

# Outlook #03.2006

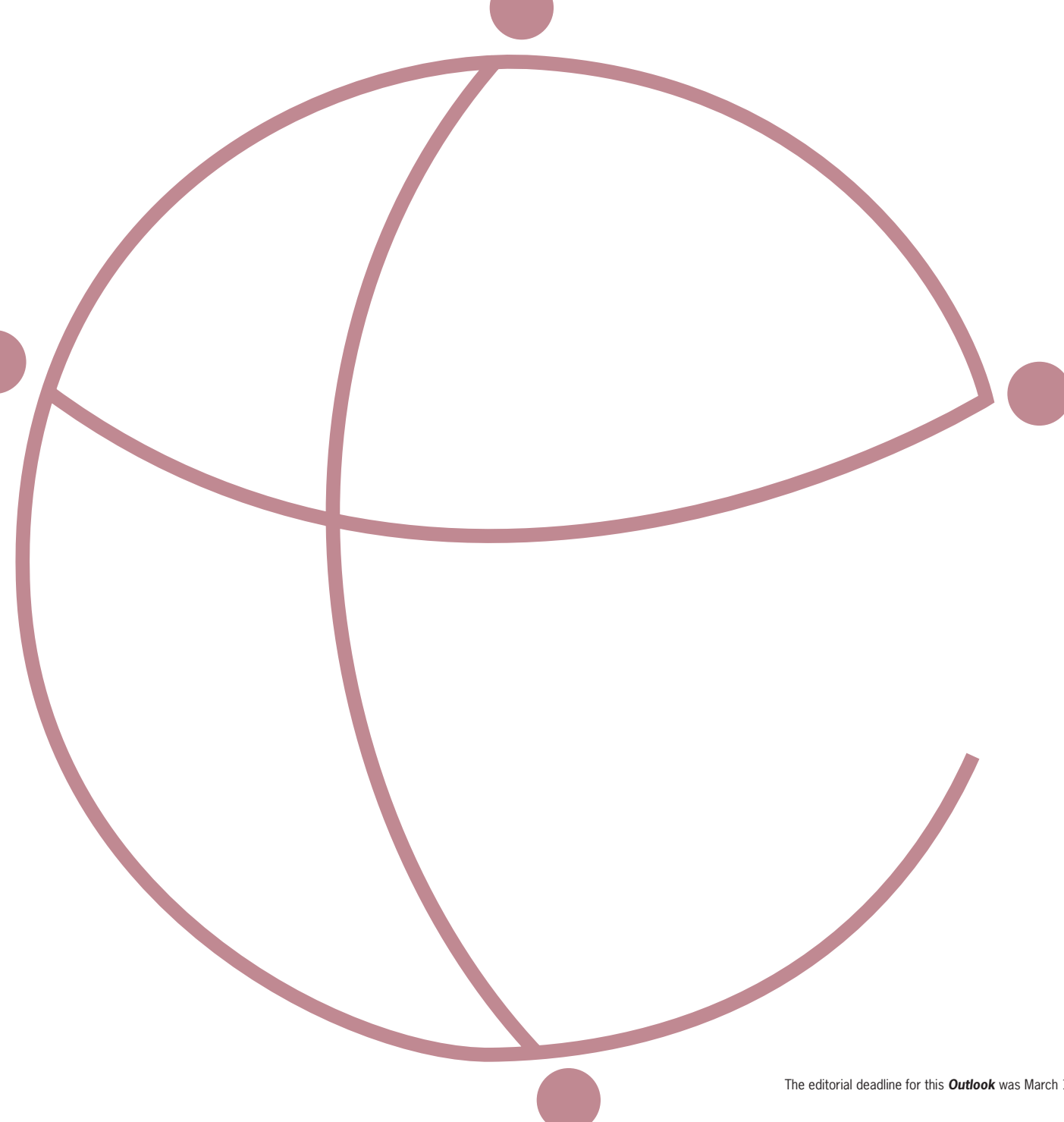


## Hong Kong Wireless Operator and Handset Vendor Outlook



- **Wireless Telecommunications**
- Health Care
- Financial Services
- Government

- Competitive Intelligence •
- Business Strategy •
- Branding Research •
- Public Opinion Research •



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Key Market Indicators:  
2005-2006

**Installed Base**

Installed Base: 8.5 Million  
Prepaid Installed Base: 3.8 Million  
Postpaid Installed Base: 4.7 Million  
Data Users: 3.7 Million

**Handset Sales by Technology**

GSM Migration Path: 3.8 Million  
CDMA Migration Path: 0.0 Million  
Other (TDMA, PDC, iDEN): 0.0 Million

**ARPU**

Service Revenue: \$2.4 Billion  
Monthly ARPU: \$24.32  
Monthly ARPU (Voice): \$21.74  
Monthly ARPU (Data): \$4.02

**Carrier Market Shares  
(by Installed Base)**

CSL New World Mobility: 34.6%  
3 Hutchison: 25.1%  
CR Peoples: 17.3%  
SmarTone: 13.2%  
PCCW - Sunday: 9.8%

Source: IEMR

Market Forecasts:  
2005 - 2010

IEMR FORECAST							
	2005	2006	2007	2008	2009	2010	CAGR, 2005 - 2010
<b>Population (Millions)</b>	7	7	7	7.1	7.1	7.1	0.2%
<b>Total Installed Base (Thousands)</b>	8,569	8,830	8,964	9,040	9,082	9,105	1.02%
<b>Penetration Rate %</b>	122.0%	125.0%	126.2%	126.7%	126.7%	126.5%	0.61%
<b>Total Monthly APRU (USD)</b>	24.32	24.11	24.02	24.05	24.28	25.02	0.5%
<b>Total Service Revenue (USD Mill)</b>	2,394	2,490	2,553	2,599	2,632	2,655	1.75%
<b>Data Users (Thousands)</b>	5,329	5,901	6,315	6,617	6,838	7,000	4.65%
<b>Monthly ARPU on Data per Data User (USD)</b>	4.02	4.91	5.73	6.33	6.61	6.52	8.4%
<b>Total Handset Sales</b>	3,337	2,268	3,104	2,944	2,851	2,830	-2.5%
<b>Handset Sales by Technology (Thousands)</b>							
<i>2G Migration Path</i>							
GSM Handset Sales	461	259	123	23	0	0	n/a
<i>GPRS/WCDMA Migration Path</i>							
GPRS Handset Sales	2,397	1,976	1,245	575	236	302	-29.3%
WCDMA Handset Sales	479	1,035	1,739	2,391	2,637	2,800	34.2%

Source: IEMR

## 1. Executive Summary

### *HK Wireless Market: Strategic Outlook*

As of Q1 2006, there were five mobile operators in Hong Kong. Although only one true wireless operator consolidation has occurred thus far, between CSL and New World Mobility, other notable Hong Kong mobile acquisitions by fixed-line operators are quickly altering the competitive landscape. PCCW-HKT's takeover of Sunday Telecom, and China Mobile's purchase of Peoples Telecom have already begun to cause ripple effects in the operator space.

A stable population with favourable demographics (70% within the ages of 15 and 64), combined with extremely high mobile penetration levels, make Hong Kong the ideal "lab" in which to test the business case for 3G.

We think 3G is now set to become a commodity service in Hong Kong. 2006 will mark a transitional year, as WCDMA handset sales will likely surpass one million devices. Despite the growth of WCDMA in Hong Kong, ARPU is set to experience moderate declines in the short- to medium- term, as 2G price pressures cut into 3G growth.

As competitors move into 3G territory, the market leader, 3 Hutchison, faces up-and-comers such as Hong Kong CSL, PCCW-Sunday, and SmarTone- all jostling for 3G market share.

Total terminal sales are expected to decline moderately between 2006 and 2010. We forecast a -2.5% CAGR in total handset sales over this period. This expectation reflects the impact of already high penetration levels, as well as the time required for substitution of older terminals for newer 3G devices.

Total service revenues will rise gradually between 2006 and 2010. Underlying this movement will be increasing data and declining voice service revenues.

### *Convergence and Bundling Will Be Key for Operators*

The merger and acquisition activity has not dramatically changed the overcrowded, competitive mobile landscape in Hong Kong. With mobile user penetration levels exceeding 120%, the Hong Kong wireless services market is still overcrowded, and will continue to force operators to consolidate during our forecast period.

Given the nature of the consolidation, however, we think there are two critical issues that Hong Kong wireless operators must manage effectively in the coming years: their strategy regarding wire-line and wireless convergence, and their positioning of bundled services, or so called "triple-play" offerings, relative to the competition. We believe the competitive landscape in Hong Kong will shift to have a multi-modal focus, with both price and non-price competition. As well, we think:

- the traditional bundled minutes at discount prices will continue to prevail in the lower-tier customer segments;
- competition, triggered by more fixed-mobile convergence bundles, will emerge, especially from PCCW, which has a very aggressive content delivery business; and

- Broadband wireless licensing prospects, although still in the early consultation stage, will open up more fixed-mobile convergence and fixed-wireless bundles.

*CSL-New World Mobility Merger Will Deliver Significant Cost Savings*

We think the Hong Kong CSL (CSL) and New World Mobility (NW Mobility) amalgamation is the only real consolidation merger that has taken place in Hong Kong. The business drivers underpinning this merger were obvious. NW Mobility had a very low market capitalization, due to high debt levels; had low market share in the middle and upper customer segments; had no 3G license; and its 2G assets were likely to devalue significantly over the next two to three years. In summary, NW Mobility had little strategic choice other than be acquired.

We believe the operational integration between CSL and NW Mobility could lead to measurable efficiencies; however, we do not agree with CSL's estimated annual cost savings of \$300 million, and think they will only be able to realize about two-thirds of this forecasted annual savings. Areas driving synergies include a combined customer base of 2.6 million, network resource sharing (giving improved spectrum efficiency), network construction and maintenance, product development and management, and sales and marketing costs. CSL could also help negate NW Mobility's competition in the consumer market, particularly for the youth segment. CSL could achieve brand and operations synergy through appropriate positioning of its One2Free brand with NW Mobility's brand.

*PCCW's Acquisition of Sunday Driven By Its Wider China Strategy*

The official motive behind the PCCW and Sunday acquisition was to develop PCCW's vision of an integrated, full service provider in Hong Kong that could compete with the likes of 3 Hutchison and CSL. We think PCCW may also be setting the foundation for a more secure strategic partnership with China Netcom. China Netcom's 20% stake in PCCW, and PCCW's 50% stake in China Netcom's broadband network, mean that when China Netcom does receive its 3G license in 2006, PCCW would definitely benefit in helping build China Netcom's business operations.

