tariff plan charges VND1,350 a minute for the first minute and from the 20th minute onwards.
Dec-11	Vietnamobile become Vietnam's fifth 3G provider and offers data connection speeds of up to 21.6Mbps. Prices start from VND10,000 a month or VND5,000 a day for 120MB of data.
Nov-11	The Vietnam Posts and Telecommunications Group (VNPT) has signed a contract with DTS Communication Technologies Corporation (DTS) to provide MegaERP service in Ho Chi Minh city. According to the terms of the contract, VNPT will provide the network infrastructure, while DTS will provide the service system. The MegaERP service will help enterprises and organisations to enhance their management ability as well as business operations with low cost as they are not required to invest in hardware or software installation.
Nov-11	MobiFone announced that its postpaid subscribers can save 10% on their bills if they make mobile bill payments via VietinBank's payment system. The payment service was made possible through a venture between MobiFone, Vietnam Payment Solution Joint Stock Company and VietinBank.
Oct-11	Beeline VN launched its free WebSMS service.
Oct-11	Beeline VN launched a daily and monthly unlimited GPRS plan. Both options require a VND1,000 registration fee, with the former priced at VND1,500 a day. The monthly plan cost VND30,000 a month.
May-11	Beeline VN rolled out a new Facebook SMS service for its subscribers in the country. The new service will enable Beeline's subscribers to send messages, update status and write wall posts on Facebook as well as use its other features through SMS. The subscribers will be required to pay VND300 for each SMS sent for this service.
Apr-11	EVN Telecom signed an agreement with Russian CDMA-450 mobile operator Sky Link to offer roaming services to subscribers. The move will enable the CDMA 450MHz roaming subscribers of both the operators to connect with each other while on a trip to Russia and Vietnam.
Mar-11	VinaPhone launches VinaSport service, a new plan for sport fans. VinaSport provides its customers with the information and images about football, tennis, golf, boxing and formula one racing. The service has two fee packages including a weekly fee package of VND10,000 (US\$0.48) and a monthly fee of VND20,000 and an extra VND 2,000 to download messages.
Feb-11	VimpelCom's Beeline VN launches the 'Kook Number Service'. The number allows customers to pick a special phone number without having to change SIM cards. Customers can check if numbers are available through SMS and then swap their old number for a new number through text message as well. Numbers are available with the '099' or '0199' prefix.
Oct-10	VNPT announced plans to extend its IPTV service, MyTV, to mobile phones by 2011. The service was launched in September 2009 in Hanoi province, Vietnam, and offers about 60 domestic and international channels to more than 150,000 subscribers. The operator also plans to offer more than 100 TV channels to mobile subscribers in 2011.
Sep-10	Viettel reduced the roaming rates for its subscribers, and subscribers of Laos' Unitel and Cambodia's Metfone. Viettel would charge US\$0.10 per minute in an effort to improve the preferential roaming charge policy between the three countries. Subscribers would be able to use services such as SMS and GPRS with their own mobile numbers

Source: BMI

Fixed Line

The latest official market share figures from the Ministry of Information and Communications (MIC) relate to December 2010, when there were a total of 14.374mn fixed lines, a significant decline from 17.427mn at the end of 2009.

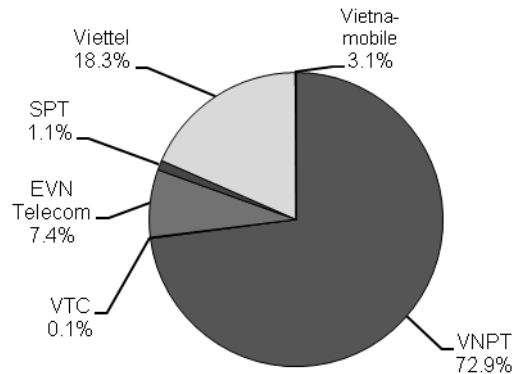
The MIC figures are at odds with those released on a monthly basis by General Statistics Office (GSO) figures, which reported that the number of fixed lines reached 16.4mn in 2010, down from 18.1mn in 2009. The GSO reported that the number of fixed lines in Vietnam

reached 16.5mn between January and April 2011 before declining to 15.5mn in May 2011. At the end of 2011, the number of fixed lines in the country had remained stable at 15.5mn, but this eventually declined by 200,000 in February 2012 to bring the total to 15.3mn.

It was noted that the **Vietnam Posts and Telecommunications Group (VNPT)** had about 10.485mn lines, a market share of 72.9% at the end of 2010, which was up from a 63.2% market share, equivalent to 11.011mn lines in 2009. The increase in VNPT's market share during 2010 was at odds with previous years when its market share had fallen by 8 percentage points during 2009 from 71.6% in 2008.

Based on the MIC figures, it is our understanding that the market share fall in 2009 was the result of competition from **Viettel** and **EVN Telecom**, which were reported to have a market share of 21.6% and 14.3% respectively. During 2009, Viettel overtook EVN Telecom to become the second largest provider in the Vietnamese market, which was attributed to the growth of its residential subscribers in rural areas and through enhancements to its base transceiver stations that have improved services. Viettel had 3.768mn fixed lines while EVN Telecom had 2.496mn fixed lines at the end of 2009. At the end of 2010, while Viettel and EVN Telecom retained the second and third position respectively, the subscriber bases of both companies declined, according to the MIC. Viettel had about 2.633mn fixed-line subscribers, while EVN Telecom's subscriber base fell to 1.068mn. The decline in the subscriber bases of VNPT, Viettel and EVN Telecom could be partially attributed to the entry of **Vietnam Multimedia Corporation (VTC)** and **FPT Telecom**. That said, the effect was limited as VTC and FPT Telecom had only 17,000 and 14,000 subscribers respectively. We believe that fixed-to-mobile migration remains the biggest threat to the fixed-line sector.

Vietnam Fixed-Line Market Share (%)
December 2010



Sources: BMI, MIC

As we have acknowledged, VNPT remains the dominant operator, despite the presence of numerous operators in the sector and continued encouragement by the MIC to raise competition. The dominance of VNPT relates to its former monopoly status as a state-owned entity, while despite the added competition its continued investment in the expansion of its national fixed-line infrastructure appears to be fading as it retains a market leading position. Price competition between rival operators continued to erode its market as competition intensifies.

However, the merger between Viettel and EVN Telecom would create a fixed-line operator with approximately 3.7mn subscribers (based on 2010 data). This would give Viettel about 26% of the fixed-line market and better position the company in its bid to challenge VNPT. That said, smaller operators are under greater threat of being marginalised.

Long-Distance Services

In addition to controlling the greater part of the local voice telephony market, **Vietnam Posts and Telecommunications Group** (VNPT) was, until 2002, the only body authorised to offer long-distance and international services. However, **Saigon Postel** (a privatised former subsidiary of VNPT) and mobile operator **Viettel** have since begun offering domestic and international VoIP services. Meanwhile, **Vietnam Data Communication Company** (VDC), another VNPT subsidiary, also offers its own prepaid and postpaid VoIP service, which it launched under the brand name 'FoneVNN' in 2003.

The Ministry of Information and Communications (MIC) was expecting to continue regulating residential phone tariffs until the end of 2010. From the start of 2011, operators were to be free to decide charges for all subscribers, although the MIC will continue to set the ceiling price in order to ensure there is a level playing field. Charges for business users are already allowed to be decided by Vietnam's wireline operators. However, they must be within 50% of VND200 per minute for a call and VND20,000 per month for a subscription.

Fixed Wireless

With the limited availability of traditional fixed-line infrastructure, and with around 70% of Vietnam's population living in rural areas, a number of Vietnamese telecoms operators – including mobile operators – have looked to fixed-wireless access (FWA) as a way of providing fixed-line connectivity. Faced with high levels of saturation in already crowded urban mobile markets, FWA has been seen by Vietnam's mobile operators as a way of supplementing revenue streams. Fixed-wireless services can be launched on existing mobile networks and therefore incur few start-up costs. They are widely regarded as a cost-effective way of providing telecoms services to low-income households.

Mobile market leader **Viettel** is said to have around 70% of its subscriber base living in rural areas; this indicates the importance of the operator's fixed-wireless business unit. Viettel's postpaid service, HomePhone, was launched in August 2007, a few days after its prepaid service. By offering special

discounts, Viettel has sought to increase the number of customers subscribing to its HomePhone service. Press reports suggested that Viettel had over 13mn customers at the end of 2007. Viettel launched a new package for its HomePhone 60 in January 2011. Subscribers would have a tariff rate of VND600 a minute for all internal and external calls. The operator claimed to help subscribers save more than 40% of charges for all calls to mobile users.

Vietnam's fixed-line incumbent **Vietnam Posts and Telecommunications Group (VNPT)** also offers a fixed-wireless service called GPhone. The service operates over VinaPhone's GSM network and is charged at fixed-line prices, making it affordable for low-income households. GPhone was launched in two phases, with services initially being launched in eight provinces and cities (including Lau Chau, Thai Nguyen, Ha Tay, Quang Nam, Quang Ngai, Can Tho, Hau Giang and An Giang) in June 2007, and the rest of the country during August 2007. VNPT had outlined a target of 100,000 GPhone subscribers by the end of 2007, and the company announced in July 2009 that it had 1.7mn GPhone subscribers. VNPT also had more than 10,000 base transceiver stations across the country.

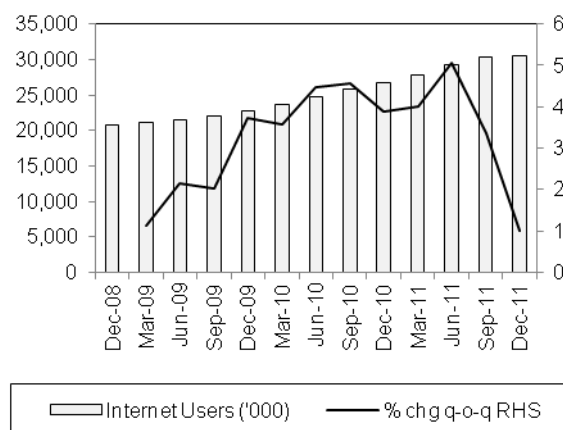
Internet

The latest available figures, as published by the Vietnam Internet Information Network Centre (VNNIC), are for January 2012 when there were 30.645mn internet users. This was up from 30.552mn in December 2011 and 26.784mn in December 2010.

The Vietnamese internet market grew by 9.3% y-o-y in December 2009. The momentum accelerated to 17.6% y-o-y in December 2010 and a possible explanation for the weaker growth in 2009 could be the effect of the global economic slowdown on the Vietnamese economy. At the end of 2011, the internet sector expanded by 14.1%, which was weaker than 2010, but still a relatively strong performance.

It is important to note that the rate of internet user penetration among young people, and in Vietnam's more affluent urban centres, is already higher than the national average. In order to ensure that internet user growth continues over the next few years it will be necessary to extend internet access to new demographic groups. This, in particular, relates to providing internet services in rural areas of the country, where fixed-line infrastructure is particularly poor and in some cases non-existent.

**Vietnam Internet User Growth
2008-2011**



Sources: BMI, VNNIC

One phenomenon that bodes well for continued growth in the number of internet users is the high level of PC ownership which exists in Vietnam. According to a survey conducted by **Alcatel-Lucent**, some 95% of Vietnamese households now have access to a desktop PC, of which 16% are planning to purchase a laptop. Official figures from the Ministry of Information and Communication (MIC) differ significantly. The regulator announced that there were an estimated 4.881mn desktops and laptops in the country at the end of 2009, a penetration rate of 5.63%. This was a slight increase from 2008, when there were 4.479mn desktops and laptops, an equivalent of 5.19% penetration rate. Calculating as a percentage of households, 13.55% of Vietnamese households had computers at the end of 2009, up from 10.35% in 2008.

The MIC reported that at the end of 2010, there were an estimated 5.319mn personal computers (desktops and laptops) in the country, a penetration rate of 6.08%. In terms of the number of computers per households, the percentage was 14.76%.

Traditionally, affordability has been one of the main reasons behind the slow take-up of internet and broadband services in the market. However, access to PCs and laptops is growing as a number of cheaper models become available in the market. Moreover, as aforementioned through the survey by **Yahoo!**, accessing internet through mobile devices is gaining popularity in Vietnam, and we believe this is a more effective means to increase internet penetration rates in rural areas. Assuming prices of mobile devices and tariff rates continue to fall, we expect the internet penetration to maintain its growth trajectory, with a possibility of acceleration if operators adopt more aggressive methods to pursue subscriber growth.

The latest breakdown of internet service providers' market shares relates to December 2010. The MIC reported that the **Vietnam Posts and Telecommunications Group** (VNPT) was the market leader with 19.285mn internet subscribers, 72.0% of the market, which was up from 68.6% in 2009. **FPT Telecom** came second with 3.621mn, 13.5% market share. **Viettel** was ranked third with 2.553mn or 9.5% market share. Given that Viettel has merged with **EVN Telecom** (by January 1 2012), the latter's internet subscriber base of 335,000 in 2010 would be combined with the former. The remaining 2.9% of the internet market was divided among **Saigon Postel Corporation** (SPT) and other providers.

Broadband

Compared to Vietnam's internet sector, the fixed broadband segment has been growing at a faster rate, on average, which could be partially attributed to a low-base effect. The number of broadband subscribers in Vietnam increased by 44.8% y-o-y to 2.967mn in 2009, and reached 3.644mn at the end of 2010, representing an increase of 22.8%. At the end of 2011, there were 4.085mn broadband subscribers. Similar to the broader internet sector, the broadband market experienced weaker growth in 2011 with a growth rate of 12.1%. In January 2012, the number of broadband subscribers increased 4.099mn.

The **Vietnam Posts and Telecommunications Group** (VNPT) had set itself the target of 1.5mn broadband subscribers by the end of 2009; if achieved, this would have provided it with a 50.6% market share. By the end of 2008, VNPT claimed to have 1.31mn ADSL customers; this is equivalent to almost

64% of the total broadband market. In total, VNPT was due to invest US\$1bn in broadband development in 2008. The investment was aimed at raising total network capacity to 200Gbps by mid-2008; this was set to rise to 300Gbps at a later date. However, this was not achieved. According to Antara News, VNPT planned to invest an additional US\$1bn in 2009, in order to upgrade its broadband networks and expand its international internet bandwidth. VNPT announced in December 2009 that it planned to increase broadband capacity to

over 100Gbps by the end of 2010. The operator's existing network, which covers around 70% of the country, has an existing capacity of 45Gbps. Looking ahead to the next two years, VNPT has expressed plans to provide increased broadband coverage in previously underserved regions. The operator also intends to connect a larger number of public high schools and government offices.

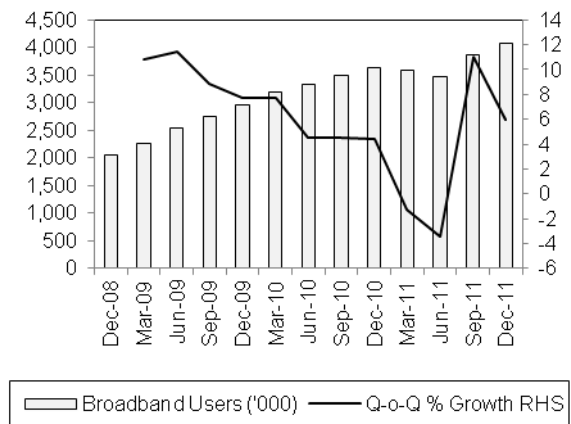
In May 2010, VietNamNet Bridge suggested that VNPT had around 78% of the market, with 2.5mn subscribers, out of the total 3.2mn subscribers. **Viettel** remained the largest rival with 384,000 subscribers, representing 12% of the share. **FPT Telecom** was ranked a close third due to its emphasis on big cities. According to the report, FPT Telecom has been expanding its services to other provinces and outlying cities and planned to expand its network by 18-20 provinces to 40-42 provinces in 2010.

