BUSINESS MONITOR international

Q1 2011

www.businessmonitor.com

VIETNAM

TELECOMMUNICATIONS REPORT

INCLUDES 5-YEAR FORECASTS TO 2015

ISSN 1748-4944

Published by Business Monitor International Ltd.

VIETNAM TELECOMMUNICATIONS REPORT Q1 2011

INCLUDES 5-YEAR FORECASTS TO 2015

Part of BMI's Industry Report & Forecasts Series

Published by: **Business Monitor International**

Copy deadline: December 2010

Business Monitor International
Mermaid House,
2 Puddle Dock,
London, EC4V 3DS,
UK
Tel: +44 (0) 20 7248 0468
Fax: +44 (0) 20 7248 0467
email: subs@businessmonitor.com
web: http://www.businessmonitor.com

CONTENTS

Executive Summary

We have incorporated the latest data from Vietnam's General Statistics Office and the Ministry of Information and Communications (MIC) in our update on Vietnam's telecommunications market. We have made several revisions to our mobile and fixed-lines forecasts and have extended our forecast period to 2015.

Vietnam's mobile growth rate slowed in H210 largely because of the country's high mobile penetration rate, which has led us to revise our five-year mobile forecast for Vietnam downwards. That said, the mobile penetration rate is still expected to surge past the 200% mark in 2011 when the subscriber base reaches a total of 184.492mn. However, we continue to believe that this figure is not representative of the true situation in Vietnam as we think that operators are reluctant to deduct inactive subscriber SIM cards, which would reduce their market shares.

Meanwhile, the number of fixed-lines in the country held stable at 16.4mn from August to November 2010. The industry grew by 27.4% year-on-year to reach a peak of 20mn in May 2010 but has since declined steadily. Strong competition and aggressive pricing in Vietnam's mobile sector have accelerated the fixed-to-mobile service migration. We now expect the industry to grow slightly in the near future as a result of investments from fixed-line players, but we expect the numbers to trend downwards in our five-year forecast.

The MIC said overcrowding in Vietnam's mobile market has led to intense competition and declining profitability, which has jeopardised operators' long-term sustainability. However, the regulator has not taken concrete steps to improve the situation. In fact, the regulator is instead contemplating implementing mobile number portability (MNP) in the country and could release a set of guidelines in 2011. **BMI** believes that benefits of MNP are best reaped in countries where the industry has matured and is experiencing stagnant growth as a result. This is not the case in the Vietnamese market, even though the mobile penetration rate for the country is among the highest in the Asia-Pacific region.

Vietnam is in 17th place in **BMI**'s latest Business Environment Ratings with a Telecoms Rating of 42.2. There were no changes to the country's individual scores as Vietnam stayed ahead of Sri Lanka in the table. Given that intense competition has negatively affected Vietnam's ARPU levels and the country's mobile market is fast-approaching saturation, we see little opportunity for Vietnam to move up the table.

SWOT Analysis

Vietnam Mobile SWOT	
Strengths	▪ An increasingly competitive mobile sector ▪ Impressive growth in mobile sector during 2009, with subscribers up by 60% ▪ WTO membership in 2008 makes Vietnam a more appealing investment centre – stronger growth in the mobile market could be the result of this
Weaknesses	▪ Heavily dominant prepaid market sending ARPU levels downwards ▪ 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	▪ Entrance of the eighth operator, Indochina Telecom, as an MNVO and the ninth operator, Vietnam Multimedia Corporation will raise the level of competition. At the time of writing, both operators have yet to launch their services ▪ Cut in multiple SIMs will allow for new numbers to be offered to 3G service subscribers ▪ Government will allow non-3G licensees to partner with the established network operators in order to provide 3G services ▪ Government approach to liberalisation of the telecoms industry could see entrance of strategic investors such as NTT DoCoMo, SingTel and Telenor
Threats	▪ Nearly a third of Vietnam's villages lies in mountainous areas and are without access to telecommunications services; a delay in network expansion could slow potential growth in all sectors ▪ Price war is currently under way between the country's three leading cellcos; this will likely put considerable 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	▪ 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 two 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	▪ Vietnam's fixed-line and internet access markets are both dominated by state-controlled operators, VNPT and Viettel ▪ Although alternative broadband infrastructures are currently being explored, broadband growth continues to be 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	▪ The privatisation of VNPT could help to bring about increased investment revenues and the arrival of new skills ▪ On a national level, broadband penetration rates remain low – this means that the sector has considerable growth potential ▪ VNPT plans to invest US$1bn in 2009, in order to upgrade its broadband networks and expand its international internet bandwidth ▪ Significant opportunities exist to develop alternative broadband technologies, including WiMAX, LTE and fibre ▪ WiMAX and LTE services are currently being trialled with a view to licensing a number of 4G service providers in the near future; 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	▪ Fixed-line sector may enter a period of decline, with potentially negative consequences for ADSL 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 2009 and 2010 could undermine wireline investment and expansion plans

Vietnam Political SWOT	
Strengths	▪ The Communist Party government appears committed to market-oriented reforms, although specific economic policies will undoubtedly be discussed at the 2011 National Congress. The one-party system is generally conducive to short-term political stability ▪ Relations with the US are generally improving, and Washington sees Hanoi as a potential geopolitical ally in South East Asia
Weaknesses	▪ 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	▪ The government recognises the threat that 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	▪ The slowdown in growth in 2009 and 2010 is 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 the past year due 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, which could potentially cause wide scale environmental damage

Vietnam Economic SWOT	
Strengths	▪ Vietnam has been one of the fastest-growing economies in Asia in recent years, with GDP growth averaging 7.6% annually between 2000 and 2009 ▪ The economic boom has lifted many Vietnamese out of poverty, with the official poverty rate in the country falling from 58% in 1993 to 20% in 2004
Weaknesses	▪ Vietnam still suffers from substantial trade, current account and fiscal deficits, leaving the economy vulnerable as the global economy continues to suffer in 2010. The fiscal picture is clouded by considerable 'off-the-books' spending ▪ The heavily-managed and weak dong currency reduces incentives to improve quality of exports, and also serves to keep import costs high, thus contributing to inflationary pressures
Opportunities	▪ WTO membership has given Vietnam access to both foreign markets and capital, while making Vietnamese enterprises stronger through increased competition ▪ The government will in spite of 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 to rise from 29% of the population to more than 50% by the early-2040s
Threats	▪ 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	▪ Vietnam has a large, skilled and low-cost workforce, which has made the country attractive to foreign investors ▪ Vietnam's location – its proximity to China and South East Asia, and its good sea links – makes it a good base for foreign companies to export to the rest of Asia, and beyond
Weaknesses	▪ 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 ▪ Vietnam remains one of the world's most corrupt countries. Its score in Transparency International's 2009 Corruption Perceptions Index was 2.7, placing it in 22nd place in the Asia-Pacific region
Opportunities	▪ 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	▪ 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

Business Environment

Asia

There were a few changes to **BMI**'s Telecommunications Business Environment Ratings league table for Q111. After incorporating the latest changes in mobile ARPU growth, subscriber growth forecasts and country rewards and risks, Singapore regained second place after South Korea overtook the city-state in the previous quarter. In the bottom half of the table, Indonesia and Laos rose to 10th and 13th position respectively while Pakistan and Bangladesh fell to 11th and 15th place respectively.

Japan continues to lead the region even though its mobile industry is fast approaching saturation and presents limited organic growth opportunities. Operators are focusing on international expansion and value-added services to negate slow domestic subscriber growth and boost declining ARPUs amid intense domestic competition. Meanwhile, Softbank continues to erode the market share of local rivals NTT **DoCoMo** and **KDDI,** with its exclusive agreement to sell **Apple**'s iPhone.

Singapore's Industry Rewards score increased after its three domestic operators reported significant increases in mobile subscriber bases and ARPUs in Q210, which also resulted in an upward revision in our five-years forecasts for Singapore. Although mobile penetration hit a high of 140.7% in June 2010, we continue to foresee potential for operators to migrate subscribers onto more expensive 3G plans. In addition, the local regulator confirmed plans to auction three paired 3G spectrum lots in November 2010 but there could be little interest from foreign operators due to the dominance of **SingTel**, **StarHub** and **M1**, as well as the country's limited size and potential.

South Korea, Australia and Hong Kong's scores were unchanged for this quarter although South Korea fell to third place. All three countries reported an increase in their operators' ARPUs, but the rise was insufficient to warrant any modifications to their Industry Rewards scores. In South Korea, Q210 real GDP growth figures beat expectations and came in at 1.4% q-o-q and 7.1% y-o-y on a seasonally adjusted basis. **BMI** expects the pace of growth to moderate, following lower government spending and weaker external conditions in future quarters despite the strong outturn. Therefore, we maintain our forecast of 5.5% real GDP growth for 2010.

Although Hong Kong has the highest mobile penetration in Asia, operators reported an increase in their subscriber bases and ARPUs in Q210, and Hong Kong maintained fifth position. Meanwhile, we still believe the threat of a property slump due to the bubble bursting in the real estate sector, causing an economic slowdown in Australia is still present. The prospect of a collapse in Chinese commodity demand will pose a significant downside risk to the Australian mining industry and broader economy. However, the National Broadband Network seems set to proceed after the Australian Labour Party

managed to form a minority government following two weeks of political deadlock and securing sufficient support from independent MPs. As part of the negotiations between rural independents and the ALP, there will be equality for broadband wholesale prices across Australia, and **BMI** believes mobile operators will be able to compete on a level playing field after **NBNCo** assumes the role of wholesaler of network capacities, which should overall broadband prices for consumers.

Malaysia remained in sixth despite a 2.8 point decrease in its Industry Rewards score. Operators' overall blended ARPU fell due to their heavily reliance on prepaid subscribers, which negated the slight increase in postpaid ARPUs. However, the launch of Malaysia's High Speed Broadband (HSBB) should drive sign-ups for broadband services and bundled offerings that comprise mobile, fixed-line and broadband services.

Taiwan, India and China maintained their positions in the top 10 but there were no changes to any of the scores for the three countries. Looking forward, there could be more opportunities for cross-strait cooperation between Taiwan and China due to the Economic Cooperation Framework Agreement that was launched on September 12 2010. Chinese operators aim to expand in Taiwan because of China's increasingly competitive domestic telecoms market, where Chinese telecoms companies are aggressively subsidising 3G subscribers to gain market share.

The market in India, despite an ongoing price war between mobile operators, remains relatively attractive as a result of the massive population and room for growth. **BMI** expects headline expansion to decrease from Q110's 8.6% y-o-y rate, but we believe the domestic demand-driven economy will remain a global performer in 2010 and 2011, fuelling private consumption and demand for telecoms services. Furthermore, the long-anticipated 3G services are expected to be launched by the end of 2010 or early-2011, providing operators with much-needed alternative revenue-generating opportunities.

Despite a slight increase in Pakistan's ARPU rates, the country still fell to 11th position this quarter due to a 5.0pps decrease in its Industry Rewards score. This is a result of a downward revision in our 2010 forecasts after the regulator's policy to remove inactive subscribers and weak subscriber growth resulting from a weak economy through 2010. Meanwhile, Indonesia replaced Pakistan in 10th position, even though there have been no changes to its scores. However, there is potential for Indonesia to increase its Rewards scores because **BMI** forecasts real GDP growth is set to reach 5.3% in 2011 because of relatively low lending rates that will stimulate domestic demand.

The Philippines' score increased 0.9pps in the Country Risk rating as a result of President Benigno Aquino III's commendable performance in his first 100 days in office. Progress has been made reducing graft and increasing foreign direct investment and we believe this will improve the country's attractiveness to international businesses and investors. Although the Philippines is rated among the most

corrupt countries in Transparency International's Corruption Perceptions Index, ranking 139 out of 180 nations, we expect its ranking will improve during Aquino's term.

Laos rose by two places to 13th position with an increase of 3.2pps for its overall Telecoms Rating. Its Country Risk score was revised upwards because of an improving economic environment. **BMI** has an optimistic outlook for Laos' economic growth in the short term, and we forecast real GDP growth will be 7.5% and 6.6% for 2010 and 2011, respectively. Declining mobile ARPU rates and slow growth rates in our five-year forecasts, a result of increasing maturity in the market, continue to affect its Industry Rewards score, which fell by 4.5pps.

Replacing Laos in 15th place was Bangladesh, which dropped 2.5pps in its Industry Rewards score because of a maturing market amid strong competition between six operators that have driven ARPU rates down. The regulator also continued to exert pressure on operators' profitability by imposing new spectrum fees and lowering the maximum SMS charge. Cambodia and Thailand retained their 14th and 16th position respectively in our rankings table. However, further delays in Thailand's launch of 3G services and potential legal wrangles regarding a proposed national broadband network could affect the country's scores in future if the government is unable to resolve them.

Vietnam's Industry Rewards score was revised downwards again because of a slight decrease in our subscriber growth forecasts. Although there is a lack of figures from the regulator and operators, we believe Vietnam's ARPU rates continued downwards due to intense competition and the repeated push by operators to lower calling rates. Furthermore, we also think Vietnam's overall subscriber base is heavily distorted by multiple SIM ownership and the regulator may attempt to reduce prepaid subscribers again even though it was largely unsuccessful previously.

Sri Lanka remained at the bottom of our rating table despite a remarkable increase in its Country Risk score, but that was negated by a similar significant decrease in the country's Industry Rewards Score. Following the defeat of the Tamil Tigers, the government and telecoms operators have started rebuilding the former war zone in the northern Jaffna peninsula. However, price competition between mobile operators and heavy dependence on prepaid subscribers are likely to continue to shape Sri Lanka's mobile industry. Nevertheless, strong election results and a robust cyclical recovery have strengthened Sri Lanka's medium-term prospects. We are confident that real GDP growth can average a healthy clip of 6.3% a year between 2010 and 2019, significantly above the 5% achieved between 2000-2009. Continued improvements in Sri Lanka's policy transparency, commitment to fiscal consolidation and banking sector reform could close the gap between Sri Lanka and Vietnam even more.

Table: Asia Telecoms Business Environment Rankings

	Rewards		Risks			
Country	**Industry Rewards**	**Country Rewards**	**Industry Risks**	**Country Risk**	**Telecoms Rating**	**Regional Rank**
Japan	73.6	66.7	90	86.4	76.3	1 (1)
Singapore	52.5	83.3	90	94.2	71.9	2 (3)
South Korea	65.0	70.0	90	76.3	71.7	3 (2)
Australia	61.8	83.3	70	78.1	70.7	4 (4)
Hong Kong	55.0	76.7	80	84.6	68.5	5 (5)
Malaysia	55.0	63.3	90	76.3	65.5	6 (6)
Taiwan	52.5	63.3	90	77.6	64.5	7 (7)
India	70.0	39.0	70	60.9	61.0	8 (8)
China	63.3	35.0	70	69.7	58.3	9 (9)
Indonesia	52.5	42.7	60	51.1	51.0	10 (11)
Pakistan	55.0	45.3	70	28.1	50.8	11 (10)
Philippines	45.0	46.7	60	53.1	48.9	12 (12)
Laos	40.5	60.0	50	49.9	48.1	13 (15)
Cambodia	46.8	54.0	50	36.4	47.5	14 (14)
Bangladesh	50.0	33.0	60	44.1	46.5	15 (13)
Thailand	40.0	32.7	60	62.2	44.5	16 (16)
Vietnam	**37.5**	**36.7**	**60**	**47.8**	**42.2**	**17 (17)**
Sri Lanka	33.8	30.0	50	59.9	39.2	18 (18)

Source: BMI

Vietnam

Vietnam remained in 17th place in **BMI**'s latest Business Environment Ratings for the Asia-Pacific region with no changes to the country's Telecoms Ratings. Although Vietnam fared better than Pakistan, which was ranked last in the region, Vietnam is still quite a distance from its regional peers such as Thailand and Cambodia on the table.

Vietnam's Industry Rewards score is one of the lowest in the Asia-Pacific region, largely because of the country's low ARPU rates. It remains difficult to obtain actual ARPU figures for the Vietnamese mobile market since the regulator and mobile operators do not report them. However, the Ministry of Information and Communications (MIC) said the market has reached saturation and tariffs have fallen significantly as a result of intense competition. The ministry urged operators to diversify their business operations and

focus on deliver better quality service, which we think will improve brand loyalty among Vietnam's prepaid subscriber base and boost operators' profitability.

However, we expect operators to continue their promotional campaigns to grab market shares from rivals and this fosters a vicious cycle that is not easily broken. Consumers are used to paying low prices for telecoms services and this is likely to affect demand for operators' new premium services. We therefore expect operators' ARPU levels to remain suppressed over the next five years, and this is reflected in our forecast.