In terms of positioning in Hong Kong, PCCW will leverage the network infrastructure and spectrum capacity of Sunday, to provide fixed-mobile convergence bundles for improved customer retention, loyalty and customer acquisition. The customer base of Sunday can also enable PCCW to entrench its content business (content delivery through its broadband, IPTV, and wireless/mobile platforms or infrastructures).

*China Mobile's Merger with CR Peoples Signals Strategic Move China Mobile*

We think China Mobile's merger with CR Peoples represents a major strategic move, signaling to the global wireless market China Mobile is no longer content to only control the Chinese market. China Mobile's focus on Hong Kong also marks a shift in its corporate strategy towards expansion via foreign investments.

Having said that, we think the proposed merger between China Mobile and CR Peoples is the least effective from an operational perspective. CR Peoples continues to be the most vulnerable player in the Hong Kong mobile market, because of its unclear strategy and limited strategic competence. The merger also has little business impact on the future

growth of China Mobile, as CR Peoples' 1.3 million subscriber base is insignificant compared to China Mobile's 250.7 million subscribers and its market cap of \$97.4 billion. Therefore, the advantages offered by this merger are that it:

- secures the roaming charge income of China Mobile in Hong Kong;
- demonstrates China Mobile's commitment to overseas investment; and
- paves the way for further merger opportunities in Hong Kong and the region.

*Consumer is major beneficiary of Hong Kong's Wireless Wars*

Despite merger and acquisition activity reducing the number of mobile operators to five as of Q1 2006, Hong Kong end-users are the real winners, as competition continues unabated. Despite the consolidations, the Hong Kong mobile market is still very crowded. We anticipate the consolidation that took place in 2005 will continue during our forecast period. The ideal scenario is to have three players in the Hong Kong market.

Even with more mergers and acquisitions, however, consumers are likely to benefit from consolidation, if OFTA (the regulator) continues its hands-off approach in regulating the industry. Simply put, the consumer rules the market in Hong Kong. Demanding, tech-savvy, end-users are eager to take advantage of advanced data-centric mobile services, and, therefore, operators must support the latest and largest variety of terminals, in order to attract business. Revenues generated by data services are expected to stabilize monthly ARPU levels over the medium- to long-term.

Already, we are seeing the competitive forces of the 2G market, which contributed to service providers operating at losses, move into 3G territory. Late entrants, such as PCCW, have already begun to set the bar lower than anticipated through deeply discounted promotional offers. In addition to price, we believe customers will also benefit by moving from a "commoditized" voice service (tens of Hong Kong dollars for hundreds of mobile minutes) to a more enriched multimedia service - with voice, data, messaging and content - anywhere, anytime, at a more affordable price. The challenge for operators and the regulator is how to provide incentives that will attract and encourage investors to continue investing in infrastructures and developing more innovative solutions.

## 2. Forecasts of Hong Kong Wireless Sector, 2006-2010

### 2.1. Headline Market Forecasts

#### 2.1.1. Installed Base, Monthly ARPU, and Service Revenue

Hong Kong's already high penetration rate is expected to increase over the 2006 - 2010 period. Penetration levels are forecast to rise to 126.5% by 2010, an increase of nearly 5% on current levels (0.6% on a CAGR basis between 2005 and 2010). IEMR expects that, as cheaper voice tariffs and enhanced data capabilities are brought to market, the trend of "more phones than people" will continue. As a result, the total installed base of mobile subscriptions will reach 9.1 million by 2010.

In terms of consumer preferences regarding subscription type, we expect prepaid subscriptions will grow at the expense of postpaid. IEMR forecasts a 5.9% CAGR increase in prepaid subscriptions, and a CAGR of -4% in postpaid subscriptions, between 2005 and 2010. This dynamic will occur because secondary handset subscribers tend to purchase prepaid contracts to obtain lower tariffs and limit their overall spending.

We expect monthly ARPU to decline slightly as competition in 2G/2.5G/3G space drives down tariffs. By 2008 – 2009, this trend should reverse itself as data service picks up momentum (see Figure 1). We forecast that, between 2006 and 2010, the total ARPU level will increase to about \$25/month, including both voice and data expenditure. Data will increase in importance as its share rises up to 20% of total ARPU. Voice share of ARPU is expected to decline from current levels of over 90% to about 80% by 2010 (see Figure 2).

Table 1:  
Headline Market  
Forecasts: Hong  
Kong, 2005 - 2010

IEMR FORECAST							
	2005	2006	2007	2008	2009	2010	CAGR 05 - 10
Total Installed Base (Thousands)	8,569	8,830	8,964	9,040	9,082	9,105	1.02%
Penetration Rate %	122.0%	125.0%	126.2%	126.7%	126.7%	126.5%	0.61%
Pre-Paid Installed Base (Thousands)	4,122	4,561	4,888	5,143	5,336	5,485	5.88%
Post-Paid Installed Base (Thousands)	4,447	4,269	4,075	3,898	3,745	3,620	-4.03%
Total Monthly ARPU (\$)	24.32	24.11	24.02	24.05	24.28	25.02	0.5%
Total Service Revenue (\$ USD Millions)	2,394	2,490	2,553	2,599	2,632	2,655	1.75%

Source: IEMR

Figure 1: Hong Kong Installed Base and ARPU Forecast, 2001 - 2010

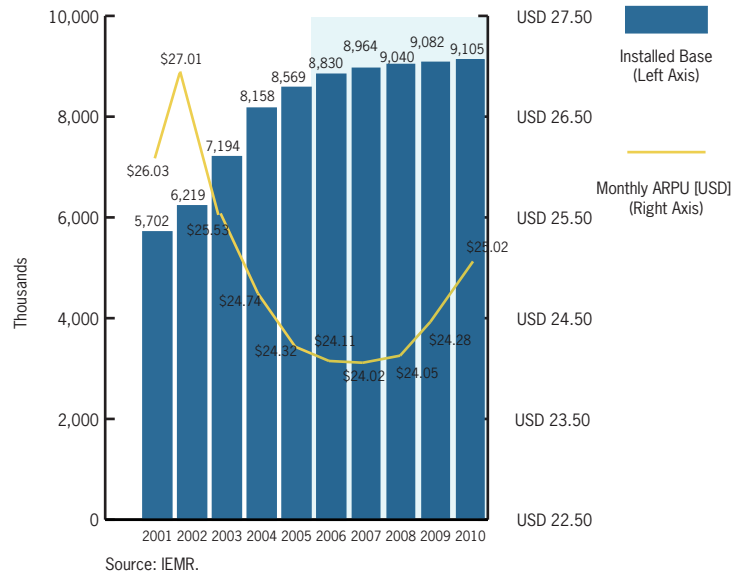
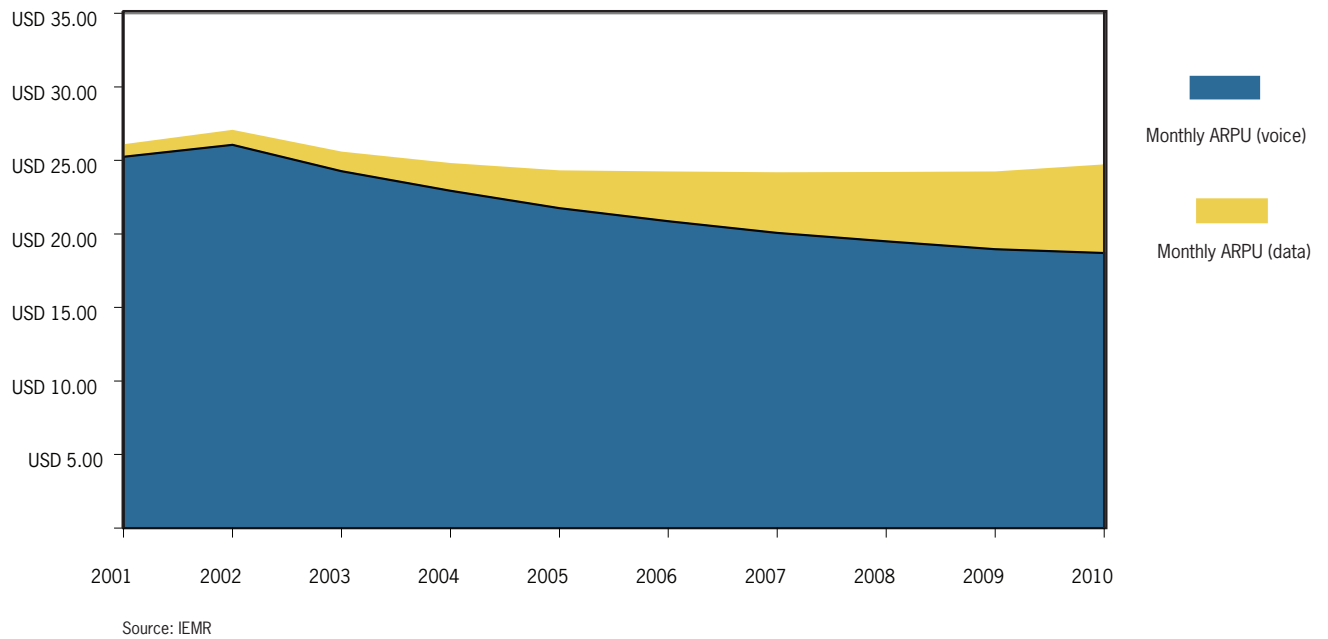


Figure 2: Hong Kong Monthly Data and Voice ARPU Forecast, 2001 - 2010

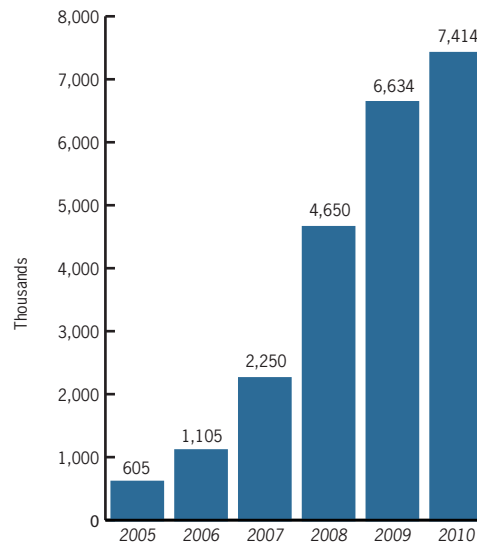


## 2.2. Technology Forecasts: Installed Base

**2.2.1. GSM Migration Path** Over the past 10 years, Hong Kong's mobile operators have deployed and upgraded their GSM/GPRS networks, which are currently powering their operating revenues. Of the six major operators, 3 Hutchison is unique in that it not only operates a GSM network, but also a 2G CDMA network, which it uses as a cash-cow, catering to low-end users and international CDMA roamers. Furthering GPRS capability, EDGE has been deployed, as a means to enhance data transmission over the air interface. The evolution towards 3G has been uniform in terms of technology, as operators have followed the GSM/GPRS/EDGE/WCDMA track.