In December 2011, VNPT said it had 3.1mn ADSL subscribers, a 75% market share. This was based on the company's estimates that there were 4.2mn broadband subscribers in Vietnam, out of the 32.3mn internet users. VNPT also announced that internet access is present in all of Vietnam's 63 provinces and cities.

Fibre-to-the-x (FTTx) broadband services became available in Vietnam. FPT Telecom was reported to be the first company to introduce services, which was followed by VNPT and Viettel. **CMC Telecom Infrastructure** was the latest entrant after launching services in April 2010 using the GigaNet brand. According to VNPT's subsidiary **Vietnam Data Communication**, there were seven FTTH service providers in the country by July 2010, with VNPT leading the pack. VNPT had 57.63% of the market, while FPT Telecom had 25.12%. Viettel claimed 13.42% and the remainder was split among the other three providers.

The fastest FTTH-GPON delivers speeds about 200 times faster than ADSL, but the service costs VND30mn a month. However, prices are expected to come down once the technology matures and

Vietnam Broadband Subscriber Growth 2008-2011



competition kicks in. Further, growing demand for value-added services such as IPTV, video-conferencing and video-on-demand TV would help the country to achieve its aim of 20-30% of households to connect to broadband internet through a personal computer by 2015. By 2020, Vietnam aims to increase the percentage to 50-60%.

Mobile Broadband

Mobile broadband is attractive as Vietnam has a weak and unreliable fixed-line infrastructure, which makes connecting to the internet difficult.

In order to encourage internet access through its mobile network, **Viettel** has focused on boosting its online content portfolio. The country's largest mobile network operator previously selected **InfoGin's** Content Adaptation technology to power its mobile data services offered over its 3G network. The technology automatically adapts internet web pages for mobile screens, to make it easier for consumers to navigate the internet and access almost any website, regardless of the screen size on their handset.

According to the **Vietnam Posts and Telecommunications Group (VNPT)**, **MobiFone** and **VinaPhone** have almost 10mn mobile broadband subscribers in December 2011, with more than 15,000 3G base stations providing nationwide coverage.

WiMAX

The relatively low level of fixed network infrastructure in Vietnam has meant that wireless technologies are developing as an important platform for delivering fixed broadband services. The two most important technologies are WiMAX or LTE, both of which will be used to offer 4G mobile broadband services.

The Vietnamese government first gave the go-ahead for the launch of a pilot WiMAX project in February 2006. The Ministry of Information and Communications (MIC)'s predecessor, the Ministry of Posts and Telematics (MPT), granted approval for three service providers – VNPT, **FPT Telecom** and **Vietnam Television, Technology, Investment and Development Company (VTC)** – to launch the pilot project, which it hoped would encourage development in the country's telecom and internet markets. In March 2006, the Ministry awarded the country's fourth WiMAX licence to military-owned operator **Viettel**.

The first WiMAX trials began in October 2006 with **Vietnam Data Communication Company (VDC)**, the wholly owned subsidiary of VNPT, partnering with **Intel** to conduct the trial in the mountainous province of Lao Cai. Then in December 2006, Viettel announced plans to commence a trial offer of WiMAX mobile broadband service in the city of Hanoi. The pilot network would consist of 10 base transmitter stations (BTS) and would have a capacity of around 3,000 subscribers; it would offer speeds of up to 10Mbps within a 32km range of a BTS.

In January 2007, a WiMAX pilot licence was issued to a fifth operation, **EVN Telecom**. In June 2007, VDC announced that it would begin trialling WiMAX services in the cities of Hanoi and Ho Chi Minh.

The year-long trials are understood to have commenced in October 2007, in partnership with **Motorola**. In November 2008, it was reported by TeleGeography that Motorola had begun rolling out a trial WiMAX network for VNPT in Hanoi and Ho Chi Minh City. Press reports have noted the difficulties which Vietnam's WiMAX licensees have faced when trying to obtain the necessary WiMAX equipment.

Although the pilot programmes were intended to be a pre-runner to the official selection of a number of WiMAX service providers, the government ultimately decided to postpone its decision due to unfavourable market conditions: these included the high cost of the WiMAX CPE equipment, delays in the 3G licensing schedule and the regulatory change caused by the creation of the MIC.

Nevertheless, in March 2008, the MIC gave FPT Telecom, EVN Telecom, Viettel and VNPT new permission to conduct mobile WiMAX pilot programmes in different regions, including the two biggest cities Hanoi and Ho Chi Minh City. Also in March 2008, **Saigon Postel Corporation (SPT)** was awarded a licence to test WiMAX services. SPT is affiliated with mobile operator **S-Fone**. SPT subsequently unveiled plans to test WiMAX services in the 2.3GHz to 2.4GHz band across Ho Chi Minh City and one of the neighbouring provinces of Tay Ninh, Binh Duong, Dong Nai, Ba Ria-Vung or Long An.

In February 2009, FPT Telecom announced it had successfully tested mobile WiMAX in the capital Hanoi. The trials were believed to have enabled high-speed internet access, video downloads and the transfer of data and phone calls through wireless internet at speeds of up to 15Mbps, within three kilometres of a pilot WiMAX station.

In April 2010, the MIC announced its intention to invite proposals for a 4G frequency plan in the country. As reported by VietNamNet Bridge, the regulator wanted to ensure that either WiMAX or LTE technology could be used for deploying 4G mobile broadband infrastructures. Given that several operators had already conducted trials of WiMAX services, it was understood that WiMAX would emerge as the preferred technology for developing 4G networks. WiMAX can be used to provide either a mobile or fixed wireless internet service.

In May 2010, **Dong Duong Telecom** (also known as **Indochina Telecom**) was granted a permit to trial WiMAX technology by the MIC, reports VietNamNet Bridge. No further information was published at the time, although it is believed that the award of a WiMAX licence could allow Indochina Telecom to establish its own mobile service rather than rely on the network of Viettel, as part of its MVNO licence agreement.

LTE

Despite the apparent preference for WiMAX in Vietnam, the government also wanted to pave the way for the deployment of mobile broadband services based on LTE. In September 2010, the MIC granted 4G licences to five companies: the VNPT, Viettel, FPT Telecom, **CMC** and **VTC**. According to the terms of the licence agreements, the companies would be allowed to operate LTE networks over a trial period of 12 months. The Ministry of Information and Communications (MIC)'s Telecommunications Department

director said that operators would be required to participate in an auction in order to be granted a 4G licence. They would be able to transfer the frequency bands after receiving the licences. However, only two operators: VNPT and Viettel have to date launched services, albeit on a trial basis. According to licence conditions, operators are required to launch services within a year of acquiring a licence.

After abandoning its plan to acquire EVN Telecom, FPT Telecom was reportedly planning to enter the mobile market by launching an LTE service. However, **BMI** holds a dim view on the decision to launch next-generation technology in a market where 3G services have yet to gain mass adoption.

It was also announced in September 2010 that VDC and Russia's **Antares** had reached an agreement to build a trial LTE network. The Russian firm planned to invest US\$2mn, while VDC would be responsible for obtaining the licence and securing the infrastructure and equipment. TeleGeography reported that **Huawei Technologies** would be the 4G equipment vendor for the project. Testing of 15 LTE base transceiver stations began on October 20 2010 in Hanoi and the trial period was expected to last two to three months. According to the next phase, Antares would invest a further US\$27mn to establish a joint venture that would be controlled by **Wagner Asset Management**, the owner of Antares. The CEO of Antares estimated that the entire project would cost US\$400mn and said that concerns regarding Vietnamese laws on foreign ownership would be resolved.

VNPT has to date deployed 15 LTE base stations in Hanoi, Vietnam's capital city, capable of speeds of up to 100Mbps. Meanwhile, Viettel has announced that it has been rolling out LTE equipment in Ho Chi Minh City and Hanoi in cooperation with Huawei Technologies. Viettel announced in May 2011, the successful testing of its new LTE network, showcasing a range of services including video streaming, live TV, HD video calling, video conferencing, and video and TV on demand. However, it does not expect to launch commercial LTE services until 2014 at the earliest.

4G On Hold

The MIC announced in February 2012 that 4G services will be put on hold until 2018 to allow mobile operators to recoup their investments on 3G technology. **BMI** sees little justification for Vietnamese operators to introduce high-speed next generation 4G technology when consumers are merely using mobile data to browse the internet. Introducing the service will likely result in firms lowering their pricing to spur interest, thereby further prolonging the time taken to generate profitability on another expensive project. Vietnam's draft national strategy on telecoms developments has stated that operators should start trialling 4G services by 2014, and companies such as Viettel, VNPT and FPT Telecom have already done so. Furthermore, 4G has yet to reach maturity and compatible devices are broadly beyond the reach of Vietnamese consumers in terms of affordability. **BMI** agrees with the MIC that pegging itself to regional countries, with regard to launching 4G services, would be a good move, particularly considering that Thailand, India and China only introduced 3G recently, while Pakistan and Bangladesh are looking to auction 3G licences soon.

Table: Vietnam – 4G Trialists

Operator	4G licence date	Pilot launch
Vietnam Post and Telecommunications Group (VNPT)	Mar-06	Trials carried out in Hanoi, Ho Chi Minh City and Lao Cai
Vietnam Multimedia Corporation (VTC)	Mar-06	Trials carried out in Hanoi and Ho Chi Minh City
FPT Telecom	Mar-06	To carry out trials of wireless and wireline WiMAX
EVN Telecom	Jan-07	To carry out trials of wireless and wireline WiMAX
Viettel	Mar-06	To carry out trials of wireless WiMAX
Saigon Postel Corporation	Mar-08	Trials to be carried out in Ho Chi Minh City and one neighbouring province
VNPT, Viettel, FPT Telecom, CMC and VTC	Sep-10	To carry out trials of LTE for 12 months

Source: BMI

IPTV

State-owned operator the **Vietnam Posts and Telecommunications Group** (VNPT) first launched IPTV services in Hanoi and Hai Phong in June 2009. At that time, VNPT announced that the offering would arrive in Vietnam's southern provinces and in Ho Chi Minh City in September 2009. The first phase of VNPT's IPTV deployment offering included live TV, VOD, music-on-demand (MOD) and TV-on-demand (TVoD). The second planned phase will add media sharing services, usage data access and e-education among others.

Following the preliminary launch in June 2009, it was reported in September 2009 that VNPT had officially launched its IPTV service under the MyTV brand. From September 2009, the IPTV service was made available in Hanoi, Da Nang and Ho Chi Minh City. However, it was scheduled to be expanded nationwide in October 2009. Subscribers are able to access live TV, VOD, music videos, games, internet and telephony services, and TVoD. After announcing the launch, VNPT's chairman of the board of directors, Pham Long Tran, forecast that, with the strong development of broadband internet and the high demand for entertainment, MyTV would 'boom in Vietnam in the near future'. In August 2010, VNPT extended an agreement with **Intel** for technology research, development and application to cover 2011.

VNPT said in October 2010 that it was planning to extend its IPTV service to subscribers' mobile handsets. VNPT's MyTV service had almost 150,000 subscribers and the operator planned to expand its reach by end-2011. This announcement came one month after VNPT signed an agreement with **Alcatel-Lucent**, with the latter providing its end-to-end IP Multimedia Subsystem solution.

Besides traditional pay-TV operators such as **Vietnam Multimedia Corporation** (VTC), **Ho Chi Minh Choice Centre** (HTVC), **Vietnam Satellite Digital Television** (VSTV), **Saigontourist Cable Television Company** (SCTV), Vietnamese mobile operators have also entered the fray through the IPTV and mobile

TV routes in order to capitalise on the industry's growth potential. **FPT Telecom** re-launched its IPTV service iTV in major urban cities during April 2009 and expects its subscriber base to reach 1mn in 2011, up from 20,000 in Q110. In August 2010, FPT Telecom became the first telecoms company in Vietnam to distribute K+1 and K+ channels. The contract will be implemented after it is approved by the MIC. The two channels air seven big football events in the world and would add to FPT Telecom's existing 60 channels on its iTV.

In July 2010, Saigon Post and Telecommunications followed VNPT and launched an IPTV service. The service consisted of 86 domestic and international linear channels, as well as interactive services such as video-on-demand.

It was initially believed that Vietnam's pay-TV industry would significantly benefit from the participation of French pay-TV provider **Canal Plus**. Canal Plus partnered with state-owned **Vietnam Television** (VTV)'s subsidiary VSTV and launched satellite-based K+ service in January 2010. However, although the service has almost 200,000 subscribers, the company is looking increasingly unlikely to meet its target of 1mn subscribers by 2012. Consequently, VSTV slashed the tariff rates of its K+ service in early June 2011 to bring prices more in line with rivals such as SCTV and aims to increase its subscriber base to 500,000, which is the minimum number needed to be profitable.

In March 2011, **Hanelcom** signed a memorandum of understanding with Dutch-owned company **CYMTV** to build a new IPTV service in Vietnam. The service, called HanelTV, would be made available for those with a Hanel set-top box, as well as PC, smartphone and tablet devices. The technology offered by CYMTV uses a private cloud streaming product that enables video content to be securely streamed over the open internet. Services on offer include VOD, news and information, games, karaoke and a community portal.

Meanwhile, US-based **Sigma Designs** partnered with VTC in April 2011 to develop and market set-top boxes for digital TV, smart energy products and home connectivity solutions. A joint venture called VietSilicon Technology Joint Stock Company was to be created, which will result in the launch of two products in 2011 after leveraging on Sigma Designs' IPTV semiconductor technology and VTC's local content and network.

However, despite the strong support shown by service providers, IPTV has yet to gain significant traction in Vietnam, although it was reported in October 2011 that VNPT's MyTV service had 500,000 subscribers, while FPT Telecom's OneTV had 30,000 subscribers. A reason cited is the poor image quality of IPTV services due to ADSL connections and a lack of consumer awareness. However, operators have been trying to spur consumer interest by bundling IPTV services with fibre broadband in hope that the faster broadband connectivity would improve image quality. In mid-2011, FPT Telecom launched a multimedia bundle based on a VSDL connection, while **Viettel** introduced fibre and IPTV packages in September 2011 that cost about VND100,000-300,000.