Although Vietnam has a relatively young population, which should be more receptive to new technology, the country's low GDP per capita and high urban/rural split means that most of the Vietnamese consumers are unable to afford premium products and services. Our view that Vietnam's infrastructure investment would provide support for Vietnam's economic growth in 2010 has played out well. Vietnam's real GDP growth came in at a better-than-expected 6.8% in 2010, led by a strong performance in the construction sector. Going into 2011, we expect domestic demand to remain robust on the back of rising wages and improving consumer sentiment. This should have a positive impact on private consumption and provide a boost to demand for telecoms services.

High inflation and devaluation have opened schisms within the Communist Party of Vietnam (CPV) leadership between proponents of continued economic reform and a more conservative wing which believes that a deceleration or even reversal of reform policies would benefit macroeconomic stability. This debate could come to the fore at the 11th National CPV Congress in January 2011, which is to evaluate government policy over the past five years and determine policy and targets for 2011-2020.

Industry Forecast Scenario

Mobile

Table: Telecoms Sector – Mobile – Historical Data And Forecasts

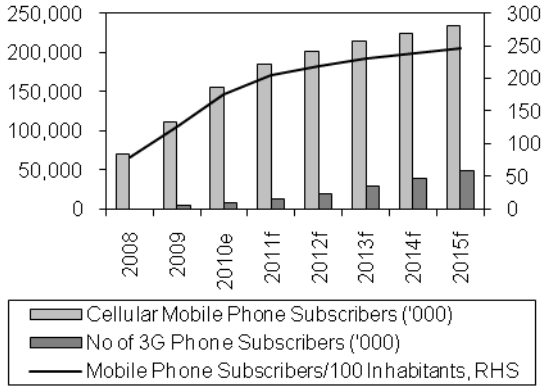
	2008	2009	2010e	2011f	2012f	2013f	2014f	2015f
No. of mobile phone subscribers ('000)	69,070	110,800	155,522	184,492	200,187	213,521	224,312	233,942
No of mobile phone subscribers/100 Inhabitants	79.6	125.9	174.4	204.1	218.5	230.0	238.4	245.2
No. of mobile phone subscribers/100 fixed line subscribers	524.1	612.2	963.8	1,136.7	1,240.1	1,330.8	1,415.6	1,507.1
No. of 3G phone subscribers ('000)	0	4,000	8,000	12,000	19,000	29,000	38,000	48,000
3G market as % of entire mobile market	0.0	3.6	5.1	6.5	9.5	13.6	16.9	20.5

f = forecast. Source: International Telecommunication Union (ITU), BMI

Vietnam's high mobile penetration rate has finally taken a toll on the country's growth momentum as the growth rate in the second half of 2010 slowed significantly. This was especially evident in the last few months of 2010, when the industry contracted by 300,000 subscribers in September 2010 before growing by 2.3mn and 2.9mn in the next two months.

Industry Trends – Mobile Forecast

2008-2015



f = forecast. Source: International Telecommunication Union (ITU), BMI

BMI has once again revised its forecasts downwards as we strongly question whether the figures reported by the General Statistics Office are representative of the actual subscriber base in the country. We believe that Vietnamese subscribers constantly switch providers and hold onto multiple SIM cards at any one time. Furthermore, the telecoms regulator was unsuccessful in its previous attempt at removing inactive subscribers in the country. Although the regulator has not indicated whether it will try and enforce the regulation once more, we think that the heavily inflated figures could force the Ministry of Information and Communications (MIC) to carry out another round of inactive subscriber deduction exercise to reveal the true size of the industry.

We are now forecasting 184.492mn mobile subscribers in Vietnam by end-2011, representing a penetration rate of 204.1%. We expect the industry to grow at an annual growth rate of 18.6% in 2011 and we foresee a significant slowdown through 2015. We envisage the industry to grow at an average of 6.1% from 2012 to 2015 to bring the total subscriber base to 233.942mn in 2015, an equivalent of 245.2%. However, we continue to believe that this figure is not a true reflection of the number of subscribers but the number of SIM cards that operators sell.

Although the exact size of Vietnam's 3G industry continues to vary, we continue to believe that the sector is far smaller than VinaPhone and MobiFone claimed in March 2010. VinaPhone and MobiFone said they had 7mn and 6mn 3G subscribers respectively, but we believe that Viettel's claim that it had 1.17mn at the end of December 2010 to be a more realistic indication of the market. Meanwhile, the MIC reported that there were 7mn 3G subscribers in April 2010. Despite the conflicting and confusing data, operators' price-cutting efforts suggest to us that 3G subscriber growth remains muted and below the industry's expectations.

We have therefore revised our previous estimates, after the release of figures in MIC's 2010 white book, and have also revised our 3G forecast for the next five years. **BMI** now estimates that there were 8mn 3G subscribers at the end of 2010, and we forecast this number to increase to 12mn by end-2011. This figure will account for 6.5% of the total mobile industry and we expect this to increase to 20.5% by 2015, representing a 3G subscriber base of 48mn. **BMI** is ready to reassess the market again once the regulator and operators release data on Vietnam's 3G market.

ARPU

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

	2008	2009e	2010e	2011f	2012f	2013f	2014f	2015f
Market average	6.00	5.52	5.00	4.49	4.11	3.85	3.60	3.51

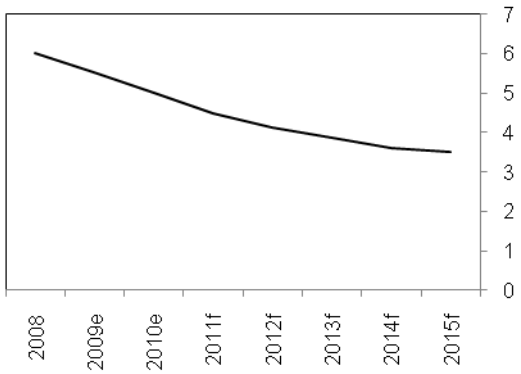
Source: Operators; BMI

Forecasting the ARPU is difficult as a result of the limited amount of historical data published by Vietnam's mobile operators and its state-owned news media. We have calculated the ARPU, which is expressed in US dollars, as a market average for the sector as a whole.

BMI estimates that blended ARPUs reached US$5 as of end-2010, down from US$5.52 in 2009. Mobile ARPU reached US$6 in 2008, compared to US$6.5 in 2007 and US$7 in 2006.

ARPU Market Average

2008-2015 (US$)



Source: Operators; BMI

The main reason for the declining ARPU levels is the intense competition between Vietnamese mobile operators. In the price-sensitive Vietnamese telecoms market dominated by prepaid subscribers, operators are forced to compete aggressively with price and various promotions in order to secure subscribers and market share. The regulator has done little to prevent further escalation in competition after it approved a tariff-reduction proposal submitted by Viettel, MobiFone and VinaPhone in July 2010 that would cut rates by 15%.

Although the regulator has identified the problem, we do not expect the situation to improve significantly in the short run. 3G and other value-added services could mitigate the downward pressure from traditional revenue sources, there is no guarantee that the intense price competition will not spread further. Furthermore, we note that WiMAX trials started four years ago but have yet to introduce commercial services. Even if the service was launched, we believe that demand for the service will remain muted given the weak figures from Vietnam's 3G industry.

We therefore have maintained our belief that ARPU levels in Vietnam will continue to decline over the next five years. We expect that the market average to reach US$4.49 in 2011 before decreasing to US$3.51 in 2015. However, we could revise our forecasts if the Vietnamese regulator and operators are able to show more efforts to reverse the downtrend.

Fixed Line

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

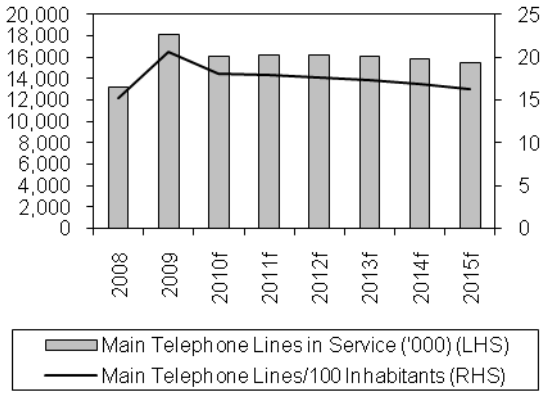
	2008	2009	2010e	2011f	2012f	2013f	2014f	2015f
No. of main telephone lines in service ('000)	13,180	18,100	16,137	16,231	16,142	16,044	15,846	15,523
No. of main telephone lines/100 inhabitants	15.2	20.6	18.1	18.0	17.6	17.3	16.8	16.3

f = forecast. Source: International Telecommunication Union (ITU), BMI

The latest figures from the General Statistics Office showed that there were 16.4mn fixed-lines in November 2010, holding stable at the level for the fourth consecutive month. Our last update reported that the industry peaked with 20mn fixed lines in May 2010 and has been in decline ever since.

Industry Trends – Fixed-Line Sector

2008-2015



f = forecast. Source: International Telecommunication Union (ITU), BMI

The introduction of a ninth fixed-line operator, GTel, in May 2010 has not helped boost the number of fixed lines in the country. This was largely a result of strong competition and aggressive pricing in Vietnam's mobile sector, which have accelerated the fixed-to-mobile service migration. Although we expect a slowdown in the take-up of mobile services (*see Mobile Industry Forecast Scenario*), this is unlikely to have a positive impact on the number of fixed lines in Vietnam.

We have therefore revised our fixed-lines forecasts downwards to show weaker growth potential through 2015. However, we continue to expect further investment in CDMA-based fixed-line services, especially in rural parts of Vietnam where there is considerable room for fixed-line infrastructure development. This should partially offset some of the downward pressure the industry is facing. We expect Vietnam's three major fixed-lines players – VNPT, Viettel and EVN Telecom – to continue rural expansion projects in order to sustain their fixed-lines subscriber bases but in the long term, we expect the weaker demand for traditional voice services due to the availability of cheaper alternatives services such of VoIP.

We now forecast 16.231mn fixed lines by end-2011 and we expect this figure to decrease to 15.523mn in 2015, representing a penetration rate of 16.3.

Internet

Table: Telecoms Sector – Internet – Historical Data And Forecasts

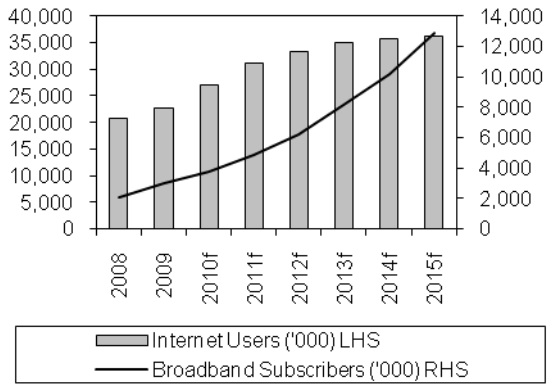
	2008	2009	2010e	2011f	2012f	2013f	2014f	2015f
No. of internet users ('000)	20,834	22,780	27,140	31,093	33,366	34,967	35,641	36,108
No. of internet users/100 inhabitants	24.0	25.9	30.4	34.4	36.4	37.7	37.9	37.8
No. of broadband internet subscribers ('000)	2,049	2,967	3,760	4,829	6,203	8,118	10,216	12,843
No. of broadband internet subscribers/100 inhabitants	2.4	3.4	4.2	5.3	6.8	8.7	10.9	13.5

f = forecast. Source: VNNIC, BMI

The number of internet users in Vietnam continued to grow steadily with a monthly average growth rate of 1.4% for the first 11 months of 2010. This brought the total user base to 26.472mn in November 2010, an increase of 17.8% y-o-y.

Industry Trends – Internet Sector

2008-2015



f = forecast. Source: VNNIC, BMI

This figure is also on track to meet our 2010 estimate of 27.140mn. We reaffirm that that there is still potential for new growth in Vietnam's internet sector. On the one hand, internet user growth to data has been largely confined to urban centres, but the internet user penetration rate is expected to be approaching saturation in major cities and towns. Penetration levels in rural parts of Vietnam remain very low 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.

We have retained our previous forecast of 31.093mn internet users by end-2011, representing an annual growth rate of 14.6%. At the end of 2015, we expect this figure to reach 36.018mn, representing a penetration of 37.8%. However, annual growth will slow significant to a mere 1.3% in 2015.

Meanwhile, the number of broadband subscribers in Vietnam also looks to play into our 2010 estimate of 3.760mn. At the end of November 2010, there were 3.604mn broadband subscribers after a month-on-month increase of 1.2%. Vietnam's broadband monthly growth rate has stayed level at between 1.2% and 2.1%, a significant slowdown from the average of 3.1% in 2009 and 3.9% in 2008. The weaker growth rate can be attributed to the affordability of broadband services, which remains beyond the reach of consumers in the lower end of the income bracket who have yet to sign up for high-speed internet services. However, we are slightly more bullish about the medium-term as a number of developments are planned. These include considerable investment in the broadband sector, largely relating to mobile broadband. Growth will also reflect the increased market competition, as well as the availability of new WiMAX- and LTE-based services.

We expect 12.843mn broadband subscribers in Vietnam in 2015, representing a penetration rate of 13.5%. This is up from our 2011 forecast of 4.829mn broadband subscribers, an equivalent of 5.3% penetration rate.

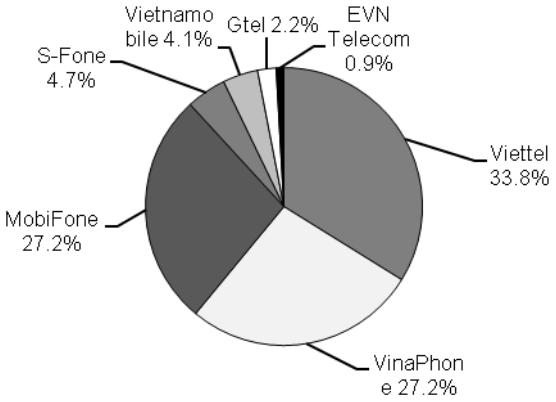
Market Data Analysis

Mobile

Obtaining mobile subscriber data for the Vietnamese market remains difficult, particularly given the conflicting figures published by the country's press and various telecoms authorities. According to the latest data published by Vietnam's General Statistics Office (GSO), there were 147.3mn mobile subscribers at the end of November 2010. This was a net addition of 2.9mn subscribers from the previous month.

Vietnam Mobile Market Share

December 2009



Source: BMI

Meanwhile, the Ministry of Information and Communications (MIC) reported a total of 154.3mn fixed-line and mobile subscribers in July 2010, an increase of 10.6mn subscribers from May 2010. This was largely in line with the figures released by the GSO. The GSO estimated total subscribers increased by 46.3% y-o-y to 157.8mn in July 2010, of which, 17.5mn are fixed-line subscribers and 140.3mn are mobile subscribers.

The MIC is showing no sign of slowing down with the award of mobile licences. As of June 2010, the regulator had awarded the sector's ninth mobile licence to Vietnam Multimedia Corporation (VTC). Although commercial services have yet to be deployed, its announcement comes not long after a mobile virtual network operator (MVNO) licence was awarded in August 2009 to Indochina, making the operator the eight licensed operator in Vietnam. Indochina has also yet to launch services commercially (at the time of writing).

Mobile market penetration is expected to exceed 100% despite the presence of nine operators in the industry. **BMI** believes that the figures released by the GSO and the MIC include a significantly high proportion of inactive SIMs, driven by aggressive service pricing among the operators. While the MIC launched a prepaid mobile subscriber registration in 2009 with the aim of removing inactive users, only 2mn of such users were removed from the operators' databases, according to the MIC. The MIC extended the deadline for registration from the end of 2009 to the end of January 2010 but Vietnam's mobile industry continues to experience high growth – there was a net addition of 22.7mn mobile subscribers in the first half of 2010 – which suggests to us that the deadline was not met and high number of inactive subscribers continue to exist.

Earlier plans of introducing a minimum service charge, which would effectively introduce a limit on how low operators can pitch their tariffs, had not been taken further at the time of writing. The MIC released a new Circular 11 that restricts promotional activities as of July 1 2010. Promotion campaigns tend to profit small groups of customers in the short run whereas MIC's latest approval stands to benefit the majority subscribers over a longer time frame. This tactic of discounting basic tariffs has been the key driver for Vietnam's mobile subscriber growth in recent years. However, the MIC subsequently approved a proposal submitted by Viettel, MobiFone and VinaPhone to reduce tariff by up to 15%. The average cost of a call will fall from VND1,200 (US$0.063) to VND1,000 (US$0.052) per minute.