While the uptake in Hong Kong's 3G services has not been stellar to date, the introduction of new content-rich services, such as video sharing and mobile-only TV broadcasts, combined with new and more powerful 3G handsets, is expected to drive up demand markedly. As of December 2005, Hong Kong recorded nearly 604,700 3G subscriptions, with an average of 34,500 additions each month. By the end of 2006, IEMR expects that, as newer entrants expand their marketing efforts to compete, 3G subscriptions will reach 1.1 million (see Figure 3).

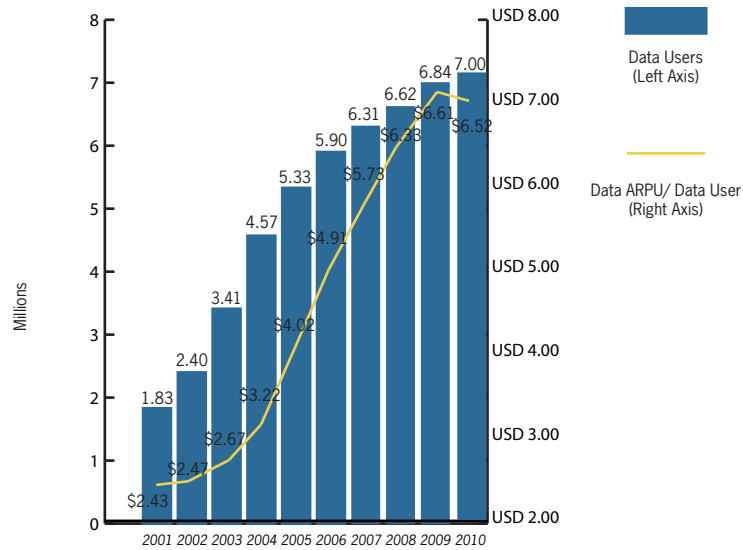
Figure 3: Hong Kong WCDMA Installed Base, 2005 - 2010



Source: IEMR

Continued WCDMA technology deployment will enable operators to offer a wider variety of data-centered services to customers, which, in turn, will help drive data service revenues upwards. IEMR forecasts that, between 2006 and 2010, data ARPU per user will climb from current levels, to reach \$7 per month. Further, as 3G service tariff premiums adjust under competitive pressures and end-user knowledge increases, we expect 3G to become commonplace in Hong Kong. Thus, by 2010, we expect 90% of the population to be using 3G mobile data services (see Figure 4).

Figure 4: Data Users and Data ARPU



Source: IEMR

### 2.3. Technology Scenario: Equipment Vendors

As Table 2 below shows, no single infrastructure provider dominates Hong Kong; however, operator/vendor partnerships such as CSL/Nokia and SmarTone/Ericsson enhance the underlying competitive nature of the market.

One strategic issue of importance could alter the vendor space in Hong Kong very quickly and possibly spill over into China. Huawei's entrance into Hong Kong's 3G market via Sunday has proven to be a significant move on the part of the Chinese vendor, who has been able to gain traction against the tier-one infrastructure suppliers by using Sunday as a form of test-bed for its 3G equipment and services. Huawei owns a strategic 10% stake in Sunday, which it used to help insulate itself from PCCW-HKT's failed attempt to take Sunday private. Faced with a possible restructuring under private ownership regulations, Huawei refused to sell its stake in Sunday to PCCW-HKT, assuring itself of a continued strong foothold in Hong Kong's 3G market.

Given the bad blood between Huawei and PCCW, things could change quickly in Hong Kong, with possible negative impacts for Huawei in China. Should PCCW management decide to switch 3G vendors (supposedly for quality reasons, see section on Sunday Telecom and PCCW below), Huawei would essentially lose its 3G test bed. More importantly, PCCW acquired a 50% stake in China Netcom's broadband business, which it could very well leverage to effectively exclude Huawei from what we think will be the second-largest WCDMA network build in China (see IEMR's China Wireless Operator and Handset Manufacturer Outlook 2006 - 2010).

Table 2: Hong Kong Vendor Channel Map

Operator	2/2.5 G Vendor	3G Vendor
<b>3 Hutchison</b>	Motorola supplies 2G, GSM and CDMA networks. 2G handsets are supplied by six vendors	Siemens and NEC supply the 3G networks. 3G handsets are supplied by NEC, Motorola and LG
<b>CSL</b>	Nokia supplies CSL's GSM/GPRS	Nokia supplies 3G network equipment and was selected as the first 3G handset partner.
<b>Smartone/Vodafone</b>	Ericsson supplies the majority of Smartone's GSM equipment	Ericsson is the company's sole supplier of 3G networks. Mobile Media Company to supply Smartone's 3G multiplayer games and downloadable applications.
<b>Sunday</b>	Sunday's 2G infrastructure vendor is Nortel	Huawei supplies the 3G network
<b>Peoples</b>	Ericsson supplies the majority of Peoples GSM equipment	NA
<b>New World</b>	Nokia is the main supplier for NWM's PCS network	NA

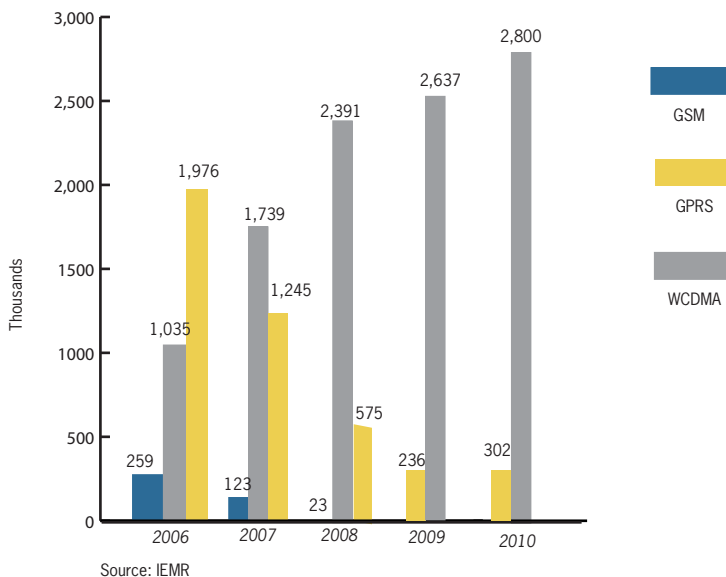
Source: IEMR

#### 2.4. Handset Sales Forecasts and Terminal Vendor Presence

As wireless providers build out their 3G networks and introduce value-added services that generate consumer interest, sales of 3G WCDMA terminals are expected to grow dramatically. 2005 already saw 3G subscribers rising by 172%. IEMR estimates a CAGR in WCDMA terminals between 2006 and 2010 of 23%. In our view, 2006 represents a transitional year in handset sales as WCDMA nudges ahead of GSM, while GPRS handset sales peak (See Figure 5).

As more WCDMA terminals are introduced, fewer 2G and 2.5G terminals will be purchased. IEMR expects GSM handset sales to fall to nil by 2009, while GPRS sales are estimated to be at 10% of their peak 2005 levels by 2009.

Figure 5: Hong Kong Handset Sales Forecast, 2006 - 2010



Source: IEMR

Over 25 different 3G handsets are currently offered at the time of this report. Nokia has taken a dominant position – not only has it secured strong ties with its existing partner, CSL, it also has signed agreements with all four operators, an achievement which only Sony Ericsson can boast of for the Hong Kong market. Nokia has succeeded in getting its N70 and N6680 models to be sold by all four 3G operators.

Table 3:  
Handset Vendor  
Presence in  
Hong Kong Market

	3 Hutchison	Sunday	SmarTone	CSL
<b>Motorola V3X</b>	X		X	X
<b>Motorola A1000</b>	X			
<b>Motorola E680i</b>		X		X
<b>Motorola E770</b>			X	
<b>Motorola E1000</b>			X	
<b>Dopod 900</b>			X	X
<b>Sharp SX833</b>			X	
<b>Sharp SX313</b>				
<b>Samsung Z308</b>			X	
<b>Samsung Z508</b>			X	
<b>O2 Xda lis</b>		X		
<b>O2 Xphone ii</b>		X		
<b>NEC L1</b>		X		
<b>LG 880</b>	X			
<b>LG 8180</b>	X			
<b>LG 8330</b>	X			
<b>LG 8360</b>	X			
<b>LG 8380</b>	X			
<b>Nokia N90</b>		X	X	
<b>Nokia N70</b>	X	X	X	
<b>Nokia 6680</b>	X	X	X	
<b>Nokia 62301</b>		X		
<b>Nokia 6101</b>		X		
<b>Sony Ericsson W900i</b>			X	X
<b>Sony Ericsson K608i</b>	X			
<b>Sony Ericsson Z800i</b>	X	X	X	
<b>Sony Ericsson K600i</b>		X	X	X

Source: IEMR

### 3. Regulatory Issues Affecting Operator Competition

#### 3.1. Mergers & Acquisition Regulatory Framework

Mobile services were introduced in Hong Kong in 1984, and by the end of that year, licenses had been allocated to three operators: Hutchison Communications, Pacific Link and Hong Kong Telecom (now PCCW-HKT). In 1992, the government licensed a fourth operator, SmarTone Mobile Communications. In October 1996, six operators were licensed to provide mobile services in the 1.7 – 1.9 GHz band. Existing operators Hutchison and SmarTone won two of the licenses, and Hong Kong Telecom later acquired Pacific Link, one of the new entrants, leaving six operators in the mobile market until 2005.

Hong Kong's regulatory body for telecommunications is the Office of the Telecommunications Authority (OFTA), established in July 1993 as an independent regulator. OFTA is responsible for promoting competition, spectrum management, developing technical standards, and protecting consumers' interests. It is mainly involved with regulating the fixed-line providers, such as the incumbent PCCW-HKT.

The key piece of legislation guiding OFTA's approach to mergers and acquisitions is the Hong Kong Telecommunications Ordinance (henceforth "Ordinance") and Mergers & Acquisition Guidelines (henceforth "Guidelines"), issued under section 6D(2)(aa) of the Ordinance in May 2004. Generally speaking, the Ordinance adopts an ex-post regime, rather than an ex-ante regime, whereby regulatory control is exercised by OFTA after a merger or acquisition has been completed.