Wireline Contract Wins

Table: Wireline Contract Wins

Date	Contract value (US\$)	Details
Sep-10	na	Vietnam Telecom National (VTN), a wholly-owned subsidiary of Vietnam Posts & Telecommunications (VNPT), has selected Ciena to upgrade its optical backbone network. According to the terms of the contract, Ciena will add its transponder cards to 6,500 shelves and provide a 40G solution to expand the operator's current 10G network to 40G. The network upgrade will enable the operator to meet increasing demand for mobile and broadband services in the country.
Sep-10	na	Alcatel-Lucent announces it has signed a contract with VPNT and its wholly-owned subsidiary Vietnam Telecom Nation (VTN) for the supply of end-to-end IP Multimedia Subsystem solution. This solution will improve network performances by facilitating the migration of existing public switched telephone network (PSTN) services
Sep-09	na	US-based Verimatrix announces it is providing a layered content security system for the IPTV roll-out of Vietnam's state-owned incumbent telecoms company Vietnam Posts and Telecommunications (VNPT). The vendor will deploy its Verimatrix Video Content Authority System (VCAS) for IPTV, which is the integrated content security solution for Chinese equipment provider ZTE's ZXBIV IPTV Eyewill platform and enables the delivery of live broadcast and VOD content and interactive features
Aug-09	na	Alcatel-Lucent announces it has signed two contracts with Vietnam Telecom National (VTN), a wholly owned subsidiary of VNPT, to upgrade the operator's network. Alcatel-Lucent will provide its IP and optical solutions enabling VTN to meet the increased capacity requirements driven by new service demands. The vendor will provide its IP/MPLS solutions, including the 7750 Service Router (SR) and the 5620 Service Aware Manager (SAM), enabling scalability, bandwidth on demand and increased service level guarantees. Operating at 40Gbps, the new technology is intended to help VTN respond to end-user needs faster and more efficiently while minimising capital and operational expenditures
Aug-09	na	VNPT signs an MoU with Intel to boost long-term strategic cooperation in the fields of technology research, development and application. It is hoped that the partnership will lead to developments in the broadband internet sector, including 3G and wireless technology. Under the MoU, the two sides will focus on diversifying integrated products and services to serve internet access at a lower cost. The duo will devise a programme of cooperation between VNPT's affiliates to introduce integrated internet products
May-09	na	VNPT announces a partnership with Huawei Technologies for the deployment of an optical-layer Automatic Switch Optical Network (ASON) network. The next generation transmission technology will cover Hanoi and the country's northern provinces. It aims to increase network stability, reduce operational costs and allow more flexibility in broadband services
Jan-09	na	EVN Telecom and Hutchison Global Communications (HGC) enter an MoU to interconnect EVN Telecom's newly purchased capacity on the TGN Intra-Asia Submarine cable system with HGC's advanced network. Under the terms of the MoU, HGC is to cooperate with EVN Telecom to provide connectivity solutions to wholesale carriers and corporate customers in Vietnam

Source: BMI

Regulatory Environment

Vietnam: Regulatory Bodies And Their Responsibilities

Regulatory Body	Responsibilities
<p>Ministry of Information and Communications (MIC) 18 Nguyen Du Street, Hanoi, Vietnam</p> <p>Tel: +84 4 943 5602 Fax: +84 4 826 3477 Web: www.mic.gov.vn</p>	<p>The Ministry of Posts and Telematics of the Socialist Republic of Vietnam is the state administration in charge of policy making and regulatory matters in posts, telecommunications, information technology, electronics, internet, radio transmission and emission techniques, radio-frequency management and national information infrastructure, management of public services, as well as control over, on behalf of government and as stipulated by laws and regulations, the state capital in posts, telecommunications and information technology enterprises. Its main functions include:</p> <ul style="list-style-type: none"> ▪ submitting to the government drafts of laws, ordinances, regulations, strategies and development plans on posts, telecommunications and information technology; ▪ giving guidance in implementation of laws, ordinances, regulations, as well as development strategies and plans related to posts, telecommunications and information technology; ▪ regulating the access to, and the interconnection between, public switched telephone networks and specialised and private networks; ▪ regulating the electronics and information technology industry development plan; ▪ regulating charges and tariffs in the fields of posts, telecommunications and information technology; ▪ planning, assigning and allocating radio frequency spectrum; controlling and monitoring radio frequency spectrum and radio equipment; organising radio frequency, satellite orbit registration and coordination; ▪ granting licences in posts, telecommunications, radio frequency and internet; ▪ regulating the quality of posts, telecommunications and information technology networks, plants, products and services; ▪ regulating numbering resources, codes, domain names and addresses used in the fields of posts, telecommunications and information technology; ▪ conducting international cooperation activities in posts, telecommunications and information technology; and, ▪ inspecting all activities and settling all regulatory breaches in the fields of posts, telecommunications and information technology.

Legislation And Market Liberalisation

The government's telecommunications policy is formally set out in a decision of the prime minister, Decision No.158/QD-TTg of October 18 2001, which ratifies the **Vietnam Posts and Telecommunications Group (VNPT)**'s development strategy until 2010 and Orientation until 2020. The policy decision provides a comprehensive range of sector development objectives and targets, along with key underlying strategies for their achievement.

The government's telecommunications policy recognised the current weakness of the legal structure governing the telecoms sector. In line with its policy, the Government ratified the Ordinance on Post and Telecommunications (the 'Ordinance') on May 25 2002. The Ordinance took effect on October 1 2002 and has replaced the Decree No.109/1997/ND-CP, dated November 12 1997, on network and telecommunications services. The Ordinance is expected to achieve two primary aims: the consolidation of the legal structure into a single law – which means the repeal of the set of contradicting laws and regulations – and to modernise the legal structure and address the important issues that arise in a competitive market structure.

The functions of VNPT are set out in Decree No. 51 (Decree No. 51/CP ratifying the Statute on VNPT). VNPT is active in all aspects of telecommunications, including infrastructure ownership and operation, and provision of telecommunications services.

Regulation

The regulation of the telecommunications sector in Vietnam falls under the responsibility of the Ministry of Posts and Telematics (MPT), which fulfils the dual role of policymaker and regulatory authority. The key functions and responsibilities of the organisation of MPT are outlined in the Government Decree No. 90/2002/ND-CP of November 11 2002. The Decree sets out a wide range of functions and responsibilities under four different groupings. It is noted that MPT exercises regulatory control over post and telecommunications. The MPT has responsibility for drafting laws, ordinances and policies on telecommunications, issuing decisions, directives, rules and technical standards, managing international treaties on telecommunications and radio frequency and issuing and revoking permits in accordance with regulations. The MPT has been succeeded by the Ministry of Information and Communications (MIC).

The direct regulatory body over internet activities in Vietnam is the Vietnam Internet Network Information Centre (VNNIC). The VNNIC is a non-profit affiliation to the Ministry of Posts and Telematics (MPT), established under the Decision No. 372/QD-TCBD, dated April 28 2000, of the DGPT (which later became the MPT). The purpose of the VNNIC is to carry out the functions of managing, allocating, supervising and promoting the use of internet domain names, addresses and autonomous system numbers (ASN) in Vietnam. VNNIC also provides internet-related guidance and statistics related to international activities on the internet.

Licensing And Spectrum

Vietnam's Ministry of Information and Communication (MIC) is responsible for all licensing related to telecoms services. Prior to Vietnam's entry to the WTO, foreign telecoms operators were prevented from making direct investments in Vietnamese telecoms operations. Instead, Business Co-operation Contracts (BCCs) served as a transitional investment model in the telecoms sector and ensured that the provision of all telecommunications services was based on a system of revenue sharing with local companies. Since joining the WTO, however, the MIC has allowed a number of local telecoms companies to enter into joint ventures (JVs) with foreign partners for the provision of a wide range of communications services, including fixed voice telephony, packet-switched data transmission services, circuit-switched data transmission services, telex services, telegraph services, facsimile services and private leased circuit services. For non-facilities-based services, the foreign capital contribution to these JVs must not exceed 51% of legal capital. Despite these continued restrictions that govern the licensing process, it will be permissible for wholly foreign-owned firms to provide registered telecoms services to Vietnamese organisations and individuals once Vietnam has been a WTO member for two years. Further, three years after Vietnam's WTO accession, foreign companies will be allowed to establish local branches and provide telecoms services, under the condition that the chief representatives of the branches reside in Vietnam.

In order to provide fixed or mobile voice telephony services for which no network infrastructure is required, foreign partners will be allowed to participate in JVs with Vietnamese telecoms firms, with a capital contribution of up to 51%, within the first three years of Vietnam's WTO membership. Once that initial three-year period has passed, foreign operators will be authorised to choose their own local partners when establishing JVs and will be allowed to raise their capital in the JV to 65%. Meanwhile, for virtual private network services and value-added telecom services, some large foreign partners will be permitted to independently provide those services using the network infrastructure of a local operator. Currently, foreign partners wanting to provide such services must select Vietnamese partners and contribute up to 70% of capital in the JV.

For satellite services, the Vietnamese government is committed to expanding the number of companies involved in this field, but only once Vietnam has been a WTO member for three years. In addition, the government will allow foreign partners to connect to underwater optical cable networks, of which Vietnam has membership. Licensed companies will be authorised to sell transmission lines to international telecoms service providers, which have network infrastructure (such as the **Vietnam Posts and Telecommunications Group, Viettel** and **EVN Telecom**), and also to virtual personal network and IXB service providers such as **Corporation for Financing and Promoting Technologies**, VNPT, Viettel and EVN Telecom four years after the date of Vietnam's WTO membership.

Regulatory Developments

MIC Formulates MNP Policy

Vietnam's Ministry of Information and Communications (MIC) has started drafting a mobile number portability guideline, which is expected to be released in 2011. The move to launch MNP in Vietnam is in line with the government's strategy to promote healthy competition in the country's telecoms market. However, local mobile operator **Viettel** has opposed the move and said that the market segment is not mature enough to introduce the service. In August 2011 local media reported that the MIC was finalising the guideline and would be announced later for public opinion.

VNPT To Divest Stakes In Leading Operators

The **Vietnam Posts and Telecommunications Group** (VNPT) has completed plans to divest its stakes in Vietnamese mobile operators **MobiFone** and **VinaPhone**, which will be submitted to the Ministry of Information and Communications for approval, according to state media *Nguoi Lao Dong*. **BMI** welcomes the government's effort to reduce VNPT's dominance in the Vietnamese telecoms industry, and the new regulation should accelerate the long-delayed privatisation of MobiFone.

The sudden acceleration in VNPT's plans to divest its stake in the two mobile operators are due to the Vietnamese government's new regulation (Decree No. 25/2011/ND-CP that became effective on June 1 2011), which prevents an institution or individual holding more than a 20% stake in one telecoms operator from holding more than 20% stake in another company operating in the same sector. Consequently, VNPT would be forced to relinquish some of its control on the two highly lucrative businesses as the firm owns 100% equity in MobiFone and VinaPhone.

However, the government did not specify a specific timeframe for VNPT to satisfy the new ruling and the MIC announced that it has given the state-owned entity a two-year extension to divest its stakes in the two mobile operators due to the complexity of VNPT's situation. In February 2012, VNPT announced that it will submit its reform plan to the Prime Minister in 2012. Details will be revealed once it is approved.

ICT Ministry Increases Mobile-to-Fixed Interconnection Fee

In August 2011 the ICT ministry in Vietnam raised the interconnection rate for mobile-to-fixed calls in the country. The new rate has been increased to VND415 a minute from the current rate charged at VND270 a minute, reports *Viet Nam News*. The new rate would be applicable from October 1 2011. The move should help fixed operators minimise their losses.

Competitive Landscape

Competitor Analysis

Table: Key Players – Vietnam Telecoms Sector

Company name	Ownership	Market
Vietnam Posts and Telecommunications (VNPT)	Government (100%)	Local, long distance and international telephony, data and internet
VinaPhone	Vietnam Posts and Telecommunications (100%)	Mobile
MobiFone	Vietnam Posts and Telecommunications (100%)	Mobile
Viettel	Ministry of Defence	Mobile, local telephony, data and internet
S-Fone	Joint Venture: Saigon Post and Telecommunications Service and SK Telecom	Mobile
EVN Telecom	Electricity of Vietnam (100%)	Local, long distance and international telephony, data, internet and mobile
Vietnamobile	Hanoi Telecom, Hutchison Telecommunications International (HTIL)	Mobile
GTel Mobile (Beeline)	VimpelCom (65%), Global Telecommunications Corporation (35%)	Mobile

Source: Operators, BMI

Company Monitor

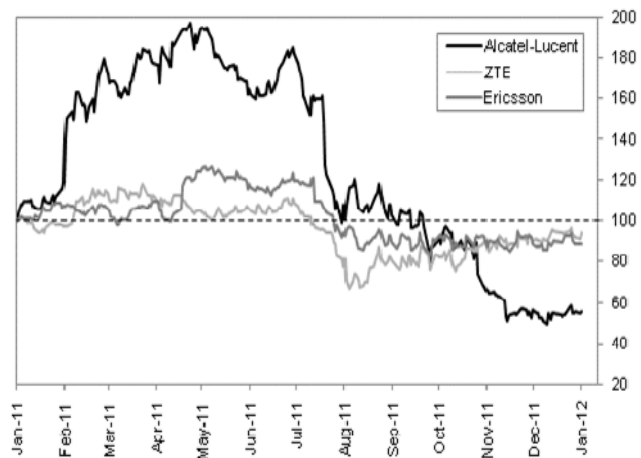
Alcatel-Lucent

Franco-American equipment vendor **Alcatel-Lucent** has experienced a mixed 12 months as its share price appreciated in the first six months, outperforming other vendor stocks as it continued to recover under its three-year reorganisation plan. However, from July 2011 the stock fell sharply and has now almost returned to the five-year low of February 2009 as revenue growth stalled and market conditions deteriorated. Against this backdrop, Alcatel is now once again looking reinvigorate its restructuring drive and increase revenues. Asia is a key region in the short to medium term due not only to its size but also the ongoing investment in technological upgrades, with both wireless and wireline operators increasingly targeting higher value data and value-added services (VAS). The extent to which the vendor can succeed against Chinese competition for these more technologically advanced contracts in Asia will be crucial to its fortunes, **BMI** believes.

Despite mixed levels of success so far in Asia, **BMI** considers Alcatel-Lucent to have a strong footprint in the region, from which it can potentially develop a valuable source of growth over the medium term. Although it has been a victim of the lower cost Chinese vendors **Huawei** and **ZTE** in traditional network infrastructure markets, technological upgrades in Asia has seen operators demand more advanced and less price sensitive products and services. This trend should enable Alcatel Lucent to increase its share of contracts in the region.

Rollercoaster Year For Alcatel As It Remains Off The Vendor Track

Normalised Stock Performance of Alcatel-Lucent, ZTE And Ericsson



Source: BMI

Capitalising on technological upgrade in Asia is critical to the vendor as investment cycles and macroeconomic headwinds in developed markets act unfavourably on its traditional business areas. A significant part of Alcatel-Lucent's upturn in fortunes in H111 related to contracts in the United States and Europe in H210 as operators invested in 4G LTE network infrastructure. However, with investments diminishing relative to the H210 high, and an unfavourable macroeconomic outlook in 2012, Asia and, to a lesser extent, Africa and Latin America will be key determinants of performance.

Opportunity For Improvement

In Q311 Alcatel-Lucent reported total revenues of EUR3.797bn, down 6.8% y-o-y from EUR4.074bn. Of this figure EUR703mn was derived from the Asia Pacific region, equating to 18.5% of total revenues in the three months to the end of September 2011. While this is welcome exposure to the more economically robust Asian markets, the total was down by 18.4% y-o-y, the fastest decline of any region in the group's footprint. However, looking beyond the decline in financial performance, **BMI** has observed an uptick in major contracts in the region, which bodes well for the vendor's Q411 results. These contracts also represent the beginning of potentially lucrative relationships with major operators in the region - a positive indicator of longer term performance.

Of particular significance are the recent contracts Alcatel Lucent has won with the Chinese telecoms operators. In late September 2011 Alcatel-Lucent announced that it had been contracted by China Telecom to upgrade its 3G network.