Operator Market Share

Since our last update, the latest figures we have for operators' subscriber bases are for December 2009. According to Vietnam's Ministry of Information and Communications (MIC), there were 98.224mn mobile subscribers at the end of 2009, an increase of 31.2% from the 74.872mn in 2008. The country had 18.892mn and 45.024mn in 2006 and 2007 respectively.

Viettel, the ministry of defence-owned operator, dominated the market with a 33.82% share, equivalent to around 33.219mn subscribers. The operator through its earlier price reductions of 10% to 30% from June 1 2009 helped to raise its subscriber base. However, VNPT was the true leader with its two mobile units: **VinaPhone** and **MobiFone**, which combined for a market share of 54.34% in December 2010. The MIC's report said VinaPhone had 27.19% of the market, slightly ahead of MobiFone, which had a 27.15% market share. These market shares meant that VinaPhone and MobiFone had 26.707mn and 26.668mn subscribers respectively.

Meanwhile, accounting for a collective 11.84% share of the market in December 2009 (latest available data) were the four operators: **S-Fone**, **HT Mobile** (**Vietnamobile)**, **GTel Mobile** (**VimpelCom**) and **EVN Telecom**. S-Fone led the pack with 4.67% of the market, representing a subscriber base of 4.587mn. However, South Korea's **SK Telecom**, which has a stake in S-Fone, said the Vietnamese operator had 7mn subscribers at the end of August 2010. In 2008, S-Fone noted that its brand had finally gained recognition among Vietnamese after five years of offering its services. VietNamNet suggested that in July 2010, S-Fone's mobile subscriber base grew to 8mn.

Vietnam Business News reported that Viettel, S-Fone, EVN Telecom, GTel Mobile and HT Mobile accounted for the 49.3% of the mobile market in July 2010. With the military-owned operator announcing rate cuts of 10-15% as of July 27 2010 for its postpaid subscribers, we believe that Viettel still retains majority of the market as press reports in May 2010 suggest that the operator had 40% share of the market, which would indicate a subscriber base of 51.6mn subscribers.

Table: Vietnam Mobile Market, December 2009

Operator	No. of subscribers ('000)	Market share (%)
Viettel	33,219	33.8
VinaPhone	26,707	27.2
MobiFone	26,668	27.2
S-Fone	4,587	4.7
HT Mobile (Vietnamobile)	4,037	4.1
GTel Mobile (VimpelCom)	2,122	2.2
EVN Telecom	884	0.9
Total	**98,224**	**100.0**

Source: Operators; MIC; BMI

VNPT announced in August 2010 that VinaPhone and MobiFone reported 71.2mn mobile subscribers in July 2010, which accounted for 50.7% of the market share. This increased to 77.2mn in December 2010. The General Statistics Office announced that as of March 2010, VNPT had 53.8mn subscribers, suggesting a market share of around 46%. Growth appears to have resumed normal levels after both operators posted an increase of 17.4mn subscribers in the span of four months. Previously, we believed that growth between August 2009 and March 2010 were restricted due to the economic downturn and prepaid registration, even though the MIC's attempt at prepaid registration was unsuccessful with just 2mn subscribers deactivated for the entire market as of end-2009. Furthermore, the announcement by VinaPhone in January 2010, that it had awarded a contract to US-based **Motorola** at a cost of US$70mn to expand its GSM network would serve to encourage stronger growth. The vendor will expand the operator's network by deploying a further 3,000 base stations between 2010 and 2012. The base stations will expand the operator's 2G network in southern and northern provinces of the country.

Vietnam's fifth largest cellular operator at the end of December 2009 was HT Mobile, which operates under the 'Vietnamobile' banner and is a joint venture (JV) between **Hanoi Telecom** and **Hutchison**. The operator had initially been a provider of CDMA services but acquired permission from the regulator to switch to the more popular GSM network. In August 2008, the operator purchased GSM equipment from **Ericsson** and **Huawei** at a cost of US$600mn.

In July 2009, Vietnam saw the arrival of its seventh mobile operator, GTel Mobile. GTel Mobile is a JV between **VimpelCom** of Russia and Vietnamese state-owned enterprise **Global Telecommunications Corporation**. Global Telecommunications Corporation holds 60% stake in GTel Mobile, with VimpelCom holding the remainder. Mobile services will be provided in Vietnam under VimpelCom's

Beeline brand. The company will initially roll out services in Hanoi, Ho Chi Minh City and Danang, covering a population of over 15mn. VimpelCom obtained a license from the Vietnamese government 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 US267mn into Beeline. The GTel Mobile JV plans to cover over 40 provinces of Vietnam by the end of 2009 and all 63 cities by year-end 2010, addressing a population of 41mn, translating into 48% penetration of the country's population, compared with 26% as of October 2009.

An eighth operator was launched in the form of an MVNO called Indochina Telecom in August 2009, and as the country’s first MVNO. The operator offers services to customers via the 3G and 2G networks of Vietnam's largest mobile operator, Viettel. Indochina Telecom had expected to launch its MVNO services in Q110, but this was delayed, possibly because the company wanted to see whether using WiMAX would allow it to provide services directly to customers while still being more cost-effective than using Viettel's networks. Indochina’s wish to acquire a WiMAX licence was granted in May 2010, when the MIC granted a permit to trial WiMAX, reports VietNamNet Bridge. The company joins nine others – mostly mobile network operators – in being authorised to test the 4G mobile broadband technology. At the time of writing, we still have no starting date for a commercial launch by Indochina.

Almost one year after awarding an eighth mobile licence, the MIC in June 2010, provided Vietnam Multimedia Corporation (VTC) with a ninth licence. Under the terms of its licence agreement, VTC is permitted to establish a network and supply 3G mobile services based on sharing wireless frequency bands with EVN Telecom. VTC is allowed to provide domestic roaming services applicable over GSM networks and have its own prefix. Services have yet to be launched.

3G

In August 2009, the four winners of Vietnam’s three next generation (3G) mobile concessions were issued with the licences which they won in June. The recipients of Vietnam’s first 3G licences are military-owned Viettel, VNPT subsidiaries MobiFone and VinaPhone, and a JV between EVN Telecom and Hanoi Telecom Company. According to their licence obligations, over the next three years ended 2012, the operators will invest a combined VND33trn (US$1.73bn) in their 3G networks, with a total of 30,000 base transceiver stations. As of June 2010, the operators had deposited VND8.1trn (US$426.3mn) with the 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 1,900-2,200MHz 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 (the Russian-Vietnamese JV) and **Saigon Postel**, which is a major shareholder in Vietnam's fourth largest mobile operator, S-Fone. Although GTel 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. GTel is understood to be partnering with rival VinaPhone to build a 3G network and provide the relevant services. 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 cellcos: they are state-run Vietnam Multimedia Corporation (VTC), and local company **Dong Duong**.

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.

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. Such discrepancy in 3G subscriber figures makes 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. Furthermore, 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 unlike to rise significantly.

Viettel said in early December 2010 that it had 1mn 3G subscribers and this increased slightly to 1.17mn by the end of December 2010. The exact size of Vietnam's 3G industry continues to vary but it is certain that 3G subscriber growth remains muted and below the industry's expectations.

In July 2010, MIC Department of Radio Frequency Chief Doan Quang Hoan said operators are not effectively utilising value-added services and subscribers mainly use 3G connections to access the internet and download music. All four 3G operators provide the same services such as mobile internet, video call, mobile camera and mobile TV. It was thought 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.

Meanwhile, in June 2010, EVN Telecom – the final and fourth 3G licensed operator – announced the commercial launch of services. The operator will target the roll-out of its service in highly populated cities such as Hanoi, Ho Chi Minh City, Hai Phong, Da Nang and Can Tho in its first phase. EVN Telecom has so far invested VND2trn (USD104mn) 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, the company plans to install more than 5,000 BTS by the end of the year. The operator is expecting to register 1mn 3G subscribers within one year of the launch of its services.

3G Network Developments And Plans

In May and June 2009, Viettel signed two separate agreements with Chinese equipment suppliers Huawei and ZTE. It appears that Huawei will be Viettel's main network supplier while ZTE will supply its Soft Defined Radio (SDR) solutions to support the network roll-out. In July 2009, Viettel announced a further agreement with **Nokia Siemens Networks** (NSN) 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.

Meanwhile, in June 2009, EVN Telecom and Hanoi Telecom Company unveiled a VND6mn (US$338mn) 3G network and services agreement. The two operators plan to construct 5,000 base transceiver stations (BTS) over the next three years to provide 50% of residential areas with third-generation services. In November 2009, EVN Telecom awarded a 3G mobile network contract to Huawei Technologies. Under the terms of the contract, the vendor will be responsible for developing a 3G mobile network including the supply of equipment and technology for the development of the network.

VinaPhone appears to be adopting a regional approach to the deployment of its 3G network. In August 2009, the operator 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.

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

To encourage subscribers to upgrade from 2G to 3G services, MobiFone has launched a three-month special promotion ending in March 2010, which allows customers to make video calls at the same tariffs applied to normal calls, and offering a 50% discount for other services of mobile internet and mobile TV.

For its Fast Connect services, this is being offered free of charge for a period of six months ended June 2010.

Video call services have been established at VND2,000 per minute (peak) and VND1,000 per minute (off-peak) for prepaid users, and VND1,500 per minute (peak) and VND750 per minute (off-peak) for postpaid users. Mobile internet services are varied, with an M5 package charging VND5,000 for 30 days, an unlimited package offering maximum speeds of up to 7.2Mbps such as Surf1 costing VND12,000 per day, Surf7 costs VND80,000 for seven days and Surf 30 charges VND300,000 for 30 days. There are also three packages for mobile TV services: TV1 charging VND3,000 per day, TV7 at VND15,000 per seven days and TV30 at VND50,000 for 30 days. There are 32 TV channels available.

Mobile Contract Wins

Table: Mobile Contract Wins

Date	Contract value (US$)	Details
November 2010	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
October 2010	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
September 2010	na	VNPT awarded Alcatel-Lucent a contract to supply end-to-end IP Multimedia Subsystem (IMS) solution, which will 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
January 2010	US$70mn	VinaPhone awarded Motorola with a contract for the expansion of the operator's GSM network. Motorola will deploy 3,000 more base stations transceivers for VinaPhone until 2012. The base stations will expand the operator's 2G network in southern and northern provinces of the country
November 2009	na	MobiFone signs a deal with Nokia Siemens Networks 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
November 2009	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
September 2009	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
September 2009	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
September 2009	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, TTCI, were

Table: Mobile Contract Wins

Date	Contract value (US$)	Details
		awarded a large proportion of territory in Vietnam to benchmark and optimise MobiFone's network quality
August 2009	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
July 2009	na	Viettel selects 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
June 2009	US$338mn	EVN Telecom and Hanoi Telecom Company sign a VND6mn (US$338mn) 3G network and services agreement. The two operators plan to construct 5,000 base transceiver stations (BTS) over the next three years to provide 50% of residential areas with third generation services. At the time of the announcement, EVN Telecom operated close to 3,000 BTS and Hanoi Telecom around 1,200
June 2009	na	ZTE announces that it has 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
May 2009	na	Huawei is 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
April 2009	na	VinaPhone selects 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 the vendor 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
March 2009	na	GTel Mobile, a JV between Russian mobile group VimpelCom and Vietnamese state-owned vehicles Global Telecommunications Corporation (GTEL) and subsidiary GTEL TSC, selects Alcatel-Lucent to provide a turnkey GSM/EDGE network solution. The cellco plans to roll out the new network in north and central Vietnam, with a commercial launch scheduled for end-2009
February 2009	na	GTel inked a deal with Alcatel Lucent Technologies for the improvement of its mobile services in central and northern Vietnam. Under the terms of the agreement, the vendor will provide Business Support System (BSS) wireless network and a microwave transmission system, and has announced that it will extend its training assistance to the operator's staff while the network is being built
August 2008	600mn	Vietnamobile awards contract for the supply of GSM equipment from Ericsson and Huawei Technologies

na = not available. Source: BMI

Mobile Content

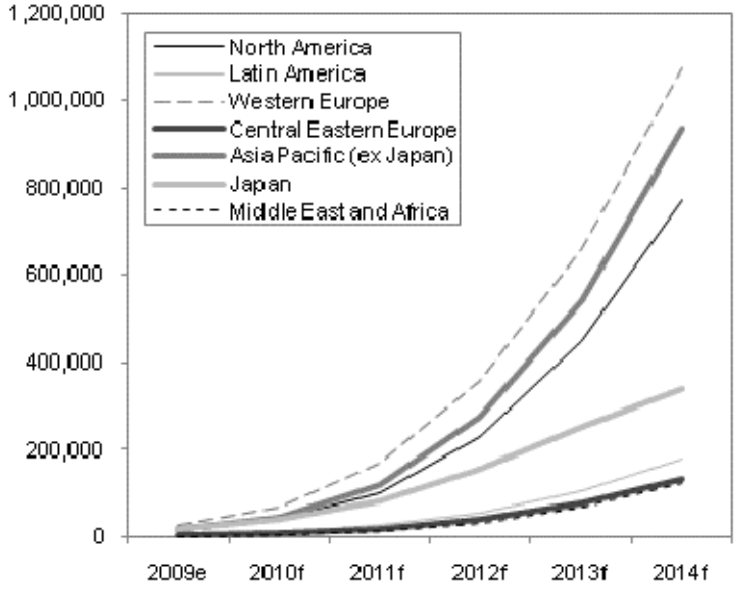
Regional Outlook

The Asian market for mobile value-added services is growing rapidly, particularly in mature markets such as Hong Kong, Singapore, Taiwan and Japan where 2.75G and 3G/3.5G networks and services are well established and the usage of smartphones and premium services is linked to the higher incidence of postpay (contract) subscriptions. However, as smartphones and feature phones become more affordable and as growing customer confidence in accessing and using online services via mobile devices leads to more data traffic being carried over networks, so the value of the market will grow well beyond the US$110mn we estimated for 2009.

Cisco Systems believes that Asian markets will account for the greatest numbers of mobile-only data users worldwide by 2014, comfortably outpacing the more mature markets in Western Europe, North America and certain South American markets. Much of this can be attributed to the sheer size of the markets in question, where the number of inhabitants in a country such as China, for example, is far higher than that in Brazil or Mexico. However, handset subsidisation and aggressive competitive pricing are playing their part, as is the growing trend for major global brands to be supplanted by local micro vendors based in China, India or Indonesia, which keeps production and shipping costs down.

Smartphones, Laptops Behind Data Traffic Explosion

Global Mobile Data Traffic Forecasts By Region (TB per month), 2009-2014



e/f - estimate/forecast; Source: Cisco Systems

Operators are content to subsidise handsets and to engage in aggressive pricing promotions in order to lure customers on to their networks. Even those that have little apparent need for data and value-added services may be encouraged to use such services as operators encourage them to use text-based messaging (SMS) services, basic gaming services and rudimentary location-based information tools (such as news and weather reports, market prices for cash crops) and 'life' tools such as banking and money transfer.

Little wonder, then, that **Nokia** – the principal supplier of low-cost 'basic' handsets – has chosen India and Indonesia as its testing grounds for its Ovi Life Tools services. The potential audience for these services is significant, and will translate into additional revenues both for Nokia and for the mobile operators.

Mobile value-added service (VAS) revenues accounted for around 11% of total service revenues among Asia's leading operators in 2009. This may be a more substantial amount in more mature markets – particularly Japan and Hong Kong – but it is clear that improvements in revenue mix are being seen in smaller emerging markets. India, though far from being a small market, sees 14-15% of service revenues accounted for by SMS and related VAS in FY2010, although this figure is struggling to grow as a result of destructive price competition, according to the Internet And Mobile Association of India (IAMAI).

Messaging is – and will remain – at the heart of the mobile VAS ecosystem in Asia, currently accounting for around 65% of service revenues. This includes SMS and MMS services, as well as instant messaging (IM) and more complex email-based services. That said, and as is being seen elsewhere in the world, SMS is becoming less important to operators as a revenue stream as customers increasingly rely on more media-rich services such as online searching and map and location-based services. Online gaming and video downloading/streaming are also gaining in currency and operators have been investing heavily in software developers as well as media and IT companies to create, source and share content used in these multimedia services. The IAMAI believes that 40% of Indian VAS revenue in FY2010 came from non-SMS services and that this figure is expected to grow steadily over the next few years, a view shared by content developer **OnMobile Global**.

