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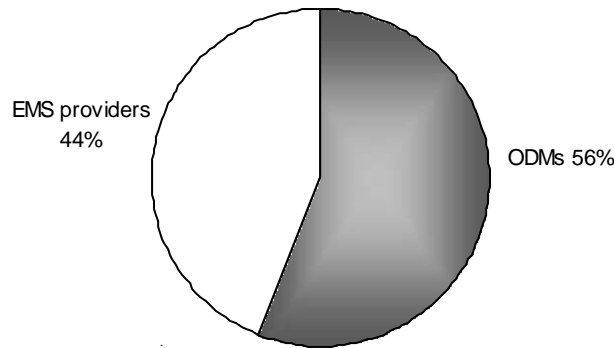
## ODMs Take a Majority of the Outsourcing Top 25

MMI's 2008 list of the 25 largest providers in outsourcing offers further evidence of the progress made by ODMs. For the first time, ODMs accounted for a majority of the companies on the Top 25 list. Of the Top 25 outsourcing providers in 2008, 14 were in the ODM category, compared with 11 companies predominately or wholly in the EMS camp. To put it another way, ODMs represented 56% of the contract manufacturers on the list, while the remaining 44% were EMS providers (Chart 1).

Still, EMS providers continued to produce a majority of Top 25 revenue, which totaled \$253.5 billion in 2008 (Chart 2). The EMS share of 56% would not have been possible without a \$61.9-billion contribution from EMS provider **Hon Hai Precision Industry**, by far the world's largest company in the outsourcing space.

Despite a U.S. recession that spanned all of 2008 and a global financial crisis that boiled over in the fall of the year, aggregate growth for 24 out of 25 companies on the list was just shy of double digits. (Providers **Pegatron** and **Unihan** were spun off from **Asustek** in January 2008. It was not possible to assign 2007 sales to this spinoff combination so it was absent from the composite growth rate.) The 24 contract manufacturers collectively increased sales by an effective rate of 9.8%.

Chart 1: Top 25 Providers by Type



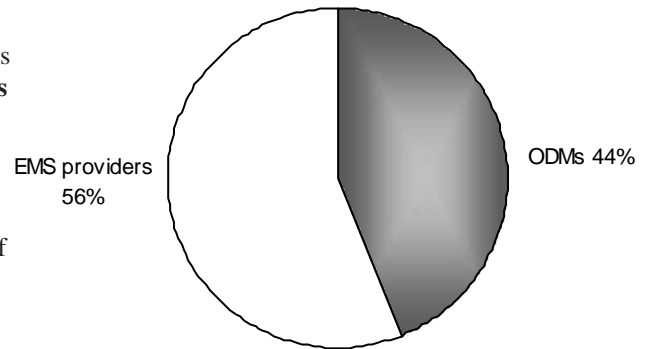
Note that this rate includes additional revenue of \$8.89 billion estimated as the 2007 sales of **Solectron**, which was acquired by **Flextronics** in October 2007. This revenue was added in because it was not reported by Flextronics.

Composite growth of 9.8% (for 24 companies) in 2008 was well below the Top 25

growth rates of the previous four years (Chart 3, p. 3). The 2008 rate was less than half the 21.5% rate calculated for 2007. In computing the 2007 rate, there was no adjustment for the **Solectron** acquisition, which added about 1.6 percentage points to that rate.

The Top 25 providers in outsourcing be-

Chart 2: Top-25 Sales by Type of Provider



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## Top 25

came a billion-dollar club last year. To make the 2008 list, a provider needed sales of at least \$1.06 billion. That's up from the 2007 minimum of \$813 million. The barrier to entry rose in 2008 mainly due to the addition of two players, **Qisda** and **AmTRAN**, both Taiwan-based ODMs. Qisda comprises the former ODM/EMS operations of **BenQ**, which in 2007 hived off its own-brand business under the BenQ name. The selection of AmTRAN might be questioned by some since the company is often portrayed as the manufacturing arm for LCD TVs sold by **Vizio**, in which AmTRAN also holds an ownership stake. However, AmTRAN reportedly is not the sole producer for Vizio, and the two companies are separate with AmTRAN reportedly owning a 23% interest in Vizio. Furthermore, AmTRAN is said to have other customers.

