

## Myanmar – an untapped telco market

# The appeal of 60mn people but less than 3mn mobile users

March 14, 2012

### Myanmar: Telecom liberalization on the horizon

With around 60mn people and only 4% wireless penetration and 3% fixed, Myanmar is one of the last untapped telco markets in the region. Given the lack of interoperability between GSM/CDMA, the number of unique users we believe could be 2.0mn. Currently, the state-owned operator, Myanmar Post and Telecommunications (MPT), has a majority of these subscribers on 2G/3G. Yatanarpon Teleport is the other smaller operator, primarily an Internet service provider (ISP). Recent reforms on labour laws and media censorship in the country are progressive, in our view, and based on our recent discussions with local regulators, we understand that a new telecom law, which could allow for more licenses (up to 5) and direct or indirect foreign operator participation, is also in the making (currently in final stages of drafting). Hence, the telecom sector in Myanmar is likely to be on the radar for most telcos for incremental investment, we believe. We think there is legitimate cause for fresh optimism on possible political and economic reforms in Myanmar, but given the military's heavy influence, coupled with the strategic importance of Myanmar to China and the US, we believe decision making and implementation will remain challenging.

### Target to increase wireless penetration to 50% by 2015

Unstable politics and bottlenecks, including: 1) high handset prices (USD45-600); 2) SIM registration cost of USD150-200; 3) long waiting periods (up to 2 years) and connection hurdles; 4) poor networks and coverage; and 5) lack of competition have hampered growth. The government is now targeting 50% wireless penetration by 2015, implying a 50% CAGR. For this to happen, competition (lower prices), significant infrastructure investment (only around 400 BTSs now), and clearer policies (around interconnect etc) are required, in our view.

### What is the telco opportunity if Myanmar becomes the next Thailand?

There is no foreign operator in Myanmar now, but a few Thai and Chinese companies (Huawei and ZTE) provide telecom/ satellite equipment. The size of Myanmar's population is close to Thailand's, where the combined market cap of the top-3 operators is USD23bn. However, Myanmar's current GDP per capita of USD1,300 is 80% lower than Thailand's; we think this could improve if the reforms can be sustained.

### Stocks to watch...a long list

Venturing into Myanmar, if and when it opens up, would be consistent with SingTel, Axiata and many other regional/ foreign telcos' stated strategy to seek growth in underpenetrated markets, but timing remains uncertain.

### Key details in this report

1) A review of recent political reforms; 2) comparison of Myanmar to other regional markets; 3) a review of the telco market, including regulations and infrastructure; 4) foreign participation; and 5) role/objective of regulator.

### Anchor themes

Myanmar's 60mn population, but 4% penetration suggests an untapped opportunity and a high growth potential market

### Nomura vs consensus

Myanmar is an under-researched market

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See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

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# Myanmar – the beginning of reforms?

Fig. 1: Myanmar – an overview



MYANMAR	
<b>General facts</b>	
Capital	Nay Pyi Daw
Languages	Burmese
Area (sq. km)	676,578
Currency	Burmese Kyat
<b>Demographics</b>	
Population (mn)	62
Popn Growth Rate	2.0%
Urban population	34%
Urban population growth	2.7%
<b>Telecom statistics as per regulator</b>	
Mobile Subscribers (mn)	2-3
Mobile penetration	Up to 5%
Internet users	110,000
Internet penetration	Sub-1%
Telephone lines (mn)	1-2
Penetration	Up to 3%
<b>Economic indicators 2012F</b>	
GDP, current prices (USDbn)	52.2
GDP per capita, PPP (USD)	1,387
GDP Growth Rate	4%
Inflation	4%

Source: Wikipedia, World Bank, IMF Economic Outlook, Internetworld stats, WCIS

- Following the last elections in 2010, Myanmar’s **current President Mr Thein Sein has been progressive in passing reformatory laws, including labour laws that allow for the formation of unions, relaxation of foreign and domestic media censorship, and the release of thousands of political prisoners.**
- **This has also seen the opposition political leader, Ms Aung San Suu Kyi, re-register her party, the National League of Democracy (NLD), and she is likely to run for the 1 April 2012 by-elections.** We think this would be considered a positive step, but this election is for only 48 of the 664 seats; hence, the majority could still be with military-backed appointees and/or other parties. The government is also re-negotiating with various ethnic groups, such as the Kachin Independence Army (KIA), and has even signed ceasefire agreements with insurgent groups like the Shan State Army-South.
- **Various international governments have openly stated their willingness to improve diplomatic and trade relations with Myanmar, provided these reforms are sustained and not derailed.**
  - Myanmar is expected to chair the ASEAN meeting in 2014.
  - Earlier this year, the EU also lifted travel restrictions on Myanmar’s top leaders – including the president and vice president.
  - Foreign investments have since increased from USD300mn in 2009 to USD20bn in 2010-11 (*Taste of democracy sends Burma's fragile economy into freefall*, the Independent, 20 September 2011).
- **However, we note there are still many risks and hurdles to overcome** – The country is emerging from nearly two decades of military rule, which still has the power to seize control, and the objectives (and history) of various insurgent groups may not

align with government's vision. Moreover, we understand public and social infrastructure is poor, and even the IMF and the World Bank have them on a watch list. In the late 1980s/ early 1990s, Myanmar had moved to 'open-door' policies and reforms, especially for foreign trade, but these were short lived.