Country Outlook

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 MIC 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.

Mobile Marketing

Although mobile marketing appeared in Vietnam in late 2006, when the VNPT collaborated with several national businesses to provide such services, the previous two years have ushered in a new era for mobile marketing in Vietnam. This is despite many Vietnamese mistaking mobile marketing for spam.

The major providers of mobile marketing, however, remain the financial, insurance and securities companies located within Indochina: The **Asia Commercial Bank** (ACB), **Technological and Commercial Bank of Vietnam** (Techcombank), and **Bank for Foreign Trade of Vietnam** (Vietcombank). For the most part, these companies have informed their customers on 'interest rates, promotional campaigns and new financial services by mobile messaging (SMS)'. This is very similar to services offered in the US, some Vietnamese banks now provide a mobile banking service (*see below*), which, of course, enables account holders to monitor their accounts and even pay bills or send payments via text messages.

Online Payments

The MIC has established two agencies to back the development of e-commerce, the Digital Signature Certifying Centre and the Vietnam Computer Emergency Response Team. With around 75mn subscribers of mobile services (not to mention the growing numbers of internet users), **PayNet**, one of Vietnam's first online payment portals, believes that the country is in a period of transition from cash to online payment.

That said, one of the largest obstacles to uptake has been education. Many do not know how to pay for goods online, due to existing limited payment services. Second, up to 80% of internet users have enough cash to make online purchases, but only 20% have debit cards with 1% owning a credit card.

Meanwhile, Viettel Deputy General Director Tong Viet Trung, believes that the mobile phone should become a new tool for payment because it has become very popular in Vietnam, and Vietnamese people are more familiar with mobile accounts than bank accounts.

ANZ Vietnam, an affiliate of the **Australian and New Zealand Banking Group** (ANZ), became the first bank in Vietnam to offer a free-of-charge mobile banking service. The bank was voted 'Best Retail Bank' in Vietnam for the fourth year running in 2008.

Value-Added Services Timeline

Table: Selected VAS Services

Date	Details
October 2010	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.
September 2010	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
August 2010	VinaPhone announced new mobile broadband services bundled with USB modem devices to better meet market demand and higher adoption for its 3G services. Price ranged from VND799,000 to VND999,000 per set (includes SIM) and VND784,000 to VND984,000 per set (without SIM)
June 2010	Viettel 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
June 2010	EVN Telecom launched commercial 3G services, as the fourth and last operator to be offered a licence by the MIC
March 2010	Viettel launched its 3G services three months ahead of schedule, and had around 1mn trial subscribers
December 2009	MobiFone launched its 3G service, offering a three month promotional period ending in March 2010, to encourage customers to upgrade from 2G to 3G services. The operator offers mobile TV, mobile internet and video calling services
October 2009	VinaPhone becomes the first operator in Vietnam to commercially launch 3G services in the country, by the end of December, the operator announced that its network covered 13 cities and provinces
July 2009	Viettel launches an international roaming service for its prepaid mobile subscribers. Customers with a balance of at least VND200,000 (US$11.42) are able to sign up to the service by sending a SMS to the operator. Viettel will initially provide roaming services in 21 countries worldwide, including Hong Kong, Indonesia, Malaysia, Singapore, Taiwan, Thailand, Russia, France, Germany, the Czech Republic, Australia, Canada, the US, Belgium, Portugal, Greece, Hungary, Sweden, Turkey, Ukraine and Kazakhstan
May 2009	Viettel introduces a pre-paid mobile service, specifically designed for foreign visitors to Vietnam. 'Tourist SIM' offers users a free SMS service providing information about the weather, transport times, hotel addresses, tourist sites, foreign exchange rates, taxi firms and tourist agencies. Travellers can purchase SIM cards for either US$5 or US$10, which can be charged via top-up cards with tariffs for outgoing international calls at VND3,240 per minute (US$0.18), 10% lower than the charges for international calls of other services. The fee for an outgoing international SMS is VND2,160
March 2009	MobiFone and Viettel introduce new promotional SMS accounts to deal with mounting advertisement SMS messages being sent to their customers. The MIC has noted that content providers must provide an opt-out service for those customers wishing not to receive the advertisement SMS
January 2009	MobiFone offers MMS at a cost of VND300 for text and VND600 for photos/sound per text message. Between December 24 2008 and March 24 2009, the operator offered a 50% discount, and no charge between December 25 2008 and January 1 2009
October 2008	Recording Industry Association of Vietnam (RIAV) has filed lawsuits against mobile phone seller Nokia Vietnam and FPT Telecom for copyright infringement of recorded music. Other music producers, namely HT Production and Kim Loi Studio, have also jointly sued multimedia company VTC Intercom for selling copyrighted music to mobile phone service provider Viettel Mobile through the service of I-muzik
July 2008	ANZ Vietnam became the first bank in Vietnam to launch mobile banking services in Ho Chi Minh and Hanoi cities. The bank has been operating in the country since 1993, following Vietnam's entry to the WTO. ANZ already offers mobile banking in New Zealand and launched a pilot mobile banking service in Australia in January, with a view to a full-scale commercial roll-out in the second half of 2008

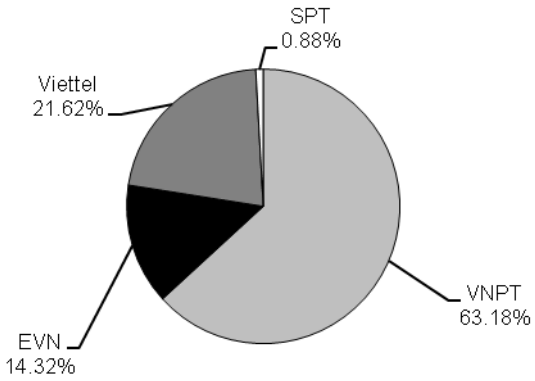
Source: BMI

Fixed Line

Greater competition in the fixed-line market is being introduced by the MIC. In May 2010, the regulator announced it had licensed a ninth fixed-line licence. Vietnamese mobile operator GTel secured the licence allowing it to deploy a fixed-line network in the country.

Vietnam Fixed-Line

Market Share, December 2009 (%)



Source: BMI

Despite the presence of numerous operators in the sector, **VNPT** remains the dominant operator. Latest officially published data for the Vietnamese fixed-line market relates to the end of 2009. There were a total of 17.427mn fixed lines, representing a penetration rate of 20.12%. VNPT remained the market leader with 63.18% of the market, representing 11.011mn lines. However, the operator's market share fell by 71.6% in 2008 as a result of competition from **Viettel** and **EVN Telecom**.

Viettel replaced EVN as the second-ranked fixed-line provider with 21.62% of the market share at the end of December 2009, an equivalent of 3.768mn fixed-lines. Viettel attributed the growth to its focus on home phone subscribers in rural regions and enhancements to its base transceiver stations that improved services. EVN Telecom had 2.496mn fixed-lines, representing a 14.32% market share. At the end of December 2008, EVN added 530,000 subscribers from December 2007 to reach a fixed-line subscriber base of 2.2mn.

The strength 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. According to data from the GSO, VNPT had some 11.5mn fixed lines in March 2010, an increase of 58.1% y-o-y. Despite this, VNPT's market share of 58.4% in March 2010 was down from 76.9% in 2007, as a consequence of greater competition in the sector.

According to data published by Vietnam's General Statistics Office (GSO), number of fixed-line subscribers fell to 16.4mn in August 2010, down from 19.7mn subscribers in March 2010 and 17.5mn in June 2010. This figure remained flat through November 2010.

In December 2006, the MIC awarded a national wireline licence to FPT Telecom, making it the first privately-owned company to be allowed to offer fixed-line services in Vietnam. FPT has since deployed a next generation network that supports the provision of IP-based voice telephony, as well as high-speed broadband and IPTV. At the time of receiving its licence, Truong Dinh Anh, the director of FPT Telecom, suggested that by June 2007, the company would have 100,000 subscribers, rising to 250,000 by the end of the year.

In February 2009, the MIC awarded a new fixed-line licence to **CMC Telecom Infrastructure**, a subsidiary of Vietnam-based CMC Group. As a result, CMC became the second privately owned company in Vietnam with a licence to provide fixed line and internet services. CMC Telecom received its licence to provide internet services in Vietnam in February 2008; the company was reported to also be the 10th ISP to be licensed in Vietnam. CMC has stated that its strategy is to focus on large corporate clients and governmental organisations, a strong sector for internet use in Vietnam, as 89% of companies are estimated to have internet connections. It is understood that CMC will offer its services through its partnership with CDMA operator EVN Telecom. The chairman of CMC Corporation has confirmed an interest in launching WiMAX broadband wireless services in the future.

Long-Distance Services

In addition to controlling the greater part of the local voice telephony market, VNPT was, until 2002, the only body authorised to offer long-distance and international services. However, both 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.

Furthermore, in an effort to regulate the fixed-line market and ensure greater equality, the MIC announced plans, in October 2008, to raise the cost of inter-province calling for all fixed-lines. At present, users pay VND120 (US$0.007) per minute, said to be below cost price. The MIC has recommended raising this to VND200 (US$0.012) per minute. However, in order to offset the increase in tariffs, monthly subscription fees will be reduced to VND20,000 from VND27,000, which will hopefully attract a number of new customers. These changes were due to commence in 2009, but at the time of writing no further information had been published. The MIC will continue to regulate residential phone tariffs until 2010. From 2011, operators will 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.

In November 2008, the MIC recommended that landline tariffs be simplified for residential users. If the watchdog's plan is implemented, customers will pay VND200 (US$0.01) per minute regardless of where in the country they are calling: currently tariffs range from VND120 for local calls to VND400-700 for long-distance calls.

Fixed Wireless

With the limited availability of traditional fixed-line infrastructure, and with around 70% of Vietnam's population living in rural areas, an increasing number of Vietnamese telecoms operators – including mobile operators – are introducing fixed-wireless services. Faced with high levels of saturation in already crowded urban mobile markets, fixed-wireless access (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 have suggested that Viettel had over 13mn customers at the end of 2007. However, it is likely that this figure includes mobile, internet and fixed-wireless customers. We now estimate that Viettel had just over 600,000 fixed wireless customers at the end of 2007; this was equivalent to just over 5% of total fixed-line connections in Vietnam.

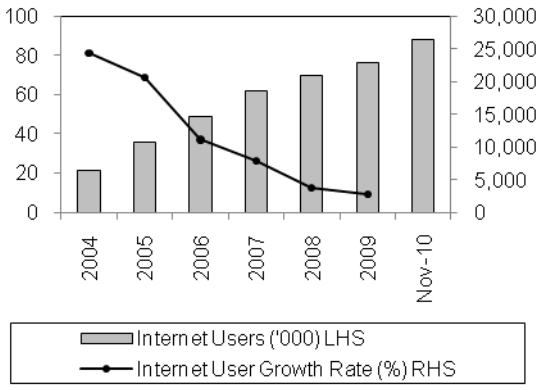
Vietnam's fixed-line incumbent VNPT also offers a fixed-wireless service called GPhone. The service operates over VinaPhone's GSM network and is charged at fixed-line prices, making it affordable for low-income households. GPhone was launched in two phases, with services initially being launched in eight 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, but raised this to 500,000 new customers by year-end.

Internet

According to the latest data from VNNIC, there were a total of 26.472mn internet users in November 2010, representing an increase of 17.8% from November 2009, when there were 22.479mn internet users. Looking at the year-end data from 2009, there were a total of 22.78mn internet users in Vietnam, representing an annual growth rate of 9.3% from 2008, when there were 20.8mn internet users. During 2008, the number of users rose by 12.3% y-o-y.

Vietnam Internet User Growth

2004-2010



Source: VNNIC, BMI

Although annual rate of growth, in terms of the number of new internet users, has become progressively lower over the past few years, which would indicate that demand for internet services is weakening. Meanwhile, monthly growth rate has been stagnant for the past few months. Internet subscriber numbers in November 2010 grew by 1.4% when compared to the previous month, which is equal to the average for the first 11 months of 2010.

Although the rate of internet user penetration among young people, and in Vietnam's more affluent urban centres, is already higher than the national average, it will be necessary to ensure that new demographic groups have internet access if internet user growth is to continue over the next few years. 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.

One phenomenon which 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. 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.

Meanwhile, growth in demand for broadband services is set to soar in the long term, as the Vietnamese government has been investing heavily in developing the broadband sector, announcing its commitment to inject VND100trn (US$6.3bn) in order to raise penetration rates significantly. Also, since joining the World Trade Organization (WTO), a number of high-profile global companies have relocated their operations to Vietnam, and the employment of local staff has boosted incomes. The result has been that a

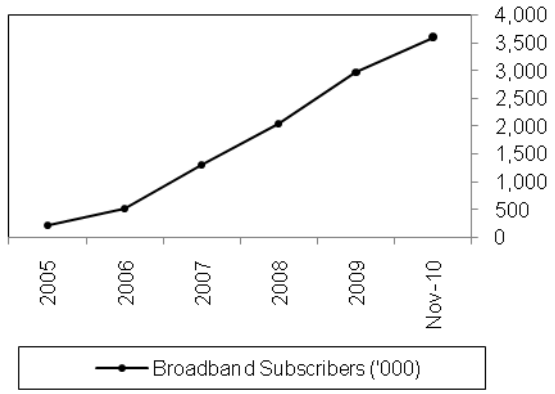
significant number spend between US$10 and US$20 on their home internet bills, accessing multimedia content including games and downloads. Increased competition is also expected to encourage increased broadband usage.

Broadband

The latest data available shows there were a total of 3.604mn broadband subscribers in November 2010, an increase of 24.5% y-o-y. The broadband market grew by 44.8% from 2008 to 2009 and in the previous year, it increased by 58.3%. The slowing growth, despite penetration rates remaining low at around 3.4%, is a result of price competition occurring in the 3G mobile sector, where the major operators are offering affordable mobile internet services. This is proving attractive not least of all as Vietnam has a weak and unreliable fixed-line infrastructure, which makes connecting to the internet difficult.

Vietnam Broadband Subscriber Growth

2005-2010



Source: VNNIC, BMI

To encourage accessing the internet via mobile networks, Viettel has sought to boost its online content. The country's largest mobile network operator 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.

Prior to this, in April 2010, Viettel announced that it would reduce its 3G registration fee for mobile internet services by 50%. The service charge will become VND10,000 per month, down from VND30,000 per month for 3G services. It is also offering bonuses of more than VND1mn on D-com 3G service accounts. On the back of this announcement, MobiFone announced that it would also introduce a 3G promotional offer, reducing charges by 30-50%. From June 2010, customers registering to use its mobile internet services with tariffs of Surf7 and Surf30, will see charges reduced by 50% to VND40,000 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. As for VinaPhone, the operator has said that it will also soon reduce charges for its 3G mobile internet services.

VNPT set itself the target of 1.5mn broadband subscribers by the end of 2009, which would provide 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. VietNamNet suggested that VNPT had around 78% of the market in May 2010 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 was ranked a close third due to its emphasis on big cities. According to the report, FPT 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. 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 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. VNPT announced in December 2009 plans 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. According to *Antara News*, VNPT plans to invest an additional US$1bn in 2009, in order to upgrade its broadband networks and expand its international internet bandwidth. Under the incumbent's upgrade plan, its VDC division will make available two additional STM-16 optical links at 2.5Gbps to the US, doubling its international internet bandwidth over 2008.

'Fibre to the x' (FTTx) broadband services were made available in Vietnam in December 2010. The fastest FTTH-Gpon delivers speeds about 200 times faster than ADSL, but the service costs VND30mn per month. However, prices are expected to come down once the technology matures and competition kicks in. Furthermore, 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 via a personal computer by 2015. By 2020, Vietnam aims to increase the percentage to 50-60%.

IPTV

State-owned operator, VNPT first launched IPTV services in Ha Noi 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. 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, it was reported in September 2009 that VNPT had officially launched its IPTV service under the MyTV brand. From September, 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. Subscribers are able to access live TV, VOD, music videos, games, internet and telephony services, and TVoD. Upon announcing the launch, VNPT's chairman of the board of directors, Pham Long Tran, predicted that, with the strong development of broadband internet and the high demand for entertainment, MyTV would 'boom in Vietnam in the near future'.

Also in September, US-based firm, **Verimatrix**, announced that it was providing a layered content security system for VNPT's IPTV roll-out. The vendor will deploy its Verimatrix Video Content Authority System (VCAS) for IPTV, which is an integrated content security solution for Chinese equipment provider ZTE's ZXBIV IPTV Eyewill platform.

