DigiTimes Research: ICT Report – 1Q 2005

Taiwan's DSC sector

Original Chinese: Hans Wang, DigiTimes Research, March 4, 2005
English edition: Rodney Chan, DigiTimes.com, September 21, 2005

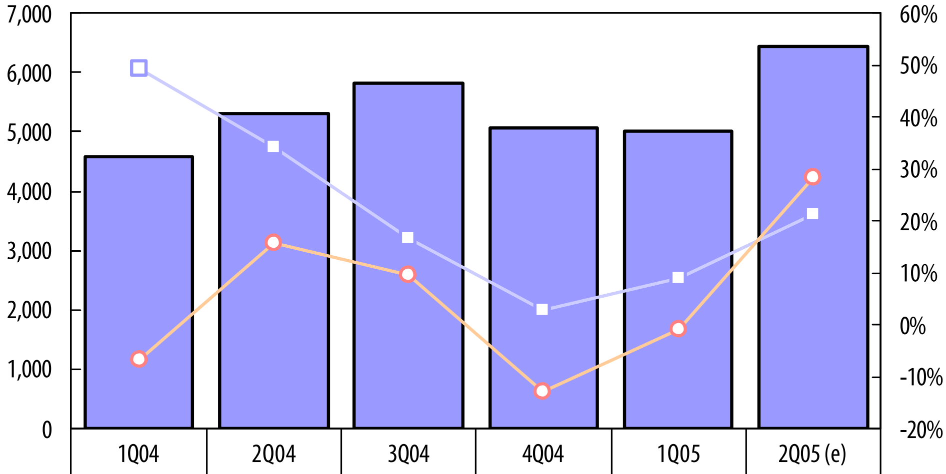
First quarter 2005 introduction

Thanks to increasing orders from US and Japan vendors, Taiwan's digital still camera (DSC) shipments in the traditional first-quarter low season dropped only a meager 1% sequentially. The volume represented 9% on-year growth.

Of the first-quarter DSC shipments from Taiwan, 36% were 4-megapixel models, which had become the entry-level segment. The top segment was 5-megapixel models, which accounted for 38% of products shipped. Shipments of higher-resolution models were also increasing. The proportion of cameras with optical zooms was rose fast to 65% in the first quarter from 50% in the fourth.

With major US and Japan OEM clients increasing orders, Taiwan's DSC shipments in the second quarter are expected to top 6.4 million units, up 28.5% on quarter and 21.2% on year.

Chart 1: Taiwan DSC shipment, 1Q04-2Q05 (k units)



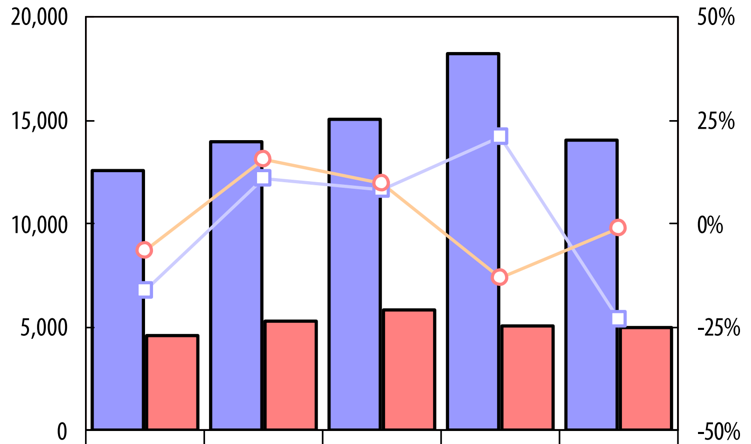
	1Q04	2Q04	3Q04	4Q04	1Q05	2Q05 (e)
Shipment	4,585	5,304	5,813	5,055	5,005	6,430
Y/Y growth	49.4%	34.2%	16.6%	2.9%	9.1%	21.2%
Q/Q growth	-6.6%	15.7%	9.6%	-13%	-1%	28.5%

Source: DigiTimes Research, April 2005

The first quarter

The first quarter of 2005 saw Taiwan makers ship a total of 5 million DSCs, as orders kept coming from US vendors who were looking to expand their market share, and from Japan vendors who were outsourcing more lower-end models. In the same period, Japan makers suffered a 23% decline in shipments because of increased outsourcing.

Chart 2: DSC shipments from Taiwan and Japan, 1Q04-1Q05 (k units)



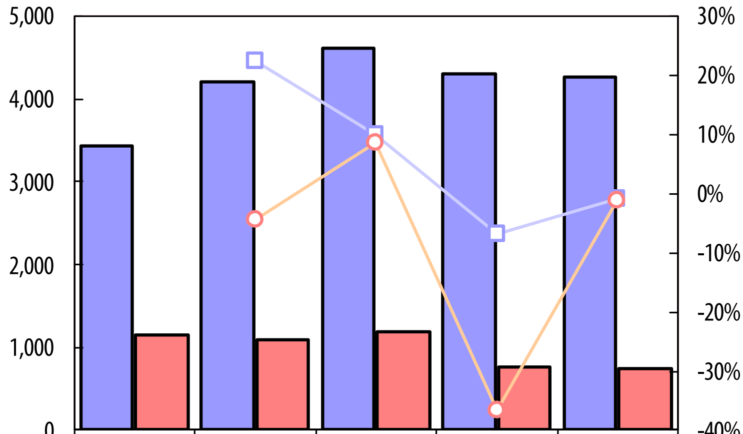
	1Q04	2Q04	3Q04	4Q04	1Q05
Japan	12,540	13,932	15,038	18,256	14,000
Taiwan	4,585	5,304	5,813	5,055	5,005
Japan Q/Q growth	-16%	11%	8%	21%	-23%
Taiwan Q/Q growth	-6.6%	15.7%	9.6%	-13%	-1%