Further, as part of the upgrade, it is

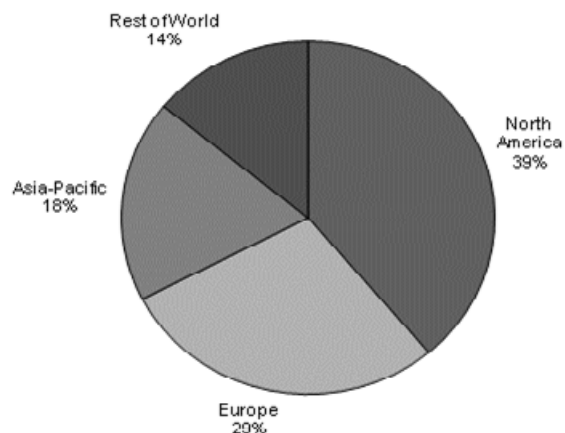
preparing the operator's network for the transition to 4G LTE in the future. With China Telecom adding around 3mn 3G subscribers each month, this has the potential to be a highly valuable relationship as it continues to invest in mobile broadband infrastructure.

Alcatel-Lucent also announced a contract with China Unicom in July 2011 for the upgrade of its 3G network in more than 10 provinces, as it also invests in mobile broadband. As with the China Telecom deal, Alcatel-Lucent will be preparing the network for the transition to LTE. Following this was the November 2011 announcement that Alcatel-Lucent would be the largest supplier for China Unicom's planned rollout of one of the world's largest fibre-optic networks. The network, based on GPON technology, will provide access in 29 provinces, giving the operator the capability to supply IPTV, VOD and HD services alongside high-speed broadband. These successes show the value of repeat business as Alcatel-Lucent capitalised on two contracts for technological upgrade to high-end services within the space of four months.

In this vein, **BMI** views Alcatel-Lucent's role in China Mobile's TD-LTE trial in Shanghai as a good sign for the potential for future contract victories. China Mobile is the country's largest mobile operator and, like its rivals China Telecom and China Unicom, is expected to undertake large-scale investment in

Looking To Increase Asia Exposure

Alcatel-Lucent Q311 Revenue Breakdown By Region (%)



Source: Alcatel-Lucent

technological upgrading as a means of attracting higher value subscribers and developing VAS revenues. An example of the scope of applications where Alcatel-Lucent can compete for new business was demonstrated in the video conversation trialled by China Mobile using the vendor's LightRadio and the 'LTE Connected Car' showcased in Shanghai using the TD-LTE trial network.

BMI expects Alcatel-Lucent to gain from this process of technological upgrade to advanced mobile broadband and fibre services in China, where it is better able to compete with lower cost vendors due to its technical expertise. However, its successes in Asia have not been limited to China, with other significant contracts in Q411 including the provision of a backhaul solution for Wireless City Planning in Japan, a project led by Softbank, the provision of 3G mobile broadband solutions to Asia Pacific Telecom in Taiwan and trialling of LTE technology with Telecom, a first in New Zealand. The vendor also has strong relationships with other major operators in the region including Indosat and Telekom in Indonesia, all of which give it the potential to ride the rising tide of high-end infrastructure investment in the region.

Alcatel-Lucent (and its constituent parts prior to merger) has been considered a mid-range vendor, trailing technological leader Ericsson. This positioning has been a source of its problems following the emergence of the low-cost Chinese vendors Huawei and ZTE in recent years as it was squeezed by price leader and it still trailed technological leader Ericsson in terms of innovation and high-end services. However, **BMI** believes it is successfully carving out a position for itself in the market at the higher end, at least with certain operators in Asia, and particularly in mobile broadband and GPON technology. Alcatel-Lucent is also positioning itself to benefit from longer term trends such as the implementation of cloud technology through its CloudBand product and investments in datacentres for mobile communications through its partnership with HP. However, with the exception of Japan and South Korea, we consider these products to be longer term revenue generators in Asia where wireless data and fibre will dominate investment schedules in the short to medium term.

Risks To Outlook

Despite our overall positive view of Alcatel-Lucent's momentum in Asia, and importantly the strengthening of relationships with key operators in the region, there are significant risks to this outlook. The first risk is that the position Alcatel-Lucent has carved out for itself as a high-end supplier of mobile broadband and fibre technology is encroached upon by Huawei and ZTE as they look to move to higher value services. Targeting higher value services is a logical strategic move for the vendors, and their records on innovation and upgrading are very strong over the past decade. With this track record, it is likely that they will place increasing pressure on Alcatel-Lucent in Asian markets, and it will be vital that Alcatel-Lucent succeeds in continuing to innovate while maintaining competitive costs to avoid a repeat of the business it lost out on in recent times.

A second risk stems from **BMI**'s macro view on China, and the potential impact it could have on the region. We are calling for an intensification of bearish trends from H211 that could result in a Chinese

'hard landing'. A growth slowdown in China has the potential to induce recession in Australia, New Zealand, Hong Kong, Taiwan and Singapore. The telecoms team would expect this scenario to result in a decrease in operator investment as growth in retail services would inevitably be hit. That said, telecoms services have proved resistant in other periods of economic recession, so, even under a hard landing scenario, we would not expect a collapse in consumer spending and investment related to telecoms services.

Alcatel Lucent reported very disappointing Q311 results for Asia, but the combination of announced contracts for Q411 and the relationships established with key regional operators, means we have a more positive outlook for it in the short term. However there are risks to this outlook, particularly the threat from local competition over the medium term. Nonetheless, **BMI** considers Alcatel-Lucent to have strong potential in the region, with its ability to position itself as a supplier of higher value services as operators invest in technological upgrade set to be critical medium term determinant of performance.

Alcatel-Lucent's Recent Major Contracts In Asia

Dec-11	Taiwan	Asia Pacific Telecom contracts Alcatel-Lucent to expand its delivery of 2G and 3G services to meet growing customer demand for data-heavy services such as video.
Nov-11	China	Alcatel-Lucent becomes one of the largest suppliers in China Unicom's rollout of fibre networks in 29 provinces across China supporting the provision of IPTV, VOD and HD services.
Sep-11	Japan	Contracted by Wireless City Planning to provide the backbone for a 4G LTE network complementing Softbank's existing 3G network. Softbank is the lead operator on the project.
Sep-11	China	China Telecom contracts for the upgrade to its 3G network, increasing capacity and preparing its wireless infrastructure for the future upgrade to 4G LTE services.
Sep-11	New Zealand	Alcatel-Lucent, in conjunction with Telecom, launched New Zealand's first LTE showcase
Aug-11	Malaysia	Maxis Berhad, the leading converged service provider, deploys Alcatel-Lucent's 100Gbps optical coherent network solution increasing its speed and transport capacity. Maxis' optical backbone network is the first 100G single carrier with optical coherent technology in the Asia Pacific region.
Aug-11	China	Trials TD-LTE technology with China Mobile in Shanghai, including the showcase of the 'LTE Connected Car'.
Aug-11	Taiwan	Chunghwa Telecom employs Alcatel-Lucent's Packet Transport Network solution upgrade increasing mobile bandwidth and increasing flexibility of data services. The upgrade supports 2G and 3G wireless networks and supports the move to 4G LTE services in the longer term.
Jul-11	China	Upgrade to China Unicom's 3G network in more than 10 provinces, as it also invests in mobile broadband.

Source: BMI

Selected Operators Profiles

Vietnam Posts & Telecommunications (VNPT)

Strengths	<ul style="list-style-type: none"> ▪ Country's leading telecoms operator with presence in fixed-line, mobile and internet sectors. ▪ Dominant player in the fixed-line sector and also serves more than 57% of mobile subscribers. ▪ A clear investment strategy to invest heavily in mobile and broadband services.
Weaknesses	<ul style="list-style-type: none"> ▪ Service in rural areas is poor or non-existent. ▪ Lack of competition in fixed-line sector has contributed to a limited array of services on offer. ▪ New mobile price structure under pressure from competitors.
Opportunities	<ul style="list-style-type: none"> ▪ 3G, and eventually 4G, mobile services will provide substantial source of value-added mobile revenue. ▪ Deployment of broadband and fixed-wireless networks in short and medium term. ▪ Expansion of GPhone fixed-wireless service will help presence in rural areas.
Threats	<ul style="list-style-type: none"> ▪ Currently engaged in strong competition with major rival Viettel; this is understood to be putting downward pressure on ARPU levels. ▪ Viettel was given the go-ahead by the government to acquire EVN Telecom ▪ Low cost mobile services from competitors could result in migration away from fixed services. ▪ Timescale for restructuring plan currently uncertain and could be delayed.

Overview	<p>Wholly owned by the government, Vietnam Posts and Telecommunications (VNPT) is the country's main post and telecommunications service provider. VNPT operates the national backbone network that connects the provincial operating companies in 63 cities and provincial areas and – indirectly – controls the country's two leading mobile operators, VinaPhone and MobiFone operate GSM networks.</p> <p>In March 2011, Vietnam Business News reported that VNPT had a total of 82.9mn telecommunications customers, up by 32% compared with the previous year. Of this number, 11.8mn were said to be fixed telephone subscribers while 77.4mn were mobile subscribers. Meanwhile, VNPT also had 2.75mn ADSL and FTTx internet subscribers, a figure which was up by 26.2%. VNPT was believed to account for almost 72% of Vietnam's 3.83mn internet subscribers at the end of February.</p> <p>In January 2012, local media citing data from the Ministry of Information and Communications (MIC) reported that VNPT's 2011 total revenue is estimated to be VND120.8trn, up by 18% y-o-y. This would mean that the group exceeded its initial target of VND120trn, but fell short of its revised target of VND130trn. The MIC also reported that the bulk of VNPT's revenue came from telecoms and IT services, which contributed VND103.864trn, making up 86% of the total. Net profit declined to VND10trn, down by VND1.2trn from the previous year. For 2012, VNPT has set a profit target of VND10.3trn.</p>
-----------------	---

Corporate Structure	VNPT owns eight state-affiliated companies, eight joint ventures – with other state-owned enterprises as well as with private entities – and 13 other subsidiaries. In addition to VinaPhone and MobiFone,
----------------------------	--

the state companies include Vietnam Telecom National (domestic services), Vietnam Telecom International (international long-distance services) and Vietnam Data Communication Company (data services).

In September 2004, a formal proposal was put forward by VNPT and the Ministry of Post & Telecommunications to separate the postal and telecommunications activities of the VNPT group. The plan decreed that the national network would be run directly by VNPT, instead of through subsidiaries such as Vietnam Telecom International and Vietnam Telecom National; these were subsequently absorbed into the parent company.

In April 2011, VNPT completed plans to divest its stakes in MobiFone and VinaPhone, which would be submitted to the Ministry of Information and Communications for approval, according to state media Nguoi Lao Dong. The sudden acceleration in VNPT's plans to divest its stake in the two mobile operators is due to the Vietnamese government's new regulation (Decree No. 25/2011/ND-CP that became effective on June 1 2011), which prevents an institution or individual holding more than a 20% stake in one telecoms operator from holding more than 20% stake in another company operating in the same sector. In June 2011, the MIC announced that it has given the state-owned entity a two-year extension to divest its stakes in the two mobile operators due to the complex structure of VNPT.

In November 2011, the Vietnamese Prime Minister signed a decision that gave the state a dominant stake in five telecoms firms including VNPT. The decision took effect from December 1 2011.

In February 2012, it was reported that VNPT will submit its restructuring plan to the prime minister in Q112. The group will only reveal details about its plan after it is approved by the government. In the same month, VNPT announced that it will merge its VNPT Global unit with MobiFone in order to improve resources for planned overseas investment in the future.

Network Developments

In June 2010, satellite telecoms networks provider Gilat Satellite Networks announced the deployment of its SkyEdge II broadband satellite telecoms network for Vietnam Telecom International (VTI) in Vietnam. The network will help VTI, a subsidiary of VNPT, provide a broad range of applications and services to its mobile data subscribers in all the regions of the country. The SkyEdge II broadband satellite network will operate through the first Vietnamese telecoms satellite VINASAT-1.

VNPT awarded Alcatel-Lucent a contract to supply end-to-end IP Multimedia Subsystem (IMS) solution in September 2010. According to the vendor, its IMS solution facilitates the migration of the existing PSTN services in VNPT/VTN to provide improved network performance, security and workforce productivity, as well as new revenue streams and future advanced mobile services.

VNPT selected ZTE's high-end cluster router ZXR10 T8000 in November 2010 to upgrade its internet egress gateway in order to meet the increasing demand for high-speed broadband mobile connections. VNPT was using ZTE's ZXR10 10G platform but the system is facing problems meeting VNPT's growing subscriber base.

In April 2008, VNPT launched Vinasat 1, the country's first telecoms satellite in French Guyana. Vinasat-1 will be controlled from two land stations in Ha Tay province (North Vietnam) and Binh Duong (South Vietnam). The cost of Vinasat-1 has been US\$200mn. VNPT worked closely with Lockheed Martin Commercial Systems over the construction and launch of Vinasat-1.

In May 2010, Vietnam granted a second telecoms satellite contract to Lockheed Martin Corp,

according to VNPT. The US company supplied VNPT with its first satellite, Vinasat-1, in 2008 for US\$200mn, providing the company with additional capacity for its internet services. The satellite would help VINASAT to be less reliant on foreign satellites and enable the operator to cater to the ever growing telecoms market. The value of the contract was not released although the Ministry of Information and Communications has previously said it might invest up to US\$350mn in the project. VNPT stated the launch of the satellite is expected in May 2012. .

VNPT expects to launch its Vinasat-2 satellite in Q212. Testing of the satellite will be fully completed by May 2012. The Vinasat-2 satellite will feature 24 Ku-band transponders and supply radio, TV, and telephony services for Vietnam and other countries in the Asia Pacific region. The satellite will reportedly cost about US\$260-280mn with a lifespan of 15 years. VNPT, as of May 2011, had deployed 15 LTE base stations in Hanoi capable of offering speeds of up to 60Mbps. The only other operator to launch LTE base stations was Viettel, of the seven operators that were provided with LTE licences. The other five preliminary LTE licence holders are FPT Telecom, CMC Telecom, Vietnam Multimedia Corporation (VTC), EVN Telecom and Beeline VN.

Broadband Services

Over the last five years ended 2011, VNPT has spent a total of US\$5bn to expand its fibre optic cable throughout the country. Fibre-optic cable services are offered under the brand name of FiberVNN and from May 2011 offer a maximum speed of 100Mbps while the minimum speed had increased from 512Kbps to 2Mbps, depending on the package. The operator also has an ADSL service called MegaVNN, which saw speeds rise from 2.56Kbps to 10Mbps.

International

In June 2007, the Vietnam Economy reported that VNPT had opened an office in the US, providing 'new opportunities for Vietnamese telecoms companies in this market'. The operator's decision was based on a need to update strategic information on technology and business to serve the group's operations and integration. VNPT cooperated with six US partners: MCI, Verizon, AT&T and Sprint over IDD services and with VITC and Net Global for voice over IP (VoIP) services. The Vietnamese operator was said to be looking to boost its internet and communication partnerships with Time Warner, Teleglobe, Fusion, Ipass and Voice2me. Meanwhile, VNPT had shown interest in the US' wholesale and retail markets.

VNPT was to pay 25% of the US\$3mn required to repair the broken undersea optical cable linking the country with Thailand and Hong Kong. The TVH system-based cable repairs will mostly be funded by Thailand's CAT (44.5%), while Hong Kong's REACH will pay 20.4% towards the repairs.

In March 2010, an international investment company owned by the government of Singapore, Temasek Holdings, acquired a 10% stake in VNPT Global. Temasek acquired the stake through its wholly owned subsidiary Singapore Technologies Telemedia (STT). The deal reportedly includes an investment of VND20bn and also provides an option to STT to increase its stake in VNPT Global in future. VNPT Global is an international subsidiary of VNPT.