Table 1 lists the Top 25 providers in outsourcing. Companies were ranked based on their total sales in U.S. dollars for calendar 2008. In a few cases, the presence of own-brand manufacturing (OBM) sales as a part of total revenue might have unfairly boosted a provider's rank. Unfortunately, OBM sales could not be separated out from outsourcing revenue in these cases. A company was classified as EMS or ODM based on which model supplied the company's primary source of revenue or was estimated as such.

While it was harder to make the Top 25 for 2008, the opposite was true for landing in a top-10 spot. The top-

Sales component	Sales calendar 2008 (M US\$)	Sales calendar 2007 (M US\$)	Sales growth '07-'08 (%)
Hon Hai non-consolidated	46,732	37,607	24
Foxconn International Holdings	9,271	10,732	-14
Other units	5,876	3,484	69
Hon Hai consolidated	61,879	51,824	19

Organization	Headquarters	Sales calendar 2008 (M US\$)	2008 rank by total sales	2007 rank	Sales calendar 2007 (M US\$)	Sales growth '07-'08 (%)	Primary business model
Hon Hai Precision Industry	Tucheng City, Taiwan	61,879	1	1	51,824	19	EMS/OBM/ODM
Flextronics	Singapore	33,141	2	2	24,460	35	EMS/ODM
Quanta Computer	Gueishan, Taoyuan, Taiwan	25,974	3	3	23,663	10	ODM
Compal Electronics	Taipei, Taiwan	15,188	4	5	15,166	0	ODM
Pegatron/Unihan	Taipei, Taiwan	14,775	5	4*	N/A	N/A	ODM/EMS
Wistron	Hsinchu, Taiwan	14,121	6	8	8,728	62	ODM/EMS
Jabil Circuit	St. Petersburg, FL	12,794	7	6	12,435	3	EMS
Inventec	Taipei, Taiwan	12,030	8	11	7,983	51	ODM
TPV Technology	Taipei, Taiwan	9,247	9	9	8,455	9	ODM/OBM
Celestica	Toronto, Canada	7,678	10	10	8,070	-5	EMS
Sanmina-SCI	San Jose, CA	6,844	11	7	6,993	-2	EMS
Qisda	Gueishan, Taoyuan, Taiwan	5,378	12	new	5,096	6	ODM/EMS
New Kinpo Group**	Taipei, Taiwan	5,300	13	14	4,200	26	EMS/ODM
Innolux Display	Miao-Li, Taiwan	5,097	14	13	4,784	7	ODM
Elcoteq	Luxembourg	5,070	15	12	5,543	-9	EMS
Venture	Singapore	2,679	16	18	2,561	5	EMS/ODM
Benchmark Electronics	Angleton, TX	2,590	17	15	2,916	-11	EMS
Inventec Appliances	Taipei, Taiwan	2,202	18	16	2,820	-22	ODM/OBM
Universal Scientific Industrial (USI)	Nantou, Taiwan	2,062	19	19	1,984	4	EMS/ODM
MiTAC International	Hsin-Chu Hsien, Taiwan	2,054	20	17	2,746	-25	ODM/OBM
AmTRAN	Chong He City, Taiwan	2,021	21	new	2,048	-1	ODM
Plexus	Neenah, WI	1,840	22	21	1,624	13	EMS
FIC Global	Taipei, Taiwan	1,294	23	20	1,771	-27	ODM
Compal Communications	Taipei, Taiwan	1,148	24	22	1,482	-23	ODM
Ability Enterprise	Taipei, Taiwan	1,063	25	23	1,102	-4	ODM