In November 2009, Vietnamese telecoms operator **VTC Digital Communications** (VTC Digicom) announced it had selected US-based IPTV middleware and applications provider Minerva Networks to supply its 'iTVManager' middleware platform. The platform will help VTC Digicom to provide its premium IPTV services in the country. In the first phase, the operator will offer IPTV services to more than 100,000 subscribers in Vietnam. VTC Digicom intends to expand its reach in future.

FPT Telecom became the first telecoms company in Vietnam to distribute K+1 and K+ channels. The contract would 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.

Corporate Data Services

Along with its domestic internet services, VNPT provides data networking services to large corporate customers through a partnership with UK operator **Cable & Wireless** (C&W). In September 2008, VNPT subsidiary VDC announced an extension to its partnership with C&W for the delivery of IP VPN services. According to the agreement, C&W will offer on-net IP-based VPN services to VDC's customers. As part of the deal, C&W has upgraded its point-of-presence (PoP) network node coverage in both Hanoi and Ho Chi Minh City. In November 2003, VDC became the first operator in Vietnam to provide virtual private network (VPN) services.

Earlier in 2008, Viettel launched a major sales promotion campaign targeting businesses with leased-line services. The company said in June that it would waive installations fees and user fees for a month for new leased-line subscribers. The total package would save customers VND60mn (US$3,680). In addition, the firm said it would give new subscribers a free web domain, 10 e-mail addresses and a hosting service for one year.

Privately-owned wireline operator FPT Telecom has also developed a strategy aimed at targeting the growing number of corporate customers in Vietnam. In August 2008, Vietnam News Agency reported

that FPT Telecom had signed an agreement with PCCW Global to link their respective networks: 'The strategic alliance between the two companies is designed to facilitate more comprehensive network management between Vietnam and other countries covered by **PCCW**'s network'. The partnership will also enable FPT to provide its international corporate customers with value-added services such as on-demand-bandwidth and IP multicasts.

Meanwhile, in June 2009, it was reported that Asian telecoms service provider **Pacnet** had partnered with FPT Telecom to launch its first point-of-presence (PoP) in Vietnam, with the aim of enhancing network connectivity in the country. The company plans to expand its presence to other cities in Vietnam over the next 12 months, and is exploring the possibility of landing its EAC-C2C submarine cable in the country to provide access to Asia's highest capacity undersea network.

In January 2009, Hong Kong's Hutchison Global Communications (HGC) entered into a MoU with Vietnamese wireline operator, EVN Telecom. The MoU facilitates the interconnection of EVN Telecom's newly purchased capacity on the TGN Intra-Asia (IA) submarine cable system with HGC's advanced network. Under the terms of the MoU, HGC will also co-operate with EVN to provide connectivity solutions to wholesale carriers and corporate customers in Vietnam.

4G

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. It was announced in February 2006 that the Vietnamese government had given the green light for the launch of a pilot WiMAX project. 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 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 will consist of 10 base transmitter stations (BTS) and will have a capacity of around 3,000 subscribers; it will 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 operator, EVN Telecom, which is a major provider of fixed-line services.

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 US vendor 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. If correct, this would imply almost a year's delay between VNPT first announcing the trial and the actual start of the trials. Press reports have noted the difficulties which Vietnam's WiMAX licensees have faced when trying to obtain the necessary WiMAX equipment.

Although the pilot programs 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 new Ministry of Information and Communications (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 has indicated that it will 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 said to have enabled high speed internet access, video downloads and the transfer of data and phone calls via wireless internet at speeds of up to 15Mbps, within three kilometres of a pilot WiMAX station.

Once the WiMAX trial period has ended, the MIC is expected to officially issue WiMAX licences. The MIC has not specified a date or any licensing conditions and it is suspected that the ministry will first concentrate on the issuance of 3G licences.

Meanwhile, the MIC announced in April 2010, its intention to invite proposals for a 4G frequency plan in the country, reports VietNamNet. The telecoms operators in the country can deploy either LTE or WiMAX networks for rolling out the enhanced 4G services. As several operators have already conducted trials of WiMAX services, it is reported that WiMAX would be the preferred technology for rolling out countrywide 4G network before the end of 2010.

In May 2010, 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 to establish its own mobile service rather than rely on the network of Viettel, as part of its MVNO licence agreement.

According to VietNamNet in August 2010, the MIC has allowed FPT Telecom to test LTE technology in Hanoi and Ho Chi Minh City within one year. The MIC is also considering allowing VNPT and Viettel to test LTE technology.

Vietnam Data Communication Company (VDC) and Russia's **Antares** have reached an agreement in September 2010 to build a trial LTE network. The Russian firm plans to invest US$2mn while VDC will be responsible for obtaining the licence and securing the infrastructure and equipment. TeleGeography reported that Huawei will be the 4G equipment vendor for the project. Testing of 15 LTE base transceiver stations will begin on October 20 2010 in Hanoi and the trial period is expected to last two to three months. Under the next phase, Antares will invest a further US$27mn to establish a joint venture that will be controlled by Wagner Asset Management, the owner of Antares. The CEO of Antares estimated that the entire project will cost US$400mn and said that concerns regarding Vietnamese laws on foreign ownership will be resolved.

The MIC granted 4G licenses to five operators: VNPT, Viettel, FPT Telecom, CMC and VTC in September 2010. Under the licence agreement, the companies would be allowed to operate LTE network over a trial period of 12 months. The MIC's Telecommunications Department director said that operators will be required to participate in an auction in order to be granted a 4G licence. They will be able to transfer the frequency bands after receiving the licences.

Table: Vietnam – 4G Triallists

Operator	4G licence date	Pilot launch
Vietnam Post and Telecoms (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 both wireless and wireline WiMAX
EVN Telecom	Jan-07	To carry out trials of both 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

Wireline Contract Wins

Table: Wireline Contract Wins

Date	Contract value (US$)	Details
September 2010	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
September 2009	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
August 2009	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
August 2009	na	VNPT signs an MoU with Intel to boost long-term strategic co-operation 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 co-operation between VNPT's affiliates to introduce integrated internet products
May 2009	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
January 2009	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 co-operate with EVN Telecom to provide connectivity solutions to wholesale carriers and corporate customers in Vietnam
November 2008	na	Motorola announces that it has deployed its first WiMAX trial network for Vietnam Data Communication Company (VDC), a member company of VNPT. The launch of the WiMAX service follows the signing of an agreement between Motorola and VDC to commence a technical and commercial WiMAX trial in Hanoi and Ho Chi Minh City in 2007. Under the agreement, Motorola will install WiMAX Diversity Access Points and more than 100 customer premises equipment (CPE) in the nation's two largest cities
September 2008	na	VNPT subsidiary, Vietnam Data Communication Company (VDC), announced an extension to its partnership with Cable & Wireless for the delivery of IP VPN services. According to the agreement, C&W will offer on-net IP-based VPN services to VDC's customers. As part of the deal, C&W has upgraded its point-of-presence (PoP) network node coverage in both Hanoi and Ho Chi Minh City

Source: BMI

Regulatory Environment

Vietnam: Regulatory Bodies And Their Responsibilities	
Regulatory Body	**Responsibilities**
Ministry of Information and Communications (MIC) 18 Nguyen Du Street, Hanoi, Vietnam Tel: +84 4 943 5602 Fax: +84 4 826 3477 Web: www.mic.gov.vn	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: ▪ 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 co-ordination; ▪ 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 co-operation 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 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 both 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 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 MPT is responsible for all licensing related to telecommunications 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, Vietnam's MPT has allowed a number of local telecoms companies to enter into 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. Furthermore, 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 VNPT, Viettel and EVN Telecom), and also to virtual personal network and IXB service providers such as FPT, VNPT, Viettel and EVN Telecom four years after the date of Vietnam's WTO membership.

Regulatory Developments

MVNO Indochina Telecom Gets WiMAX Permit

Vietnam's first MVNO, Indochina Telecom, was granted in May 2010, a permit to trial WiMAX technology by the MIC, reports VietNamNet Bridge. The company joins nine others – mostly mobile network operators – in being authorised to test the 4G mobile broadband technology, which **BMI** believes will help boost broadband service availability across the country.

GTel Secures Licence To Provide Fixed Telephony Service

Vietnamese mobile operator GTel secured a licence from MIC in May 2010, to deploy a network to provide fixed-line services in the country. The operator became the ninth operator to offer fixed-line services in the country. GTel currently offers mobile services under the Beeline brand.

MIC Awards MVNO Licence To VTC

In June 2010, Vietnam's Ministry of Information and Communications (MIC) has awarded a mobile virtual network operator (MVNO) licence to state-run WiMAX operator Vietnam Multimedia Corporation (VTC). VTC will provide 3G mobile services using the network of local CDMA operator EVN Telecom. VTC will build on the existing 3G network to create new products and services for users. The operator is aiming to officially launch services by the end of 2010.

Five Operators Licensed To Test LTE

In September 2010, the ministry Information and Communication (MIC) has permitted five mobile operators, Vietnam Posts and Telecommunications (VNPT), Viettel Telecom, FPT Telecom, CMC Telecom and Vietnam Multimedia Corporation (VTC) to test Long Term Evolution technology. The telecoms companies are given a year to conduct tests and will be expected to participate in an auction for the frequencies and licences.

Vietnam Not Ready For Mobile Number Portability

Vietnam's Ministry of Information and Communications (MIC) said it was studying the possibility of implementing mobile number portability (MNP) in the country and could release a set of guidelines in 2011. The benefits of MNP are best reaped in countries where the industry has matured and is experiencing stagnant growth as a result. This could not be said for the Vietnamese market, even though the mobile penetration rate for the country is among the highest in the Asia-Pacific region. Although **BMI** broadly welcomes the introduction of MNP, we think that the Vietnamese market is not yet ready for a further increase in the level of competition, which could affect the sustainability of mobile operators.

Industry Developments

FPT And EVN Telecom To Kick-Start Consolidation

Vietnam Business News reported that the **Finance and Promoting Technology Corporation** (FPT) and its telecoms subsidiary, **FPT Telecom**, will raise capital a maximum of VND2trn (US$103mn) through the issuance of corporate bonds to acquire 44% of **EVN Telecom** following the latter's plans to launch an initial public offering by end-2010. Besides providing additional capital to expand EVN Telecom's mobile and 3G networks, the deal will enable FPT – which currently offers internet services – to enter the mobile and fixed-line industries without building additional telecoms infrastructure.

Vietnam's Ministry of Information and Communications said during a seminar that overcrowding in the country's mobile industry has led to intense competition and declining profitability, which has jeopardised operators' long-term sustainability. While the regulator's opinion mirrors **BMI**'s core view that consolidation is needed in Vietnam's highly competitive mobile sector, we are concerned by the lack of concrete steps from the regulator to improve the situation and think it will be up to operators to initiate consolidation or face the threat of exiting the industry.

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, internet
VinaPhone	Vietnam Telecom Services (100%)	Mobile
MobiFone	Vietnam Telecom Services (100%)	Mobile
Viettel	Ministry of Defence	Mobile, local telephony
S-Fone	Joint Venture: Saigon Postel and SK Telecom	Mobile
Electricity of Vietnam (EVN Telecom)	Electricity of Vietnam (100%)	Local, long distance and international telephony, data, internet and mobile
Hanoi Telecom	Joint Venture: Hanoi Telecom, Hutchison Telecommunications International (HTIL)	Mobile

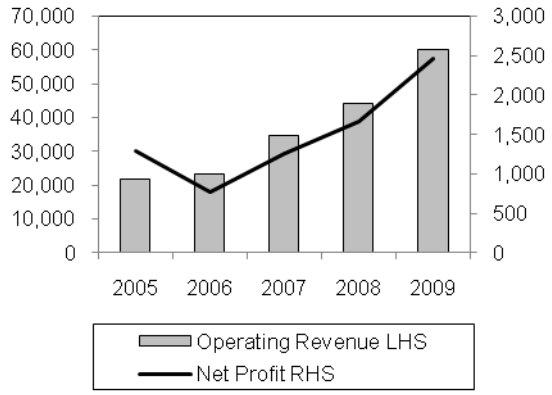
Source: BMI

Company Monitor

ZTE

ZTE, a provider of global telecommunications solutions, was founded in 1985 by a group of state-owned companies affiliated with China's Ministry of Aerospace. ZTE has been publicly listed in Shenzhen since 1997 and is currently the largest telecoms equipment manufacturer in China's A share market in terms of market capitalisation, operating revenue and net profit. The Shenzhen-based company has benefited from a greater degree of transparency compared to its privately owned rival, **Huawei Technologies**, and has made significant inroads in the global network infrastructure market, providing products and services to more than 500 customers in 140 countries and regions worldwide. However, ZTE remains China's number two telecoms vendor: at the end of 2009, ZTE and Huawei controlled 6.7% and 14.2% of the global network infrastructure market respectively, an increase from 4.1% and 11.5% in 2008, according to Gartner estimates.

ZTE Financial Performance (CNYmn)
2005-2009



Source: ZTE

ZTE's financial results for Q210 continued to show strong revenue growth despite competition from alternative vendors such as **Alcatel-Lucent** and **Nokia Siemens Networks** (NSN). Operating revenue grew to CNY30.73bn (US$4.59bn), an increase of 10.9% y-o-y. Over the same period, net profit increased by 12.0% to CNY877.49mn (US$131.10mn). Based on ZTE's annual results, revenue grew at a compound annual growth rate (CAGR) of 22.6% between 2005 and 2009 while net profits posted a CAGR of 13.8%. The company maintained an annual research and development (R&D) budget of about 9% of its revenue, an equivalent of CNY5.78bn (US$863.55mn) in 2009.

Table: ZTE: Research And Development Budget (CNYmn), 2005-2009

	2005	2006	2007	2008	2009
Research And Development Cost	1,960	2,833	3,210	3,994	5,782
% of Operating Revenue	9.0%	12.2%	9.2%	9.0%	9.6%
y-o-y % Change		44.6%	13.3%	24.4%	44.8%

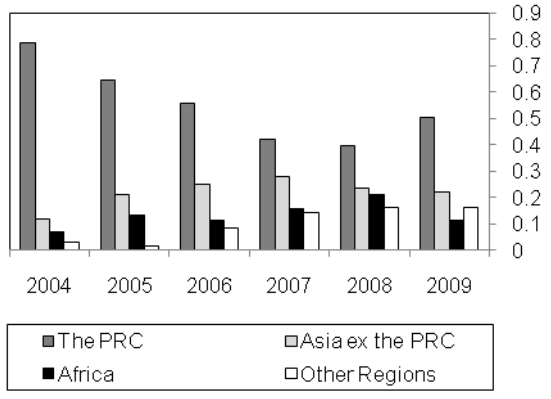
Source: ZTE

The company provides a breakdown of revenue in terms of product segments and geographical regions. In the product segments breakdown, carrier networks accounted for 66.3% of its operating revenue in 2009, with terminal services and telecoms software systems, services and other products accounting for the remaining 33.7%. In the geographical regions breakdown, revenue contribution from mainland China increased from 39.4% of operating revenue in 2008 to 50.4% in 2009, reflecting the heavy dependency on its domestic market. ZTE attributed its strong domestic growth to an increase in sales of CDMA, TD-SCDMA and WCDMA system equipment and the launch of 3G services by mobile operators. All other regions, except Africa, experienced nominal growth during the 2008 to 2009 period. Sales in Africa fell by 26.3% to CNY6.86bn (US$1.02bn) in 2009. Based on H110 results, ZTE is on track in 2010 to match its financial performance in 2009 if the operator can maintain its sales figures in the second half of the year.

ZTE's dependency on the Chinese market from 2008 to 2009 was possibly a one-off event that was driven by the global economic downturn – which did not greatly affect China but caused a slowdown in the number of contracts awarded globally – and the launch of 3G services that fuelled demand for network infrastructure from Chinese operators such as **China Mobile** and **China Telecom**. More recently, ZTE has been shifting its revenue streams to international markets. ZTE has established strong working relationships with overseas telecoms operators such as Norway-based **Telenor** and Brazil's **Vivo**, and the operator expects the Middle East and Africa region to contribute 30% of its total revenue by 2010.