Some key elements of the Ordinance that will affect the merger and acquisition scenario in Hong Kong going forward include:

**Voluntary ex-ante merger consultations:** Under the Ordinance, prior to a proposed change in ownership or control, a carrier licensee has the option to seek the consent of OFTA regarding the proposed change in control on a voluntary basis. In our view, given the risks of being penalized or even having the merger rescinded on anti-competitive grounds, licensees will likely seek the blessing of OFTA prior to consummating their deals. OFTA may give consent, refuse consent, or give consent subject to changes that OFTA deems necessary, to eliminate any anti-competitive effects.

**Application to Carrier Licensees Only:** More important than the voluntary ex-ante merger consultations is the fact that the Ordinance only applies to carrier licensees. In Hong Kong, this includes domestic and external fixed telecommunications network services operators, television broadcasters who own or operate telecommunications facilities, mobile operators, and satellite operators. In our view, this application to carrier licensees has two implications for future mergers:

- First, third-party purchasers in a hostile takeover will be unable to obtain ex-ante guidance from OFTA, and will have to accept any OFTA decision once the merger has

been announced. This means hostile takeovers by interested foreign or domestic third parties will likely be limited to acquisitions that do not result in substantial consolidation of market shares. It also means the likelihood of existing licensed carriers that are not mobile operators acquiring mobile operators is higher than in a policy-neutral environment.

- Second, given the safe-harbour measures outlined in the Guidelines (see below), our view is the likelihood of mergers involving fixed telecommunications network services operators, television broadcasters who own or operate telecommunications facilities, and satellite operators is higher than mergers between existing mobile operators.

**Safe-Harbour Measures:** OFTA uses two “safe-harbour” measures to guide its decision to investigate and pass judgment on the merits of a proposed merger. The first safe-harbour measure is based on the market share and CR4 Ratio test, used in Australia and Canada. The second safe-harbour measure is based on the absolute value and changes in the Herfindahl-Hirschman Index (“HHI”), used in the United States and the European Union. Our analysis shows that, using both measures, any merger between existing mobile operators will result in an OFTA investigation. The least anti-competitive merger would be between PCCW and SmarTone, although a PCCW takeover of Peoples may also pass with OFTA, subject to remediation.

### 3.2. 3G Licensing in Hong Kong

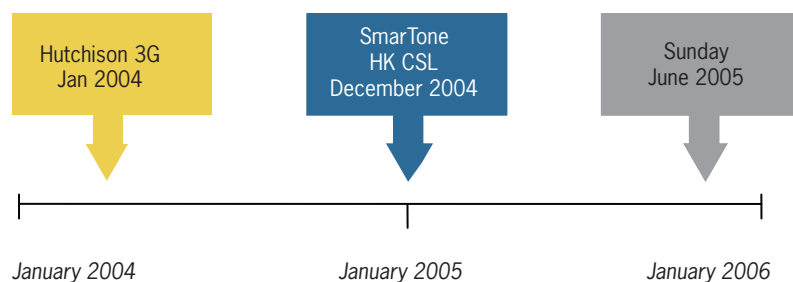
Another important aspect of the regulatory framework affecting existing mobile operators in Hong Kong are the large license fees extracted from the four 3G operators in 2001. In September 2001, 3G licenses were auctioned to four operators. Table 4 and Figure 6 show the 3G licensed operators, their bids, and launch timelines.

Table 4:  
3G Licensing Costs of  
Hong Kong Operators

Operator	Amount Bid	Paired Band (MHz)		Unpaired Band (MHz)
		Lower Block	Higher Block	
Hutchison 3G HK Limited	\$ 310 million	1964.9 – 1979.7	2154.9 – 2169.7	2019.7 – 2024.7
SmarTone 3G Limited	\$179 million	1950.1 – 1964.9	2140.1 – 2145.9	1909.4 – 1914.9
Hong Kong CSL Limited	\$37 million	1935.1 – 1949.9	2125.1 – 2139.9	1904.9 – 1909.9
Sunday 3G	\$1.2 million	1920.3 – 1935.1	2110.3 – 2125.1	1914.9 – 1919.9

Source: IEMR

Figure 6: 3G Launch Dates  
for Hong Kong Operators



Source: IEMR

Also limiting the scope of market power for existing 3G mobile operators is an interesting rule, which forces them to set aside 30% of their network capacity for mobile virtual network operators (MVNOs) or content/service providers. Hong Kong currently has a number of MVNO companies that provide 2G and 3G services to its end-user clients, and as of the end of 2005, 375,000 MVNO subscriptions were active in Hong Kong.

The OFTA has also begun work on the licensing of WiMax, which is due to be brought to market at the end of 2006. WiMax offers faster speeds (possibly up to 100 Mbps); however, it does not offer the same level of mobility as 3G. If WiMax does take off in Hong Kong and OFTA does rule that WiMax is a “similar” market to mobile communications, existing 3G operators may face further erosion of downloads on their 3G networks, and greater competition from a whole host of new licensees. Also, we expect WiMax licenses will most likely be issued at substantially lower costs than 3G licenses were in 2001, thanks to the collapse of telecommunications markets worldwide in 2001-02.

### **3.3. Charging**

Another regulatory kink affecting mobile carriers in Hong Kong is its “receiving party pays” (RPP) payment structure, which favors the fixed line service provider. For example, mobile operators in Hong Kong do not receive compensation for termination of a call on their network - they only receive the retail charges levied on the subscriber receiving the call. For a fixed-to-mobile call, mobile operators pay a charge to the fixed operator for the originating call. The charge rules for a fixed-to-mobile call are as follows:

- The mobile operator pays the fixed operator a fixed charge, based on the cost the fixed operator incurred by providing the call origination service. As of December 2005, this was 5.62 HK cents per minute;
- The mobile operator recovers the cost of terminating the call through the retail tariff it levies on its subscribers who receive the call; and
- The mobile operator receives no payment from the fixed operator (Source: OFTA).

Mobile termination charges are set on a fully allocated cost basis (FAC). FAC is a cost approach that assumes all the costs are linear over time, and the common costs are fully allocated to all services. The charge rule for a mobile-to-fixed call is as follows:

- The mobile subscriber pays a retail tariff for making the call,
- The mobile operator pays the fixed operator for a termination charge; as of December 2005, this was 5.86 HK cents per minute,
- The fixed subscriber pays nothing to receive the call (source OFTA).

All three regulatory issues- M&A regulations, 3G licensing procedures and costs, and charging have had an impact on the competitive scenario of various operators in Hong Kong’s wireless space. The impact of these issues has been to create a competitive mobile space not only characterised by too many operators but also the threat of entry by other domestic and international players.

## 4. Hong Kong Mobile Operator Competitive Scenario

### 4.1. Factors Affecting Competitive Landscape in Hong Kong

Few countries in Asia rank as high as Hong Kong in terms of the level of competition in its wireless services market. Hong Kong is one of the most mobile-mad cities in the world, and the six-way competition between existing operators has driven prices down dramatically. For example, Peoples Telecom has captured an increasing share of the lower-end market through promotions such as its current plan offering 300 minutes of calling a month, for HKD50 (\$6.44). Rival SmarTone, which has focused on winning the higher-end business segment and currently has just over one million users, generated ARPU for 2005 through June of HKD199 (\$25.65) per month. By comparison, the top U.S. carrier, Cingular, generates nearly twice these ARPU levels.

This kind of competition has taken a toll on operators' profitability. In their most recent quarterly reports, New World Mobility, Peoples Telecom and SmarTone, all posted falling earnings, while Sunday lost money. The level of competition is so intense that even pre-paid services are beginning to be offered on a bundled basis. For example, in its June 2005 quarterly interim report, Sunday claimed, "While the face value of stored value cards for pre-paid services remained relatively stable, operators focused on offering significant additional airtime minutes, with an average increase of 55% during the first half of 2005. In addition, during this period, many operators also offered heavy handset subsidies for both acquisition and retention purposes."

These cut-throat levels of competition have forced operators to rethink their strategies. Some have exhausted internal planning and have opted to refocus their corporate strategies, the results of which are witnessed in the mergers & acquisition activity that has swept through Hong Kong's telecom industry during 2005. Besides the regulatory environment outlined above, we think there are two factors influencing the competitive landscape in Hong Kong going forward:

**1. Fixed-to-Mobile Convergence:** Fixed-to-mobile convergence refers to the transition from fixed-line to mobile services. Fixed-to-mobile convergence is growing in Hong Kong – although regulations favour fixed-line operators (fixed-line to mobile calls are cheaper than mobile-to-mobile), consumers are increasingly taking advantage of the declining mobile tariffs and driving up mobile Minutes of Use (MOU). Fixed-line penetration actually fell by 4% in Hong Kong from 2001 to 2004. As quality and service offerings evolve toward parity in the mobile and fixed worlds, we expect fixed-to-mobile convergence to gain momentum.

**2. Triple Play Strategies:** A related issue influencing operator strategy in Hong Kong is the "triple-play" or bundled offerings by incumbent operators. Operators are eager to differentiate themselves and gain an upper hand on their competition by enticing customers with attractive bundled packages that include multiple services. To be able to offer these packages, companies must secure their financial power base and acquire the necessary networks if they do not already have them.

PCCW-HKT's takeover of Sunday Telecom provides a perfect example of the move to secure "triple-play". With this acquisition, PCCW-HKT, the incumbent fixed-line voice and data services provider, is able to add wireless services in creating new bundled packages. The effect of PCCW's entry into the wireless domain is demonstrated by Hutchison's recent counter moves. Currently Hutchison bundles a "quad-play", offering fixed-voice, TV, internet, and mobile for only \$45 a month. It also offers a fixed and mobile service bundle, which includes a free mobile handset and 450 mobile minutes for \$13 per month, 25.6% cheaper than if the two services are subscribed to separately. The offer follows a similar package from PCCW, which launched its first bundled service with newly-acquired Sunday Communications in July - 300 mobile minutes, combined with PCCW's fixed-line service, for a flat rate of \$14.20 per month.