Source: DigiTimes Research, April 2005

Image sensors

The gap between CCD- and CMOS-based DSC shipments from Taiwan widened a bit in the first quarter, as US and Japan vendors increased orders for CCD-based models, and a few second-tier Taiwan makers of CMOS-based DSCs exited the market. The first-quarter shipments of CCD-based models dropped 0.9% sequentially to 4.26 million units, while the CMOS-based segment fell 1.3% to 745,000 units.

Chart 3: Taiwan DSC shipments by image sensor, 1Q04-1Q05 (k units)

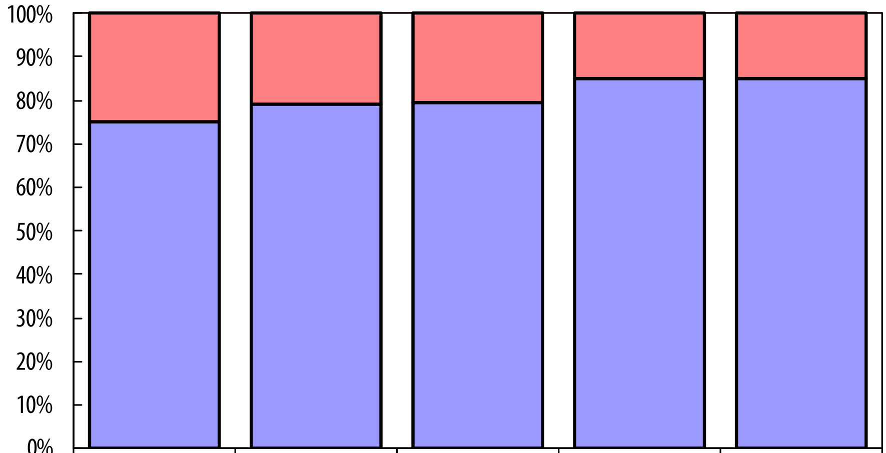


	1Q04	2Q04	3Q04	4Q04	1Q05
CCD	3,435	4,205	4,620	4,300	4,260
CMOS	1,150	1,099	1,193	755	745
CCD Q/Q growth		22.4%	9.9%	-6.9%	-0.9%
CMOS Q/Q growth		-4.5%	8.6%	-36.7%	-1.3%

Source: DigiTimes Research, April 2005

Although the proportion between CCD-based and CMOS-based shipments in the first quarter stayed almost unchanged over the previous quarter, the percentage of CMOS-based models may decline further in the future.

Chart 4: Taiwan DSC shipments by image sensor, 1Q04-1Q05



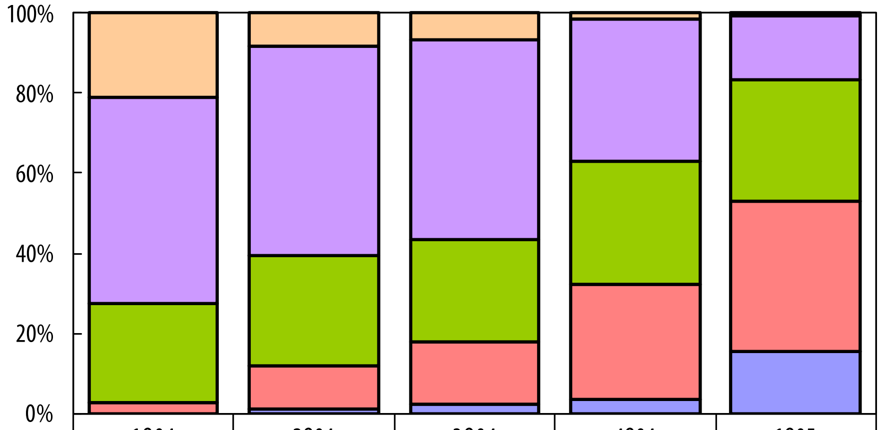
	1Q04	2Q04	3Q04	4Q04	1Q05
CMOS	25.1%	20.7%	20.5%	14.94%	14.88%
CCD	74.9%	79.3%	79.5%	85.06%	85.11%

Source: DigiTimes Research, April 2005

Resolution

With 4- and 5-megapixel models now being the market favorites, shipments of 3-megapixel-and-lower DSCs dropped sharply to 16.6% of the total in the first quarter from 37.2% in the previous quarter.