**Fig. 2: Timeline of recent reforms in Myanmar**

**2010**

November The main military-backed party, the Union Solidarity and Development Party (USDP), claims a resounding victory in the first elections for 20 years. Opposition groups allege widespread fraud and many Western countries condemn the vote as a sham. The junta says it marks the transition from military rule to a civilian democracy.  
A week after the election, Aung San Suu Kyi - who had been prevented from taking part - is released from house arrest.

**2011**

January The government authorises internet connection for Aung San Suu Kyi.  
March Thein Sein is sworn in as president of a nominally civilian government and the transfer of powers to the new government is complete.  
May The new government frees thousands of prisoners under an amnesty, but few political prisoners are among them.  
August Aung San Suu Kyi is allowed to leave Rangoon on a political visit; days later she meets President Thein Sein in Nay Pyi Taw.  
September President Thein Sein suspends construction of controversial Chinese-funded Myitsone hydroelectric dam, in move seen as showing greater openness to public opinion.  
October More than 200 political prisoners are freed as part of a general amnesty. New labour laws allowing unions are passed.  
November The Association of Southeast Asian Nations (Asean) agrees that Burma will chair the grouping in 2014. Pro-democracy leader Aung San Suu Kyi says she will stand for election to parliament, as her party rejoins the political process.  
December US Secretary of State Hillary Clinton visits, meets Aung San Suu Kyi and holds talks with President Thein Sein. The US offers to improve relations if democratic reforms continue.  
President Thein Sein signs a law allowing peaceful demonstrations for the first time. The NLD re-registers as a political party in advance of by-elections for parliament due to be held early in 2012.  
Burmese authorities agree a truce deal with rebels of Shan ethnic group and orders the military to stop operations against ethnic Kachin rebels.

**2012**

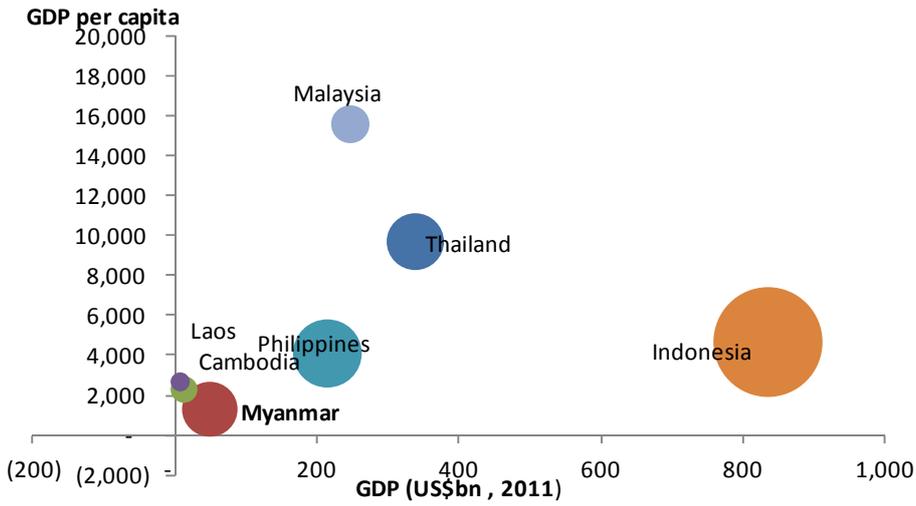
January The government signs a ceasefire with rebels of Karen ethnic group.  
A day later, hundreds of prisoners are released - among them the country's most prominent political prisoners, including veterans of the 1988 student protest movement, monks involved in the 2007 demonstrations and activists from many ethnic minority groups