## 4.2. Sunday Telecom

### **Financial Metrics** (Sunday Telecom prior to merger)

### **Liquidity Ratios**

Current Ratio: 1.02  
Quick Ratio: 0.99  
Inventory Turnover (days): 25.3

### **Debt Ratios**

Asset Coverage: n/a  
Cash Flow/Total Debt Outstanding: n/a

### **Profitability Ratios**

Operating Profit Margin : 10.6%  
Net Profit Margin : -8.8%  
Pre-Tax Return on Assets : -2.0%  
Pre-Tax Return on Equity : -5.8%  
Debt- Adjusted Dupont ROE: -2.7%

Total Mobile Subscribers Base: 702,000

Net Subscriber Growth, 2004 - 2005: 7%

ARPU per month (Pre-Paid): n/a

ARPU per month (Post-Paid): \$23.20

Data Services as a % of ARPU: 10.1%

Post-Paid Churn per Month: 3.7%

*All figures are for year ended June 30, 2005. Financial ratios based on information for six months ended June 30, 2005*

### **Overall Competitive Impact of Merger:**

The June 2005 acquisition of Sunday by PCCW achieves several goals for PCCW. By entering the mobile space, we expect PCCW to be a major player driving “triple play” bundled offerings in the Hong Kong telecom space. PCCW has also effectively reduced the threat to its main line of business arising from fixed-to-mobile convergence. PCCW’s acquisition also provides the scope for in-house development and deployment of next-generation technology based on converged networks including IMS.

Most importantly, the Sunday acquisition helps set the foundation for a secure strategic partnership between PCCW and China Netcom, China’s second largest telecom provider. China Netcom has a 20% stake in PCCW and PCCW has a 50% stake in China Netcom’s broadband network. Given that China Netcom is expected to receive a 3G license this year, PCCW will likely be recruited as a strategic partner to help China Netcom build its telecom networks in mainland China.

### **Management Strategy since Merger:**

Despite having a controlling stake in Sunday, most observers think PCCW has been remarkably sanguine about any planned restructuring or extensive house-cleaning at Sunday. PCCW-HKT has assured investors the move will not affect the position of Sunday’s chief executive Bruce Hicks or his management team. We have a different opinion on this matter. PCCW is on record stating it will “allow” Sunday to focus on running 2G operations, while it takes greater control in managing 3G operations. According to its Chief Financial Officer, Alex Arena, PCCW’s goal is to be Hong Kong’s top mobile player in terms of profitability. Recently, Mr. Arena and PCCW have downplayed their aggressive 3G bid, claiming to be “mobile-rusty;” however, we believe Mr Arena’s claim is somewhat misleading, given PCCW’s former ownership and management of CSL (now owned by Telstra). If anything, PCCW is very familiar with mobile operations and its management is not expected to face competency hurdles in implementing its 3G strategies. Proof of this has been in the recent nominations to the Board - all of the non-independent directors to the Board are from PCCW.

*Operational Summary:*

The broad operating principles of the merged entity are as follows:

- Sunday will pay PCCW up to a maximum of HKD 117 million in 2006, to market its 3G mobile services. In return, Sunday will be compensated through wholesaling its network capacity and related services to PCCW, for a maximum of HKD 68 million;
- PCCW will pay Sunday for buying mobile phones and other consumer products to market the 3G service, but is entitled to earn the margin between Sunday's asking price and its retail price;
- PCCW has launched 3G services on Sunday's network, under the marketing brand "PCCW Mobile";
- PCCW and Sunday will cross-sell each others' products and services; and
- Although Sunday will not operate the 3G network, it will be allowed to sell 3G devices.

In our view, the decision to launch 3G under "PCCW Mobile" is logical, since PCCW has a larger installed base and strong recognition as a leader in telecom within Hong Kong. PCCW launched an initial campaign in mid-January 2006, which succeeded in capturing 30,000 3G registrations on the first day! The limited time offer included a free six-month trial including up to 10,000 minutes of free local airtime per month and unlimited high-speed transmission for 3G browsing. PCCW has indicated it will not be ordering exclusive handsets from vendors. Any available 3G handset will work with the service; however, for the trial PCCW specifically offered a free model manufactured by Huawei Technologies.

*Financial Summary:*

PCCW's timely acquisition of Sunday Telecom in June 2005 provided the mobile operator with a financial boost just as it released data showing declining revenue and an operating loss. The latest consolidated report released by Sunday in June 2005, revealed a H1 loss of HKD 61 million, compared to a profit of HKD 17 million over the same period a year earlier. This drop occurred because of increased 3G rollout costs, combined with significant declines in ARPU-associated revenues. While operating expenses were better controlled in terms of the existing 2G network operations (Sunday achieved a reduction in operating expenditures of 8% compared with H1 2004), 2005 3G operating expenses of HKD 83 million caused overall operational expenses to leap by 19% (y-o-y). By contrast, ARPU levels suffered significant decline as post-paid ARPU fell 13%, all while Sunday provided an additional 12% of average call-time— an obvious example of the competitive market conditions.

From a financial perspective, the PCCW acquisition provides a solid security blanket for Sunday - PCCW has revenues of \$1.5 billion and cash assets of \$1.4 billion. Without PCCW, Sunday would have been hard pressed to find a creative way to cope with its \$110 million long-term debt (an increase of roughly 42% from 2004 levels). PCCW's increasing revenue and profitability, the result of rising broadband subscriptions and its fast-growing NOW broadband TV offering, will serve as balancing factors, to counter continued pressure on its wireless segment results.

**Risks:**

*PCCW-Huawei  
Disagreement  
May Have Larger  
Implications for PCCW*

A subplot we will closely monitor in 2006 is whether PCCW-HKT will succeed in bypassing Huawei's roadblock in its quest to take complete ownership of Sunday. We think this is an important risk factor, not only for PCCW going forward, but also for Huawei's shorter-term prospects in the 3G vendor space. Here are the facts related to this sub-plot:

- Huawei Technologies, which holds a strategic 9.91% stake in Sunday, is believed to be the main shareholder that refused to sell its share to PCCW-HKT – who had offered to pay HKD 401.3 million for all remaining Sunday shares in September 2005.
- PCCW-HKT's motive behind gaining complete ownership of Sunday was to be able to restructure freely, without facing the scrutiny of a public company.
- Huawei's reluctance to surrender its minority stake in Sunday likely stems from its desire to remain linked with the operator's 3G venture. Huawei has been the key vendor for Sunday's 3G network, and has worked closely on customized offerings for the market. Its involvement with Sunday provides a showcase for its 3G products.
- Independent shareholders rejected PCCW's offer, and thus, PCCW failed to obtain the 90% majority required to take the mobile operator private in September 2005.
- PCCW will only be able to provide a counter offer in September 2006, as there is a mandatory 12-month wait period that must be observed.

Complicating matters a bit more are PCCW's 50% stake in China Netcom's broadband network and China Netcom's 20% stake in PCCW. When China Netcom receives its 3G license in 2006, PCCW will definitely benefit in helping build China Netcom's business operations. It may also exercise influence over China Netcom's selection of equipment vendors, with a possible negative impact on Huawei. On the other hand, things work in mysterious ways in China. The central government in China may intervene, and force China Netcom to choose Huawei as one of its network partners. This would effectively force PCCW to work on core business operations in China and Hong Kong with a vendor that has publicly opposed its strategic objectives. While the probability of this risk is low, if it does happen, it spells major issues for PCCW.

**Options Available to PCCW:** The Hong Kong incumbent will be examining ways to persuade Huawei and others to sell their shares. It could increase its offer price, although doing so may have little impact as far as Huawei is concerned. It could also request special permission from the Hong Kong authorities to proceed with its plans, or may even go so far as to exercise its influence with China Netcom to effect a decision to sell by Huawei. It remains to be seen which of these options PCCW will choose, in order to achieve its immediate goal of taking Sunday private.

Given the dynamics between Huawei and PCCW, it is evident the former represents a roadblock in the latter's overall strategy, in terms of managing the Sunday acquisition. IEMR contends that PCCW Mobile's January marketing campaign, offering a free six-month 3G trial, demonstrates PCCW management's desire to test the Huawei 3G network. PCCW would have launched more normalized operations immediately if they had full confidence in the ability of the network to service subscribers at high operational levels. Furthermore, should the trial prove unsuccessful due to poor network and terminal quality, PCCW would consider itself fully justified in changing out, or at least

modifying, its vendor strategy at the expense of Huawei. A public failure with Huawei's technology would essentially help PCCW to more easily implement changes that it might have originally planned once having secured private ownership of Sunday. At the very least the trial will provide PCCW with a solid understanding of the value of their newly purchased 3G network.

Although PCCW did not reveal the amount they will spend on the free service, we estimate the total cost will amount to approximately HKD 100 million. It is difficult to see how PCCW intends to convert trial customers into full-paying subscribers; however, for the record, PCCW did succeed in getting over 300,000 3G subscriptions in January of 2006 alone.

### 4.3. CR Peoples Telecom

#### Financial Metrics (CR Peoples prior to merger)

#### Liquidity Ratios

Current Ratio: 1.06

Quick Ratio: 0.97

Inventory Turnover (days): 27.4

#### Debt Ratios

Asset Coverage: n/a

Cash Flow/Total Debt Outstanding: n/a

#### Profitability Ratios

Operating Profit Margin: 15.6%

Net Profit Margin: 12.8%

Pre-Tax Return on Assets: 9.8%

Pre-Tax Return on Equity: 13.7%

Debt Adjusted Dupont ROE: 7.9%

**Total Mobile Subscribers Base: 1,287,000**

**Net Subscriber Growth, 2004 - 2005: +20.8%**

ARPU per month (Pre-Paid): n/a

ARPU per month (Post-Paid): \$19.86

Data Services as a % of ARPU: n/a

Post-Paid Churn per Month: n/a

Subscriber data are for nine months ended September 30, 2005. Financial data are for year ended June 30, 2005.

#### Overall Competitive Impact of Merger:

We think China Mobile's merger with CR Peoples is a strategic move, signaling to the global wireless market they are no longer content to simply control the Chinese market. China Mobile's acquisition of CR Peoples is the first step, but very likely not the last, which the dominant Chinese operator is likely to make in Hong Kong. China Mobile's ability to take very significant chunks of the Chinese roaming business, will directly affect other local operators' abilities to share in this lucrative niche. SmarTone appears to be particularly vulnerable, as it has grown its business by developing a strong focus on high-end roamers.

As 3G competition heats up and related data service revenues begin to grow, it is predictable that China Mobile will not sit by the sidelines; rather it will prefer a more active strategy. Although an MVNO type of set-up is technically feasible and was mentioned by Peoples management as an option pre-acquisition, given China Mobile's overall position, it will likely prefer to take a direct operational approach and acquire a 3G operator. With Telstra/CSL/New World on one side, Hutchison-Whampoa on the other, and PCCW-Sunday recently coming on-line, China Mobile could create a fourth and final 3G player by acquiring SmarTone. On the other hand, China Mobile's move may cause another Chinese operator (China Unicom perhaps) to move aggressively into the Hong Kong market, possibly acquiring an interest in SmarTone.