Chart 5: Taiwan DSC shipments by resolution, 1Q04-1Q05



	1Q04	2Q04	3Q04	4Q04	1Q05
<3m	21.1%	8.5%	6.7%	1.7%	0.7%
3m	51.3%	52.2%	49.9%	35.5%	15.9%
4m	24.8%	27.3%	25.6%	30.5%	30.6%
5m	2.8%	10.9%	15.4%	28.8%	37.4%
≧6m		1.1%	2.4%	3.5%	15.4%

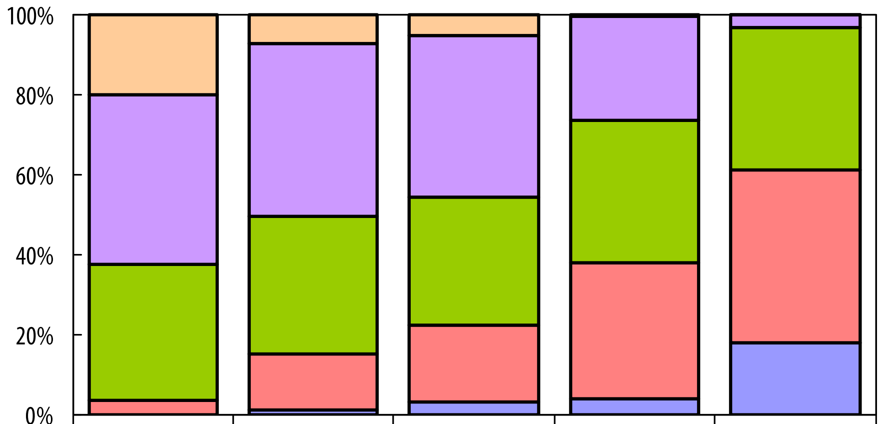
Source: DigiTimes Research, April 2005

The proportion of 3-megapixel models in the first-quarter shipments dropped sharply to 15.9% from 35.5% in the previous quarter. While the proportion of 4-megapixel DSCs stayed almost unchanged at 30.6% as they replaced 3-megapixel models as the entry-level class.

The largest share of the first-quarter shipment pie belonged to 5-megapixel models, at 37.4%, up 8.6 percentage points from the previous quarter. High-end models of 6-megapixel-and-higher also recorded fast growth to 15.4% from 3.5% in the previous quarter. The strong shipment growth in the 6-megapixel-and-higher class shows that Taiwan makers were devoting more efforts to high-end products in order to salvage their business from declining margins.

A further shipment breakdown by image sensor and resolution shows that within the CCD segment, the proportion of 3-megapixel-and-lower models dropped sharply to 3% in the first quarter from 26.1% in the previous quarter.

Chart 6: Taiwan's CCD-based DSC shipments by resolution, 1Q04-1Q05



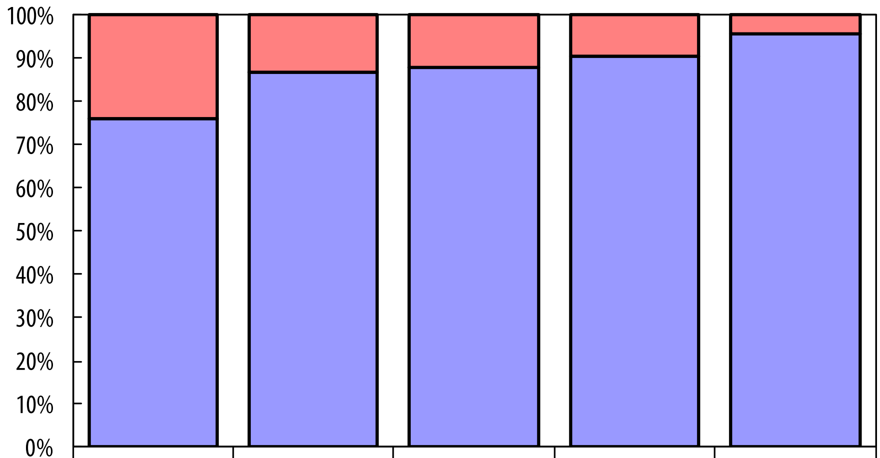
	1Q04	2Q04	3Q04	4Q04	1Q05
＜3m	20.1%	7.3%	5.3%	0.3%	0.1%
3m	42.4%	43.2%	40.1%	25.8%	2.9%
4m	33.7%	34.4%	32.1%	35.8%	35.5%
5m	3.8%	13.7%	19.4%	34%	43.5%
≧6m		1.4%	3.1%	4.1%	18%

Source: DigiTimes Research, April 2005

The proportion of 4-megapixel CCD-based models in the first-quarter decreased slightly to 35.3% from 35.8% in the fourth quarter, while 5-megapixel models rose 9.5 percentage points to 43.5%. The combined share of 4- and 5-megapixel models accounted for 79% of the total first-quarter CCD-based shipments, up 9.2 percentage points sequentially. The 6-megapixel-and-higher class jumped to 18% from 4.1% sequentially in the CCD segment.

For the CMOS segment, low-end 2-megapixel-and-lower models were fast disappearing from Taiwan's shipments. While most DSCs are CCD-based, CMOS-based models may wrest back some ground in the 5-megapixel class later this year. The DSC sector began adopting 5-megapixel CMOS image sensors in the first quarter, and shipments are expected to slowly increase in the second quarter. Of the first-quarter CMOS-based shipments, 3-megapixel models accounted for the majority, while 5-megapixel models were rare.

