DIGITIMES Research: ICT Report – 4Q 2007

Taiwan handsets

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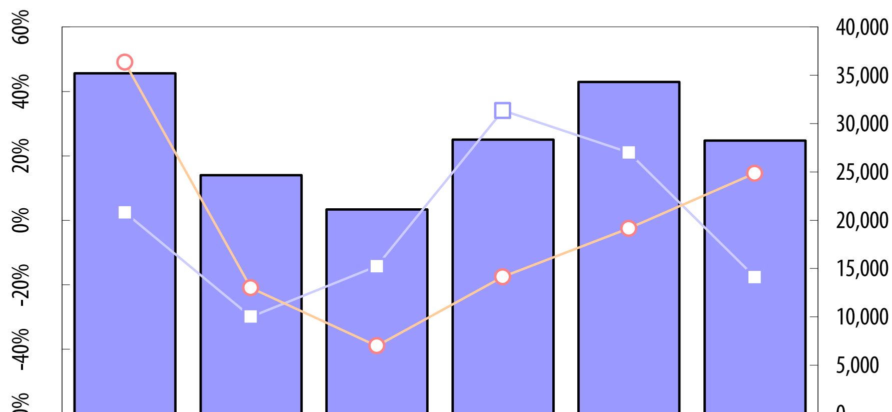
English edition: Rodney Chan, DIGITIMES, March 2008
NOTE: Unless otherwise indicated, figures and tables refer to output from Taiwan makers.

Introduction

In the fourth quarter of 2007, orders from Motorola and Sony Ericsson, the two chief clients for Taiwan's handset makers, vendors were lower than expected. But shipments still managed to grow significantly, chiefly driven by smartphone shipments and Foxlink's shipments to China-based Huawei. In the first quarter of 2008, top vendors are expected to undergo transitions from old to new models, and their orders are expected stay flat or decline. Overall Taiwan handset shipments will drop.

Chart 1: Taiwan handset shipments, 4Q06-1Q08 (k units)



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Shipments	35,206	24,661	21,138	28,339	34,303	28,252
Q/Q	2.4%	-30.0%	-14.3%	34.1%	21.0%	-17.6%
Y/Y	49.1%	-21.0%	-39.0%	-17.6%	-2.6%	14.6%

Source: Digitimes Research, January 2008

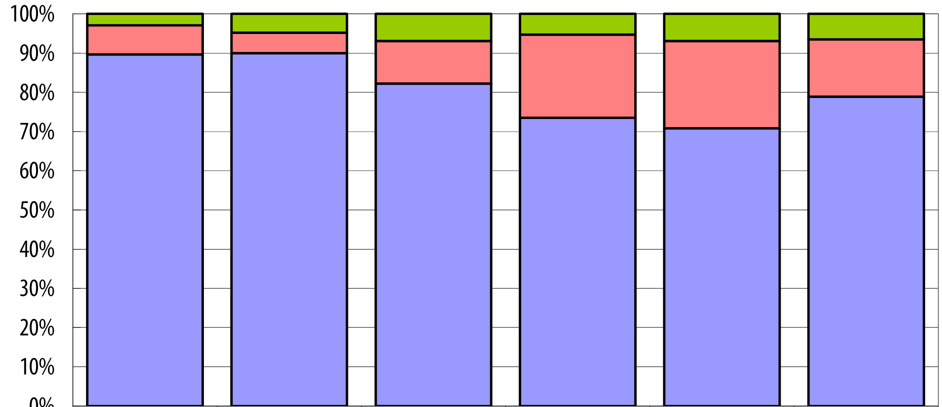
Shipment breakdown

Transmission technology: GSM, CDMA, and WCDMA

The shipment proportion of different technology segments stayed similar in the fourth quarter compared to the third. The slight rise in the CDMA segment was contributed by Compal Communications, High Tech Computer (HTC), and Cal-comp Electronics.

In the first quarter, the CDMA segment will drop significantly because of declines in orders from Motorola and India's telecom carrier Reliance amid product transitions and seasonality.