#### Management's Strategy since Merger:

In typical Chinese fashion, management's approach since the takeover has been low key. China Mobile's acquisition marks its first venture outside mainland China. The most obvious benefit to Peoples accrues from roaming revenues and the potential to acquire high-end business and tourist travelers. Around 20 million mainlanders visit the territory annually. Given China Mobile's dominant position in China, the majority of these visitors consist of their own roaming subscribers. Therefore, China Mobile will be able to direct this lucrative flow of traffic to its Hong Kong arm. As of February 2006, China Mobile had begun to offer its Chinese high-end brand "GoTone" customers, a limited time

offer, in which they can receive/send calls in Hong Kong with a dual number SIM card. Essentially, China Mobile's "GoTone" customers who are currently visiting Hong Kong could make calls on Peoples' network as if they were local calls, a savings of 88%.

Beyond roaming, however, it is tough to see what CR Peoples' value proposition might be, in the absence of a 3G license. Even in roaming, high-end business travelers may demand 3G services that CR Peoples network will not be able to deliver. This would be another reason for China Mobile to acquire the fourth 3G licensee in Hong Kong - SmarTone.

Unlike PCCW's acrimonious acquisition of Sunday, this acquisition may also serve as a model for other Chinese operators wanting to enter the Hong Kong wireless telecom space. CR Peoples shareholders, including Michael Leung Kai Hung (previously holding a personal stake of approximately 18% in Peoples), have been very happy with the roughly 25% premium at which China Mobile bought them out. As of early January 2006, 99% of Peoples' shareholders had agreed to sell their shares to China Mobile, and allow the company to be de-listed from the Hong Kong stock exchange.

*Financial Summary:*

The latest quarterly report issued by Peoples Telecom in November 2005, revealed that despite having succeeded in increasing its subscriber count by 21% from a year earlier to nearly 1.29 million, the company's nine-month net profit dipped by 1.66%, to HKD 178 million. Profits were down even though CAPEX had decreased 28% from a year earlier. ARPU dipped to HKD 154 (US\$19.74) per month, compared with HKD 160 a year earlier, as user growth was driven by lower-spending, pre-paid customers.

Despite falling profitability, Peoples is still a profitable wireless operator in a very competitive market. Its liquidity and debt ratios are in line with most operators in the region, while its profitability figures are better than Sunday's. Generally, Peoples has shown it can aggressively compete for secondary market subscribers in Hong Kong. For the three quarters to September 2005, the number of its prepaid subscribers rose by 45.2%. It has also shown sound financial management.

*Risks:*

The major risk facing CR Peoples is the fact that all of its other competitors have a 3G offering. We think that in the medium-term, CR Peoples will either have to enter the MVNO space to offer 3G services, or that its parent, China Mobile, will have to acquire another licensee - the obvious target being SmarTone. The only risk here is regulatory. A CR Peoples – SmarTone merger will likely raise concerns with OFTA (the regulator).

#### 4.4. CSL New World Mobility Ltd.

##### **Financial Metrics** (New World Mobility)

##### **Liquidity Ratios**

Current Ratio: 0.77  
Quick Ratio: 0.71  
Inventory Turnover (days): 11.1

##### **Debt Ratios**

Asset Coverage: \$450  
Cash Flow/Total Debt Outstanding: 16.49

##### **Profitability Ratios**

Operating Profit Margin : 8.3%  
Net Profit Margin : 4.5%  
Pre-Tax Return on Assets : 10.0%  
Pre-Tax Return on Equity : -18.3%  
Debt- Adjusted Dupont ROE: 4.7%

Total Mobile Subscribers Base: 2,715,61  
Net Subscriber Growth, 2004 - 2005: 3.1

ARPU per month (Pre-Paid): n/a  
ARPU per month (Post-Paid): \$21.93  
Data Services as a % of ARPU: n/a  
Post-Paid Churn per Month: 2.8%

*Subscriber data are for year ended December 31, 2005. Financial data are for year ended June 30, 2005.*

##### *Overall Competitive Impact of Merger:*

In December 2005, Telstra announced it had merged its Hong Kong arm, CSL, with New World PCS Ltd. to form CSL New World Mobility Ltd. The merger has resulted in the largest mobile operator in Hong Kong. The combined New World/CSL entity represents 34.6% percent of the installed base, moving it ahead of rival Hutchison, which currently maintains a 25.1% market share.

Having proven itself as an innovator in wireless services offerings, CSL has strengthened its position in Hong Kong by becoming the dominant provider. Original content and value-added services including packages such as “Disney Phone”, soap-opera “Love 1-2-3” (a 3G-only broadcasted program developed with popular local stars), video sharing (the first in Asia to offer such a service), as well as its BlackBerry offering, have all contributed to CSL’s reputation for high-quality service and technical know-how.

Through consolidation with New World, Telstra CSL will mainly gain operational synergies from which it should be able to achieve significant cost savings. Areas to derive synergies include a combined customer base of 2.6 million, network resource sharing (giving improved spectrum efficiency), network construction and maintenance, product development and management, and sales and marketing costs. IEMR estimates Telstra CSL will be able to realize about two thirds of its forecasted \$ 300 million in annual savings over the next couple of years, which will provide the new company with greater flexibility to manage competitive pressures effectively.

##### *Management’s Strategy Since Merger:*

CSL has moved quickly to take control of New World operations. IEMR’s perspective is in line with Telstra Chief Executive Sol Trujillo, who stated in October 2005 the merged business would have first-mover advantage in the long-awaited consolidation of the Hong Kong mobile phone market. In addition, we believe managing the existing two customer bases should not present great difficulty, since they are complementary, given their equal market shares divided mainly into upper and lower service tiers. Management’s strategy, is therefore, likely going to be to ensure that subscriber churn

is kept low for each business operation, while at the same time realizing cross-selling opportunities between the two operations.

*Operational Summary:*

Figure 7 below provides details on the ownership structure of the merged entity. Basically, Telstra will provide New World SPV with a 23.6% share in the newly formed Telstra CSL company, assuming the balance of ownership and a cash payment of HKD 244 million (\$ 31.5 million) from New World. Following the merger, the new entity will continue to operate using both CSL and New World brands. Having already established market presence in the high-end and low-end customer segments with CSL and New World respectively, Telstra CSL will not risk disturbing or cannibalizing their existing brands. Telstra can nominate four directors to the Board of the merged company, including the Chairman, and New World can name two directors. CSL Chief Executive, Hubert Ng, will become the Chief Executive of the merged entity.

*Financial Summary:*

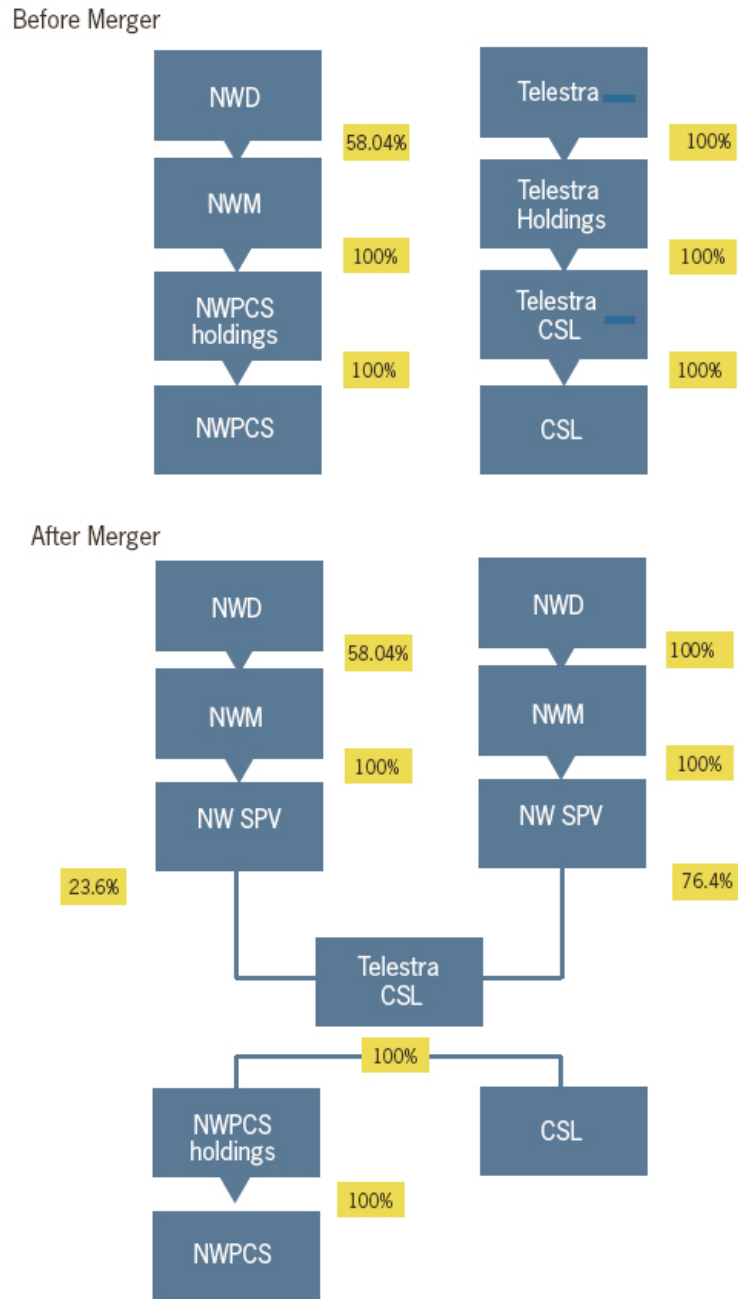
It is significant to note that CSL is 100% owned by Telstra CSL, which in turn is owned by Telstra Holdings Inc, an arm of the Telstra company of Australia. Telstra is 51.8% owned by the Australian government.

For New World, the merger was generally anticipated, given its lackluster performance and weak financial position. As of June 2005, net profit was down 43% relative to a year earlier. A number of factors including a long-term convertible note worth HKD 1.2 billion (repayable by mid-2007), relatively small reserves, and little growth prospects (no 3G license or network), made New World the weak-link in Hong Kong's mobile sector, and, therefore, a likely candidate for takeover. In fact, in October 2005, New World Development's managing director Cheng Ka-shun mentioned the company was considering selling New World, but that no decision had been made.