Source: As compiled by BBC country profile, 'Timeline: Reforms in Burma',

## How does Myanmar stack up against other Asian markets?

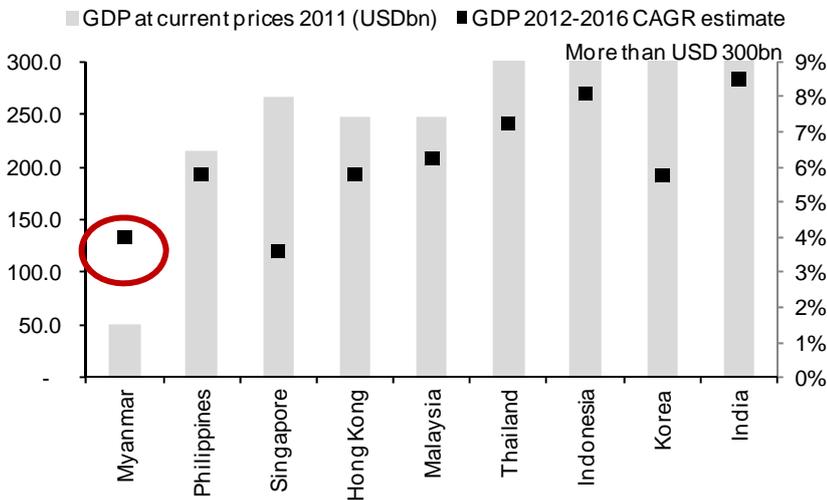
- **Myanmar is rich in natural resources such as oil, gas and timber, and primary industries including agriculture contribute around 43% of Myanmar's GDP** (as per *CIA World factbook*). However its growth outlook as per the IMF is much lower than that for other Asian nations; it is expected to grow at an average 4% over next few years.
- **It is the eleventh most populous country in Asia**, but one of the smaller economies in South East Asia. Myanmar has a population of around 60mn, similar to that of Thailand which is the second-largest economy in SE Asia, or roughly seven times the economy of Myanmar. However, Myanmar's population density of 74 persons per sq km is below Thailand's 132.
- Myanmar's per capita GDP (on a PPP basis) is one of the lowest in Asia at USD1,300 as per IMF estimates and compares to India's USD3,700 and Thailand's USD9,700.
- **34% of the population is urban** (according to World Bank), and this isn't very dissimilar to that of other developing SE Asian markets.
- Around 70% of the labour force is involved in agriculture and other primary industries (as per *CIA World factbook*).
- Around 50% of the land is covered by mountains and forests (northern and eastern parts), we understand.

**Fig. 3: Size of the economy (GDP USD bn, 2011) vs GDP per capita**



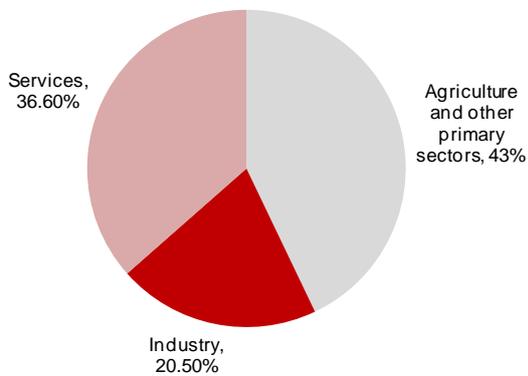
Source: World Economic Outlook Sep 2011 published by IMF  
 Note: Size of the bubble represents total population

**Fig. 4: GDP growth outlook is much lower than that of other Asian nations**



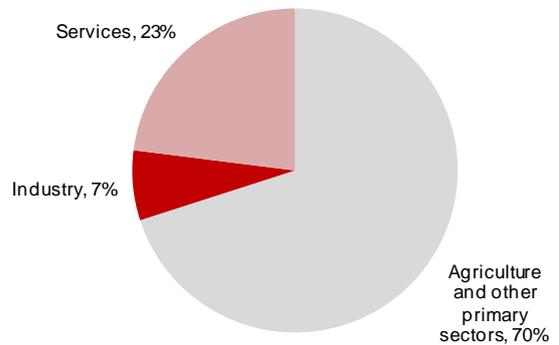
Source: World Economic Outlook Sep 2011 published by IMF