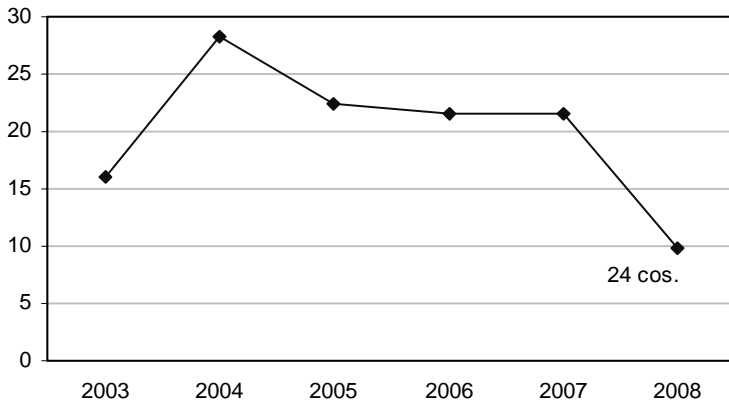
Companies with multiple businesses were classified as EMS or ODM as indicated by the first acronym in the business model description. Some currency conversions, when necessary, were done using average annual exchange rates from the US Federal Reserve.  
\* 2007 rank was based on combined sales of parent company, Asustek.  
\*\* Data represent all three companies in the group.

ten cutoff for 2008 was \$7.68 billion, compared with \$8.07 billion the year before. A sales decline at the tenth company, **Celestica**, effectively lowered the cutoff point.

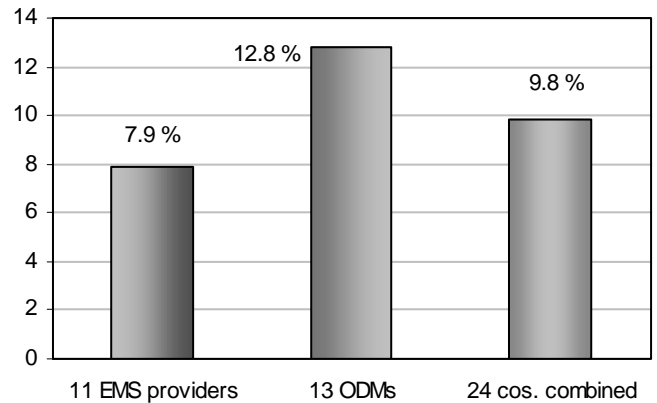
Within the top 10, Hon Hai, Flextronics and **Quanta Computer** remained in first, second and third place respectively. **Compal Electronics**

moved up one position to fourth. The Asustek spinoffs Pegatron/Unihan were ranked fifth, replacing their parent company whose total sales including OBM earned it a fourth place ranking for 2007. **Wistron** moved up two places to sixth, while **Jabil Circuit** moved down one position to seventh. Of all companies listed in 2007,

**Chart 3: Top 25 Growth Rates (%)**



**Chart 4: 2008 Growth Percentages in US\$**



**Inventec** made the greatest advance in the standings by rising three spots to eighth. **TPV Technology** and **Celestica** retained their ninth and tenth positions respectively from the year before.

Based on data from 24 companies in the Top 25 (excluding Pegatron/Unihaan), the ODM sector of the outsourcing space continued to outgrow the EMS side in 2008. Last year, combined sales of the 13 ODMs in this analysis increased by 12.8% (in U.S. dollars). By comparison, total revenue for the 11 EMS providers on the other side rose by 7.9% (Chart 4). The resulting growth gap of 4.9 percentage points was somewhat less than the 2007 differential of 5.9 points but about the same as the 2006 gap.

The fastest growers in 2008 were both classified as ODMs. Wistron's sales soared by 62% in U.S. dollars, while Inventec's climbed by 51%.

Hon Hai continued to defy the law of large numbers with an above-average growth rate of 19% (15% in NT\$). Compared with a composite rate of 9.8% (for 24 companies), Hon Hai's growth in 2008 indicates that it continued to gain share in the outsourcing space. The company's growth rate would have been even higher were it not for the 14% sales decline of its handset subsidiary, **Foxconn International Holdings** (Table 2, p. 2). Hon Hai did have a palpable effect on the composite growth rate. Without Hon Hai, the growth rate would have been 6.8%, showing that the Hon Hai raised composite growth by three percentage points.