In November 2011, Vietnam Business News reported that VNPT has discussed the possibility of cooperating with Myanmar-based Yatanarpon Teleport (YTP) to develop telecoms services, equipment and products for Myanmar. YTP has said that the Burmese government is considering a development plan for 30mn new mobile subscribers in the next few years.

Strategy

Given that VNPT has secured a two-year extension to divest its stake in MobiFone and VinaPhone, we expect the two mobile operations to continue to play a significant role in VNPT's overall operations in 2012 and 2013, particularly in terms of revenue generation. However, the prospect of losing at least one of the highly lucrative mobile operations should spur VNPT to seek alternative revenue streams, domestically and internationally. We envisage 3G services to play a part in transitioning subscribers to more profitable data services, and continued network expansion should fuel consumer demand.

Company**Financial Data****Performance**

- Annual Revenue (2006): VND38.3trn
- Annual Revenue (2007): VND45.3trn
- Annual Revenue (2009): VND83.253trn
- Annual Revenue (2010): VND101.569trn
- Annual Revenue (2011): VND120.8trn

Operational**Indicators**

- No. of Fixed-Line Subscribers (2005): 6.3mn
- No. of Fixed-Line Subscribers (2006e): 8mn
- No. of Fixed-Line Subscribers (2007): 8.82mn
- No. of Fixed-Line Subscribers (2008): 10.566mn
- No. of Fixed-Line Subscribers (2009): 11.011mn
- No. of Fixed-Line Subscribers (2010): 10.485mn
- No. of Fixed-Line Subscribers (February 2011): 11.8mn
- No. of ADSL and FTTx Subscribers (2008): 1.3mn
- No. of ADSL and FTTx Subscribers (2009): 2.15mn
- No. of ADSL and FTTx Subscribers (2010): 2.62mn
- No. of ADSL and FTTx Subscribers (February 2011): 2.75mn
- No. of Mobile Subscribers (2005): 6.7mn
- No. of Mobile Subscribers (2006): 10.18mn
- No. of Mobile Subscribers (2007): 18.98mn
- No. of Mobile Subscribers (2008): 42.902mn
- No. of Mobile Subscribers (2009): 53.375mn
- No. of Mobile Subscribers (2010): 64.510mn
- No. of Mobile Subscribers (February 2011): 77.4mn

Address

- Vietnam Posts and Telecommunications Corporation (VNPT)
18 Nguyen Du Street
Hanoi, Vietnam
- Tel: +84 (49) 434 936
- Fax: +84 (48) 255 851
- www.vnpt.com.vn

Viettel

Strengths	<ul style="list-style-type: none"> ▪ Licence to offer fixed-wireless, mobile and value-added services. ▪ Low tariff structure. ▪ Nationwide coverage. ▪ Mobile market leader.
Weaknesses	<ul style="list-style-type: none"> ▪ Network currently has limited capacity. ▪ Relatively small fixed-line market share. ▪ Behind rivals VinaPhone and MobiFone in terms of 3G subscriber figures, having commenced services relatively late to the market.
Opportunities	<ul style="list-style-type: none"> ▪ Nationwide coverage should guarantee substantial market share in the medium term. ▪ Won licence to test WiMAX and LTE mobile broadband services. ▪ Given the approval by the Vietnamese government to acquire EVN Telecom
Threats	<ul style="list-style-type: none"> ▪ Connection difficulties could prompt potential subscribers to opt for alternative networks. ▪ Influx of new mobile entrants likely to lead to pricing war. ▪ Competition is increasing in the wireline sector. ▪ Mobile market is showing signs of saturation.

Overview	<p>Viettel established a radio trunking network in 1998, before launching domestic and international VoIP services in 2001. However, its major breakthrough came in 2003 when it began offering local access and internet services and started rolling out a GSM mobile network.</p> <p>According to the Ministry of Information and Communications, Viettel had 36.7% of the mobile market at the end of 2010, representing a subscriber base of around 40.969mn, which placed the operator as the market leader. At the end of 2009, Viettel had approximately 33.219mn mobile subscribers, an equivalent of a 33.8% market share. Viettel's strong position in the Vietnamese mobile market was not replicated in the country's fixed-line and internet sector. According to the regulator, Viettel had about 2.633mn fixed-line subscribers (18.3% market share) and 2.553mn internet subscribers (9.5%) at the end of 2010.</p> <p>Similar to VNPT, Viettel was also one of the five telecoms companies that would see the Vietnamese government hold a dominant stake (more than 50%). The decision was signed by the Prime Minister in November and took effect on December 1 2011.</p>
-----------------	--

Recent Financial Performance	<p>Viettel reported revenue of VND117trn in 2011, while net profit increased to VND20trn. The group claimed to have secured net additions of 8mn in 2011, the highest among Vietnamese mobile operators. Viettel aims to achieve a 20-25% revenue and net profit increase in 2012, with a plan to improve 3G network coverage and quality. Viettel said its revenue from overseas investments more than doubled in 2011 to reach over VND10trn.</p> <p>Viettel reported revenue of VND91.134trn in 2010, an increase of 50.4% from the previous year's revenue of VND60.6trn. The operator set a target of VND100trn in 2010, as part of a rivalry with VNPT, but fell slightly short.</p> <p>For the year ended December 2009, Viettel reported revenue of VND60.600trn, an increase of 81.8% y-o-y. The operator is looking to rapidly expand its presence overseas through strategic</p>
-------------------------------------	---

investments and acquisitions. Already active in Cambodia and Laos (where it generated US\$70mn in revenue in 2009), Viettel aims to expand its reach into 15 countries by 2015. As of June 2011, Viettel had 55mn mobile subscribers worldwide.

Network

Developments

In May 2009, China's Huawei Technologies revealed that it had been selected by Viettel to build the operator's W-CDMA/HSPA network. The vendor will construct more than 2,000 base stations in southern Vietnam and planned to launch the network by the end of 2009. Viettel has also said that customers in densely populated and remote areas where cable broadband infrastructure is limited will have access to wireless broadband services, multimedia services and high quality content.

In June 2009, China's ZTE Corporation announced it had partnered with Viettel to help build the company's UMTS network. Under the agreement, ZTE will supply its Soft Defined Radio (SDR) solutions to support the network rollout, which is slated for completion by September 2009. In August 2009, it was reported that Viettel had selected Nokia Siemens Networks (NSN) as its radio network infrastructure supplier to help roll out its 3G network. Under the contract NSN will provide the hardware, software and services required to build and manage the network, including skills training for Viettel's team. By early 2010 the vendor has said that Viettel's subscribers will be able to access rich multimedia applications and data-intensive services.

In March 2010, Viettel launched its 3G mobile network three months ahead of schedule. The company has also begun offering the Apple iPhone as an incentive to potential subscribers, including the 1mn trial subscribers it has signed up over the last four months. In August 2011, the operator increased the number of 3G base stations to 17,000 from 8,000 previously. The number of Viettel's 3G base stations has exceeded the 15,000 Required by the MIC.

In June 2011, Viettel commenced a fibre optic cable network to Ho Chi Minh City's Can Gio Island district. Consequently, residents are able to access the operator's fixed telecoms services.

Mobile Services

In April 2009, Viettel was awarded a licence to operate 3G services by the Ministry of Information and Communications (MIC), along with VinaPhone, MobiFone and a consortium between EVN Telecom and Hanoi Telecom, which will build and develop a 3G network together. The quartet was given three months to develop third-generation wireless services under the 15-year licences. Trials of its 3G service commenced in December 2009, across 17 cities and provinces, and the operator planned to install 100,000 3G base stations during 2010. To catch up to its rivals in terms of subscriber figures, Viettel announced – having commercially offered its 3G service in March 2010 – that in April 2010 it would reduce its 3G registration fee for mobile internet by 50%. The service charge was VND10,000 per month and for D-Com 3G services charges VND30,000 per month. In addition, Viettel offered bonuses of more than VND1mn on D-com 3G services.

In May 2011, Viettel became the first operator in Vietnam to offer its customers trial LTE services. From May 12 to August 31 2011, 240 Viettel mobile subscribers based in Hanoi and Hoh Chi Minh have been provided the opportunity to try LTE services over 4G USB devices.

Viettel launched a prepaid mobile plan for consumers living in coastal regions and islands in August 2011. The package, called Sea+, enables subscribers to register up to 10 numbers, which can be contacted at a discounted rate for an additional VND10,000 a month, or half the amount for on-net calls. The service also comes with free weather information.

Viettel and Vietcombank introduced Mobile BankPlus in January 2012, enabling the operator's mobile subscribers to bank with Vietcombank through mobile devices. The service allows Viettel's subscribers to transfer money from one account to another within Vietcombank, as well as pay phone bills and access their account balance and transaction details. Subscribers can access their banking accounts via their mobile phones without connecting to 3G or Wi-Fi. The strategic cooperation would allow both parties to take full advantage of the number of customers and network of both sides, said director of Viettel, Hoang Son.

International

Viettel offers mobile services in Laos and Cambodia. With an existing 25% share of the Cambodian international VoIP market and over 50% share of the international channel leasing market in the country, Viettel has said it will focus on the roll-out of a US\$27mn mobile network infrastructure. The operator has also established a JV with the government in Laos, where it offers fixed-line and mobile services.

Viettel launched its Metfone mobile service in Cambodia in February 2009. According to Telecompaper, Metfone has more than 1,000 base stations supported by a 5,000km fibre-optic network linking all provinces of the country. The mobile operator will expand its coverage by deploying 3,000 base stations and a 10,000km network.

In May 2008, Taiwanese incumbent Chunghwa Telecom launched a US\$30mn 'internet data joint venture' with Viettel. The move forms part of Chunghwa's efforts to expand overseas. Chunghwa is Taiwan's largest operator, leading each of the fixed-line, mobile and broadband markets by subscribers. Chunghwa has said that it hopes to expand its business through overseas investments as saturation at home leads to an inevitable slowdown. The operator has said it will use Vietnam as a base from which to enter other countries such as Laos. In the new venture, Viettel will own a 70% stake while Chunghwa will take the remaining 30%.

In May 2010, Viettel, IFC (a member of the World Bank group), and Haiti's government and central bank BRH signed an agreement to invest in a fibre-optic cable in Haiti. Viettel will invest US\$59mn initially under a public-private partnership structured by the IFC. The operator will contribute an additional US\$40mn over the next four years to upgrade services offered by fixed-line operator Télécommunications d'Haiti (Teleco). Viettel will hold 60% stake in the newly-established company and BRH, Teleco and its affiliates will control 40%. The new company operates under the name Natcom and was officially launched in September 2011.

In November 2010, Movitel (a unit of Viettel and its ownership includes a consortium of Mozambican investors) was selected by Mozambique's telecoms regulator, the National Institute of Communications, to be the country's third mobile operator. Movitel had won the tender with a US\$29mn bid and superior technical capacity. No timeframe has yet been disclosed for Movitel's network roll out but Movitel has to begin mobile operations in Mozambique in 12 months, according to the director of INCM. The company announced that is planning to spend US\$436mn building its mobile network between 2011 and 2015. Of this amount, US\$120mn will reportedly be spent in 2011, specific focus on deploying new base stations in remote areas where Viettel's competitors currently lack infrastructure. In December 2011, Movitel announced that it plans to start operations in Mozambique on January 8 2012, with 80% population coverage in the next five year through an investment of US\$400mn. The company targets to secure 10mn subscribers by the end of five years.

Viettel announced in January 2011 that it plans to build 1,000 base transceiver stations in Haiti to launch wireless services in the country, up from the existing five stations already built.

Also in January 2011, Viettel was awarded Peru's fourth mobile operator licence. The company reportedly plans to invest around US\$27mn in the new 1900MHz network and begin operations in the H111. Then in March 2011, it was reported that Viettel was poised to enter Paraguay through the prospective acquisition of Paraguayan state-owned wireline provider Copaco. It is understood that Viettel is preparing to send a delegation to Paraguay in order to commence official talks with the fixed-line incumbent. Paraguayan press reports have indicated that Viettel is willing to invest at least US\$100mn in overhauling Copaco's limited infrastructure.

It was announced in May 2011, that Viettel was keen to enter the Argentine broadband market. Viettel Deputy General Director Nguyen Manh Hung met with Argentina's Secretary of Communications Carlos Lisandro Salas on May 12 in Buenos Aires, and Salas said Argentina would be willing to welcome a new partner.

Company Financial Data

Performance

- Annual Revenue (2007): VND16.300trn
- Annual Revenue (2008): VND33.000trn
- Annual Revenue (2009): VND60.600trn
- Annual Revenue (2010): VND91.134trn
- Annual Revenue (2011): VND117trn
- Gross Profit (2008): VND8trn
- Net Profit (2009): VND10trn
- Net Profit (2011): VND20trn

Operational Indicators

- No. of Mobile Subscribers (2006): 5mn
- No. of Mobile Subscribers (2007): 10.4mn
- No. of Mobile Subscribers (2008): 26.130mn
- No. of Mobile Subscribers (2009): 33.219mn
- No. of Mobile Subscribers (2010): 40.969mn
- No. of 3G Subscribers (April 2009): 1mn
- No. of 3G Subscribers (December 2010): 1.17mn
- No. of Fixed-Line Subscribers (2008): 1.847mn
- No. of Fixed-Line Subscribers (2009): 3.768mn
- No. of Fixed-Line Subscribers (2010): 2.633mn

Address

- Viettel
1A Giang Văn Minh Street,
Ba Đình,
Hanoi, Vietnam
- Tel: +84 (4) 255 6789
- Fax: +84 (4) 846 0486
- www.viettel.vn

MobiFone

Strengths	<ul style="list-style-type: none"> Vietnam's second largest mobile operator, reporting around 33mn subscribers at the end of December 2010. Strong subscriber growth with almost 6mn net additions reported for 2010. 2010 revenue reached VND36trn, up by 31.5% in the year, despite intense market competition.
Weaknesses	<ul style="list-style-type: none"> Overtaken by Viettel having earlier been the market leader for a number of years. Recent customer growth has been driven by discounted tariff strategy. Economic recession has led the operator to report significant discounts. Value of IPO has been reduced by US\$1bn due to economic recession.
Opportunities	<ul style="list-style-type: none"> Continued interest in IPO remains, with parties such as France Télécom interested. Value-added services entering the market strengthening its non-voice services portfolio.
Threats	<ul style="list-style-type: none"> Regulatory intervention in terms of prepaid registration and reduced pricing could negatively affect MobiFone's performance.

Overview

Vietnam Mobile Telecom Services (VMS), a subsidiary of VNPT, operates a GSM-based digital cellular telephone network under the MobiFone brand name.

MobiFone planned to prepare for an IPO of the company's shares, which was expected to take place in 2009. Between 10-15% was expected to be offered to the public, with a similar shareholding sold to a strategic investor. Further, an additional 19% could be sold off, leaving the government with a majority 51% stake in the operator. Credit Suisse was contracted to act as the operator's financial advisor beating five other shortlisted candidates.

Credit Suisse valued the operator at US\$2bn in January 2009, and was valued at US\$1bn lower due to the economic recession. Despite this, MobiFone was understood to be on track to conduct the IPO late in 2009, however, this did not take place.

The sale was important to watch as it will be the first of many privatisations planned by the Vietnamese government for the telecoms sector.

France Télécom had expressed interest to purchase shares in MobiFone when the Vietnamese mobile operator undergoes privatisation. The listing failed to materialise in 2010 but the MIC announced in June 2011 that it has given VNPT a two-year extension to divest its stake in MobiFone.