Chart 2: Taiwan handset shipments by transmission technology, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
WCDMA	3.0%	4.8%	6.9%	5.3%	6.9%	6.5%
CDMA	7.4%	5.2%	10.9%	21.2%	22.3%	14.6%
GSM/GPRS	89.7%	90.0%	82.2%	73.4%	70.8%	78.9%

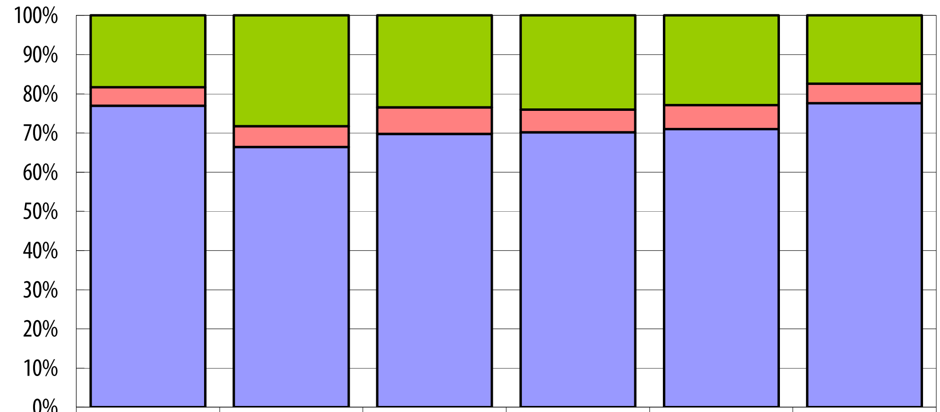
Source: Digitimes Research, January 2008

Handset type: Candy bar, clamshell, and slide phone

The shares of clamshells, slide phones and candy bars in the fourth quarter stayed similar to those in the third quarter. Increases in Foxlink's candy bar shipments to Huawei cancelled out the drops of candy bar shipments by other makers. Clamshell shipments to Motorola from Compal and Chi Mei Communications rose only slightly. Slide phone shipments chiefly came from HTC's PDA phones.

But the first quarter clamshell orders from Motorola will decrease while shipments of candy bars to the US vendor will increase. With shipments to telecom carriers will mainly be candy bars, the segment's proportion will go up significantly.

Chart 3: Taiwan handset shipments by type, 4Q06-1Q08



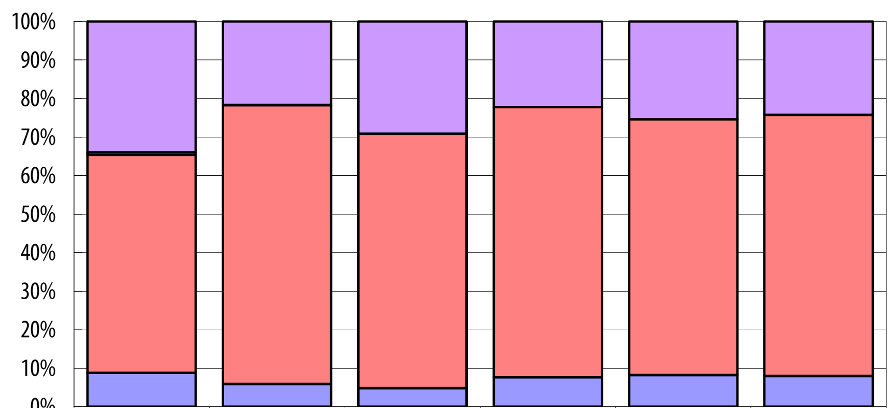
	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Clamshell	18.4%	28.3%	23.5%	24.0%	22.9%	17.4%
Slide phone	4.7%	5.3%	6.7%	5.8%	6.1%	5.0%
Candy bar	77.0%	66.4%	69.8%	70.2%	71.1%	77.6%

Source: Digitimes Research, January 2008

Main displays of candy bars and slide phones

The proportion of monochrome types in the candy bar and slide phone segments rose on shipments of ultra-low-cost handsets to Huawei. No major changes are expected for the first quarter.

Chart 4: Taiwan candy bar, slide phone shipments by main display colors, 4Q06-1Q08