Telstra released limited financial information concerning CSL in mid-2005, revealing that, similar to other Hong Kong mobile operators, it also suffered a significant decline in net profit. As of June 2005, CSL net profits had declined by 28% from a year earlier. Unlike New World, however, CSL's operations had considerable net assets, totaling an un-audited HKD 2.26 billion at the time. Furthermore, CSL's 3G network launch provides a much stronger base of operations, from which additional data-related revenue streams can be expected.

As a side note, CSL claimed in press releases during the merger announcements in 2005 that synergies and annual cost savings of \$ 300 million were expected through rationalization of networks, IT systems and corporate support. Without knowing the exact costs implied in managing both networks, it is difficult to validate this claim; however, in New World Mobility's last annual report, a cost of \$26.5 million was reported for mobile network management expenses. Using this as a measure for 2G network maintenance costs, it would appear CSL either overstated their expected savings, or expects to cut considerably through network rationalization, IT, and corporate support related costs.

Figure 7: CSL New World Mobility, Ltd. Ownership Structure



#### 4.5. SmarTone Telecommunications Holding Ltd.

##### **Financial Metrics**

##### **Liquidity Ratios**

Current Ratio: 2.4  
Quick Ratio: 2.2  
Inventory Turnover (days): 70

##### **Debt Ratios**

Asset Coverage (per \$1000 Assets): 5,020  
Cash Flow/Total Debt Outstanding: 65.3%

##### **Profitability Ratios**

Operating Profit Margin : 21.3%  
Net Profit Margin : 3.1%  
Pre-Tax Return on Assets : 1.3%  
Pre-Tax Return on Equity : 1.9%  
Debt- Adjusted Dupont ROE: 1.1%

Total Mobile Subscribers Base: 1,054,000  
Net Subscriber Growth, 2004 - 2005: 2.0%

ARPU per month (Pre-Paid): n/a  
ARPU per month (Post-Paid): \$30.93  
Data Services as a % of ARPU: 8.7%  
Post-Paid Churn per Month: 2.4%

*Subscriber and Financial data are for six months ended December 31, 2005.*

##### **Strategic Overview:**

Although smaller than other Hong Kong operators, SmarTone has managed to secure a profitable business by catering to higher-end users. By emphasizing roaming, the Vodafone Blackberry service, and value-added content, such as the successful SmarTone 3G News Channel, SmarTone has firmly established its brand in the upscale niche market segment. The 24-hour news channel service is a clear differentiator, as SmarTone staffs a local team, including a news editor, to write, edit and package local and world news stories for its 3G portal. Another important aspect has been the firm's attention to detail regarding marketing and customer service - key areas Chief Executive Douglas Li has personally emphasized and challenged employees to over-achieve.

Having said that, management at SmarTone is not lost on the reality of consolidation in the Hong Kong wireless telecom market, and the firm may be in the "pretty up the asset" phase. Late in 2005, Douglas Li commented that SmarTone had no merger and acquisition plans under consideration or negotiation, and that any such plans would naturally have to be in the best interests of the company's shareholders.

That said, IEMR contends SmarTone remains a likely takeover target. SmarTone's Partner Network Agreement with Vodafone Group Plc. in December 2004 may be the first step in a possible Vodafone entry into Hong Kong. The key factor that will influence Vodafone acquiring SmarTone is the extent to which it can leverage SmarTone for growth in the China market. At the same time, Vodafone may also be cautious, given its recent negative experience in another mature market - Japan.

Besides Vodafone, we think SmarTone may be a target for the smaller incumbent players in Hong Kong, particularly PCCW or CR Peoples, or for a large external operator, particularly Chinese operators, such as China Unicom. The reason SmarTone's equity holders may want to sell is not immediate financial weakness, but rather the scope for larger rivals to cut into its vital business segment. Competitors, such as CR Peoples, take significant

roaming business away from SmarTone, forcing the smaller operator to loose ground and face an increasingly challenging future.

In the interim, we expect SmarTone to bring in credible performance for its shareholders during 2006. By focusing on data service revenue growth (already headed in the right direction; up to 8.7% of total service revenue as of December 2005), as well as penny-pinching (planned 40% spending cut in network expansion costs during 2006 versus 2005), SmarTone will not be a cheap date for any potential suitor.

*Operational Summary:*

SmarTone-Vodafone is the dual marketing brand used by SmarTone Mobile Communications Ltd. in Hong Kong, following the signing of a Partner Network Agreement with Vodafone Group Plc. in December 2004. Officially launched in April 2005, this agreement calls for co-operation in the development and marketing of global services for wireless customers.

SmartTone-Vodafone is a wholly owned subsidiary of SmarTone Telecommunications Holdings Limited, which has been listed in Hong Kong since 1996. Its major shareholder is Sun Hung Kai Properties Limited (approximately 52% ownership).

SmarTone's unique market position is no accident, as its senior management boasts strong financial and legal expertise and experience. The challenge ahead for this group will be to see if they can continue the trend of profitability during 2006. Unlike its recently beefed-up competition, SmarTone cannot claim to have deep pockets with which to face the onslaught of wireless service competition that has begun to heat up in 3G space. In addition, SmarTone also has to manage rising costs related to new handset inventory procurement (its inventory turnover was 70 days, 2.5 – 2.8x higher than Sunday or CR Peoples), interconnection fees, roaming services, 3G license fees, depreciation and content costs, and network expenses. SmarTone may find it increasingly difficult to compensate with top line growth, given that competitors have already begun offering deep discounts in both 3G services and roaming. Therefore, we expect SmarTone to continue to face severe pressure on profits in 2006.

*Financial Summary:*

In terms of financial results, SmarTone released its interim results for six months ended December 31, 2005 in February 2006. Operating profits dropped 75% (y-o-y) to HKD 50.5 million, due to increased investments in 3G infrastructure, incremental marketing expenses for the launch of the SmarTone-Vodafone brand, and depreciation of the 3G network. Turnover increased 1.6 % (y-o-y) to HKD 1.86 billion, underpinned by a 8.7% growth in data revenue.

Despite the drop in profit and some subscriber churn, the company out-performed the market in terms of increased ARPU. Blended ARPU increased 7% to HKD 210, while postpaid ARPU rose 5% to HKD 240. SmarTone claimed this success was based on "SmarTone-Vodafone's emphasis on customer propositions" and the additional revenues derived from roaming business users (SmarTone offers 3G roaming in over 40 cities worldwide focused mainly in Asia and Europe). Customer "propositions" include the continuing enrichment of SmarTone's iN! services and the launch of new products and services, including PC Connect, comprising a high-speed 3G/GPRS data card, and BlackBerry from Vodafone.

In terms of balance sheet, we think SmarTone has some of the best indicators among Asian operators. A key move during 2005 has been the paying off of bank loans so that no real long-term debt exposure exists for SmarTone. Despite increases in 3G infrastructure investment, SmarTone had a healthy HKD 645.1 million in cash and HKD 1.04 billion in short-term liquid assets. With Asset Coverage Ratio in the \$5,000 range, we think SmarTone has the asset base to compete toe-to-toe with some of its bigger rivals in the Hong Kong space.

## 4.6. Hutchison Telecommunications (Hong Kong) Ltd.

### Financial Metrics (HTIL)

### Liquidity Ratios

Current Ratio: 0.71

Quick Ratio: 0.71

Inventory Turnover (days): n/a

### Debt Ratios

Asset Coverage (per \$1000 Assets): 339

Cash Flow/Total Debt Outstanding: 16.9%

### Profitability Ratios

Operating Profit Margin : 26.5%

Net Profit Margin : 5.1%

Pre-Tax Return on Assets : 3.2%

Pre-Tax Return on Equity : 9.5%

Debt- Adjusted Dupont ROE: 2.1%

Total Mobile Subscribers Base: 1,970,000\*

Net Subscriber Growth, 2004 - 2005: 4.7%

ARPU per month (Pre-Paid): \$4.25

ARPU per month (Post-Paid): \$26.68

Data Services as a % of ARPU: n/a

Post-Paid Churn per Month: 2.5%

\* Includes Macau for year ended December 31, 2005.

### Strategic Overview (Hong Kong Operations):

Prior to the recent CSL-New World Mobility consolidation, 3 Hutchison was the largest mobile operator in Hong Kong, with approximately 1.97 million subscribers and 94% of 3G subscribers, as of end of year 2005. While CSL is now the largest mobile operator in Hong Kong, 3 Hutchison remains the defacto market leader in terms of 3G subscriptions. Its latest financials showed the 3G subscriber base stood at 500,000 as at end 2005, or about 25.3% of its total subscriber base in Hong Kong.

3 Hutchison's ongoing efforts to improve its operations and maintain market leadership will be crucial as it faces challenging competitors such as PCCW and CSL. Based on its one-year head start in 3G deployment, proven 3G service capability, strong terminal offering, and the backing of Hutchison Whampoa, however, we expect 3 Hutchison to maintain a strong foothold in 3G and Hong Kong wireless in general, and secure an additional 100,000 – 150,000 3G subscribers in 2006. We do not expect 3 Hutchison to initiate any consolidations in the Hong Kong market.

### Operational Summary:

Hutchison Telecommunications (Hong Kong) Limited is a subsidiary of Hutchison Telecommunications International Limited ("HTIL"), and is responsible for managing HTIL's mobile, telecom retail, and call centre services in Hong Kong and Macau, as well as mobile communication consultancy services in Mainland China. For its mobile services in Hong Kong and Macau, the Company has two additional strategic investors, NTT DoCoMo and NEC, which respectively own 24.1% and 5% stakes. In addition to Hong Kong, HTIL has mobile operations in India, Israel, Thailand, Indonesia, Vietnam, Sri Lanka, Ghana, and Paraguay, and is owned by Hutchison Whampoa, who also controls the global telecommunications 3 Group, with operators in Australia, Austria, Sweden, U.K., Denmark, and Italy.

The first to offer mobile services, 3 Hutchison is pushing to maintain its leadership in technology innovation by bringing new services to market, such as its 3G videogame,

“V-Girl”, offered in partnership with Artificial Life Inc., as well as offering Skype VoIP services for 3G users, planned for H2 2006. The key for this success of this service will be managing a winning price point with end-users, in order to allow the company to tap into the estimated 75 million Skype users worldwide.

3 Hutchison has begun to take measures to help ensure a viable future in Hong Kong. Consolidating its multiple networks under one business (during June 2005) provides scope for greater efficiency and savings through rationalization of functions and support processes. As well, by outsourcing the management of its telecom applications development and back-end business support systems to Ericsson, a tactic adopted by 3 operations in Australia, Italy, Scandinavia, and the UK, the company will remove a layer of variable operational cost, and be able to focus resources on marketing and business development.