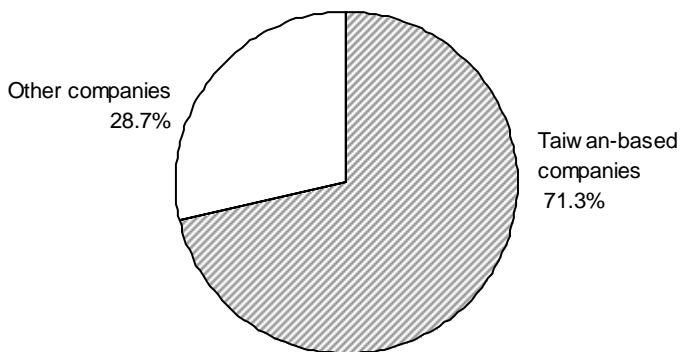
Although the U.S. gave outsourcing its start, the lion's share of outsourcing revenue now comes from companies headquartered in Taiwan. Out of the Top 25 for 2008, 17 companies are Taiwan-based. Last year, these companies

accounted for sales of \$180.8 billion, or 71.3% of the Top 25 total (Chart 5). The Taiwan-based share of Top 25 revenue was slightly higher than the 2007 proportion of 69.7% achieved by 15 Taiwan-based companies. As has been written here more than once, Taiwan's

predominant role in the outsourcing space primarily stems from the growth of the Taiwan-controlled ODM business as well as the rise of Taiwan-based Hon Hai.

*Editor's note:* At least four companies in the Top 25 engage in own-brand manufacturing but do not break out their OBM sales. To some degree, Top 25 sales and growth figures have been influenced by OBM revenue, which is mixed in with outsourcing revenue in these cases. Still, *MMI* believes that OBM represents a minority of company sales in most if not all of these cases. In addition, the EMS-versus-ODM analysis treats companies as one type or the other without allowing for the fact that some companies pursue both EMS and ODM business.

**Chart 5: Taiwan-Based Companies' Share of Top-25 Sales in 2008**



accounted for sales of \$180.8 billion, or 71.3% of the Top 25 total (Chart 5). The Taiwan-based share of Top 25 revenue was slightly higher than the 2007 proportion of 69.7% achieved by 15 Taiwan-based companies. As has been written here more than once, Taiwan's

## ***Downturn Does a Number on Q1 Sales***

Combined Q1 sales for the 11 largest EMS providers dropped distressingly by 21.5% year over year as the global downturn had its way with OEM demand. These companies accounted for Q1 sales of \$25.3 billion, well below their \$32.2 billion in total revenue for the year-ago period. In contrast, a major group of ODMs was not as hard hit, though it too showed a double-digit sales decline for the quarter. For 11 large Taiwan-based ODMs, Q1 revenue totaled \$18.0 billion,

down 11.3% from a year earlier.

The revenue decrease for the ODM group was 10.2 percentage points less than that of the EMS set. If this result is indicative of the outsourcing space at large, then the ODM model is holding up better than the EMS paradigm during the global economic crisis.

Together, the 11 EMS providers and 11 ODMs produced Q1 sales of \$43.3 billion, 17.5% below the year-earlier level (Table 1). It is clear from this decline that the secular trend in outsourcing was overwhelmed in Q1 by a broad-based and precipitous loss of demand.

Profitability took a hit as well. Collectively, the 22 companies produced a Q1 net loss of \$574 million, compared with a net profit of \$1.0 billion for the same period a year ago (Table 1). That's a swing of \$1.6 billion in the wrong direction.

On the EMS side, the six U.S.-traded EMS providers all experienced sequential sales declines in double digits for Q1, and all but one (**Jabil Circuit**)

recorded year-over-year decreases in double figures. In the aggregate, the sequential drop for these U.S.-traded providers amounted to 24.5%, while the year-over-year decline was 23.1% (Table 2).

Composite gross margin (GAAP) for the U.S.-traded subset equaled 4.3%, down 70 basis points from the year-earlier period. Margins ranged from 2.0% for **Flextronics** to 9.2% for **Plexus** (Table 2). Not surprisingly, combined gross income (GAAP) fell at a faster rate of decline – 35.1% from a year earlier – than sales did.