**Fig. 5: GDP composition by sector (2011)**



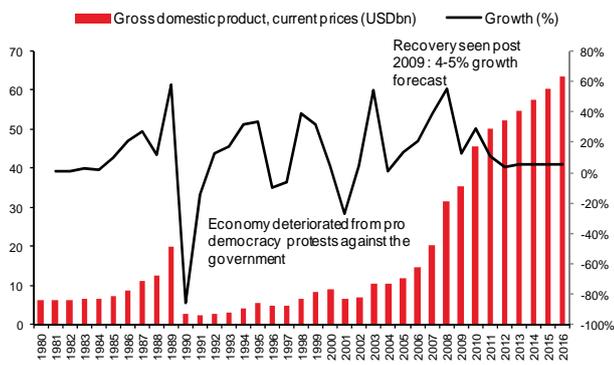
Source: CIA world factbook

**Fig. 6: Labour force by sector occupied (2011)**



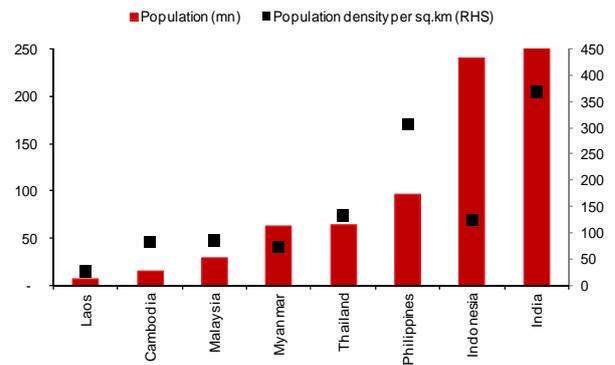
Source: CIA world factbook

**Fig. 7: Myanmar – GDP and growth rates**



Source: IMF

**Fig. 8: Myanmar – population and density(2011)**



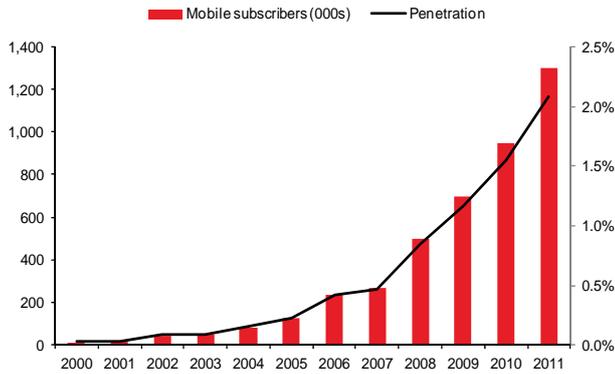
Source: IMF, Wikipedia  
 Note: population of India >1bn

# An underpenetrated telecom market

## Low penetration, low competition, high costs

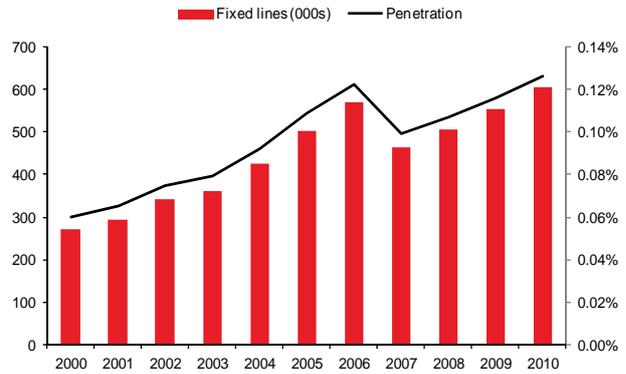
- **Mobile phones were first launched in 1999** (AMPS and CDMA) with limited capacity of around 10K lines and this was largely done on a trial basis. By 2001, there were around 14k subscribers. In 2002, GSM was commercially launched, and take-up rates picked up – although handset prices were still very high. 3G (WCDMA) was launched in 2008.
- **Current wireless penetration is around 4%**, or 2.5mn subscribers have mobile connections of the total 60mn population, as per our discussion with the regulator. In fact, given the lack of interoperability between GSM and CDMA, the actual number of unique users could be lower – WCIS reports there are around 1.3mn subscribers.
- The cost of owning a mobile connection is high and telecom infrastructure development is very poor with coverage being more biased towards the cities – Yangon and Mandalay have telephone penetration of 8-10% each, we understand.
- **State-owned Myanmar Post and Telecommunications (MPT) is the main operator in the country** offering wireless services. Yatanarpon is the other smaller operator, primarily an Internet service provider. Current local laws prevent private companies to own telecom infrastructure.
- **Myanmar has both GSM (1900 MHz) and CDMA networks (450MHz and 1800MHz).** It also has 3G on 2100MHz (launched in 2008), with around 60-70k subscribers now. Reports suggest that interconnection between these networks is minimal. (*3G network launched in Burma, Cellular News, 9 Jul 2008*)
- **The mobile sector net adds have improved significantly in the past five years**, to around 200-300k annually (as per WCIS data).
- **Myanmar has around 1.5mn fixed lines** as per the regulator, implying 3% of the total population.
- **Artificially high handset prices of around USD600-1,800 have been a key reason for low take-up rates, in our view** (in some other regional markets, handsets can be purchased for as low as USD20 even). However, we understand that the availability of imported handsets has increased over time, and some of the low-end handsets are now available at around USD50.
- **The process of registering SIM cards is also very expensive – the official price is around USD150-200** now (used to be USD500 a few years back), while in the black market, these prices likely can go higher even we understand based on news articles.
- In 2008, the country introduced prepaid SIM cards for USD20, circumventing the need for registration. However, these did not come with an option to be recharged and hence required the subscriber to change numbers post expiry. We understand the number of prepaid connections is quite low.
- **Average calling price is around 5cents per minute.**