*Financial Summary:*

In its latest financials, HTIL included select data from its Hong Kong mobile operations. In general, the results reflect market transition, as business moved away from 2G towards 3G. Blended ARPU in Q4 2005 was HKD 153, a decrease of 1.9% compared to Q4 2004, and revenue increased by 3.3% to HKD 3,837 million. These results reflect 3 Hutchison’s success in growing its higher-ARPU 3G customer base, albeit with some offsetting declines in the 2G base. The company also increased its roaming revenue moderately.

3 Hutchison in Hong Kong produced a healthy EBITDA margins of approximately 20% for 2005 compared to 9.7% for 2004. While 3G roll-out and depreciation expense levels were not explicitly stated for Hong Kong operations, they were considerable given that the company cut capital expenditure by HKD 183 million in 2005 versus 2004 (to HKD 140 million), yet still operated in the red in the first half of the year. It appears the strain of 3G roll-out costs, as well as customer acquisition costs (i.e., incentive programs and subsidies), may be behind 3 Hutchison, however, as it begins to achieve economies of scale on its network.

3 Hutchison’s strong top line/weak bottom line results, are shared by parent company HTIL, who achieved HKD 24.4 billion in revenues and HKD 2.1 billion in operating profit over 2005. Unlike the previous year, however, HTIL’s divestiture of other investments actually reduced profitability, resulting in a net loss of HKD 768 million.

A key issue facing HTIL is its balance sheet position. With short-term bank loans exceeding the total current asset base by HKD 1.94 billion, HTIL has its work cut out for itself. It is further hindered by an additional HKD 3.6 billion in long-term debt, of which a large part is due within the next five years. Although expansion in India is bringing about record top line growth in the order of HKD 10 billion, interest expense and startup costs in new markets are contributing to continued losses for the group.

Overall HTIL’s financial position reflects an aggressive market strategy that has affected the company’s ability to focus on cost control and manage profitability. The company’s bet on growth in India and other developing markets is paying off; however, for mature,

saturated markets such as Hong Kong, focus must be on increasing operational efficiency. 3 Hutchison's move to merge the Group's Hong Kong 3G and 2G businesses under Hutchison Telephone Company Limited is a step in the right direction towards this goal.

On a grander scale, HTIL and the 3 Group are under the watchful scrutiny of Li Ka-Shing and the Hutchison Whampoa empire. At this level, the telecom operations of 3 Hutchison and HTIL appear to be more than adequately insured by the continued funding, when necessary, by the parent company which boasted H1 2005 revenues of HKD 109 billion, profit of HKD 11.8 billion, and cash reserves totaling HKD 141 billion. In Whampoa's interim 2005 financial report, as well as in the media, Li Ka-Shing reassured shareholders their funding of the aggressive market growth in the telecom business was beginning to pay dividends. He pointed to successful, significant 3G subscriptions worldwide, as well as the impending IPO of 3 India, as examples of the potential returns to Whampoa shareholders and as proof the telecom operators would begin to contribute and stand on their own. On the other hand, the delay and recent shelving of Whampoa's 3 Italy IPO may have detracted somewhat from this line of reasoning.

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## Annex A: Financial Metrics Methodology

We use nine standardized indicators to analyze the financial status of handset manufacturers and operators in the wireless space. These span three areas: liquidity, debt, and profitability. The indicators we use are calculated as follows:

### Liquidity

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}$$

$$\text{Inventory Turnover} = \frac{365}{(\text{Cost of Goods Sold}/\text{Inventory})}$$

### Debt

$$\text{Asset Coverage} = \frac{\text{Total Assets} - \text{Deferred Charges} - \text{Intangible Assets} - [\text{Current Liabilities} - (\text{short-term debt} + \text{Current Portion of long-term Debt})]}{\text{Total Debt Outstanding/ Currency Unit 1,000}}$$

$$\text{Cash Flow : Debt Outstanding} = \frac{\text{Net earnings (before extraordinary items)} - \text{equity income} + \text{minority interest in earnings of subsidiaries} + \text{deferred income taxes} + \text{depreciation} + \text{Deductions not Paid in Cash}}{\text{Total Debt Outstanding}} \quad \%$$

### Profitability

$$\text{Operating Profit Margin} = \frac{\text{Net Sales} - \text{Cost of Goods Sold}}{\text{Net Sales}}$$

$$\text{Net Profit Margin} = \frac{\text{Net Earnings (before extraordinary items)} - \text{equity income} + \text{minority interests}}{\text{Net Sales}} \quad \%$$

$$\text{Pre-Tax ROA} = \frac{\text{Net Earnings (before extraordinary items)} + \text{income taxes} + \text{total interest charges}}{\text{Total Assets}} \quad \%$$

$$\text{Pre-Tax ROE} = \frac{\text{Net Earnings (before extraordinary items)} + \text{income taxes} + \text{total interest charges}}{\text{Value of Common Shares Outstanding} + \text{Contributed Surplus/Paid-In Capital} + \text{Retained Earnings} + \text{Other Adjustments (e.g., Foreign Exchange)}} \quad \%$$

Rather than use “rules of thumb” to judge each of the above measures, we developed normalized indices to rank overall financial strength. For manufacturers, this was the Handset Manufacturer Financial Index (HMFI); for Wireless Operators, we developed the Wireless Operator Financial Index (WOFI). The methodology for calculating HMFI and WOFI was fairly simple:

1. We calculated the average of the liquidity (except inventory turnover), Debt (except Cash Flow: Total Debt Outstanding), and profitability measures separately;
2. We then normalized each of these measures to the minimum in the peer group to get an index number for each of these measures (minimum = 100);
3. The average of the three indices was then used to calculate a “blended index” which was again normalized to the minimum in the peer group.

Brand Image Survey  
Methodology:

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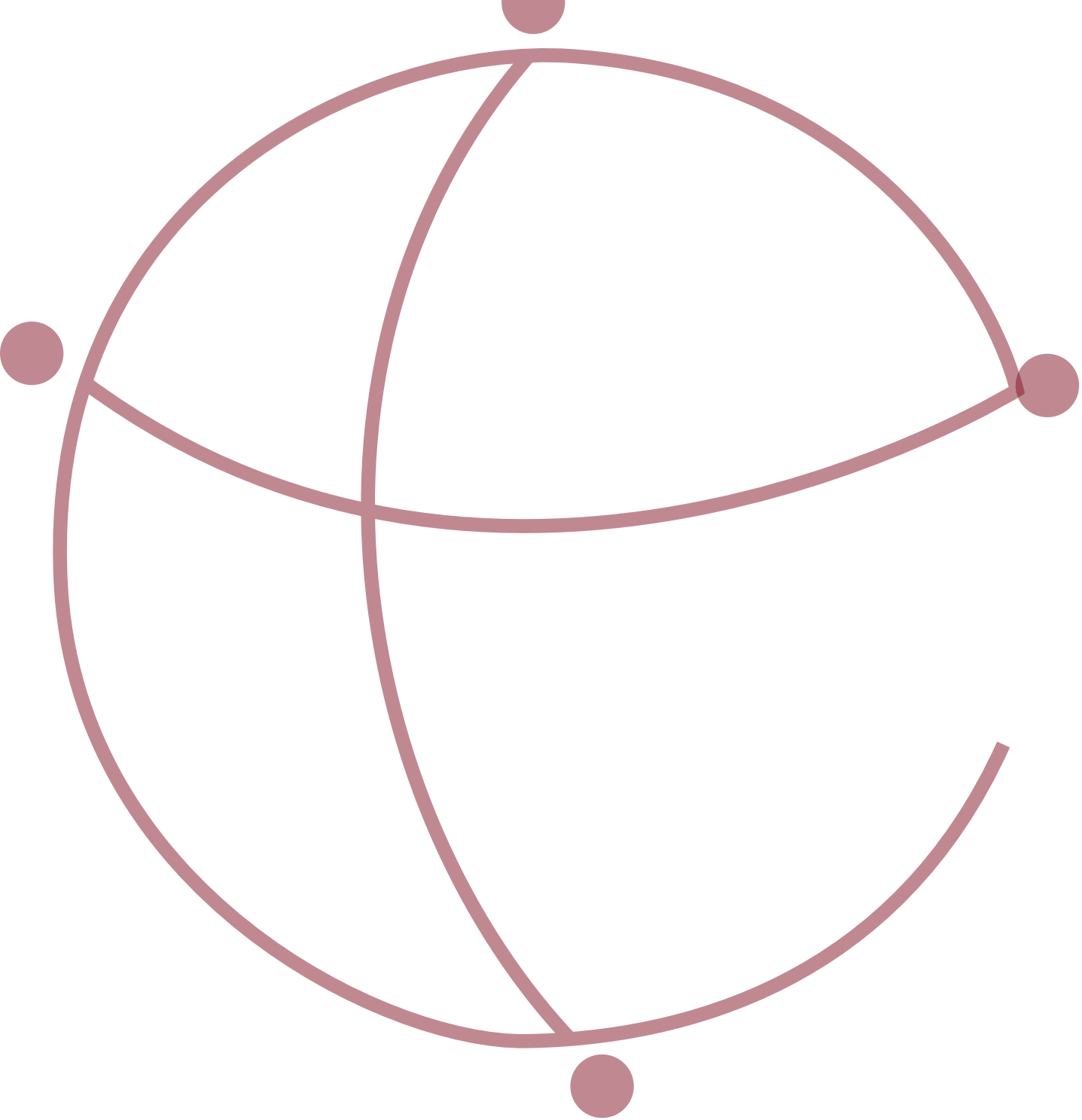
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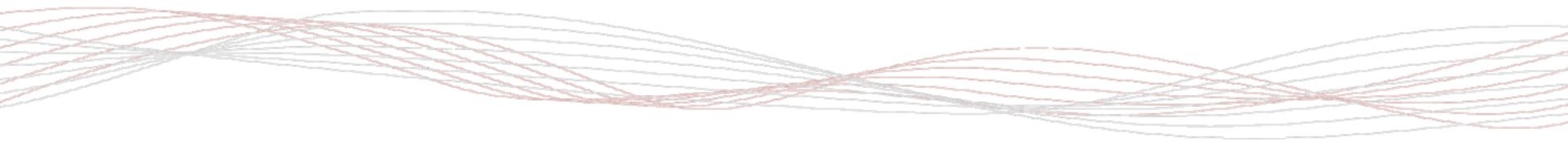
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