ZTE Revenue Breakdown By Geographical Regions (%)

2004-2009



Source: ZTE

However, the majority of the contracts awarded to ZTE are still based in Asia, which remains the main driver for its revenue growth. Asian markets contributed at least 60% of its total revenue from 2005 to H110. In addition, the infrastructure vendor has focused on supplying 3G and LTE equipment to telecoms operators across Asia, assisting the launch of networks capable of higher bandwidths to cope with the increasing demand for data services in the region. ZTE achieved several breakthroughs in 2010, following the launch of the world's first commercial EV-DO Rev B network with **Smart Telecom** in Indonesia and the company's collaboration with Hong Kong's **CSL New World Mobility** to deploy Dual-Cell HSPA+ (42Mbps) and LTE technology over an entire national network. When it comes to its domestic market, it is not surprising ZTE and Chinese vendor Huawei dominated the industry due to their strong financial standing and close relationships with the government. Looking ahead, China will undoubtedly contribute heavily to the success of the country's infrastructure vendors. In the short term, ZTE expects to continue focusing on sophisticated products and services such as 3G networks, optical communications products and terminals, but is actively looking for opportunities, especially with the impending commercial launch of 4G standards LTE and WiMAX, and China's proprietary TD-LTE technology standard.

Table: ZTE: Major Asia Contracts Award

Date	Contract Awarded	Country
September 2010	ZTE signed a contract to supply more than 3.500 3G base-stations to Taiwanese VIBO Telecom. The replacement of VIBO's existing WCDMA network around Taiwan is expected to complete within one year.	Taiwan
September 2010	Russian telecoms group Sistema's Indian unit selected ZTE, along with Huawei and Ericsson, to manage its mobile network in India. The operator secured spectrum to provide services in all of the 22 circles across the country.	India
September 2010	ZTE will deploy LTE trial network for Indonesia's Telekomunikasi Selular (Telkomsel). ZTE will upgrade Telkomsel's 2G/3G service to LTE using its Software Defined Ratio (SDR) technology and has started the roll out in August 2010.	Indonesia
September 2010	ZTE announced it has clinched a US$200mn contract to install new mobile networks for Reliance Communications. The vendor will build and supply 2G and 3G equipment for eight of Reliance's 13 network areas.	India
September 2010	India's state-owned BSNL selected ZTE to supply WiMAX equipment for the operator's broadband rollout in a deal that is worth INR6bn (US$66.5mn).	India
September 2010	CSL New World Mobility and ZTE demonstrated a network based on LTE and Dual Cell HSPA+ technology. CSL claimed to be the world's first mobile operator to simultaneously deploy Dual Cell HSPA+ (42Mbps) and LTE over an entire national network and provide subscribers with high-speed downloads and improved streaming performance.	Hong Kong
July 2010	CSL Limited, a subsidiary of Telstra, selected ZTE to deploy the world's first 1800Mhz/2600Mhz dual-band LTE network. ZTE will provide CSL with a unified core network to support 2G/3G/LTE concurrently for a seamless user experience.	Hong Kong
June 2010	Indonesia's Smart Telecom selected ZTE to supply key network infrastructure equipment for the operator to deploy a country-wide network framework. Under the agreement, ZTE will deliver approximately 6,000 base stations with a total capacity of over 25mn lines.	Indonesia
June 2010	China Telecom awarded a Passive Optical Network (PON) equipment contract worth over CNY1bn (US$149.4mn) to ZTE. ZTE's PON equipment will provide its ZXA10 xPON passive access system to support the operator's City Optical Network project that was launched in 2009.	China
June 2010	Telekom Malaysia selected ZTE as one of the major suppliers to construct Malaysia' national High Speed Broadband (HSBB) network. ZTE will supply its Multi-Service Access Nodes (MSAN) as part of Phase One of the HSBB network development.	Malaysia

Table: ZTE: Major Asia Contracts Award

May 2010	ZTE and Innofidei have jointly delivered a breakthrough for the Time Division Long Term Evolution (TD-LTE) industry with the industry's first successful Inter-Operability test (IOT) of multiple TD-LTE USB dongles in a single mobile network cell. ZTE will be playing an active role in the Shanghai World Expo TD-LTE demo network in co-operation with China Mobile.	China
April 2010	China Mobile chose ZTE to deliver its IMS core network in key Chinese provinces that will consist of 1.4mn lines when it is completed in August 2010.	China
January 2010	ZTE and Indonesia's Smart Telecom launched the world's first commercial EV-DO (Evolution Data Optimised) Rev B network. The operator aims to upgrade all existing base stations in Bali to EV-DO Rev B by Q110 and introduce the network to all major cities in Indonesia by year-end 2010.	Indonesia
December 2009	Singapore's SingTel announced it will collaborate with ZTE to carry out LTE trials in the Philippines that is scheduled to run for six to nine months starting early-2010, in order to meet the strong local demand for broadband and high-speed network access.	The Philippines
November 2009	As part of China Telecom's 3G infrastructure network plan, the operator partnered with ZTE to build China Telecom's IP Multimedia Subsystem (IMS) in five coastal provinces in China. ZTE was selected to provide critical solutions such as PSTN, Softswitch and IMS to build the operator's core network.	China
November 2009	ZTE announced it has completed the industry's first commercial IP Multimedia Subsystem (IMS)-based high definition (HD) video conference system for China Mobile. The system has been integrated in the operator's IMS office network and enables China Mobile to experience converged multimedia conference functions via various terminals such as fixed-line telephones, TD-SCDMA handsets and desktop soft-clients.	China

Source: ZTE, BMI

Despite the massive potential in its domestic market, ZTE has also targeted India. ZTE's Indian subsidiary announced the expansion of a new Indian Engineering Centre office in Delhi in May 2010 to meet the growing demand for engineering services in the country. This followed the launch of the National Network Operator Centre (NNOC) in 2009 by ZTE to showcase its long-term development and localisation strategy.

However, the vendor's progress in India was hindered by the government's decision to block ZTE and Huawei from selling network equipment to domestic telecoms operators, amid growing security concerns. The government was suspicious of potential spying technology embedded in Chinese equipment to intercept sensitive government communications. India subsequently tightened regulations for telecoms equipment imports in July 2010 and demanded vendors disclose their design details and source codes as well as allow equipment to be inspected.

As a result, ZTE's sales in Asia (excluding China) fell by 18.7% y-o-y to CNY5.24bn (US$783.71mn) in H110. Alternative Western equipment vendors were equally affected by tighter regulations. **Ericsson** reported its India sales in Q210 fell to SEK1.4bn (US$208.56mn), a decline of 63% y-o-y while NSN announced its net sales decreased 5% over the same period to EUR3bn (US$4.09bn). Both companies attributed the loss to the security clearance process that hindered customer sales completion.

However, with the security dispute now resolved, Indian operators have started awarding contracts to equipment vendors. ZTE secured a contract worth INR6bn (US$66.5mn) with state-owned BSNL in early-September 2010, and clinched other deals with operators such as **Reliance Communications** and **Sistema**. This growing momentum suggests a more promising outlook in H210 for ZTE and the company will undoubtedly resume its international expansion plans, while also maintaining or growing its market share in China. Although fewer network deployment contracts are possible in the future, opportunities will continue to exist for ZTE due to constant technological advancements in the telecoms industry.

Selected Profiles – Operators

Vietnam Posts & Telecommunications (VNPT)

Strengths

- Country's leading telecoms operator with presence in fixed-line, mobile and internet sectors
- Dominant player in the fixed-line sector and also serves over 55% of mobile subscribers
- A clear investment strategy to invest heavily in mobile and broadband services

Weaknesses

- 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

- 3G services, once VinaPhone and MobiFone win licences, will provide substantial source of value-added mobile revenues
- 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

- Currently engaged in a mobile market price war with major rival Viettel; this is thought to be putting downward pressures on ARPU levels
- Mobile market saw the arrival of its seventh operator in July 2009; the new entrant has Russia's VimpelCom as a major backer
- 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

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, Vietnam Telecom Company (GPC-VinaPhone) and VMS MobiFone, both operating GSM networks.

For the first seven months of 2010, VNPT had 82.8mn telephone subscribers, up 40.7% over the same period in 2009, which included 11.6mn fixed phone subscribers and 71.2mn mobile phone subscribers.

Corporate Structure

VNPT owns eight state-affiliated companies, eight JVs (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 & Telematics 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.

Network Developments

Broadband

Additional capacity of 2.5Gbps to its fibre link running between Ho Chi Minh City and Hanoi was added in October 2008, bringing the total to 7.5Gbps. This follows on from a similar announcement made in the previous month, which saw 2.5Gbps of additional capacity added to the Ho Chi Minh City to US fibre link, bringing the total to 14Gbps. By the end of 2008, it expected to have international capacity raised to 36.4Gbps.

VNPT's internet and data unit Vietnam Data Communication Company (VDC) signed an agreement with Motorola to trial mobile WiMAX services. In late November 2008, the deployment of the WiMAX trial was officially announced, following the agreement that was signed in 2007. Under the terms of the agreement, Motorola's wi4 WiMAX will be deployed, enabling the delivery of services including VoIP to meet broadband demand. The trial was expected to last for a year and cover Hanoi and its surrounding areas in the first phase, extending to Ho Chi Minh City in the second. Meanwhile, VDC is co-operating with Intel in running the second phase of a fixed WiMAX trial in the northern mountainous province of Lao Cai. The test of the mobile internet service will take place with three BTSs and 30-50 access points.

In January 2008, VNPT chose Ericsson to supply equipment that would accommodate 200,000 more fixed-line subscribers across central Vietnam, forming the second phase of a project to expand reach and capacity for the operator.

In August 2008, VNPT subsidiary, Vietnam Telecom National (VTN), which manages the domestic infrastructure of VNPT, unveiled plans to deploy Fujitsu's high-speed optical WDM as the transmission backbone of its next generation network. The company will deploy the WDM in a trunk-line network traversing approximately 3,000km in Vietnam's southern region, linking 21 provincial capitals. The network is scheduled to be completed by early 2009.

In May 2009, VNPT announced 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.

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 Vietnamese telecoms operator Vietnam Posts & Telecommunications (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.

Mobile

A contract to expand MobiFone's GSM/EDGE network was awarded to Alcatel-Lucent in November

2008, at a cost of US$48mn by parent company VNPT. Over 1,400 multi-standard base stations equipped with GSM/EDGE will be deployed, offering enhanced voice and data services, while expanding network coverage into northern Vietnam. The vendor was to provide full turnkey services in Q109.

The vendor has been a firm favourite of VNPT, which had in October 2007 awarded a similar contract for the deployment of GSM/GPRS/EDGE base stations across the country to improve coverage and capacity over its networks.

VinaPhone had earlier received similar attention to MobiFone, with Motorola contracted by VNPT in June 2008 at a cost of US$28mn to expand its GSM network across 12 northern provinces in Vietnam. Deploying over 1,000 cell sites, work over VinaPhone's network including network optimisation, operations and maintenance is due for completion in 2009. This is Motorola's second such GSM network expansion contract with VNPT in six months.

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

MobiFone awarded a network upgrade contract to Nokia Siemens Networks in November 2009. 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.

Broadband Services

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 telecommunications 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 will 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 may invest up to US$350mn in the project. VNPT stated the launch of the satellite is expected in May 2012.

Mobile Services

Launching its fixed-wireless phone service 'GPhone' in June 2007, VNPT said the new service will operate on VinaPhone's GSM platform. As a result, the service will be provided in all areas covered by VinaPhone's network. VNPT said in local press reports, 'the service is particularly suitable for remote and mountainous areas where installation of a fixed-line telephone service is expensive and in some cases, impossible'. Subscribers of the GPhone service will be charged the same as fixed-line subscribers. The service was introduced in two stages – initially launched in eight provinces and cities, the service was extended nationally in August 2007. Although VNPT was initially aiming to sign up 100,000 GPhone subscribers by the end of 2007, this target was later increased to 500,000.

VNPT has sought to partially privatise MobiFone, after which it will do the same to VinaPhone at a later date. In August 2008, Credit Suisse was hired by MobiFone to act as its financial adviser for the IPO, having been selected from a shortlist of six companies. The operator is expected to offload a 10-15% stake to the public with a further 10-15% stake going to a strategic partner. A further 19% could also be sold off, leaving the government holding a 51% stake. It was expected that the IPO would occur in 2009, after some IPO plans were put on hold following the global economic slump, which has impacted Vietnam.

VinaPhone commercially launched its 3G services in October 2009, becoming the first operator to offer services. Two months later, the operator had provided 3G coverage across 13 provinces and cities, and plans to provide full nationwide coverage by 2010. In the same month of December 2009, sister mobile unit MobiFone announced the commercial launch of its 3G service offering video call, mobile TV, mobile internet and mobile video.

In October 2010, VNPT was reportedly planning to offer mobile TV to its mobile phone subscribers in 2011. VNPT's 'MyTV' service has attracted 150,000 subscribers since its launch in September 2009 and is available in 63 cities and provinces across Vietnam.

Joint Ventures

Global Data Service (GDS), the JV between NTT Communications and VNPT, has established a Tier 3-equivalent premium data centre based in Hanoi. Initially scheduled for completion in mid-2008, with Ho Chi Minh City in early 2009, the project finally launched in March 2009. NTT Communications will take a 40% stake in GDS, with VNPT occupying the remainder.

The Thang Long Data Centre will provide services to multinational companies, benefiting from VNPT's broad domestic network, and with NTT Com's advanced technological know-how, as well as design and operation of global data centres along with its existing high-quality international network.

In September 2008, VNPT subsidiary, Vietnam Data Communication Company (VDC), announced an extension to its partnership with C&W for the delivery of IP VPN services. According to the agreement, C&W will offer on-net IP-based VPN services to VDC's customers. As part of the deal, C&W has upgraded its point-of-presence (PoP) network node coverage in both Hanoi and Ho Chi Minh City.

International

In June 2007, the Vietnam Economy reported that VNPT had opened an office in the US, providing 'new opportunities for Vietnamese telecom companies in this market'. The operator's decision is based on a need to update strategic information on technology and business to serve the group's operations and integration. VNPT co-operated 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 is now said to be looking to boost its internet and communication partnerships with Time Warner, Teleglobe, Fusion, Ipass and Voice2me. Meanwhile, VNPT has shown interest in the US' wholesale and retail markets.

VNPT is 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 (US$1.5mn) and also provides an option to STT to increase its stake in VNPT Global in future. VNPT Global is an international subsidiary of VNPT.

Strategy

Investing in mobile and broadband services will continue to be VNPT's priority into 2011. The operator having introduced 3G services in late 2009, from both its mobile units VinaPhone and MobiFone will seek to build on its network reach and expand its service portfolio as well as offer attractive handsets.

Company Performance

Financial Data

- Annual Revenues (2006): VND38.3trn
- Annual Revenues (2007): VND45.3trn
- Annual Revenues (2009): VND83.253trn
- Annual Revenues (2010): VND101.569trn

Operational Indicators

- No. of Fixed-Line Subscribers (December 2005): 6.3mn
- No. of Fixed-Line Subscribers (July 2006): 7.2mn
- No. of Fixed-Line Subscribers (December 2006): 8mn (estimate)
- No. of Fixed-Line Subscribers (December 2007): 8.82mn
- No. of Fixed-Line Subscribers (March 2010): 11.5mn
- No. of Fixed-Line Subscribers (October 2010): 11.7mn
- No. of Fixed-Line Subscribers (December 2010): 11.7mn
- No of ADSL Subscribers (2008): 1.3mn
- No. of ADSL Subscribers (August 2009): 1.8mn
- No. of ADSL Subscribers (December 2009): 2.15mn
- No. of ADSL Subscribers (December 2010): 2.62mn
- No. of Cellular Subscribers (December 2005): 6.7mn
- No. of Cellular Subscribers (December 2006): 10.18mn
- No. of Cellular Subscribers (December 2007): 18.98mn
- No. of Cellular Subscribers (December 2008e): 35mn
- No. of Cellular Subscribers (August 2009): 50.6mn
- No of Cellular Subscribers (March 2010): 53.8mn
- No. of Cellular Subscribers (October 2010): 72.1mn
- No. of Cellular Subscribers (December 2010): 77.2mn

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	▪ Licence to offer fixed-wireless, mobile and value-added services ▪ Low tariff structure ▪ Nationwide coverage ▪ Mobile market leader
Weaknesses	▪ Network currently has limited capacity ▪ No distribution service outside urban areas ▪ 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	▪ Mobile market expected to increase to above 184mn by the end of 2011 ▪ Nationwide coverage should guarantee substantial market share in medium term ▪ Won licence to test WiMAX mobile broadband service
Threats	▪ 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

Overview

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.

At the end of 2009, the operator had some 42.5mn mobile subscribers, representing a y-o-y increase of 71.7% y-o-y from an estimated 24.75mn subscribers in 2008. The operator, which is also testing its 3G network, said that as of March 2010, it had just over 1mn subscribers. In addition to its mobile operations, Viettel also provides fixed-line services to approximately 600,000 subscribers (2007 estimate). This gave the operator a fixed-line market share of just over 5%.