**Fig. 9: Mobile subscriber trends**



Source: WCIS

**Fig. 10: Fixed-line trends**

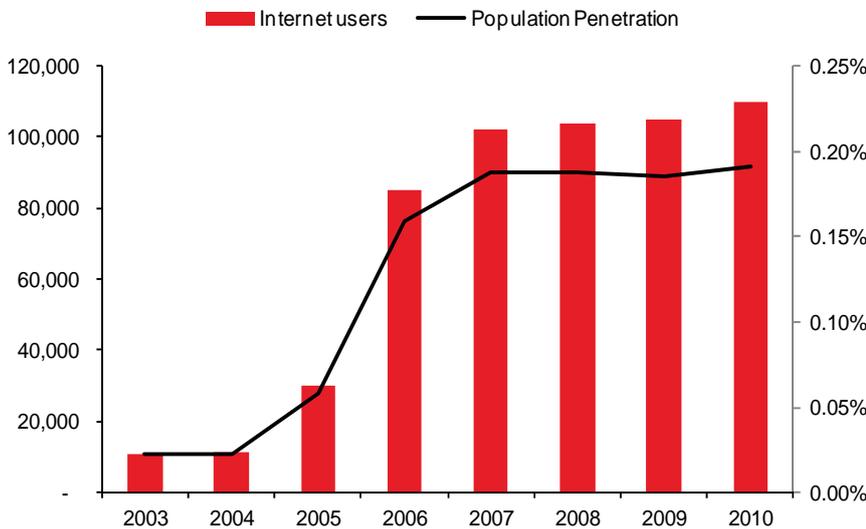


Source: World bank

**Sub 1% Internet penetration**

- **Internet penetration is below 1%** (of the population) – and although 42 cities are reported (as per Wikipedia) to have access to the Internet, the majority of users are concentrated in the two largest cities, Yangon and Mandalay.
- **Most of the country's 50k Internet connections were ADSL-based**, with the remainder being dial-up, satellite and WiMAX (as per Wikipedia).
- We understand MPT was also trialling Fiber-to-the-Home in Mandalay.
- Some of the ISPs include, Myanmar Teleport, Yatanarpon Teleport, Information Technology Central Services, Red Link Communications, and the state-owned MPT. Internet cafés are common in the country.
- **Myanmar has a restrictive policy on access of various content.** Popular sites such as Yahoo mail, MSN, Gmail, YouTube, Facebook, Google are sporadically blocked. However, Skype is available, based on our discussions with Internet users.

**Fig. 11: Internet users trend**



Source: World Bank and Internet World Stats

## The regulator/ government – targeting 50% by 2015

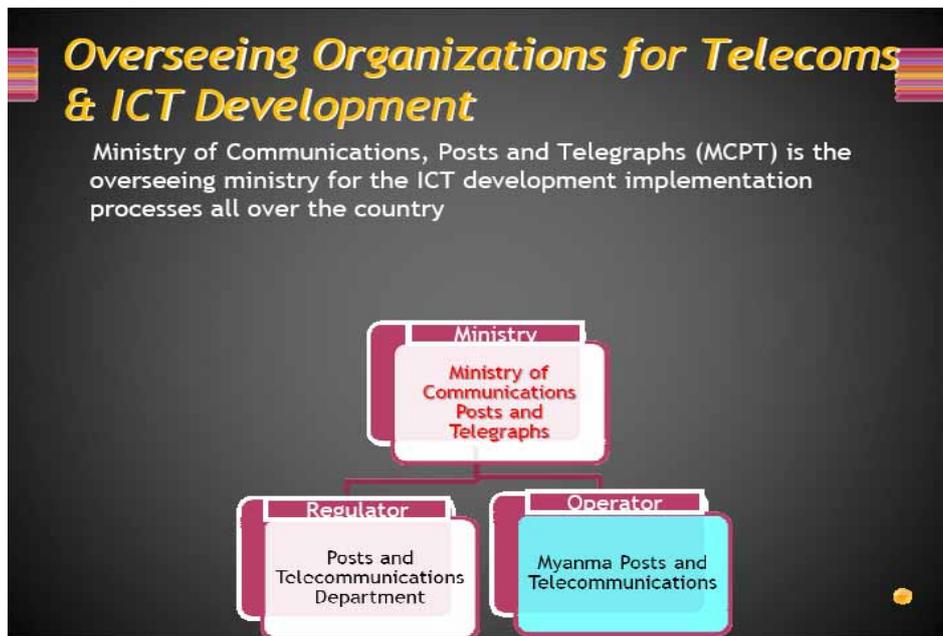
- The Ministry of Communications, Posts and Telegraph (MCPT) is the overseeing authority, under which the regulator, PDT (Posts and Telecommunications Department) and operators are organised.
- **50% wireless penetration by 2015 is the current official target** we understand. Therefore, it is looking to review current policies and other initiatives to accelerate the network rollout, boost competition and lower prices. This suggests a subscriber CAGR of 50% from the current levels.
- **The regulator is also currently working on a new telecom law, whereby it is looking to issue up to 5 new licenses** (subject to spectrum availability, majority of which is currently owned by MPT) and also seek direct and indirect foreign operator ownership. **We understand the new proposal is in final stages of drafting, which will then be handed over to the Attorney General and then will need government approvals**; hence this could still take a while, we believe.
- At this point, we understand there isn't necessarily a law which limits foreign partnership, but there is a law that prevents any private companies from owning telecom infrastructure.
- As a part of achieving its 50% penetration target, the regulator is currently involving 23 local companies (in a public-private partnership) to invest in building out the infrastructure throughout the country.
- As per the website (<http://www.mcpt.gov.mm>), spectrum allocation is done on first-come first-served basis and priority is given to the incumbent operator MPT and national interest. Currently, any person wishing to import telecommunications equipment into Myanmar or use telecommunication equipment in Myanmar requires a prior-permission or licenses from PTD. Network operators also require licenses from PTD. *See Appendix 1 for more details.*