Chart 7: Taiwan CMOS-based DSC shipments by resolution, 1Q04-1Q05



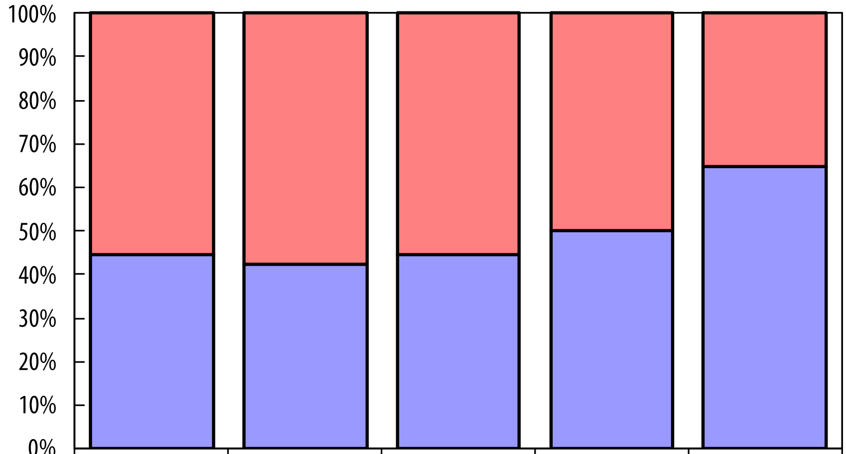
	1Q04	2Q04	3Q04	4Q04	1Q05
＜3m	23.9%	13.2%	12.3%	9.5%	4.3%
≧3m	76.1%	86.8%	87.7%	90.5%	95.7%

Source: DigiTimes Research, April 2005

Lens type

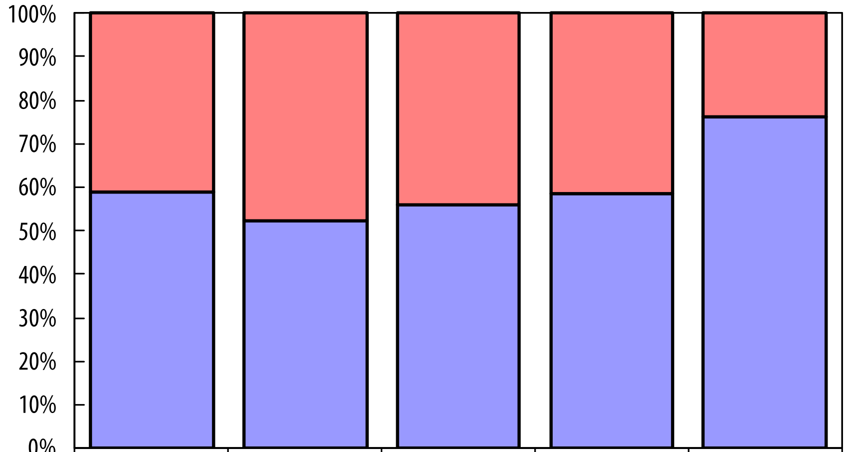
With 3x optical zoom lenses being a basic feature for mainstream DSCs, and with fixed-focus CMOS models fast declining, DSCs with optical zooms accounted for 64.7% of Taiwan's first-quarter shipments, up 14.7 percentage points sequentially.

Chart 8: Taiwan's overall DSC shipments by image sensor and lens type, 1Q04-1Q05



	1Q04	2Q04	3Q04	4Q04	1Q05
Fixed focus	55.5%	57.5%	55.6%	50%	35.3%
Zoom	44.5%	42.1%	44.4%	50%	64.7%

Chart 8: Taiwan's CCD-based DSC shipments by image sensor and lens type, 1Q04-1Q05



	1Q04	2Q04	3Q04	4Q04	1Q05
Fixed focus	41%	47.6%	44.1%	41.3%	24%
Zoom	59%	52.4%	55.9%	58.7%	76%

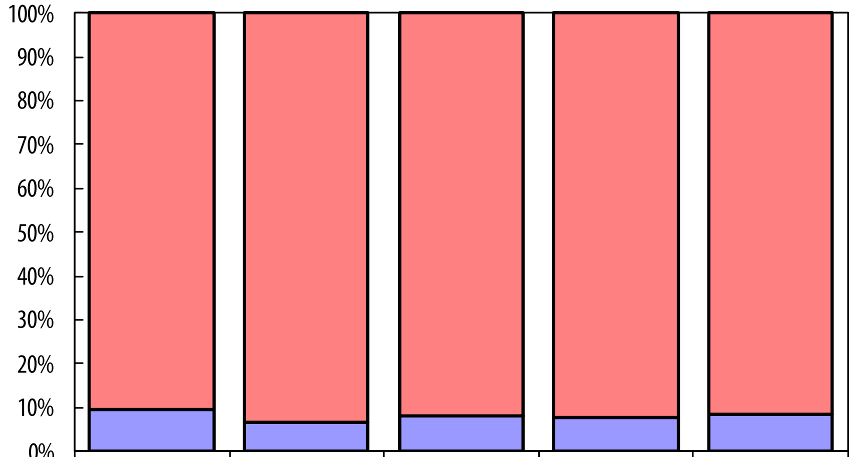
Source: DigiTimes Research, April 2005

The proportion of optical-zoom models in the CCD segment reached 76%, up 17.3 percentage points sequentially. The figure is low compared to Japan, from where 90% of were either optical-zoom DSC models or high-end DSLR (digital single-lens reflex) models. However, the proportion of optical-zoom models in Taiwan's shipments is expected to rise as major contract makers of CCD-based models further upgrade their specifications.