Despite double-digit sales declines in Q1, half of the U.S.-traded providers achieved positive operating income and net income (GAAP) for the quarter. On the other hand, net losses are adding up for the U.S.-traded providers as a whole. The U.S.-traded sub-

group racked up a total net loss of \$1.1 billion in Q1, which followed a net loss of \$7.3 billion in the prior quarter. Goodwill write-offs were easily the largest contributor to these losses.

Of the 11 largest EMS providers, five are traded outside North America. When Q1 sales of these five were expressed in U.S. dollars, sales totaled \$13.2 billion, off 20.0% year over year. All five providers showed year-over-year sales declines in U.S. dollars, although **Cal-Comp Electronics** posted a small gain in its native currency (Table 3).

As a standard practice, *MMI* converts sales to U.S. dollars by using an

EMS Group	No. of cos.	Q1 '09 revenue	Q1 '08 revenue	% chg.	Q1 '09 net profit	Q1 '08 net profit
Listed outside U.S.	5	13,230	16,538	-20.0	362	572
U.S.-listed	6	12,020	15,622	-23.1	(1,110)	(67)
Combined EMS	11	25,250	32,160	-21.5	(748)	505
ODM Group	11	18,000	20,291	-11.3	174	529
<b>Total/avg.</b>	<b>22</b>	<b>43,250</b>	<b>52,451</b>	<b>-17.5</b>	<b>(574)</b>	<b>1,034</b>

**Table 2: Q1 2009 GAAP Results for Six Large EMS Providers, U.S.-Traded (M US\$ or %)**

Company (in order of Q1 sales)	Q1 '09 sales	Q4 '08 sales	Qtr.-qtr. chg.	Q1 '08 sales	Yr.-yr. chg.	Q1 '09 gross profit	Q1 '09 gross marg.	Q1 '08 gross profit	Q1 '08 gross marg.	Q1 '09 oper. inc.	Q1 '09 oper. marg.	Q1 '08 oper. inc.	Q1 '08 oper. marg.	Q1 '09 net inc.	Q4 '08 net inc.	Q1 '08 net inc.
Flextronics	5,582.5	8,153.3	-31.5	7,775.4	-28.2	108.9	2.0	263.9	3.4	(136.4)*	-2.4	(47.1)*	-0.6	(239.8)	(6,015.1)	(92.8)
Jabil	2,887.4	3,382.5	-14.6	3,058.6	-5.6	155.5	5.4	187.9	6.1	(705.6)	-24.4	1.6	0.1	(866.1)	(275.9)	(24.0)
Celestica	1,469.4	1,935.4	-24.1	1,835.7	-20.0	111.2	7.6	115.0	6.3	31.3	2.1	41.2	2.2	19.2	(822.2)	29.8
Sanmina-SCI	1,195.1	1,419.3	-15.8	1,817.4	-34.2	68.6	5.7	124.6	6.9	(13.2)	-1.1	(8.6)	-0.5	(37.5)	(25.3)	(24.4)**
Benchmark	496.8	581.8	-14.6	684.3	-27.4	31.6	6.4	45.1	6.6	10.2	2.1	21.1	3.1	9.2	(203.7)	22.3
Plexus	388.9	456.1	-14.7	451.0	-13.8	35.8	9.2	51.6	11.4	5.4	1.4	27.6	6.1	5.0	17.0	22.1
<b>Total/avg.</b>	<b>12,020.1</b>	<b>15,928.4</b>	<b>-24.5</b>	<b>15,622.4</b>	<b>-23.1</b>	<b>511.6</b>	<b>4.3</b>	<b>788.1</b>	<b>5.0</b>	<b>(808.3)</b>	<b>-6.7</b>	<b>35.8</b>	<b>0.2</b>	<b>(1,110.0)</b>	<b>(7,325.2)</b>	<b>(67.0)</b>

\*Intangible amortization was subtracted from reported operating income. \*\*Company's net income includes discontinued operations of PC business.