Fig. 12: Telecom evolution in Myanmar since 1990

In 1990, Domestic satellite system (SCPC) was established for remote and border area.  
 In 1993, Cellular mobile phone system (Analogue APMS 800) was established.  
 In 1994, International and national electronic transit switch and the standard A satellite earth station was established.  
 In 1995, WLL radio telephone system was introduced.  
 In 1996, Digital AMPS cellular system and DECT radio telephone system were introduced.  
 In 1997, SEA-ME-WE 3 submarine cable system, X.25 e-mail system and CDMA cellular system were introduced.  
 In 1998, VAST system of domestic communication was established for remote and border area.  
 In 1999, dial-up access system for internet and e-mail was established.  
 In 2001, GSM cellular system was deployed.  
 In 2004, Advance communication project was launched and the project comprised IP satellite communication system, VoIP system, data communication system.  
 In 2005, ADSL and optical access system for internet and e-mail were established.  
 In 2006, new International and national electronic transit switch was established.  
 FFTP access system was introduced.  
 In 2007, Domestic satellite system (SCPC) was terminated.  
 GMS project was launched and the project comprised soft switch, trunk gateways, Access Gateways, IP metro network, CATV system, Digital switches, optical fiber transmission system, microwave transmission system .  
 In 2008, National Gateway for Internet and IXP was established. Myanmar-China cross border optical fiber link, Myanmar-Thailand cross border optical fiber link, Myanmar-India cross border optical fiber link was commissioned.  
 In 2009, WCDMA and McWill broadband wireless access system was introduced.

Source: Country report Myanmar, for ITU Subregional workshop for CLMV on 'NGN/IP technologies and Services', December 2010

Fig. 13: Regulatory structure of the Telecom market

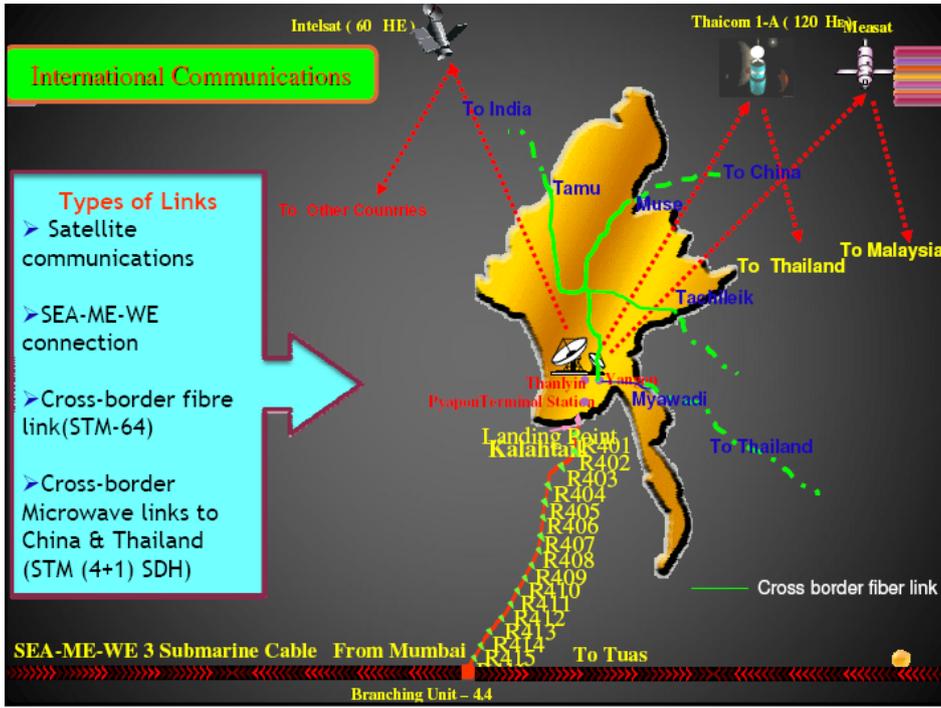


Source: Country Report To GMS-ISN, a presentation from the Union of Myanmar, June 2009