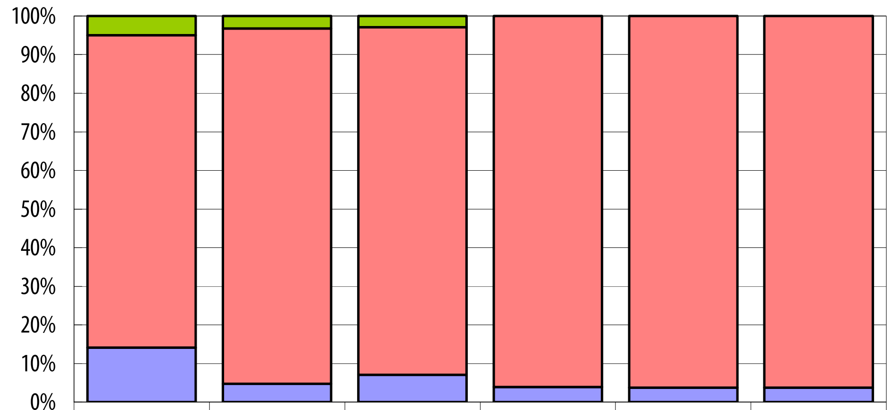
	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Monochrome	33.9%	21.7%	29.1%	22.3%	25.4%	24.3%
≦4,096 colors	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
65,000 colors	56.6%	72.4%	66.1%	70.2%	66.4%	67.8%
≧260,000 colors	8.8%	5.9%	4.8%	7.6%	8.2%	8.0%

Source: Digitimes Research, January 2008

Clamshell main display colors

Motorola remained the chief client for clamshell shipments in the fourth quarter, with the 65,000-color W series as its chief orders. The 65,000-color segment still had an overwhelming share. The first-quarter line-up will remain similar.

Chart 5: Taiwan clamshell shipments by main display colors, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Monochrome	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
≦4,096 colors	5.0%	3.2%	2.9%	0.0%	0.0%	0.0%
65,000 colors	80.9%	92.1%	89.9%	96.1%	96.2%	96.3%
≧260,000 colors	14.1%	4.7%	7.1%	3.9%	3.8%	3.7%

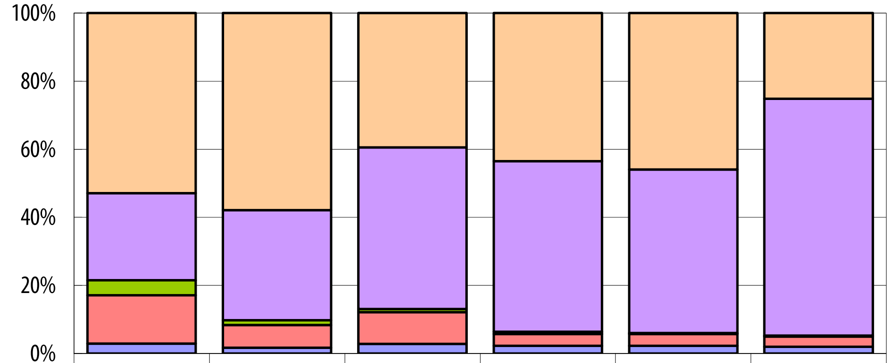
Source: Digitimes Research, January 2008

Clamshell sub-display colors

No major changes were seen in the proportion of different sub-display color segment in the fourth quarter. But the shipments to Motorola of clamshells with no sub-displays grew slightly faster than those with monochrome ones.

In the first quarter, a major decrease in Motorola orders for clamshells without sub-displays will result in a sharp drop in the share of the segment, and a significant rise of the monochrome segment.

Chart 6: Taiwan clamshell shipments by sub-display colors, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
No sub-display	53.0%	57.8%	39.5%	43.5%	46.0%	25.2%
Monochrome	25.5%	32.4%	47.5%	50.2%	48.1%	69.6%
≦4,096 colors	4.5%	1.4%	0.9%	0.6%	0.3%	0.2%
65,000 colors	14.2%	6.6%	9.3%	3.5%	3.5%	3.0%
≧260,000 colors	2.9%	1.7%	2.8%	2.2%	2.2%	2.0%

Source: Digitimes Research, January 2008

Built-in cameras

In the fourth quarter, the 2-megapixel segment was buoyed by smartphone shipments, while the share of the no-camera segment was driven by shipments of ultra-low-cost models to Huawei. The 300,000-pixel segment's proportion stayed similar as shipments of these models to Motorola and Sony Ericsson remained flat compared to the third quarter. The proportions of different camera segments will stay similar in the first quarter compared to the fourth.