Recent Financial Performance

Viettel reported revenues of VND91.134trn in 2009, an increase of 50.4% from the previous year's revenues of VND60.6trn. The operator set a target of VND100trn in 2009, as part of a rivalry with VNPT, but fell slightly short. According to local media reports, Viettel had 46.3mn mobile and 1.17mn 3G subscribers at the end of 2010. The firm had 2.1mn two-way mobile subscribers to bring Viettel's total subscriber base in 2010 to 49.9mn.

For the year ended December 2009, Viettel reported revenues of VND60trn (US$3.24bn), an increase of 81.8% y-o-y. According to online news service ITCNews, this was some 52% higher than five years earlier. The operator is looking to rapidly expand its presence overseas through strategic investments and acquisitions. Already active in Cambodia and Laos (where it generated US$70mn in revenues in 2009), Viettel aims to expand its reach into 15 countries by 2015. Early in 2010, the company offered US$59mn for a 70% stake in Haiti's incumbent telecommunications operator, Teleco. It is also said to be looking to invest in struggling Bangladeshi mobile operator Teletalk.

At the end of 2008, Viettel announced it had revenues of over VND33trn, up by 26% in the year, with gross profits of almost VND8trn (US$471mn). The operator reported a total of 25mn subscribers to its mobile services in the year, up from 10.4mn in the previous year. A combination of network investments and improved service quality and tariffs were largely attributed to this increase.

Viettel did not provide any details with regard to its fixed-line services. However, the operator did extend its fibre-optic cable network to reach 51,300km (32,000 miles) connecting all communes. The operator is also running a US$30mn internet data JV with Taiwan's Chunghwa Telecom.

Mobile Services

In an effort to claim a greater portion of revenues from mobile data services, and similarly make headway in the corporate sector, the operator announced plans to distribute RIM's BlackBerry handset in Vietnam from October 2008. According to a company source quoted by Dow Jones, the operator signed a contract with RIM to import more than 4,000 handsets in the first wave for the domestic market, with additional imports expected later on. The operator is expected to provide BlackBerry subscribers with full services and is, at present, the only supplier of the handset.

Vietnamese operator, 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 April 2009, Viettel was awarded a licence to operate 3G services by the Ministry of Information and Communication (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 plans 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 is VND10,000 per month and for D-Com 3G services charges VND30,000 per month. In addition, Viettel offers bonuses of more than VND1mn on D-com 3G services. The operator also aims to attract customers by offering Apple's iPhone.

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 plans to launch the network by the end of 2009. Viettel has also said that customers in both 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 roll-out, 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. At the time of writing, it was understood that the operator had begun trialling 3G services in 17 cities and provinces.

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 June 2010, Viettel 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. Services powered by the InfoGin technology will be offered under the WebSurf brand and will allow internet access via powerful browser programs on smartphones as well as via basic WAP-enabled 2G/2.5G GSM and CDMA handsets. The InfoGin Intelligent Mobile Platform is a server-based middleware platform that supports all mobile browsers, languages and web page features, the company claims.

Viettel announced in September 2010 that subscribers of Laos' Unitel and Cambodia's Metfone will be offered 60% discount when using roaming services in Vietnam, Viettel will charge subscribers US$0.10 per minute in an effort to improve the preferential roaming charge policy between the three countries. In return, Viettel's roaming subscribers will save 70% in Laos and Cambodia compared to roaming services from alternative network providers. The roaming service allows the operator's subscribers to use services such as SMS and GPRS with their own mobile numbers. The director of Viettel announced plans to expand the service to Haiti, Myanmar, Mozambique and other African countries.

Data Services

Telecoms equipment vendor ECI Telecom was selected by Viettel in late August 2007 for the expansion of the operator's optical and broadband access network. The project is being overseen by ECI Telecom's Vietnam-based business partner Ntegrator and includes the construction of a 2,000km long-haul Dense Wavelength Division Multiplexing network with a capacity of 10Gbps over 40 channels based on the XDM platform.

In May 2008, Taiwanese incumbent operator Chunghwa Telecom set up a US$30mn internet data JV with Viettel, which will take a 70% share of the operation.

In June 2008, Viettel launched a major sales promotion campaign targeting businesses with leased-line services. The company said it would waive installations fees and user fees for a month for new leased-line subscribers. The total package would save customers VND60mn (US$3,680). In addition, the firm said it would give new subscribers a free web domain, 10 e-mail addresses and a hosting service for one year.

International

Viettel also 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 both fixed-line and mobile services.

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%.

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.

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.

Company Performance

Financial Data

- Annual Revenues (2007): VND16.30trn
- Annual Revenues (2008): VND33.0trn
- Annual Revenues (2009): VND60.6trn
- Annual Revenues (2010): VND91.134trn
- Gross Profit (2008): VND8trn
- Net Profit (2009): VND10trn

Operational Indicators

- No. of Mobile Subscribers (2006): 5mn
- No. of Mobile Subscribers (2007): 10.4mn
- No. of Mobile Subscribers (June 2008): 19.55mn
- No. of Mobile Subscribers (December 2008e): 24.75mn
- No. of Mobile Subscribers (August 2009e): 35mn
- No. of Mobile Subscribers (December 2009): 42.5mn
- No. of Mobile Subscribers (December 2010): 46.3mn
- No. of 3G Subscribers (April 2009): 1mn
- No. of 3G Subscribers (December 2010): 1.17mn
- No. of Fixed-Line Subscribers (December 2007e): 600,000

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	▪ Vietnam's second-largest mobile operator, reporting around 26.67mn subscribers at the end of December 2009
	▪ Strong subscriber growth of over 48% in the first seven months of 2009
	▪ 2009 revenues reached VND27.4trn, up by 52% in the year, despite economic downturn and intense market competition
Weaknesses	▪ 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	▪ Continued interest in IPO remains, with Vodafone and France Telecom both interested
	▪ Value-added services entering the market strengthening its non-voice services portfolio
Threats	▪ Regulatory intervention in terms of prepaid registration and reduced pricing could negatively impact MobiFone's performance

Overview

Vietnam Mobile Telecom Services (VMS), a subsidiary of incumbent fixed-line operator VNPT, operates a GSM-based digital cellular telephone network under the MobiFone brand name, serving approximately 29mn subscribers at the end of August 2009.

MobiFone plans to prepare for an IPO of the company's shares, expected to take place in 2009. Between 10-15% is expected to be offered to the public, with a similar shareholding sold to a strategic investor. Furthermore, an additional 19% could be sold off, leaving the government with a majority 51% stake in the operator. Credit Suisse has been 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 is valued at US$1bn lower due to the economic recession. Despite this, MobiFone is understood to be on track to conduct the IPO later in 2009.

The sale will be important to watch as it will be the first of many privatisations planned by the Vietnamese government for the telecoms sector. Next up for privatisation will be sister company VinaPhone.

France Telecom expressed interest to purchase shares in MobiFone when the Vietnamese mobile operator undergoes privatisation. The listing failed to materialise in 2010 but could happen if the global economy recovers further in 2011.

Recent Financial Performance

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 profits 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 revenues 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 November 2008, Alcatel-Lucent was contracted by MobiFone's parent company VNPT to expand and enhance its GSM network, bringing services to northern Vietnam. Under the terms of the contract, Alcatel-Lucent will deploy more than 1,400 multi-standard base stations using GSM and EDGE technology.

In April 2009, MobiFone was awarded a licence to operate 3G services by the Ministry of Information and Communication (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 third-generation 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.

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, will 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, will focus on the core NGN IP technology and launching 3G nationwide.

Mobile Services

Multimedia Messaging Services (MMS) were introduced by MobiFone in January 2009, charging customers VND300 per MMS for texts, and VND600 per MMS for pictures. To promote its new service, the operator announced it would be offering a 50% discount from December to March 2009.

Further reductions to its local outgoing calls, also of up to 50%, were introduced in March 2009. Then in June 2009, MobiFone slashed its service fees by up to 30%. Activation fees, monthly fees and call charges for several plans were slashed. The MobiGold plan activation fee was lowered by 18%, and the monthly fee was lowered by 11% to VND49,000. On-net charges on this plan were dropped by 2% and off-net charges by 10% to VND1,080 per minute. MobiFone also lowered the call charges on its MBusiness and prepaid packages. The MobiCard prepaid plan saw the biggest drop, with call charges plunging by 21% to VND1,380 per minute for on-net calls and to VND1,580 per minute for off-net calls. The move by MobiFone to lower its service fees was a direct response to the Vietnamese military-owned operator Viettel, which cut its service tariffs at the start of June 2009.

Within three months of launching (from December 15 2009 to March 15 2010), MobiFone launched a promotion program that allows customers to make video calls with the same charge to normal calls, decreases 50% of charge for other services (Mobile Internet, Mobile TV).

Meanwhile, MobiFone and Vodafone Kerala (of India) signed a joint agreement in March 2009, for the provision of international roaming services. This brings MobiFone's total to 200 worldwide, having signed around 12 roaming agreements in February alone.

MobiFone announced a partnership with Nokia to offer a special data-unlimited GPRS plan for Nokia N97 customers. Nokia's N97 is estimated to retail at VND12.5mn. Nokia will be localising its content to cater to the Vietnamese market such as widgets VnExpress and Vietstock that keep users updated on the latest news and information on the stock exchange.

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.

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 per cent of the subscription fee.

Company Performance

Operational Indicators

- 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 (June 2008): 13.55mn
- No. of Mobile Subscribers (2008): 22mn
- No. of Mobile Subscribers (December 2009): 26.668mn
- 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	▪ Strong subscriber growth, with a customer base of 26.707mn at the end of December 2009 ▪ Competitively priced tariffs should see continued subscriber growth despite the economic slowdown ▪ 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	▪ 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	▪ Possibility for an IPO in the footsteps of MobiFone, expected in 2009 ▪ Expansion of value-added services portfolio should encourage greater spending over its networks ▪ National network coverage provides new opportunities for subscriber base expansion
Threats	▪ 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.

At the end of 2007, VinaPhone was estimated to have 9.1mn mobile customers (equivalent to nearly 26% of the market). By the end of December 2009, the number of mobile customers served by VinaPhone is rose to 26.707mn. The operator previously stated that it was targeting 10mn net additions during 2009, bringing its total to 26mn.

Network Development

In May 2008, UK-based Aircom International won a deal with VinaPhone to provide the operator with network planning, design support and surveying activities for the expansion of its network. This contract forms an important part of the operator’s aim to boost subscriber numbers and provide nationwide coverage.

In June 2008, VinaPhone announced that it had signed contracts worth US$28mn with Motorola for the expansion of VinaPhone’s network in 12 northern provinces of Vietnam. Under the agreement, more than 1,000 cell sites will be deployed. Further to this, in January 2010, Motorola entered into another contract with VinaPhone, at a cost of US$70mn, for the expansion of the operator's GSM network. Motorola will deploy 3,000 more base stations transceivers for VinaPhone until 2012. The base stations will expand the operator's 2G network in southern and northern provinces of the country.

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.

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

Value-added services offered by VinaPhone include SMS, WAP and data transmission. In September 2005, VinaPhone selected Comverse's Multimedia Messaging Service Centre (MMSC) and Mobile Data Gateway (MDG) to provide expanded multimedia and video messaging services to its customers.

From July 1 2007, VinaPhone prepaid subscribers will be required to register their personal details, following the introduction of similar rules for postpaid subscribers. Subscriber details with deactivated incoming and outgoing calls will not be retained for six months as before, but only for three months. The operator believes this new method will check the growth of subscribers, but in the long term help VinaPhone save its phone number resources. This we believe is largely a side effect of the aggressive promotional activities of all operators, which has led to phone numbers being wasted.

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).

Strategy

VinaPhone has focused on providing affordable and attractive tariffs, in addition to improving its overall network service quality and the introduction of its new 3G service, launched at the end of 2009. Going into 2011, we believe that the company will continue its attractive tariffs to encourage the subscribers to move to 3G from 2G, while introducing a slew of services and handsets.

Company Performance	**Operational Indicators** ▪ 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 (June 2008): 12.2mn ▪ No. of Mobile Subscribers (2008, estimate): 14.5mn ▪ No. of Mobile Subscribers (December 2009): 26.707mn ▪ 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

- Backed by leading Korean player SK Telecom
- Licence to offer fixed-wireless, mobile and value-added services

Weaknesses

- SK/LG not permitted to own equity in entity
- Coverage currently limited to 13 provinces and cities
- Pricing structure already undercut by Viettel
- Doubled its subscriber base over a five-month period, to reach 6mn by November 2008; but this subsequently decreased to 4.587mn by the end of December 2009. However, local media suggests that the company had 8mn subscribers in July 2010
- Continued uncertainty over the future of the company after SK Telecom halted its investment in S-Fone

Opportunities

- 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

- 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 was a JV between Saigon Postel and SLD, a Singapore-based consortium comprising 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. In April 2010, Saigon Post and Telecommunication Corporation (SPT) acquired control of S-Fone. SPT and SK Telecom changed their business co-operation contract into a JV for managing the Vietnamese operator. SPT will refund the capital invested by SK Telecom and the Korean operator will hold only a minority stake in the JV.

S-Fone holds a licence to offer mobile, fixed-wireless and value-added services via CDMA2000 1X technology. The operator launched services in July 2003 and, by the end of 2006, had 1.8mn mobile subscribers. S-Fone's mobile customer base had risen to 7mn by the end of August 2009; this gives it a market share of just over 7%. In August 2009, Dow Jones Newswires reported that 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 profits and subscriber growth. The operator added that it will not abandon its partnership with Saigon Post and Telecommunication Corporation (SPT) in Vietnamese mobile operator 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. According

to news reports, S-Fone's subscriber base grew to 8mn in July 2010.

Saigon Post and Telecommunications 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.

Network Development

In December 2006, Ericsson announced an agreement with S-Fone for the building of a nationwide IMS-based multimedia network across Vietnam. The strategy behind this deal is to remain ahead of its competition in providing high-quality IP multimedia services.

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.

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. The three foreign companies will assist S-Fone in terms of technology, coverage expansion, 3G application, equipment, marketing and training, and voice services.

Mobile Services

In October 2006, S-Fone launched several services based on an EV-DO network in Hanoi, Ho Chi Minh and Da Nang. The EV-DO services consist of real-time TV services and are expected to increase ARPU and the operator's subscriber base. At the end of 2007 (latest available data), S-Fone had approximately 400,000 subscribers to its EV-DO service.

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.

In April 2008, S-Fone announced an agreement with Qualcomm to launch BREW services on the operator's CDMA network, providing it with a hosted data service. It should provide S-Fone with an opportunity to differentiate their offerings from rival competitors. Further to this, the operator announced the deployment of 10 applications in March 2009, on the BREW solution including football news, market news, press reviews, site searches, restaurant searches, café shop search, fun stories, English-Vietnamese dictionary and Tetris game. Between April and May 2009, the operator announced it would be adding a further 11 applications such as ColorRing, Ringtone browser, Information on Demand (IoD), Yahoo Messenger, Photo Up loader and Lego. In an effort to get subscribers interested in its VAS, S-Fone announced it had launched a prepaid tariff, eCo 999, offering a new eCo handset, 10 BREW-based eXcite applications and charging VND999 per minute. This, it is hoped, will encourage customers to subscribe to non-voice 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 2011, 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. That said, there is the possibility that SK Telecom could exit Vietnam, and in its place, a South Korea-based private equity fund (PEF) 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.

Company Performance

Operational Indicators

- No. of Cellular Subscribers (December 2006): 1.8mn
- No. of Cellular Subscribers (December 2007): 2.26mn
- No. of Cellular Subscribers (June 2008): 3.25mn
- No. of Cellular Subscribers (November 2008): 6mn
- No. of Cellular Subscribers (August 2009): 7mn
- No. of Cellular Subscribers (December 2009): 4.587mn
- No. of Cellular Subscribers (July 2010e): 8mn

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

Hanoi Telecom

Overview

Established in 2001, Hanoi Telecom was awarded licences to provide national and international services including wireless local loop, fixed-line, internet and ISP, broadband data and VoIP services. The majority of shares in Hanoi Telecom are owned by the Vietnamese government through two entities: Hanel (belonging to the Hanoi People's Committee); and, HTI (Vietnam Science Institute). These two entities have been involved in a wide range of businesses in Vietnam for over 20 and 50 years respectively, including telecoms software, manufacturing and integration of electric and electronic appliances, PCs and consumer products.