## State of current infrastructure

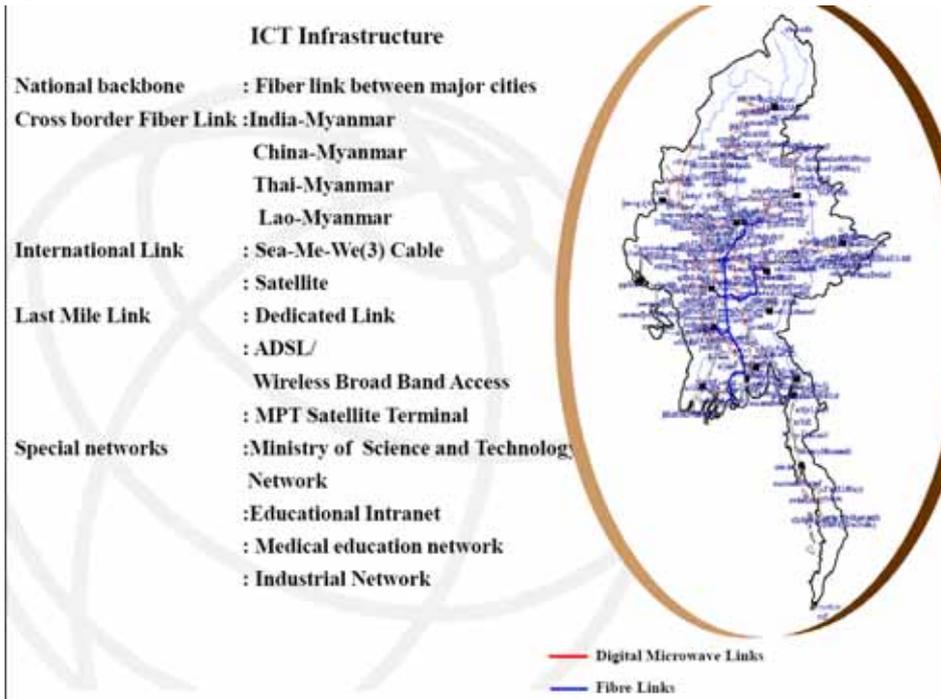
- **Poor telecoms and civil infrastructure is a key bottleneck.** The transmission systems consist mainly of microwave links and satellite links except in Yangon and the Yangon–Mandalay route, where optical fibre cables are buried. The microwave links consist of analogue and digital links. In our conversation with the regulator, it noted that fibre is being rolled out more extensively now and this will remain a key focus going forward.
- According to Digital Review of Asia Pacific 2009–2010, the number of automated switching systems has been increasing in urban areas, while manual switches continue to be used in rural areas and still account for 80% of all exchanges in the country.
- **The country also has 15 domestic satellite earth stations serving isolated regions** – this has helped extend connectivity beyond urban areas to some extent.
- **There is some international connectivity available through the SEA-ME-WE3 submarine cable.** In addition, there are two international satellite earth stations.
- One key development in Myanmar was the completion of Phase I of Yatanarpon cyber city. It includes a telecom hub, with fibre connectivity to the national fibre backbone and is linked to all big cities, we understand. Moreover, international fibre links to China, India, and Thailand were also to be established; if this has been completed is unclear.

Fig. 14: International communication links



Source: country report Myanmar, for ITU Subregional workshop for CLMV on 'NGN/IP technologies and Services', December 2010

Fig. 15: ICT infrastructure



Source: Source: country report Myanmar, for ITU Subregional workshop for CLMV on 'NGN/IP technologies and Services', December 2010

## Foreign telcos in Myanmar

- MPT is the main operator in the country, and we understand there is no other foreign operator in the country offering direct telephony services.
- Given the political uncertainty, most international companies gradually pulled out of the country, including Motorola, Philips and Ericsson in 1996-98; but some of the Thai and Chinese companies still maintain a presence on the equipment side. In 2004, MCPT also asked for assistance of the Thai government for broadband investments.
- Recently, Thailand's Samart expressed interest in investing around THB1bn in Myanmar and Laos (source: Reuters). In the early 2000s, Thai operators like Shin Satellite made infrastructure investments, but there are no recent details available on these.
- Many other regional/ global telcos have stated their intention to review various 'opportunities' within Myanmar, but until more licenses are issued and further reforms are implemented, we think this will likely remain a closed market.
- SingTel provided an Internet gateway for Myanmar using STIX (SingTel Internet Exchange) back in 1999. SingTel used its ST – 1 satellite to deliver Internet traffic to Myanmar.
- Huawei and ZTE are major network and handset suppliers.
  - According to news articles Alcatel has made investments of around USD50mn in Myanmar since 2004.
  - ZTE entered into contracts of around USD20mn with the then-government. (Source: *Asia Sentinel, Building the Burmese Junta's Telecom Infrastructure, 25<sup>th</sup> October 2007*)