OBM, OEM and ODM

The ratio between Taiwan's OEM/ODM and OBM shipments in the first quarter stayed similar to previous quarters, with the former taking an overwhelming share. Most of the OBM shipments were CMOS-based models.

Chart 9: Taiwan's DSC shipments by production mode, 1Q04-1Q05

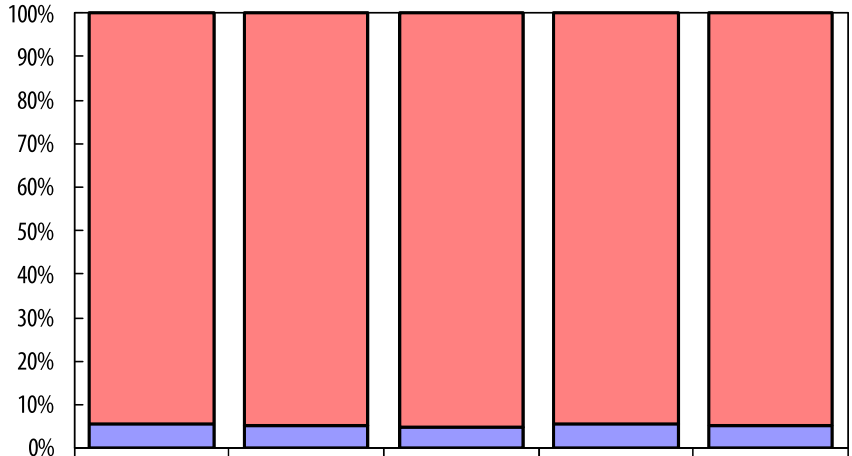


	1Q04	2Q04	3Q04	4Q04	1Q05
OEM/ODM	90.5%	93.2%	92%	92.4%	91.7%
OBM	9.5%	6.8%	8%	7.6%	8.3%

Source: DigiTimes Research, April 2005

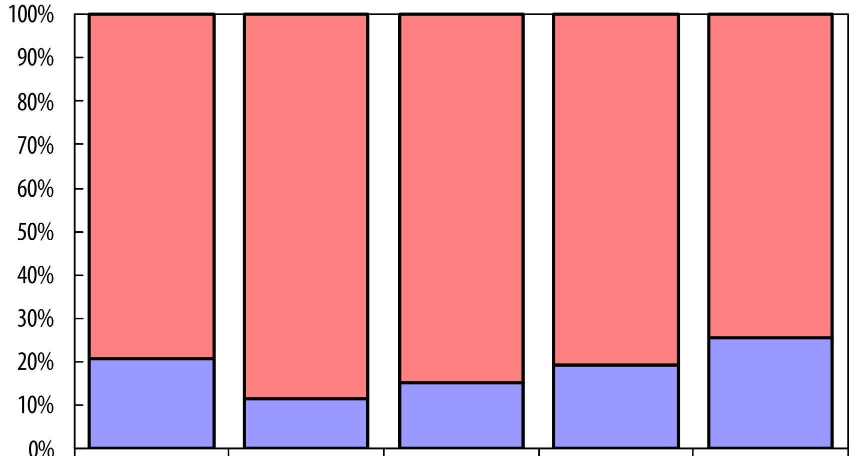
Within the CCD segment, 94.7% of the first-quarter shipments were OEM/ODM productions. OEM/ODM productions recorded a lower percentage of 74.5% in the CMOS segment.

Chart 10: Taiwan's CCD-based DSCs by sensor and production mode, 1Q04-1Q05



	1Q04	2Q04	3Q04	4Q04	1Q05
OEM/ODM	94.5%	94.8%	95.2%	94.4%	94.7%
OBM	5.5%	5.2%	4.8%	5.6%	5.3%

Chart 10: Taiwan's CMOS-based DSCs by sensor and production mode, 1Q04-1Q05



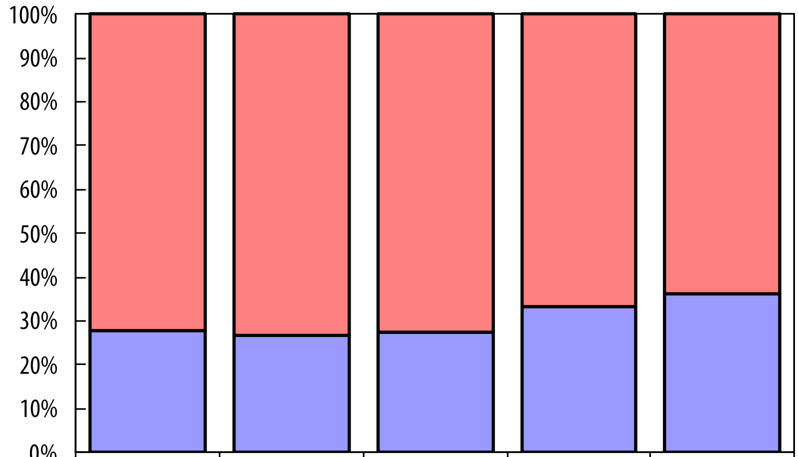
	1Q04	2Q04	3Q04	4Q04	1Q05
OEM/ODM	79.5%	88.3%	84.7%	80.7%	74.5%
OBM	20.5%	11.7%	15.3%	19.3%	25.5%

Source: DigiTimes Research, April 2005

Clients

The world's top vendors accounted for 36.6% of Taiwan's first-quarter DSC shipments, a sequential rise of 2.9 percentage points resulted from increased orders from US vendors such as Kodak who were seeking to expand their market share, and from Japan vendors such as Olympus, Fujifilm and Pentax who were outsourcing more lower-end models.