In April 2009, Hanoi Telecom and EVN Telecom received a joint licence to build and operate a 3G network in Vietnam.

Network Development

Hanoi Telecom launched its CDMA network in November 2006 and started deploying its services in January 2007. The operator has installed about 800 base stations throughout the country and has invested US$656mn towards its platform, making it one of the largest telecoms projects in Vietnam. By the end of 2007, Hanoi Telecom's mobile service, HT Mobile, was reported to have just fewer than 200,000 customers. Disappointed with its progress, Hanoi Telecom started to migrate its subscribers to a GSM network offering from April 2008. The operator signed its single largest contract with Ericsson in September 2008, to migrate its network from CDMA to GSM/EDGE technology at a cost of US$450mn. As part of a three-year agreement, the vendor will be responsible for the management, operation and network design of Hanoi Telecom's mobile network.

Customers choosing to stay with HT Mobile will receive a new GSM handset. However, those who choose to retain a CDMA service will be switched to the CDMA network of mobile operator S-Fone. HT Mobile decided to implement the transition after failing to reach its target of 1mn customers by the end of 2007.

In early October 2008, the operator had deployed around 5,000 base stations for its GSM network. The operator re-launched its mobile services under the name of Vietnamobile, with services set to be commercially available in Q109.

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

Hanoi Telecom and EVN Telecom became the fourth 3G service providers in Vietnam after they jointly launched 3G services in June 2010. The two companies would introduce basic services such as video and mobile TV and target to attract 1mn subscribers within a year.

Company Performance	**Operational Indicators** ▪ No. of Mobile Subscribers (December 2007): 195,000 ▪ No. of Mobile Subscribers (August 2009e): 250,000 ▪ No. of Mobile Subscribers (December 2009): 4.037mn ▪ Year Established: 2001
Address	▪ Hanoi Telecom 811 Giai Phong Road Hoang Mai Dist., Hanoi Vietnam ▪ Tel: +84 (4) 664 3724 ▪ Fax: +84 (4) 664 3720 ▪ www.hanoitelecom.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. By January 2007, EVN Telecom had 700,000 subscribers on its fixed-wireless, E-Mobile and E-Phone networks and, by mid-October 2007, claimed 2mn wireless customers, with a large majority from rural areas. Reports have suggested that E-Mobile was serving 2.5mn mobile customers at the end of 2007 and around 3.1mn customers at the end of 2008. However, Vietnam's Ministry of Information and Communications reported that EVN Telecom a 0.90% market share at the end of December 2010, representing only about 884,000 mobile subscribers. EVN is the largest CDMA operator in Vietnam using the 450MHz band.

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. 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*).

EVN Telecom was reported in November 2010 to be given the approval by Vietnam's prime minister to select domestic strategic investors for its IPO. The Corporation for Financing and Promoting Technology (FPT) and its telecoms subsidiary FPT Telecom are expected to jointly hold 50% of EVN Telecom after EVN is publicly listed, which is likely to happen in 2011.

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.

EVN Telecom is also involved in the Intra Asia Optical cable system, using DWMA technology to cover Vietnam, the Philippines, Hong Kong, Taiwan, China, Japan and Guam. EVN Telecom will invest US$30mn into the project.

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%, is 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 expects that sharing of infrastructure will help it reduce its investments by up to one-third. While, EVN Telecom has yet to launch 3G services on a commercial basis, pre-launch it is estimated the operator had some 0.5mn subscribers.

In June 2010, EVN Telecom commercially rolled out its 3G network. The operator will 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, is expecting to register 1mn 3G subscribers within one year of the launch of its services.

Agreements

EVN Telecom has leased lines to FPT Telecom, in a deal worth US$20mn. The three-year contract is the largest of its kind in Vietnam in terms of value and will double FPT Telecom's bandwidth to 5Gbps. (*See FPT Telecom profile*)

Fixed-Wireless Services

Using a CDMA2000 1x network, the operator offers its fixed-wireless service E-Com, capable of supporting EV-DO and providing 3G service users. The number of E-Com subscribers was targeted to rise from 650,000 in April 2007, to 2mn subscribers by the end of 2007 (no further information has been made available, although **BMI** estimates that the operator had around 1.7mn subscribers at the end of 2007). Further, the operator plans to provide EV-DO services across 64 cities and provinces in 2007.

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 co-operate 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 base transceiver stations (BTS) over the next three years to provide 50% of residential areas with third generation services. At present, EVN Telecom operates close to 3,000 BTS and Hanoi Telecom around 1,200. The two operators plan to launch commercial 3G services in the first quarter of 2010 at the latest.

EVN Telecom signed a strategic co-operation 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 via 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.

Expenditure Plans

Between 2007 and 2010, EVN Telecom plans to invest nearly VND24bn (US$1.5bn) to expand its operations. This will be spent on expanding its mobile network coverage and broadband upgrades as well as building a fibre-optic cable system.

Company Performance

Financial Data

- Annual Revenues (2006): VND1trn
- Estimated Annual Revenues* (2007): VND3trn

* provided by EVN Telecom

Operational Indicators

- No. of Fixed-Line Subscribers (2008e): 1.7mn
- No. of Mobile Subscribers (April 2007): 1mn
- No. of Mobile Subscribers (October 2007): 2mn
- No. of Mobile Subscribers (December 2007): 2.5mn
- No. of Mobile Subscribers (June 2008): 2.9mn
- No. of Mobile Subscribers (December 2009): 884,016
- Year established: 2005

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.

Recent Financial Developments

The latest data available is for 2008. In 2008, FPT's telecoms arm, FPT Telecom, reported revenues of VND1.26trn, an increase of 44.8% in the year, while earnings before tax stood at VND359bn, up by 57.7% in the same period. Telecom remains one of the central business units to FPT's consolidated revenues of VND16.81trn, indicating that FPT Telecom accounted for 7.5% of the total.

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 via 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.

Fixed-Line Services

The operator targeted 100,000 fixed-line subscribers by June 2007 and 250,000 subscribers by end-2007. No recent figures have been published on the size of its customer base. 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 will 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, will 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 plans 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, will be able to provide a triple-play service of internet, telephone and TV over a single cable.

Internet Services

In March 2006, FPT Telecom launched its IPTV service. Further long-term goals now include expanding its internet-based value-added services, including establishing an e-solution website for corporations in Vietnam.

By June 2007, FPT Telecom announced that it had established free internet access via 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 65Mbp. International committed speed would increase from 640Kpbs to 1.5Mbps. The company would provide free bandwidth upgrade for new and existing customers.

Company Performance

Financial Data

- Group Revenues (2007): VND27.3trn
- Group Revenues (November 2008): US$919.1mn
- Group Revenues (2008): VND16.81trn
- Group Revenues (2009): VND18.42trn
- Group Revenues (9M10): VND16.731trn
- Group Revenues (10M10): VND18.817trn
- FPT Telecom Revenues (November 2008): US$70.5mn
- FPT Telecom Revenues (2008): VND1.26trn

- FPT Telecom Revenues (2009): VND1.84trn

Address

- 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

Based on the figures published by Vietnam's Ministry of Information and Communications, Vietnam had a fixed-line penetration rate of just 17.13% in December 2008. By YE09, fixed-line penetration rates reached 21.6%. Although this places the country in the lower half of regional comparison table, Vietnam still performs better than other regional neighbours such as Thailand and Indonesia. 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.

The provision of traditional PSTN-based telecoms services remains effectively under the monopoly control of state-owned operator VNPT. VNPT was established in 1995 as the company with primary responsibility for providing wireline telecoms services. VNPT's main state-owned competitors in the wireline sector are EVN Telecom, the telecoms arm of Electricity of Vietnam (EVN), and Viettel, which is run by the Vietnamese military. These operators have concentrated on the development of CDMA-based fixed wireless services. Meanwhile, the privately-owned FPT Telecom also offers fixed wireless services. In February 2009, the MIC awarded a fixed-line licence to a second privately-owned operator, CMC Telecom Infrastructure, a subsidiary of Vietnam-based CMC Group.

Fixed-wireless services are thought to have accounted for much of the recent fixed-line growth in Vietnam. However, faced with a high penetration rate in key urban centres, and with the increasing popularity of mobile services in rural regions, there are signs that fixed-line growth in Vietnam is starting to wane.

Table: Regional Fixed-Line Penetration Overview		
Country	**Fixed-Line Penetration 2009 (%)**	**Regional Rank 2009 (2008 Rank)**
Taiwan	55.2	1 (1)
Hong Kong	52.0	2 (2)
South Korea	51.0	3 (4)
Australia	45.7	4 (5)
Singapore	38.8	5 (3)
Japan	36.3	6 (6)
China	23.1	7 (7)
Vietnam	**21.6**	**8 (10)**
Sri Lanka	21.3	9 (8)
Malaysia	15.7	10 (9)
Indonesia	14.6	11 (12)
Thailand	10.2	12 (11)
Philippines	4.7	13 (14)
Pakistan	3.5	14 (13)
India	3.2	15 (15)
Bangladesh	1.2	16 (16)

Source: BMI

Mobile

Until mid-2003, the mobile market was nominally a duopoly. Both incumbent operators – MobiFone and VinaPhone – are indirect wholly-owned subsidiaries of VNPT. MobiFone introduced services at 900MHz in 1993, following a business co-operation contracts (BCC) agreement with **Comvik** of Sweden, while VinaPhone launched its own GSM 900 network in 1996.

During H203, Saigon Postel subsidiary S-Fone launched CDMA-based services, although it is only since the end of H104 that S-Fone has begun to acquire significant numbers of subscribers. Meanwhile, Ministry of Defence-run Viettel launched a very successful GSM network in 2004 and has already overtaken S-Fone to become the country's largest mobile operator (ahead of the two VNPT-owned operators). Since then, Vietnam has also welcomed the entrance of newcomers EVN Telecom (which operates under the E Mobile brand) and latterly Hanoi Telecom (which operates under the HT Mobile brand). E-Mobile and HT Mobile, which began commercial operations in February 2006 and January 2007 respectively, both offer CDMA-based services (although from April 2008 HT Mobile started to shift its customers to a GSM network offering).

In July 2009, Vietnam saw the arrival of its seventh mobile operator, GTel Mobile. GTel Mobile is a JV between VimpelCom of Russia and Vietnamese state-owned enterprise Global Telecommunications Corporation. Mobile services will be provided in Vietnam under VimpelCom's Beeline brand.

With a penetration rate of 125.9%, Vietnam continues to move up the regional rankings, jumping from 10th to third place over the course of 2008. In terms of penetration, Vietnam remains well ahead of China and Indonesia.

Table: Regional Mobile Penetration Overview

Country	Mobile Penetration 2009 (%)	Regional Rank 2009 (2008 Rank)
Hong Kong	171.7	1 (2)
Singapore	140.2	2 (1)
Vietnam	**125.9**	**3 (10)**
Australia	121.1	4 (3)
Taiwan	115.6	5 (4)
Malaysia	110.6	6 (5)
Thailand	100.4	7 (6)
South Korea	100.1	8 (7)
Japan	90.3	9 (8)
Philippines	81.4	10 (9)
Sri Lanka	74.3	11 (13)
Indonesia	74.1	12 (12)
Pakistan	59.6	13 (11)
China	53.5	14 (14)
India	44.9	15 (16)
Bangladesh	38.0	16 (15)

Source: BMI

Broadband

By the end of 2008, Vietnam's internet user base was thought to have passed 20.8mn; this is equivalent to 24% of the population. As with fixed-line telephony, there remain significant differences between urban and rural parts of Vietnam in terms of the extent of internet user penetration.

There are now 12 licensed ISPs in Vietnam and six internet exchange providers. Despite the competition, VNPT continues to dominate the country's internet market. VNPT's main competitor in the sector is

Viettel; other companies such as EVN Telecom, Saigon Postel, **Netnam**, CMC and FPT Telecom have much smaller shares of the market.

Vietnam received its first broadband ADSL service in July 2003. The service was introduced by VNPT subsidiary, VDC, and was first offered in Hanoi, Ho Chi Minh City and Haiphong. Although ADSL remains the main means of providing broadband internet connectivity, WiMAX pilots programmes have been conducted in Vietnam in order to find an alternative internet access solution for both urban and rural areas. In 2006, the Ministry of Post and Telematics (MPT) authorised several operators to conduct WiMAX pilot programmes prior to the selection of three official WiMAX services providers. However, MIC decided to postpone its decision due to unfavourable market conditions. In March 2008, MIC gave FPT Telecom, EVN Telecom, Viettel and VNPT permission to conduct Mobile WiMAX pilot programmes in different regions, including the two biggest cities Hanoi and Ho Chi Minh City. Meanwhile, the MIC is preparing to officially issue WiMAX licences. The MIC has not specified a date or any licensing conditions and it is suspected that the ministry will first concentrate on the issuance of 3G licences.

According to the Vietnam Internet Network Information Centre (VNNIC), there were 2.97mn broadband subscribers in Vietnam at the end of 2009; this gave the country a broadband penetration rate of 3.4%. Although this places Vietnam ahead of many in the region, its broadband penetration rate puts it some way behind China.

Table: Regional Broadband Penetration Overview

Country	Broadband Penetration 2009 (%)	Regional Rank 2009 (2008)
Singapore	119.3	1 (3)
Australia	37.4	2 (1)
Taiwan	35.1	3 (4)
South Korea	34.2	4 (2)
Hong Kong	29.2	5 (5)
Japan	25.2	6 (6)
Malaysia	9.5	7 (7)
China	7.6	8 (8)
Vietnam	**3.4**	**=9 (9)**
Thailand	3.4	=9 (11)
Philippines	3.0	10 (10)
Bangladesh	1.1	11 (13)
Sri Lanka	1.0	=12 (12)
Indonesia	1.0	=12 (14)
India	0.7	14 (15)
Pakistan	0.4	15 (16)

Source: BMI

BMI Telecoms Industry Glossary

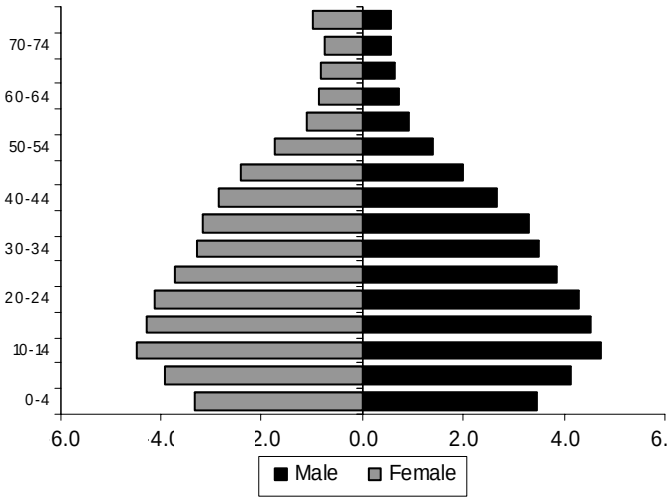
Table: Glossary Of Terms

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		

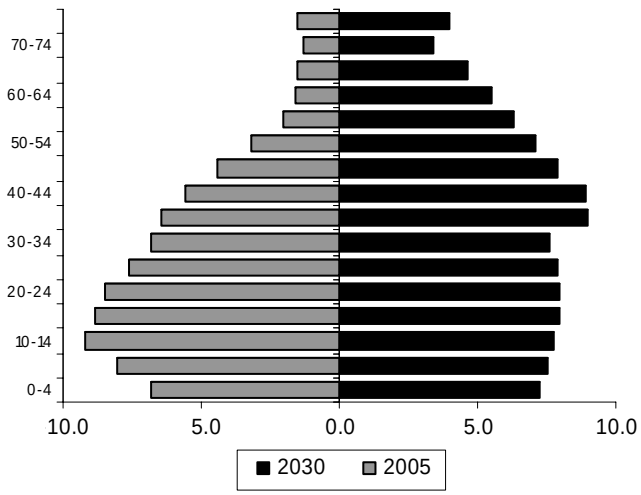
Country Snapshot: Vietnam Demographic Data

Section 1: Population

Population By Age, 2005 (mn)



Population By Age, 2005 And 2030 (mn, total)



Source: UN Population Division

Table: Demographic Indicators, 2005-2030

	2005	2010f	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

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

Table: Rural/Urban Breakdown, 2005-2030

	2005	2010f	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

f = 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	2010f	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

Life expectancy estimated at 2005. f = forecast. 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	2007e	2008e	2009e	2010f	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 calculation

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 both highly developed technophile markets where growth prospects are high in 3G. Meanwhile, China and India both 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.