## Appendix 1 – about PTD

- Posts and Telecommunications Department (PTD) is Myanmar's Telecom Regulator under the Ministry of Communications, Posts and Telegraphs. Basically, PTD's function as a regulator is to support the Ministry in its policy-making functions and to provide regulatory and legal support to the Ministry.
- **The main duties and responsibilities of PTD include:**
  - Supervise the operation of telecommunications and postal services
  - Supervise Certification Authorities
  - RF Spectrum management
  - Coordinate and cooperate with international organizations
  - Issue and regulate different licenses
  - Issuing and regulating different telecommunications related certificates
  - Study modern telecommunications technology and advise the respective authorities
  - Supervise the production, import, export, sale and user of telecommunications equipment within Union of Myanmar.
- **The following are among the different licenses being regulated by PTD:**
  - WAN License (Establishment & Service)
  - Service license
  - Station license
  - Satellite phone/ VSAT license
  - Mobile license
  - Microwave license
  - WLL license
  - Long-range and short-range cordless phone license
  - Point to point license
  - Telecom equipment repair license
  - Telecom equipment dealer license
- One main function of PTD is to regularly revise the existing rules and regulations concerning telecommunications and ICT so as to bring them up to date with the changing technology environment and international developments. Currently the following laws and notifications have been issued to regulate telecommunications and ICT sectors-
  - 1) Myanmar Telegraphy Act
  - 2) Myanmar Wireless Telegraphy Act
  - 3) Electronic transaction Law
  - 4) Computer Development Law
  - 5) Notification on Wide Area Network Establishment and provision of services
- Concerning Radio Frequency Spectrum management activities, PTD with technical assistance from ITU had drawn up Myanmar National RF Spectrum allocation Plan which will remain in force up to the end of the decade, after that PTD will revise the spectrum plan.
- Spectrum allocation and spectrum assignment are done on first-come first-served basis and priority is given to the incumbent operator MPT and national interest. Currently, any person wishing to import a telecommunications equipment into Myanmar or use a telecommunication equipment in Myanmar requires a prior-approval or licenses from PTD. Network operators also require licenses from PTD.
- *Source: <http://www.mcpt.gov.mm>*
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# Appendix A-1

## Analyst Certification

I, Sachin Gupta, hereby certify (1) that the views expressed in this Research report accurately reflect my personal views about any or all of the subject securities or issuers referred to in this Research report, (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Research report and (3) no part of my compensation is tied to any specific investment banking transactions performed by Nomura Securities International, Inc., Nomura International plc or any other Nomura Group company.

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10% have been assigned a Reduce rating which, for purposes of mandatory disclosures, are classified as a Sell rating; 21% of companies with this rating are investment banking clients of the Nomura Group\*.

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### STOCKS

A rating of '**Buy**', indicates that the analyst expects the stock to outperform the Benchmark over the next 12 months. A rating of '**Neutral**', indicates that the analyst expects the stock to perform in line with the Benchmark over the next 12 months. A rating of '**Reduce**', indicates that the analyst expects the stock to underperform the Benchmark over the next 12 months. A rating of '**Suspended**', indicates that the rating, target price and estimates have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including, but not limited to, when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the company.

Benchmarks are as follows: **United States/Europe**: Please see valuation methodologies for explanations of relevant benchmarks for stocks (accessible through the left hand side of the Nomura Disclosure web page: <http://go.nomuranow.com/research/globalresearchportal>); **Global Emerging Markets (ex-Asia)**: MSCI Emerging Markets ex-Asia, unless otherwise stated in the valuation methodology.

### SECTORS

A '**Bullish**' stance, indicates that the analyst expects the sector to outperform the Benchmark during the next 12 months. A '**Neutral**' stance, indicates that the analyst expects the sector to perform in line with the Benchmark during the next 12 months. A '**Bearish**' stance, indicates that the analyst expects the sector to underperform the Benchmark during the next 12 months.

Benchmarks are as follows: **United States**: S&P 500; **Europe**: Dow Jones STOXX 600; **Global Emerging Markets (ex-Asia)**: MSCI Emerging Markets ex-Asia.

### Explanation of Nomura's equity research rating system in Japan and Asia ex-Japan

#### STOCKS

Stock recommendations are based on absolute valuation upside (downside), which is defined as (Target Price - Current Price) / Current Price, subject to limited management discretion. In most cases, the Target Price will equal the analyst's 12-month intrinsic valuation of the stock, based on an appropriate valuation methodology such as discounted cash flow, multiple analysis, etc.

A '**Buy**' recommendation indicates that potential upside is 15% or more. A '**Neutral**' recommendation indicates that potential upside is less than 15% or downside is less than 5%. A '**Reduce**' recommendation indicates that potential downside is 5% or more. A rating of '**Suspended**' indicates that the rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the subject company.

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#### **Target Price**

A Target Price, if discussed, reflect in part the analyst's estimates for the company's earnings. The achievement of any target price may be impeded by general market and macroeconomic trends, and by other risks related to the company or the market, and may not occur if the company's earnings differ from estimates.

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