Recent Financial Performance

For the year ended December 2010, MobiFone registered a 31.5% y-o-y increase in revenue to VND36.03trn. The figure represented around 35% of the total 2010 revenue of parent Vietnam Posts and Telecommunications (VNPT), the country's state-owned incumbent fixed line operator. MobiFone reportedly earned pre-tax profit of VND5.8trn, a y-o-y increase of 6% compared to 2009, and corresponded to 52.3% of VNPT's pre-tax profit for 2010. The company said it signed up a total of 5.95mn new mobile subscribers in the 12-month period, bringing its total customer base to around 35mn at the end of 2010. The operator aims to sign up a further 5mn mobile subscribers in 2011, and targets revenue of VND39trn and pre-tax profit of VND6.1trn.

For the year ended December 2009, MobiFone registered a 52% y-o-y increase in revenue to VND27.4trn (US\$1.48bn), according to Bloomberg. However, the pre-tax profit registered by the operator declined by 3.4% y-o-y to VND5.6trn (US\$303.3mn). The operator announced that it aims to increase its revenue to VND34trn (US\$1.84bn) in 2010. MobiFone also revealed its intentions to begin the process of privatisation in 2010. At the time of writing, there was no further news on the proposed listing.

Network Development

In April 2009, MobiFone was awarded a licence to operate 3G services by the Ministry of Information and Communications (MIC), along with VinaPhone, Viettel and a consortium between EVN Telecom and Hanoi Telecom, which will build and develop a 3G network together. The quartet was given three months to develop 3G wireless services under the 15-year licences.

In September 2009, MobiFone signed a deal with Ericsson for the deployment of 3G radio access network infrastructure in Ho Chi Minh City and in southern Vietnam.

In November 2009, the operator awarded a network upgrade contract to Nokia Siemens Networks. Under the terms of the contract, NSN will deploy its Flexi Multiradio Base Station to upgrade MobiFone's existing network to 3G and also implement an IP backbone. NSN will be responsible for the design and maintenance of the network.

MobiFone's W-CDMA/HSDPA network launched in Vietnam in December 2009, offering users access to four key services – video calling, mobile internet, 32 channels of mobile TV and fast connection speeds of up to 7.2Mbps. At the end of February 2010, the operator claimed 6mn subscribers.

The operator launched its NGN network in December 2009 as part of a long-term project. Introduced in two phases, the first phase, carried out between 2008 and 2010, would focus on developing NGN applications and a core 2G network, while gradually putting 3G into application in big cities. The second phase, from 2010-2012, would focus on the core NGN IP technology and launching 3G nationwide.

In August 2011, MobiFone selected Ericsson to manage and optimise video content delivery over the mobile network operator's nationwide network after growing consumption of high data-intensive services by consumers. Ericsson's Multiservice Proxy solution would simplify the network architecture and enable MobiFone to expand its portfolio of multimedia services.

In February 2012, Ericsson announced it has entered into an agreement with MobiFone to consolidate the operator's six Regional Network Operations Centres (RNOC) in Vietnam into one Centralised NOC in Hanoi. According to the agreement, Ericsson will, through its Consulting and Systems Integration expertise, consolidate MobiFone's network operations organisation and implement a unified Network Management System

Mobile Services

MobiFone introduced reduced prices to its 3G service. In March 2010, MobiFone's 3G promotional programme involved a 30-50% reduction in charges to be applied for many services. From March to June 30 2010, customers registered to use Mobile Internet services with package kits of Surf7 and Surf30 will see charges reduced by 50% to VND40,000 per month and VND150,000 per month respectively. In addition, subscribers to its FastConnect 3G service will not have to pay an activation

fee, while FastConnect 2 and FastConnect 3 users will only have to pay 50% of the subscription fee.

In November 2011, MobiFone announced that postpaid subscribers that used VietinBank's system for payments will enjoy a 10% discount until January 31 2012. The promotion was made possible because of a bill payment cooperation between MobiFone, Vietnam Payment Solution Joint Stock Company and VietinBank

In February 2012, Mobifone, in association with media firm Zing, introduced Zing.vn service packages in the country, reports Viet Nam News. The packages enable subscribers to listen to music, download MP3s and watch news. Subscribers can also access the Zing Me social network for a monthly tariff of VND15,000.

Company

Operational Indicators

Performance

- No. of Mobile Subscribers (2003): 1.036mn
- No. of Mobile Subscribers (2004): 1.843mn
- No. of Mobile Subscribers (2005): 3.2mn
- No. of Mobile Subscribers (2006): 5.0mn
- No. of Mobile Subscribers (2007): 9.9mn
- No. of Mobile Subscribers (2008): 21.713mn
- No. of Mobile Subscribers (2009): 26.668mn
- No. of Mobile Subscribers (2010): 32.478mn
- No. of 3G Subscribers (February 2010): 6mn

Address

- Vietnam Mobile Telecom Services (VMS-MobiFone)
811 A Giai Phong,
Hai Ba Trung,
Hanoi, Vietnam
- Tel: +84 (4) 864 9533
- Fax: +84 (4) 864 8534
- www.mobifone.com.vn

VinaPhone

Strengths	<ul style="list-style-type: none"> Strong subscriber growth, with a customer base of around 32mn at the end of December 2010. Competitively priced tariffs contributing to strong subscriber growth; reported 5mn net customer additions in 2010. Government backing in the form of parent company Vietnam Post and Telecommunications Company (VNPT). Early introduction of 3G services has led to market leading position.
Weaknesses	<ul style="list-style-type: none"> Recent customer growth has been driven by discounted tariff strategy. Registration of prepaid subscriber details is expected to dent its market share in the short term. Reduced ARPU rates as a result of an unfavourable customer mix.
Opportunities	<ul style="list-style-type: none"> Possibility for an IPO in the footsteps of MobiFone. Expansion of value-added services portfolio should encourage greater spending over its networks. National network coverage provides new opportunities for subscriber base expansion.
Threats	<ul style="list-style-type: none"> Net additional growth is slower than rivals leading to the operator retaining its third-ranked position.

Overview

A wholly owned subsidiary of VNPT, GPC-VinaPhone operates a nationwide GSM-based digital cellular telephone network under the VinaPhone brand name. The network was launched in June 1996.

By the end of December 2009, the number of mobile customers served by VinaPhone reached 26.707mn. The operator previously stated that it planned to target 10mn net additions in 2009, in order to bring its subscriber total to 26mn. According to the Ministry of Information and Communications, VinaPhone had a market share of 28.7% at the end of 2010, representing about 32.032mn mobile subscribers. The operator has said that it aims to cross the 40mn mobile subscriber mark in 2011 and also plans to promote internet mobility services through its 3G network along with boosting the investment for its 3G network.

Network

Development

In April 2009, VinaPhone was awarded a licence to operate 3G services by the MIC, along with MobiFone, Viettel, and a consortium between EVN Telecom and Hanoi Telecom, which will build and develop a 3G network together. The quartet was given three months to develop third-generation wireless services under the 15-year licences.

Also in April 2009, it was announced that VinaPhone had selected Alcatel-Lucent to upgrade its GSM network with EDGE technology in 16 provinces in the north of the country. The rollout is currently under way and the network was scheduled to begin providing commercial services by the end of April 2009. Under the terms of the contract, Alcatel-Lucent will design, deploy and maintain its multi-standard GSM/EDGE radio access solution, including its latest Base Station Controller platform and TWIN transceivers. The solution is designed to give VinaPhone the flexibility to introduce new technologies in the future, including EDGE+, W-CDMA, HSPA, HSPA+ and LTE.

In August 2009, VinaPhone announced an agreement with Motorola for the deployment of a 3G

network in northern Vietnam and parts of Hanoi. Then in September, VinaPhone announced a separate agreement with ZTE for the development of the cellco's 3G network in Vietnam's central provinces.

Motorola entered into another contract valued at US\$70mn with VinaPhone in January 2010 for the expansion of the operator's GSM network. Motorola would deploy 3,000 more base stations transceivers for VinaPhone until 2012. The base stations would expand the operator's 2G network in southern and northern provinces of the country.

According to cellular-news in August 2010, VinaPhone installed a base station on the Bach Ho oil drilling rig that can handle more than 500 calls simultaneously within 40km, under the instruction from the Ministry of Information and Communication and VNPT.

Mobile Services

In October 2009, VinaPhone became the first operator to launch 3G services, and claimed to have around 7mn subscribers five months later.

VinaPhone announced new mobile broadband services bundled with USB modem devices in August 2010 to better meet market demand and encourage higher adoption for its 3G services. Prices ranged from VND799,000 to VND999,000 per set (includes SIM) and VND784,000 to VND984,000 per set (without SIM).

In March 2011, VinaPhone launched VinaSport service, a new plan for sport fans. VinaSport provides its customers with the information and images about football, tennis, golf, boxing and formula one racing. The service has two fee packages including a weekly fee package of VND10,000 and a monthly fee of VND20,000 and an extra VND2,000 to download messages.

In August 2011, VinaPhone launched a promotion targeted at cadres of the Ho Chi Minh Communist Youth organisation. Consumers are offered 60 minutes of free calls a month worth VND70,500 and a 50% discount on downloading ringtones. Subscribers also get 50% discount when calling other cadres registered under the promotion.

VinaPhone, along with rival Viettel, announced in December 2011 that it will offer the international version of Apple's iPhone 4S. Prices from VinaPhone start from VND15.6mn for the 16GB model.

Company

Operational Indicators

Performance

- No. of Mobile Subscribers (2003): 1.3mn
- No. of Mobile Subscribers (2004): 2.5mn
- No. of Mobile Subscribers (2005): 3.5mn
- No. of Mobile Subscribers (2006): 5.5mn
- No. of Mobile Subscribers (2007): 9.1mn
- No. of Mobile Subscribers (2008): 21.189mn
- No. of Mobile Subscribers (2009): 26.707mn
- No. of Mobile Subscribers (2010): 32.032mn
- No of 3G Subscribers (March 2010): 7mn

Address

- Vietnam Telecom Services Company (GPC-VinaPhone)
57A Hyunh Thuc Khang

Dong Da, Hanoi, Vietnam

- Tel: +84 (4) 835 8815
- Fax: +84 (4) 835 7502
- www.gpc.vnn.vn

S-Fone (S-Telecom)

Strengths	<ul style="list-style-type: none"> ▪ Licence to offer fixed-wireless, mobile and value-added services.
Weaknesses	<ul style="list-style-type: none"> ▪ Coverage currently limited to 13 provinces and cities. ▪ Pricing structure already undercut by Viettel. ▪ Continued uncertainty over the future of the company after SK Telecom halted its investment in S-Fone.
Opportunities	<ul style="list-style-type: none"> ▪ Continued growth of mobile sector offers opportunity for expansion. ▪ Helped by its nationwide coverage, there is the potential for considerably more mobile growth, especially from next generation services. ▪ Expanding arsenal of mobile handset models, not to mention non-voice applications.
Threats	<ul style="list-style-type: none"> ▪ Falling further behind market leader Viettel and VNPT subsidiaries. ▪ Influx of new mobile entrants likely to lead to pricing war. ▪ Further investment on hold, including that of 3G, could leave S-Fone vulnerable in the competitive mobile sector.

Overview

S-Fone operated under a business cooperation contract between Saigon Postel and SLD, a Singapore-based consortium comprising South Korea's SK Telecom, LG Electronics and Dong Ah Elecomm. SLD has no equity in the venture, which is run under a form of build-operate-transfer (BOT) agreement.

S-Fone holds a licence to offer mobile, fixed-wireless and value-added services through CDMA2000 1X technology. The operator launched services in July 2003 and, by the end of 2006, had 1.8mn mobile subscribers. According to the MIC, S-Fone had 4.67% of the mobile market at the end of December 2009. By December 2010, S-Fone had 1.861mn mobile subscribers, representing 1.65% of the market.

In August 2009, Dow Jones Newswires reported that South Korea's SK Telecom planned to halt further investment in S-Fone. This was confirmed in January 2010, by SK Telecom. It is understood that the decision was due to S-Fone's low profit and subscriber growth. The operator added that it will not abandon its partnership with Saigon Post and Telecommunication Corporation (SPT) in S-Fone.

SK Telecom revealed that S-Fone had around 7mn subscribers as of August 2009. The South Korean operator has reportedly invested around US\$180mn in S-Telecom since 2001.

SPT was reported in November 2010 to be seeking a new business partner for S-Fone. Saigon holds an 80% stake in the joint venture and said it will buy into SK Telecom's 20% stake in the next two years before selling 20-30% to new partners. Further to this, it was reported in May 2011, that SPT had filed an application with the Ho Chi Minh Department of Planning and Investment to alter its licence with SK Telecom from the current business cooperation contract (BCC) to a joint venture licence. From September 2011, the BCC will be liquidated. SPT expects to purchase back SK Telecom's stake within the next two years.

Network

S-Fone announced that it will add 1,000 base transceiver stations (BTSs) to provide high quality 3G services, equal to its GSM network, in 2010.

Development

Saigon Post and Telecommunication Corporation, operator of S-Fone, announced in July 2010 that it signed three memorandums of understanding with Samsung, ZTE and Huawei Technologies. The three foreign companies would assist S-Fone in terms of technology, coverage expansion, 3G application, equipment, marketing and training, and voice services.

Mobile Services

In a deal to attract next generation subscribers, S-Fone signed an agreement with digital entertainment company WiderThan to operate and manage the company's VAS. It will allow S-Fone to offer a broad range of mobile entertainment, including ringtones, music and video on demand, games and news services.

Following the decision to reduce tariffs by Viettel, VinaPhone and MobiFone, S-Fone cut its fees by an average of 15% for subscribers using its Standard, Economy, 4M, Daily and Smile services in September 2010.

Strategy

Going into 2012, the operator's strategy remains unclear due to the decision taken by S-Fone's JV partner SK Telecom to stop investment as a result of poor results. There is the possibility that SK Telecom could exit Vietnam, and in its place, a South Korea-based private equity fund Rutter Associates Korea could take its place, potentially investing around KRW100bn. Funds could be used for network expansion, which is much needed, and the continued upgrade of the operator's current network.

In March 2012, local media quoted the regional CEO of Qualcomm in Indochina and Thailand, and he said that S-Fone has suffered in terms of declining subscribers after losing the support of SK Telecom. Given the dominance of Viettel, MobiFone and VinaPhone, there is an increasing likelihood of S-Fone exiting the market.

Company

Operational Indicators

Performance

- No. of Mobile Subscribers (2006): 1.8mn
- No. of Mobile Subscribers (2007): 2.26mn
- No. of Mobile Subscribers (2008): 4.867mn
- No. of Mobile Subscribers (2009): 4.587mn
- No. of Mobile Subscribers (2010): 591,000

Address

- 97 Nguyen Thi Minh Khai,
Ben Thanh
District 1
Ho Chi Minh City, Vietnam
- Tel: +84 (8) 404 0079
- Fax: +84 (8) 925 4287
- www.stelecom.com.vn

EVN Telecom

Overview

The telecoms arm of Electricity of Vietnam (EVN) and the country's second CDMA operator, EVN Telecom launched its services at the end of February 2006, making it the country's sixth commercial operator. EVN is the largest CDMA operator in Vietnam using the 450MHz band. In April 2009, EVN Telecom and Hanoi Telecom received a joint licence to build and operate a 3G network in Vietnam (see *Partnerships section below*). At the end of 2010, data from the Ministry of Information and Communications showed that EVN Telecom had a mobile market share of 1.6%, representing about 1.774mn subscribers.