Chart 11: Taiwan DSC shipments by client type, 1Q04-1Q05

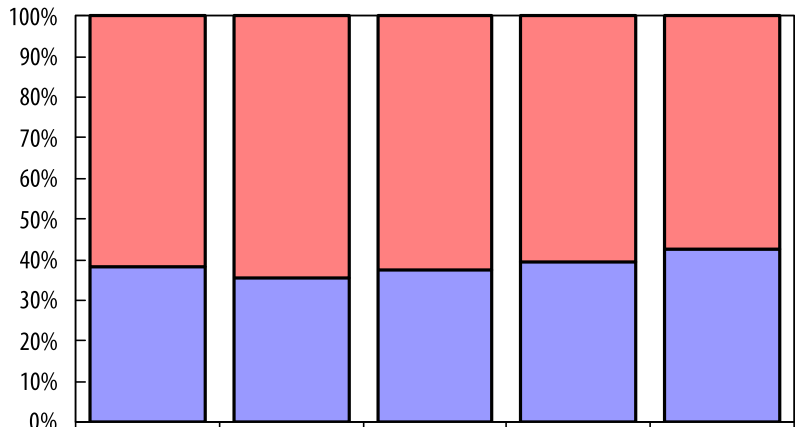


	1Q04	2Q04	3Q04	4Q04	1Q05
Others	72%	73.1%	72.6%	66.6%	63.7%
First-tier vendors	28%	26.9%	27.4%	33.4%	36.3%

Note: First-tier vendors, here and elsewhere, refers to Canon, Sony, Kodak, Olympus, Fujifilm, Nikon, Casio, and Hewlett Packard (HP).
Source: DigiTimes Research, April 2005

First-tier vendors accounted for 42.6% of Taiwan's first-quarter CCD-based shipments, up 3.3 percentage points sequentially. The figure shows the increasing reliance on the top vendors.

Chart 12: Taiwan CCD-based DSC shipments by client type, 1Q04-1Q05



	1Q04	2Q04	3Q04	4Q04	1Q05
Others	61.9%	64.4%	62.4%	60.7%	57.4%
First-tier vendors	38.1%	35.6%	37.6%	39.3%	42.6%

Source: DigiTimes Research, April 2005

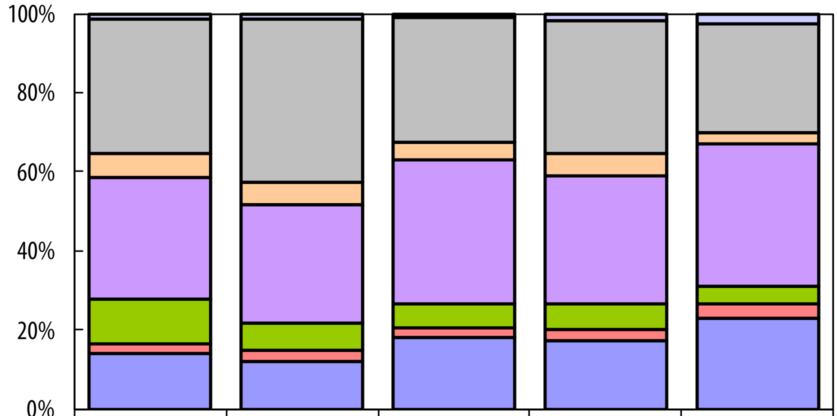
Taiwan's CMOS-based DSCs were all lower-end models shipped from second-tier makers. The world's top vendors did not outsource their high-end CMOS-based DSLR models.

Markets

In the first quarter, Western Europe overtook North America as the chief market for Taiwan's own-brand models and shipments to second-tier vendors and channels. Demand for these lower-end products in the mature US market was decreasing because Japan vendors' higher-end models would usually be favored as replacements.

The Asia-Pacific region's share of Taiwan-shipped DSCs climbed to 23.1%, showing demand in such developing markets as China, India and Southeast Asia was growing.