**Table 3: Q1 2009 Results for Five Large EMS Providers Traded Outside the U.S.**

Company	Home base	Currency	Q1 '09 sales	Q1 '08 sales	% chg.	Q1 '09 net inc.	Q1 '08 net inc.	% chg.	Q1 '09 sales (M US\$)	Q1 '08 sales (M US\$)	% chg.	Q1 '09 net inc. (M US\$)	Q1 '08 net inc. (M US\$)
Hon Hai	Taiwan	M NT\$	378,329	415,196	-8.9	13,346	16,074	-17.0	11,137	13,174	-15.5	393	510
Cal-Comp*	Thailand	M baht	24,242	23,413	3.5	103	617	-83.3	687	756	-9.2	3	20
Elcoteq	Luxembourg	M euros	470.0	908.7	-48.3	(46.1)	(11.3)	NA	612	1,363	-55.1	(60)	(17)
Venture	Singapore	K S\$	725,519	939,137	-22.7	27,728	56,334	-50.8	480	667	-28.1	18	40
USI	Taiwan	M NT\$	10,684	18,206	-41.3	265	607	-56.3	315	578	-45.6	8	19
<b>Total</b>									<b>13,230</b>	<b>16,538</b>	<b>-20.0</b>	<b>362</b>	<b>572</b>

Currencies were converted to US\$ by using 3-month averages of monthly 2008 and 2009 data from the U.S. Federal Reserve.  
\*Largest member of New Kinpo Group.

Company	Q1 '09 sales (M NT\$)	Q1 '08 sales (M NT\$)	% chg.	Q1 '09 oper. marg.	Q1 '08 oper. marg.	Q1 '09 net. inc. (M NT\$)	Q1 '08 net. inc. (M NT\$)	Q1 '09 sales (M US\$)	Q1 '08 sales (M US\$)	% chg.	Q1 '09 net. inc. (M US\$)	Q1 '08 net. inc. (M US\$)
Quanta	166,098	206,429	-19.5	2.6	2.3	4,383	4,003	4,889	6,550	-25.4	129	127
Compal	120,024	120,999	-0.8	3.2	3.6	2,800	3,209	3,533	3,839	-8.0	82	102
Wistron	112,524	86,810	29.6	1.2	1.9	1,424	1,677	3,312	2,754	20.3	42	53
Inventec	98,932	71,891	37.6	0.9	1.2	1,411	511	2,912	2,281	27.7	42	16
Qisda	33,307	41,076	-18.9	-2.3	-1.2	(2,146)	1,753	980	1,303	-24.8	(63)	56
Innolux	30,414	41,287	-26.3	-8.8	8.6	(2,607)	3,307	895	1,310	-31.7	(77)	105
AmTRAN	16,812	19,201	-12.4	4.8	2.0	422	286	495	609	-18.8	12	9
MiTAC	14,031	15,342	-8.5	-4.7	3.1	(212)	718	413	487	-15.2	(6)	23
Inventec Appliances	8,001	19,392	-58.7	-2.2	4.8	22	520	236	615	-61.7	1	16
Compal Communications	6,107	9,506	-35.8	0.0	2.9	146	379	180	302	-40.4	4	12
Ability Enterprise	5,226	7,572	-31.0	4.3	3.8	263	313	154	240	-36.0	8	10
<b>Total/avg.</b>	<b>611,476</b>	<b>639,505</b>	<b>-4.4</b>	<b>1.2</b>	<b>2.7</b>	<b>5,906</b>	<b>16,676</b>	<b>18,000</b>	<b>20,291</b>	<b>-11.3</b>	<b>174</b>	<b>529</b>

Currency was converted to US\$ by using 3-month averages of monthly 2008 and 2009 data from the U.S. Federal Reserve.

average exchange rate pegged to each reporting period. Compared with the year-ago quarter, the U.S. dollar strengthened against the reporting currencies of these companies. Hence, their sales decreased by a greater amount when converted to U.S. dollars. This practice does introduce distortion where business is not transacted in U.S. dollars.