Aside from mobile, EVN Telecom is licensed to provide fixed- and leased-line services, internet, international connectivity and domestic and international VoIP. The operator is estimated to be the second largest provider of fixed-line services (after VNPT), with a market share of almost 15% at the end of 2007. By 2009, EVN Telecom fell to third position behind Viettel with a fixed-line subscriber base of 2.496mn or 14.3% market share. Its subscriber base declined further in 2010 to 1.068mn, an equivalent of 7.4%.

It was announced in January 2011 that the purchase of a 49% stake in EVN Telecom by the Corporation for Financing and Promoting Technology (FPT) had been approved by Vietnam's prime minister, as part of a plan to privatise the state-owned operator. The state would retain a 50.6% stake in EVN Telecom, while a 0.4% stake will be sold to EVN Telecom's employees. EVN and FPT hoped that the cooperation would help the former improve its position in the telecoms sector, while opening up opportunities for FPT to enter the wireless sector. However, further to this, on April 15, FPT announced it would not purchase the stake in EVN Telecom, resulting in the loss of VND700bn, which would have greatly benefited EVN Telecom. According to FPT General Director Truong Dinh Anh, a change in government regulations (reducing its proposed holding from 60% to 49%) and contract terms were viewed as no longer suitable.

In December 2011, the Vietnamese government has given the go-ahead for market leader Viettel to acquire EVN Telecom in spite of strong opposition from Hanoi Telecom. This was after Vietnam's deputy minister of information and communications, Le Nam Thang, announced in October 2011 that EVN Telecom should be merged with a state-owned telecoms company.

In January 2012, it was reported that EVN Telecom was merged into Viettel. EVN Telecom subscribers were required to re-register in order to use the market leader's network.

Network Development

In January 2007, EVN Telecom became the first operator in Vietnam to secure a spectrum for the deployment of its 3G services, as well as gaining an agreement in principle from the government to develop mobile WiMAX in 2007. The government announced that it would offer spectrum to EVN Telecom over the 1900MHz frequency band for 3G deployment alongside the operator's existing 450MHz spectrum.

A fibre-optic cable is also being constructed, which will reach 80 districts nationwide and raise transmission capacity of the national optic transmission axis to 100Gbps, regional line capacity to 10Gbps and local transmission capacity to 2.5Gbps.

In November 2009, EVN Telecom awarded a 3G mobile network contract to Huawei Technologies. Under the terms of the contract, the Chinese vendor will be responsible for developing a 3G mobile network including the supply of equipment and technology for the development of the network. The network, with an initial coverage of 46%, was expected to be commercially available from April 30

2010.

However, perhaps as a result of the economic downturn, EVN Telecom announced in January 2010, it had requested that the country's Ministry of Information and Communications grant it permission to share its 3G network infrastructure with other mobile operators in Vietnam, according to VietNamNet Bridge. The operator expected that sharing of infrastructure would help it reduce its investments by up to one-third.

In June 2010, EVN Telecom commercially rolled out its 3G network. The operator would target Hanoi, Ho Chi Minh City, Hai Phong, Da Nang and Can Tho in the first phase of the rollout. The operator, fourth in Vietnam to offer 3G services, was expecting to register 1mn 3G subscribers within one year of the launch of its services.

Partnerships

EVN Telecom and Hutchison Global Communications (HGC) signed a MoU, in January 2009, to interconnect EVN Telecom's newly purchased capacity on the TGN Intra-Asia Submarine cable system with HGC's advanced network. Under the terms of the MoU, HGC is to cooperate with EVN Telecom to provide connectivity solutions to wholesale carriers and corporate customers in Vietnam.

In June 2009, EVN Telecom and Hanoi Telecom Company signed a VND6mn (US\$338mn) 3G network and services agreement. The two companies plan to construct 5,000 BTSs over the next three years to provide 50% of residential areas with third generation services. At present, EVN Telecom operates close to 3,000 BTSs and Hanoi Telecom around 1,200. The two operators planned to launch commercial 3G services in the first quarter of 2010 at the latest.

EVN Telecom signed a strategic cooperation agreement with the Vietnam Multimedia Corporation (VTC) in March 2010. The partnership would provide VTC's content services and valued-added services by EVN's 3G and GSM networks. Both parties aimed to reduce cost by utilising each other's infrastructure, capability and specialisations.

EVN Telecom and CMC Telecom Infrastructure signed an FTTx network contract in July 2010 to provide international channels in Hanoi and Ho Chi Minh City. CMC would use an international internet TV channel with a capacity of up to 2.5Gbps through an EVN Telecom's optical cable for five years. The internet TV would be used to meet all the demand for telecoms services on a single link in the two cities.

Company

Performance

Financial Data

- Annual Revenue (2006): VND1trn
- Estimated Annual Revenue* (2007): VND3trn
- Annual Revenue (2010): VND2.885trn

* provided by EVN Telecom

Operational Indicators

- No. of Fixed-Line Subscribers (2008): 2.205mn
- No. of Fixed-Line Subscribers (2009): 2.496mn
- No. of Fixed-Line Subscribers (2010): 1.068mn
- No. of Mobile Subscribers (2008): 973,000
- No. of Mobile Subscribers (2009): 884,000

- No. of Mobile Subscribers (2010): 1.774mn

Address

- EVN Telecom
30A Pham Hong Thai St.
Ba Dinh Dist., Hanoi, Vietnam
- Tel: +84 (4) 2100507
- Fax: +84 (4) 7151109
- www.enet.vn

FPT Telecom

Overview

FPT Telecom is one of the six offshoots of The Corporation for Financing and Promoting Technology. The company offers an array of services including ADSL, ADSL 2+, FTTH, Leased line and WiMAX broadband services and dial-up services. In July 2007, the operator launched Wi-Fi services, free of charge for its customers. FPT launched ADSL services in 2003. The operator is estimated to be the third largest provider of broadband internet services after VNPT and Viettel.

On April 16 2008, FPT Telecom renamed itself FPT Telecom Corporation, comprising six member companies – FPT Telecom North, FPT Telecom South, FPT Telecom Global, FPT Internet Data Service, FPT Advertising Service, and FPT Online. Each company has a well-defined role in the corporation.

FPT Telecom remains keen to enter into the mobile market and continues to look for stakes to purchase within existing mobile operators. However, the operator indicated that, in the event that it was not able to purchase a stake, it would deploy its own LTE network having received a licence from the Ministry of Information and Communications.

Recent Financial Developments

According to FPT, FPT Telecom reported revenue of VND2.457trn at the end of 2010, representing an increase of 32.8% y-o-y. Revenue includes revenue from sales to external customers and revenue from sales to subsidiaries for business purposes. For example, FPT Telecom sells internet service to other subsidiaries of FPT. Profit before tax reached VND601bn, up by 11.4% y-o-y. The lower profit growth was attributed to the government's decision to ground telecoms cables, exchange rate fluctuations, and start-up expenditures for business expansion.

FPT Telecom had the third highest revenue among FPT's operations, but reported the highest profit before tax.

Broadband was FPT Telecom's largest revenue source, accounting for VND1.520trn or 61.9% of its total. Online service revenue came in second at VND492bn, representing an increase of 52% from 2009. Lease-line revenue grew by 28% y-o-y to reach VND437bn in 2010.

FPT Telecom has set a revenue target of VND3trn for 2011, while profit before tax is expected to reach VND685bn.

FPT received its deposit of VND708.8bn from EVN Telecom, which was part of an agreement that would have seen FPT acquire a 60% stake in the troubled firm. FPT intends to invest VND220bn in the Asia Pacific Gateway cable and VND350bn in deployment of backbone infrastructure. Another VND100bn will be spent on expanding telecoms services to eight provinces and VND200bn on deploying network infrastructure in four of Cambodia's provinces.

Network Development

In February 2009, FPT Telecom completed its tests for mobile WiMAX in the capital, Hanoi. The trials enabled the operator to try out high-speed internet access, video downloads and the transfer of data and phone calls through wireless data speeds of up to 15Mbps, within 3km of a pilot WiMAX station.

The operator was responsible for completing the country's first-ever metro Ethernet and Optical network, with the help of Cisco Systems. The 10Gbps NGN is equipped with a total metro Ethernet,

broadband and IP/MPLS solution. The network provides FPT with a platform to deliver a wide variety of data, voice and video services over high-speed broadband connections. Cisco's solution will enable FPT to provide new value-added services, including triple play (data, voice and video) and IPTV.

According to VietNamNet, the Ministry of Information and Communication granted FPT Telecom in August 2010 permission trial LTE technology. At the time of writing, the operator was still selecting a partner for the trial.

In 2010, FPT Telecom opened branches in provinces and cities such as Da Nang, Hue, Khanh Hoa, Dak Lak, Tay Ninh, Phu Yen, Quang Nam, Can Tho, Sa Dec. By the end of the year, FPT Telecom had infrastructure in thirty six provinces.

Fixed-Line Services The operator targeted 100,000 fixed-line subscribers by June 2007 and 250,000 subscribers by end-2007. The first locations to receive access to its fixed-line network were Hanoi, Ho Chi Minh City, Dong Nai, Binh Duong, Can Tho, Hai Phong, Quang Ninh and Hai Duong. The operator's existing ADSL subscribers would be the first to be offered fixed-line services, its CEO stating that FPT Telecom would provide each fixed-line subscriber 'with two phone numbers on the same line . FPT wants to provide each member in a family with one different phone number, not one number for the whole family'. By December 2006, the operator had installed cables for 180,000 ADSL subscribers.

The operator acquired a licence in October 2007 to provide domestic and international land-line networks and, over the coming 12-18 months, would build a network linking Hanoi to Ho Chi Minh City, with another from Ho Chi Minh City and the southern city of Vung Tau to connect to a regional submarine cable project. A third network would also link Hanoi with the northern provinces of Lang Son and Quang Ninh (bordering China), with international calls routed through gateways in Hong Kong and Shanghai. Until now, the operator has been reliant on the networks of others.

Just a month before, FPT Telecom had inked a deal with EVN Telecom to lease a 2.5Gbps international ADSL line. The three-year contract is the largest of its kind, valued at VND20mn, and will enable FPT Telecom to double its bandwidth to 5Gbps. EVN Telecom planned to work with FPT Telecom as part of an agreement between their parent companies on opportunities in IT products and services. Further, FPT Telecom, having bought a new switchboard from Cisco Systems, would be able to provide a triple-play service of internet, telephone and TV over a single cable.

Internet Services By June 2007, FPT Telecom announced that it had established free internet access through its Wi-Fi systems to 5,000 locations throughout Hanoi and Ho Chi Minh City. The US\$1.5bn Wi-Fi project will benefit universities, colleges, cafes, restaurants, banks and securities companies in the two main cities. By the end of 2007, it was expected that there would be 8,000 Wi-Fi locations across Hanoi and Ho Chi Minh City (no recent data has been made available).

In August 2008, FPT Telecom announced that it had signed an agreement with PCCW Global to link their networks. The alliance with PCCW Global is designed to enable more comprehensive network management between Vietnam and other countries covered by PCCW's network. The partnership will allow value-added services, such as on-demand bandwidth and IP multicasts, to be offered to FPT Telecom's customers.

FPT Telecom announced from April 2010 onwards, it would enlarge the bandwidth of the FTTH

service package for corporate customers from 30Mbps to 65Mbps. International committed speed would increase from 640Kbps to 1.5Mbps. The company would provide free bandwidth upgrade for new and existing customers.

Company	Financial Data
Performance	<ul style="list-style-type: none"> ▪ Group Revenue (2007): VND27.3trn ▪ Group Revenue (2008): VND16.808trn ▪ Group Revenue (2009): VND18.742trn ▪ Group Revenue (2010): VND20.517trn ▪ FPT Telecom Revenue (2008): VND1.299trn ▪ FPT Telecom Revenue (2009): VND1.851trn ▪ FPT Telecom Revenue (2010): VND2.457trn ▪ FPT Telecom Profit Before Tax (2008): VND357bn ▪ FPT Telecom Profit Before Tax (2009): VND540bn ▪ FPT Telecom Profit Before Tax (2010): VND601bn

Address	<ul style="list-style-type: none"> ▪ FPT Telecom 48 Van Bao, Kim Ma Street Ba Dinh Dist., Hanoi Vietnam ▪ Tel: +84 (4) 760 1060 ▪ Fax: +84 (4) 822 3111 ▪ www.fpt.vn
----------------	--

Regional Telecommunications Penetration Overview

Fixed Line

Vietnam's fixed-line industry experienced a sharp decline in 2010, thereby erasing the subscriber gains in 2009. We believe that the emergence of a stronger mobile substitution trend is the main reason for the fall in the number of fixed lines in 2010.

Vietnam's penetration rate at the end of 2011 places the country at the mid-point of our regional comparison table. Despite the falling penetration rate, Vietnam continues to perform better than other regional neighbours such as Thailand and the Philippines. Although rural parts of Vietnam are still underserved by fixed-line telephony infrastructure, major urban centres such as Ho Chi Minh City, Hanoi, Danang and Haiphong have a high teledensity.

Table: Regional Fixed-Line Penetration Overview

Country	Fixed-Line Penetration 2011e (%)	Regional Rank 2011
South Korea	55.7	1
Taiwan	53.8	2
Hong Kong	49.7	3
Australia	40.6	4
Singapore	38.9	5
Japan	32.0	6
China	21.2	7
Vietnam	17.5	8
Indonesia	17.2	8
Sri Lanka	16.7	10
Malaysia	15.5	11
Thailand	9.7	12
Philippines	4.4	13
Pakistan	3.1	14
India	2.6	15
Cambodia	2.6	15
Laos	1.7	17
Bangladesh	0.7	18

e = estimate. Source: BMI

Mobile

Seven mobile operators compete in the Vietnamese mobile market with two more waiting in the wings after being awarded with licences by the Ministry of Information and Communications. However, the balance is heavily skewed towards state entities, with **Viettel**, **MobiFone** and **VinaPhone** controlling more than 95% of the sector.

Vietnam had a mobile penetration rate of 132.4% in end-2011, placing the country in fourth position in Asia Pacific. However, the high penetration rate is distorted by inaccurate data as well as inactive prepaid subscriptions. Nevertheless, we have noted a decline in the country's subscriber growth momentum, which suggest that the market is approaching saturation.

Table: Regional Mobile Penetration Overview

Country	Mobile Penetration 2011e (%)	Regional Rank 2011
Hong Kong	207.2	1
Singapore	149.5	2
Australia	133.3	3
Vietnam	132.4	4
Taiwan	127.2	5
Malaysia	125.8	6
Thailand	112.2	7
South Korea	110.0	8
Cambodia	109.6	9
Indonesia	106.6	10
Japan	102.7	11
Philippines	99.9	12
Sri Lanka	89.1	13
China	72.4	14
India	72.0	15
Pakistan	64.0	16
Bangladesh	61.1	17
Laos	55.0	18

e = estimate. Source: BMI

Broadband

Although there are more than seven internet service providers in Vietnam, the majority of the market is controlled by the **Vietnam Posts and Telecommunications Group**. At the end of 2010, the Ministry of Information and Communications reported that the firm had a 72% market share, with **FPT Telecom** in a distant second with a 13.5% market share. While the regulator does not provide a subscriber breakdown for the fixed broadband market, we expect VNPT to be the dominant player. By end-2011, the fixed broadband penetration rate in Vietnam reached 4.6%, which placed the country in the bottom half of our regional table.