Chart 13: Taiwan DSC shipment breakdown by region, 1Q04-1Q05



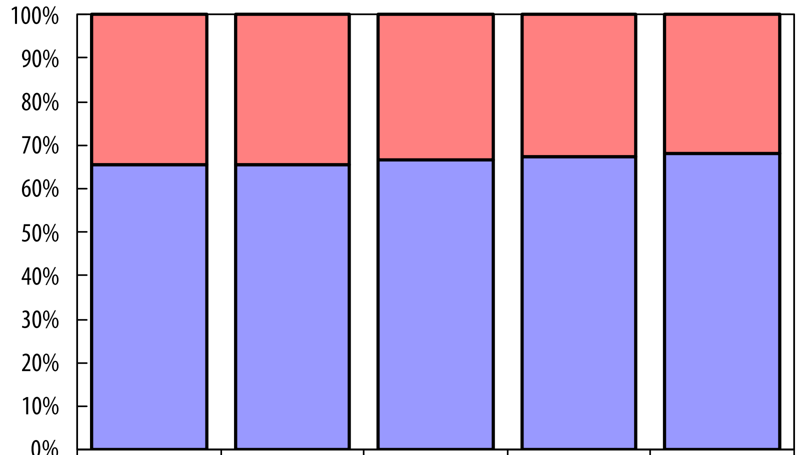
	1Q04	2Q04	3Q04	4Q04	1Q05
Others	1.5%	1.2%	0.9%	1.8%	2.7%
N America	34%	41.3%	31.8%	33.5%	27.5%
S/C America	6.1%	5.9%	4.2%	5.8%	2.6%
W Europe	30.5%	29.7%	36.6%	32.4%	36.3%
E Europe	11.4%	7.2%	5.9%	6.5%	4.3%
Japan	2.5%	2.6%	2.5%	2.8%	3.5%
Asia-Pacific	14%	12.1%	18.1%	17.2%	23.1%

Source: DigiTimes Research, April 2005

Shipment concentration

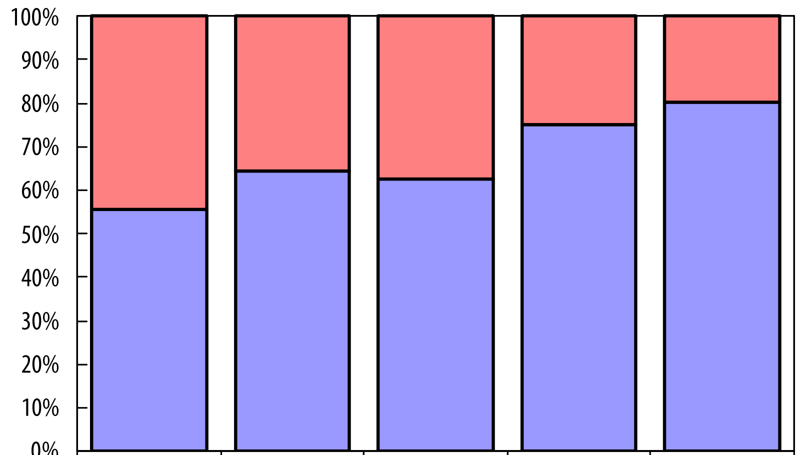
CCD-based models accounted for about 85% of Taiwan's entire first-quarter DSC shipments. Most of the CCD models were shipped from a few leading contract makers, with the top three accounting for 68%.

Chart 14: Taiwan's CCD-based DSC shipment concentration, 1Q04-1Q05



	1Q04	2Q04	3Q04	4Q04	1Q05
Others	34.5%	34.6%	33.5%	32.6%	32%
Top three makers	65.5%	65.4%	66.5%	67.4%	68%

Chart 14: Taiwan's CMOS-based DSC shipment concentration, 1Q04-1Q05



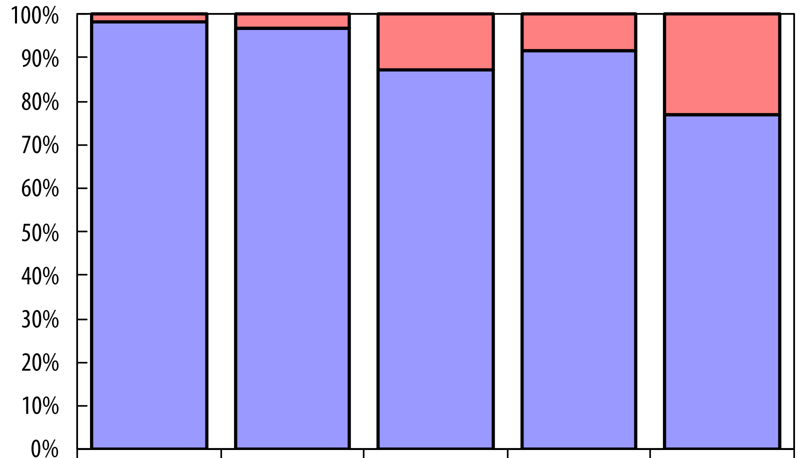
	1Q04	2Q04	3Q04	4Q04	1Q05
Others	44.4%	35.5%	37.3%	24.9%	19.7%
Top three makers	55.6%	64.5%	62.7%	75.1%	80.3%

Source: DigiTimes Research, April 2005

For the CMOS segment, the top three makers' share of the shipments grew bigger in the first quarter after smaller competitors shifted their focus to other products. For example, Aiptek International has shifted to pocket DVs (digital video camcorders), while Mustek Systems now chiefly makes DVD players. The top three makers accounted for 80.3% of first-quarter CMOS-based DSC shipments, up 5.2 percentage points sequentially.