Chart 7: Taiwan handset shipments by camera pixels, 4Q06-1Q08

	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
No cameras	68.9%	66.7%	56.7%	51.3%	52.3%	54.8%
≦100,000 pixels	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
300,000 pixels	15.0%	14.2%	20.0%	28.4%	24.9%	23.9%
1.3 megapixels	12.5%	10.1%	11.7%	8.3%	7.5%	6.3%
2 megapixels	2.5%	8.3%	10.8%	10.0%	12.3%	11.2%
≧3 megapixels	0.1%	0.7%	0.8%	2.0%	3.0%	3.7%

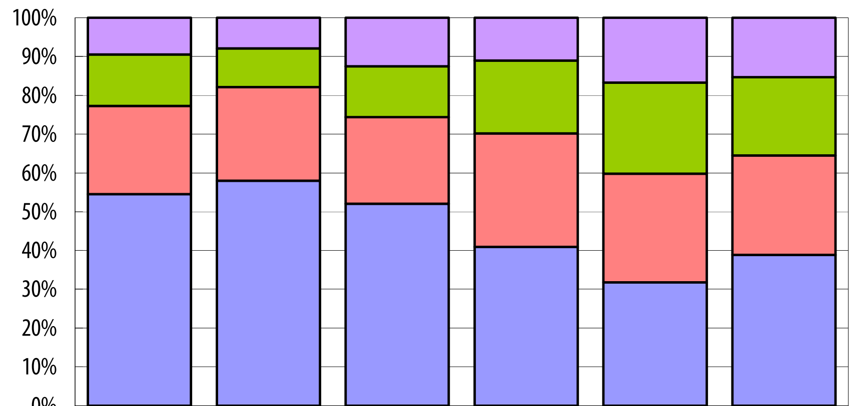
Source: Digitimes Research, January 2008

Shipments by maker

The top maker, Compal Communications, saw its share drop sharply as a result of decreased orders from Motorola, and increased orders for competitors from other vendors. Foxlink climbed to fourth place because of orders from Huawei.

In the first quarter, Compal's shipments to Motorola will remain flat, but its share will go up because of competitors' declined shipments. The first-quarter shipments from the second-to-fourth-place makers will be very similar, at about 3 million units each.

Chart 8: Shipment proportion by maker tier, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Others	9.5%	7.9%	12.5%	11.0%	16.7%	15.3%
Number four and five	13.2%	10.0%	13.1%	18.8%	23.5%	20.2%
Number two and three	22.8%	24.1%	22.4%	29.3%	28.0%	25.6%
Number one	54.5%	58.0%	52.0%	40.9%	31.8%	38.9%

Note: The Top-5 makers for the fourth and first quarters are Compal, CMC, Cal-Comp, Foxlink, and HTC.
Source: Digitimes Research, January 2008

Table 1: Top-5 makers, 4Q06-1Q08

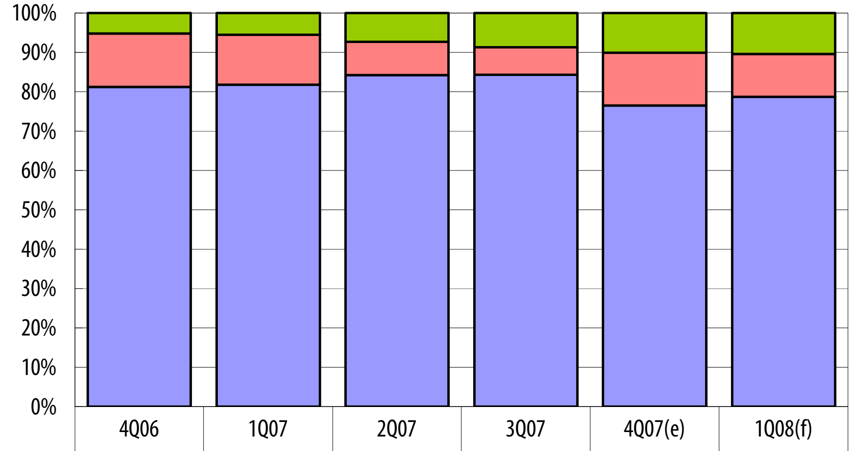
Rank	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
1	Compal	Compal	Compal	Compal	Compal	Compal
2	Chi Mei Communications	Chi Mei Communications	Chi Mei Communications	Cal-Comp	Cal-Comp	Chi Mei Communications
3	BenQ	HTC	HTC	Chi Mei Communications	Chi Mei Communications	Cal-Comp
4	HTC	Arima Communications	Arima Communications	Arima Communications	Foxlink	Foxlink
5	Arima Communications	Inventec Appliances	Cal-Comp	HTC	HTC	HTC

Source: Digitimes Research, January 2008

In the smartphone segment, HTC has been the leader. But the share of the Top-3 players has been declining as competitors have been gearing up their development of the segment.