Table: Regional Broadband Penetration Overview

Country	Broadband Penetration 2011 ^e (%)	Regional Rank 2011
Singapore	177.8	1
Taiwan	104.7	2
Australia	47.9	3
South Korea	37.1	4
Hong Kong	31.5	5
Japan	29.5	6
Malaysia	26.2	7
China	11.8	8
Philippines	6.1	9
Thailand	5.6	10
Sri Lanka	5.0	11
Vietnam	4.6	12
India	1.1	13
Pakistan	1.1	13
Indonesia	0.8	15
Cambodia	0.3	16
Laos	0.3	16
Bangladesh	0.2	18

^e = estimate. Source: BMI

BMI Telecoms Industry Glossary

Table: Glossary Of Terms

2G	second generation	GDP	Gross Domestic Product	MHz	megahertz
3G	third generation	GPRS	Global Packet Radio Service	MNP	Mobile Number Portability
ADSL	Asymmetric Digital Subscriber Line	GSM	Global System for Mobile Communications	m-o-m	month-on-month
AMOU	Average Minutes of Use	HDSL	High-bit-rate Digital Subscriber Line	MoU	Memorandum of Understanding
ARPU	Average Revenue per User	HSDPA	High-Speed Downlink Packet Access	MPLS	Multiprotocol Label Switching
ASP	Average Selling Price	HPSA	High-Speed Packet Access	MSC	Mobile Switching Centre
bn	billion	HSUPA	High-Speed Uplink Packet Access	MVNO	Mobile Virtual Network Operator
BTS	Base Transceiver Stations	HTML	HyperText Markup Language	na	not available
CDMA	Code Division Multiple Access	Hz	Hertz	OIBDA	Operating Income before Depreciation and Amortization
CEO	Chief Executive Officer	IDD	International Direct Dialling	POP	Point of Presence
CRM	Customer Relationship Management	ILD	International Long-Distance	q-o-q	quarter-on-quarter
D-AMPS	Digital-Advanced Mobile Phone Service	IPO	Initial Public Offering	R&D	research and development
DLD	Domestic Long-Distance	IP	Internet Protocol	SDSL	Symmetric Digital Subscriber Line
DMB	Digital Multimedia Broadcasting	IPTV	Internet Protocol TV	SIM	Subscriber Identity Module
DSL	Digital Subscriber Line	ISDN	Integrated Services Digital Networks	SMS	Short Messaging Service
DSLAM	Digital Subscriber Line Access Multiplexer	ISP	Internet Service Provider	TDMA	Time Division Multiple Access
DSU	Digital Subscriber Unit	IT	Information Technology	TD-SCDMA	Time Division-Synchronous Code Division Multiple Access
DTH	Direct-To-Home	ITU	International Telecommunications Union	trn	trillion
DVB-H	Digital Video Broadcasting-Handheld	JV	joint venture	UMTS	Universal Mobile Telecommunications System
DVB-SH	Digital Video Broadcasting-Satellite Handheld	Kbps	kilobits per second	VOD	Video On Demand
e/f	estimate/forecast	KHz	kilohertz	VoIP	Voice over Internet Protocol
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortization	km	kilometres	VLAN	Virtual Local Area Network
EC	European Commission	LANs	Local Area Networks	WAP	Wireless Application Protocol
EMEA	Europe, Middle East & Africa	LEC	Local Exchange Carrier	W-CDMA	Wideband CDMA
EV-DO	Evolution-Data Optimised	LTE	Long-Term Evolution	WiBro	Wireless Broadband
FDI	Foreign Direct Investment	m	metres	WiMAX	Worldwide Interoperability for Microwave Access
FTTB	Fibre-To-The-Building	mn	million	WLL	Wireless Local Loop
FTTH	Fibre-To-The-Home	MEA	Middle East & Africa	WTO	World Trade Organization
FTP	File Transfer Protocol	NGN	Next Generation Network	y-o-y	year-on-year
Gbps	gigabits per second	Mbps	megabits per second		

Country Snapshot: Vietnam Demographic Data

Section 1: Population

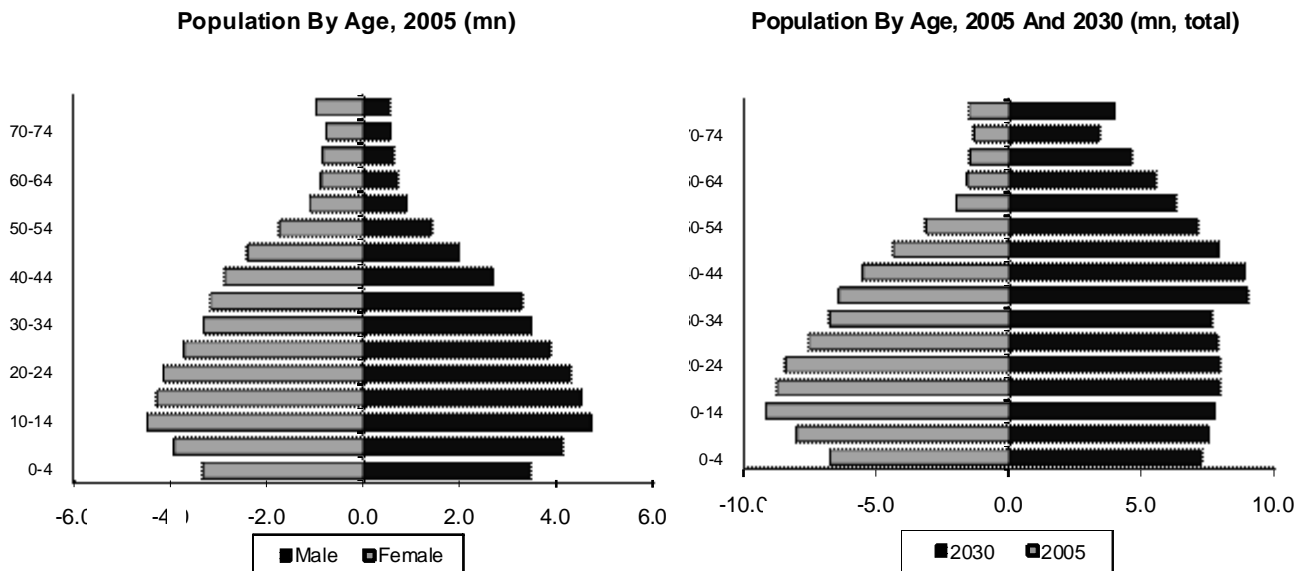


Table: Demographic Indicators, 2005-2030

	2005	2010	2020f	2030f
Dependent population, % of total	34.1	29.9	30.4	31.2
Dependent population, total, '000	28,318	26,225	30,950	34,499
Active population, % of total	65.8	70.0	69.5	68.7
Active population, total, '000	54,650	61,263	70,706	75,927
Youth population*, % of total	28.8	25.0	23.4	20.3
Youth population*, total, '000	23,972	21,887	23,807	22,508
Pensionable population, % of total	5.2	4.9	7.0	10.8
Pensionable population, total, '000	4,346	4,338	7,143	11,991

e/f = estimate/forecast. * Youth = under 15. Source: UN Population Division

Table: Rural/Urban Breakdown, 2005-2030

	2005	2010	2020f	2030f
Urban population, % of total	26.7	29.4	34.7	41.8
Rural population, % of total	73.3	70.6	65.3	58.2
Urban population, total, '000	22,509	26,395	35,230	46,123
Rural population, total, '000	61,729	63,323	66,426	64,306
Total population, '000	84,238	89,718	101,656	110,429

e/f = estimate/forecast. Source: UN Population Division

Section 2: Education And Healthcare

Table: Education, 2002-2005

	2002/2003	2004/2005
Gross enrolment, primary	98	93
Gross enrolment, secondary	73	75
Gross enrolment, tertiary	10	16
Adult literacy, male, %	na	93.9
Adult literacy, female, %	na	86.9

Gross enrolment is the number of pupils enrolled in a given level of education regardless of age expressed as a percentage of the population in the theoretical age group for that level of education. na = not available. Source: UNESCO

Table: Vital Statistics, 2005-2030

	2005	2010	2020f	2030f
Life expectancy at birth, males (years)	68.4	69.9	74.2	75.8
Life expectancy at birth, females (years)	72.4	73.9	78.4	80.0

e/f = estimate/forecast. Life expectancy estimated at 2005. Source: UNESCO

Section 3: Labour Market And Spending Power

Table: Employment Indicators, 1999-2004

	1999	2000	2001	2002	2003	2004
Employment, '000	38,120	38,368	39,000	40,162	41,176	42,316
– % change y-o-y	3.1	0.6	1.6	2.9	2.5	2.7
– male	19,029	19,292	19,744	20,356	20,959	21,649
– female	19,091	19,076	19,257	19,807	20,217	20,666
– female, % of total	50.0	49.7	49.3	49.3	49.1	48.8
Unemployment, '000	909	886	1,107	871	949	926
– male	439	468	458	398	402	410
– female	470	418	650	473	547	517
– unemployment rate, %	2.3	2.2	2.7	2.1	2.2	2.1

Source: ILO

Table: Consumer Expenditure, 2000-2012 (US\$)

	2000	2007	2008	2009	2010	2012f
Consumer expenditure per capita	110	265	301	368	386	427
Poorest 20%, expenditure per capita	49	119	136	166	174	192
Richest 20%, expenditure per capita	243	587	668	815	855	946
Richest 10%, expenditure per capita	316	763	868	1,060	1,112	1,230
Middle 60%, expenditure per capita	85	206	235	286	301	332
Purchasing power parity						
Consumer expenditure per capita	556	1,196	1,297	na	na	na
Poorest 20%, expenditure per capita	250	538	583	na	na	na
Richest 20%, expenditure per capita	1,231	2,649	2,872	na	na	na
Richest 10%, expenditure per capita	1,600	3,444	3,734	na	na	na
Middle 60%, expenditure per capita	433	931	1,009	na	na	na

e/f = estimate/forecast; na = not available. Source: World Bank, Country data; BMI

BMI Methodology

How We Generate Our Industry Forecasts

BMI's telecommunications industry forecasts are generated using a number of principal criteria, and differ from the regression and/or time-series modelling used in other industries.

Table: Key Indicators For Telecommunications Industry Forecasts

Emerging markets	Weighting
Average market growth	80%
Subjective indicators	
– Real GDP growth	25%
– Inflation	-5%
Developed markets	
Average market growth	90%
Subjective indicators	
– Real GDP growth	15%
– Inflation	-5%
Telecommunications business environment ratings	
– Telecommunications ratings	na
– Country risk short-term ratings	na
– Country risk long-term ratings	na

na = not applicable. Source: BMI

Average Market Growth

Indicator takes into consideration the historical growth patterns of the fixed-line, internet, broadband and mobile markets, providing a basis from which to forecast. Using historical data is often the most desirable method of analysis. In most cases, subscriber data is derived from individual operators and/or national regulators.

Subjective Indicators

Indicators look at a number of factors, such as:

- Neighbouring/similar states. These types of markets often share similar telecoms markets. For example, Japan and South Korea are highly developed technophile markets where growth prospects are high in 3G. Meanwhile, China and India offer high growth in successfully emerging markets;
- Tracking growth. High growth may be more likely to be repeated in the near future, and is unlikely to turn into a significant decline in the short term, although there may be exceptions to this rule;
- Market maturity. Where markets have reached saturation they are not likely to expand as fast as those that are less developed;
- Competition from alternative technologies, such as VoIP versus fixed-line, ADSL versus WiMAX;
- Operator behaviour. Operators' corporate strategies and investment behaviour may dictate changes in the telecommunications market. This is similarly the case for regulatory developments, which have been accounted for in our integration of the Telecommunications Business Environment Ratings.

The remaining weighting of real GDP represents the health of the economy, and the inflationary weighting represents investment confidence. For example, high inflation distorts investment confidence in the telecoms market.

The indicators are adjusted by **BMI**'s independent benchmark ratings, which look at a significantly higher number of indicators, and involve our:

- Telecommunications Business Environment Ratings. A more comprehensive assessment of the Risk/Return trade-off for the industry (*see Telecoms Business Environment Ratings below for greater explanation*); as well as,
- Country Risk Ratings. For short-term (one-to-two year period) and long-term (three years and more) economic and political ratings.

Telecoms Business Environment Ratings

Risk/Reward Ratings Methodology

BMI's approach in assessing the risk/reward balance for Telecoms Industry investors globally is fourfold. First, we identify factors (in terms of current industry/country trends and forecast industry/country growth) that represent opportunities to would-be investors. Second, we identify country and industry-specific traits that pose or could pose operational risks to would-be investors. Third, we attempt, where possible, to identify objective indicators that may serve as proxies for issues/trends to avoid subjectivity. Finally, we use **BMI**'s proprietary Country Risk Ratings (CRR) in a nuanced manner to ensure that only the aspects most relevant to the Telecoms Industry are incorporated. Overall, the system offers an industry-leading, comparative insight into the opportunities/risks for companies across the globe.

- **Ratings System**

Conceptually, the ratings system divides into two distinct areas:

- *Rewards*: evaluation of sector's size and growth potential in each state, and also broader industry/state characteristics that may inhibit its development, such as the broader economic/socio-demographic environment;
- *Risks*: evaluation of industry-specific dangers (regulatory and competitive issues) and those emanating from the state's political/economic profile that call into question the likelihood of anticipated returns being realised over the assessed time period.
- **Indicators**
The following indicators have been used. Overall, the rating uses three subjectively measured indicators, and around 20 separate indicators/datasets.

Table: Ratings Indicators

Indicator	Rationale
Rewards	
Industry rewards	
ARPU	Denotes depth of telecoms market. High-value markets score better than low-value ones
No. of subscribers	Denotes breadth of telecoms market. Large markets score higher than smaller ones
Subscriber growth, % y-o-y	Denotes sector dynamism. Scores based on annual average growth over our five-year forecast period and also take into account the penetration rate
No. of operators	Subjective evaluation against BMI-defined criteria. Evaluates market openness and competitiveness
Overall market structure score also affected by telecoms sector tax rate and, where relevant, broader security issues	
Country rewards	
Urban/rural split	A highly urbanised state facilitates network roll-out and implies higher wealth. Pre-dominantly rural states score lower, with overall score also affected by country size
Age range	Proportion of population under 24 years old. States with young populations tend to be more attractive markets
GDP per capita, US\$	A proxy for wealth. High income states receive better scores than low income states
The overall score for country structure is also affected by the power transmission network's national coverage	
Risks	
Industry risks	
Regulatory independence	Subjective evaluation against BMI-defined criteria. Evaluates predictability of operating environment
Country risks	
Short-term external risk	Rating from BMI's Country Risk Ratings (CRR). Denotes state's vulnerability to externally induced economic shock, which tend to be the principal triggers of economic crises
Policy continuity	From CRR. Evaluates the risk of a sharp change in the broad direction of government policy
Legal framework	From CRR. Denotes strength of legal institutions in each state – security of investment can be a key risk in some emerging markets
Corruption	From CRR. Denotes risk of additional illegal costs/possibility of opacity in tendering/business operations affecting companies' ability to compete

Source: BMI

Weighting

Given the number of indicators/datasets used, it would be inappropriate to give all sub-components equal weight. Consequently, the following weighting has been adopted.

Table: Weighting Of Indicators

Component	Weighting, %
Rewards	70, of which
– Industry rewards	65
– Country rewards	35
Risks	30, of which
– Industry risks	40
– Country risks	60

Source: BMI

Sources

Sources used in telecoms reports include national ministries and media/telecoms regulatory bodies, officially released company results and figures, national and international industry organisations, such as the CTIA, the GSM Association and the International Telecommunication Union (ITU) and international and national news agencies.