Taiwan's top four DSC makers, Premier Image Technology, Altek, Ability Enterprise, and Asia Optical, were in fierce competition for orders from Japan and US vendors in the first quarter, and the result was the top three players' share of Taiwan's shipments to first-tier vendors dropped to 76.9% in the first quarter from 97.1% in the previous one. However, in the foreseeable future, makers other than the top four will still find it difficult to vie for orders from first-tier vendors.

Chart 15: Concentration of Taiwan DSC shipments to first-tier vendors, 1Q04-1Q05

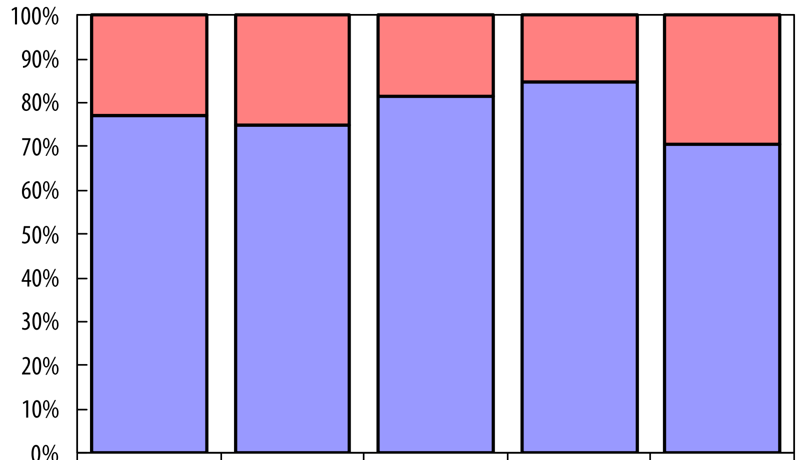


	1Q04	2Q04	3Q04	4Q04	1Q05
Others	1.7%	3.3%	12.8%	8.3%	23.1%
Top three makers	98.3%	96.7%	87.2%	91.7%	76.9%

Source: DigiTimes Research, April 2005

Although DSCs with optical-zooms were chiefly shipped by Taiwan's top players, some second-tier makers with experience in producing traditional cameras started migrating their production lines from low-end DSCs to optical-zoom models. The top three's combined proportion dropped to 70.5% in the first quarter from 84.7% in the previous quarter.

Chart 16: Concentration of optical-zoom DSC shipments, 1Q04-1Q05



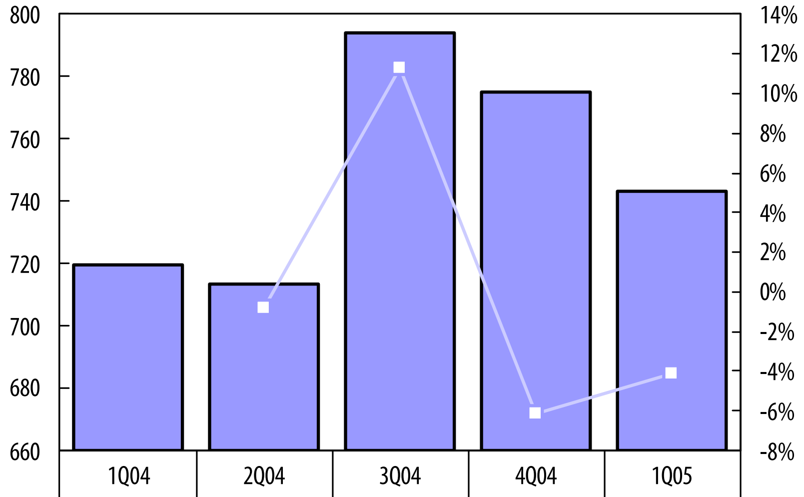
	1Q04	2Q04	3Q04	4Q04	1Q05
Others	23.1%	25.3%	18.6%	15.3%	29.5%
Top three makers	76.9%	74.7%	81.4%	84.7%	70.5%

Source: DigiTimes Research, April 2005

Pocket DV

With major Japan vendors adding support for MPEG4 to their DSCs, Taiwan makers of pocket DVs have found their products based on the same format less attractive to consumers. Shipments of Taiwan-made pocket DVs have stayed flat at 700,000-800,000 units per quarter since 2004.

Chart 17: Taiwan's pocket DV shipments, 1Q04-1Q05 (k units)



	1Q04	2Q04	3Q04	4Q04	1Q05
Shipment	719.4	713.5	793.8	775	743
Growth		-0.8%	11.3%	-6.1%	-4.1%

Source: DigiTimes Research, April 2005

Second quarter outlook

Demand is picking up in the second quarter with some major vendors increasing orders significantly. Second-quarter DSC shipments should rise 28.5% to 6.43 million units.

CCD-based models will remain the top segment in the second quarter, with shipments rising 32% on quarter to reach 5.62 million units, while CMOS-based models will only see a sequential increase of 8.4% to 808,000 units.

Of the total second-quarter shipments, the proportion of 5-megapixel CCD-based models will continue rising. CMOS-based models of the same resolution will not be obvious in the market until the third quarter. However, the lack of optical-zoom lenses in 5-megapixel CMOS-based DSCs will expose them to strong competition from CCD-based models and cameraphones.

Although makers are divided over the future of CMOS-based pocket DVs, second-quarter shipments of the DVs are expected to grow 5.7% to 785,000 units.