In the first quarter of 2008,HTC's share will rise slightly after seeing a drop in the previous quarter, as competitors are expected to have delays in their shipments.

Chart 9: Smartphone shipment maker by tier, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Others	5.2%	5.5%	7.3%	8.7%	10.1%	10.4%
Number two and three	13.6%	12.7%	8.5%	7.0%	13.4%	10.9%
Number one	81.2%	81.8%	84.2%	84.3%	76.5%	78.7%

Note: The Top-3 smartphone makers are: HTC, Inventec Appliances, and CMC.
Source: Digitimes Research, January 2008

Industry watch

ODM and OBM

Of Taiwan's handset makers, about 90% are ODMs and only a small portion operate as OBMs.

Table 2: Taiwan handset makers' business models and client types

Maker	Top-5 brands	Second-tier brands (ODM)	Telecom carriers	OBM
Compal Communications	Y			
Cal-Comp		Y	Y	
Chi Mei Communications	Y	Y		
Mobinnova		Y		
Foxlink		Y		
Arima Communications	Y	Y		
Quanta Computer		Y		
Qisda			Y	
Wistron		Y		
Wistron NeWeb			Y	
Inventec		Y		
Inventec Appliances		Y		
HTC		Y	Y	Y
Asustek		Y	Y	Y
Gigabyte Communications		Y		Y
D-Net		Y		Y
Eten				Y
Mitac International				Y

Source: Digitimes Research, January 2008

There are three major sources of ODM orders. The first is the Top-5 handset brands. Of these Top-5 brands, Motorola and Sony Ericsson are Taiwan's chief clients, while their ODMs are Compal Electronics, Chi Mei Communications and Arima Communications. These vendors are also the chief contributors to Taiwan's handset shipments.

The second source is formed by a host of second-tier brands, which can be sub-divided into Japanese vendors (such as NEC, Panasonic, and Toshiba), European vendors (such as Sagem), regional brands, smartphone vendors (such as i-mate, Palm, and HP). China's Huawei has also recently become a customer of Taiwan makers. There are many Taiwan makers working with these second-tier brands, and each of these makers' shipments is limited.

The third type of client is telecom carriers. HTC was the first to develop along this line by supplying smartphones to European telecom services providers. Since then, many other makers have joined the competition for orders from telecom carriers. Demand for entry-level feature phones from telecom operators in emerging markets is increasing. HTC dominates the smartphone shipments, and in 2007 HTC's smartphone shipments accounted for 7-8% of total handset shipments from Taiwan. But the feature phone orders from emerging markets are expected to have strong growth in 2008.

As for OBMs, after the collapse of BenQ Mobiles, HTC has been the only major player. Other OBMs chiefly operate the Greater China market. OBM shipments are mostly smartphones, but the volumes are low.

Motorola

Of the factors affecting Taiwan's shipments in 2008, Motorola's performance will be the most crucial. Motorola's weakness lies in the lack of a strong line-up of mid-range and high-end models. Taiwan makers chiefly process Motorola orders for the entry-level segment. The vendor's overall under-par performance will prevent it from adopting an aggressive pricing strategy for its low-cost segment. In turn, it will affect orders for its Taiwan ODMs.

The second most important factor will be Sony Ericsson's orders, which still have room for increases. But it will have to depend on whether Sony Ericsson's push for the low-cost market will work. It remains to be seen whether Sony Ericsson's partnership with French vendor Sagem will undermine orders for Taiwan.

For the other three of the Top-5 brands, Nokia is most likely to release more orders for CDMA models. LG Electronics (LGE) may increase orders in line with the adoption of MediaTek chips by its Taiwan ODM. Chances of Samsung releasing orders remain low although the vendor has geared up for the low-cost market. It has never released ODM orders for Taiwan.

Emerging markets

Orders from emerging markets may become a major driver of Taiwan's handset shipments in 2008. There is much room for growth in these markets, and local telecom carriers are keen to expand their market shares by launching own-brand handsets, which in turn are providing Taiwan makers with a lot of business opportunities.

For the telecom carriers in China and India, where the markets are growing fast, pricing will be a very important factor to attract first-time handset consumers. The top telecom carriers usually look to ODMs to custom-made their own-brand handsets.

Indian CDMA operators have usually had China's ZTE make their handsets, and therefore ZTE plays a leading role in the Indian CDMA market. With Vodafone's subsidiary in India also having ZTE make its low-cost GSM handsets, ZTE's shipments can be expected to rise significantly in 2008. For Taiwan, Cal-Comp's orders from Indian telecom carrier Reliance elevated the maker's ranking to third place among Taiwan players in terms of unit shipments in 2007. Many other Taiwan makers are also eyeing telecom carriers' orders from the emerging markets.

Smartphones

Smartphones accounted for 12% of Taiwan's total handset shipments in 2007. The fad generated by Apple iPhone, coupled with the hype about Google's Android platform, is giving momentum to the smartphone market. Taiwan makers' shipments may go up if they can continue building on their existing clientele bases. But HTC is expected to remain the dominant player among Taiwan's smartphone makers.

HTC managed to establish a strong foothold in the own-brand market last year, seeing increases in the number of clients from the telecom sector. HTC's shipments in the first half of 2008 are likely to grow 20-30% compared to the same period of last year. Even stronger growth is expected for HTC in the second half of 2008 when it starts shipping to Sony Ericsson, as well as Android handsets to others.

Orders from the Top-5 vendors will be a key factor to drive up Taiwan's smartphone shipments. While HTC has received orders from Sony Ericsson, there is a good chance that Motorola will release smartphone orders to Taiwan, with its existing ODMs Compal Communications and Chi Mei Communications standing a good chance of receiving the orders.

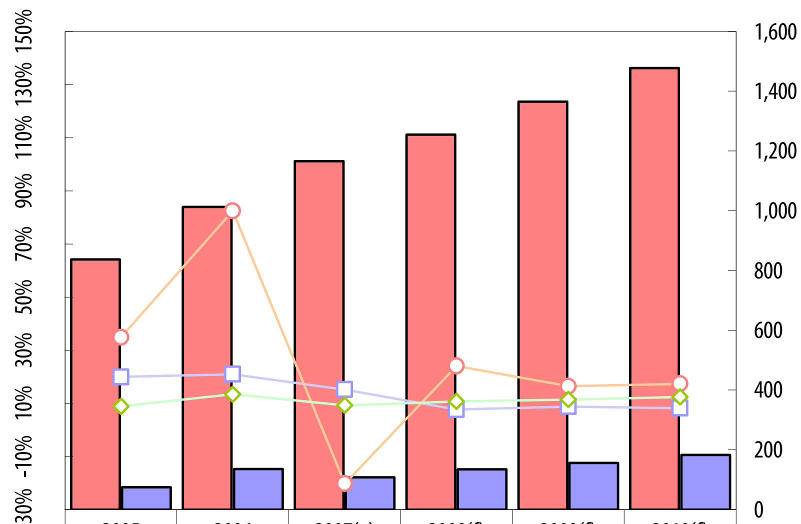
Outlook till 2010

Nokia, with in-house capacity expanding still and operating profits remaining strong, is unlikely to see pressure for outsourcing in the next three years. For Motorola, its outsourcing to Taiwan has almost reached the ceiling. Unless the US vendor starts releasing orders for mid-range to high-end models, growth of orders from Motorola may be limited. But Taiwan makers stand a chance of receiving more orders from Sony Ericsson and Samsung, both of which are gearing up the development of the low-cost segment.

ODM orders for feature phones from non-Top-5 vendors will chiefly come from telecom carriers and regional brands from such markets as China, India, Russia and Southeast Asia. HTC will remain the chief maker of own-brand smartphones.

But as Taiwan's shipment growth will remain largely dependent on Motorola and Sony Ericsson, its global share is unlikely to see significant rises in the next three years.

Chart 10: Taiwan handset shipment trend and global market share, 2005-2010 (million units)



	2005	2006	2007(e)	2008(f)	2009(f)	2010(f)
Taiwan shipments	74	135	108	134	156	183
Worldwide shipments	837	1,013	1,166	1,255	1,365	1,477
Worldwide growth Y/Y	19.9%	21.0%	15.1%	7.6%	8.8%	8.2%
Taiwan growth Y/Y	34.9%	82.4%	-20.3%	24.1%	16.4%	17.3%
Taiwan market share	8.9%	13.4%	9.3%	10.7%	11.4%	12.4%

Source: Digitimes Research, January 2008