Consolidated Q1 sales of Taiwan-based **Hon Hai Precision Industry** amounted to \$11.1 billion, twice those of its nearest competitor, Flextronics (Table 3, p. 4). Hon Hai's Q1 revenue in U.S. dollars fell by 15.5% (8.9% in NT dollars) from a year earlier, beating the EMS and overall averages by six and two percentage points respectively. Hon Hai's Q1 net income decreased faster than its revenue; net income fell by 23.0% year over year in U.S. dollars (17.0% in NT dollars).

**Elcoteq**, another EMS provider listed outside North America, endured the greatest Q1 sales drop on the EMS side. Revenue fell 55.1% in U.S. dollars (48.3% in euros) from the year-ago quarter. Euro-denominated sales in the company's Personal Communications business, its largest segment at 48% of Q1 revenue, were down 67%

year over year mainly due to the manufacturing re-allocation and insourcing decisions made by **Nokia** (see also April, p. 5). Out of the five EMS providers traded outside North America, Elcoteq was the only one that wasn't profitable in Q1 (Table 3).

While the 11 Taiwan-based ODMs as a group sustained less the damage to Q1 revenue than their EMS counterparts did, sales results were quite uneven across the ODM group. At one end of the range, **Inventec** and **Wistron** saw their Q1 sales in U.S. dollars grow by 27.7% and 20.3% respectively (37.6% and 29.6% in NT dollars) from a year earlier. But these were the only two ODMs in the group to report sales increases. At the other end, **Inventec Appliances** and **Compal Communications** suffered sales declines in U.S. dollars of 61.7% and 40.4% respectively (58.7% and 35.8% in NT dollars). (See Table 4.)

Combined Q1 operating income for the ODM group deteriorated much faster than group sales. Operating income dropped by 61.2% in U.S. dollars (58.2% in NT dollars) from the year-ago period, compared with a sales decline of 11.3% in U.S. dollars (4.4% in NT dollars). Composite operating

margin decreased by 150 basis points to 1.2%. Five of the ODMs had zero or negative operating margins. Net income for Q1 totaled \$174 million, down 67.1% year over year.

### **Q1 Results for Smaller U.S.-Traded Providers**

Combined Q1 sales for seven smaller U.S.-traded providers fell by 18.8% sequentially and 16.4% year over year, but these declines were both less than the comparable 24.5% and 23.1% decreases calculated for the group of the six largest U.S.-traded providers.

Three out of the seven smaller players managed to avoid a lowering of revenue quarter to quarter, but only one was able to generate Q1 growth year over year. That provider, **IEC Electronics**, posted a year-over-year increase of 36.8%. Contributing to this gain was the company's 2008 acquisition of a manufacturer of wire harness assemblies. Four of these providers recorded double-digit sales declines from a year earlier, with **Nam Tai Electronics** and **Nortech Systems** in the 30% range (table, p. 6).

**Q1 2009 GAAP Results for Seven Smaller EMS Providers, U.S.-Traded (M US\$ or %)**

Company (in order of Q1 sales)	Q1 '09 sales	Q4 '08 sales	Qtr.- qtr. chg.	Q1 '08 sales	Yr.-yr. chg.	Q1 '09 gross profit	Q1 '09 gross marg.	Q1 '08 gross profit	Q1 '08 gross marg.	Q1 '09 oper. inc.	Q1 '09 oper. marg.	Q1 '08 oper. inc.	Q1 '08 oper. marg.	Q1 '09 net inc.	Q4 '08 net inc.	Q1 '08 net inc.
Nam Tai	102.2	169.0	-39.5	147.1	-30.5	7.1	7.0	19.5	13.3	(6.5)	-6.4	7.8	5.3	(3.9)	(14.4)	28.4
LaBarge	72.2	68.2	5.9	75.4	-4.2	14.7	20.4	15.0	19.9	6.8	9.4	7.3	9.7	3.8	0.2	4.3
Sparton	54.6	54.5	0.2	58.1	-6.0	5.0	9.2	4.7	8.1	0.1	0.1	(0.4)	-0.7	(0.8)	(2.8)	0.6
SMTC	48.5	61.1	-20.6	55.1	-12.0	2.8	5.8	4.4	8.0	(2.0)	-4.1	1.4	2.5	(2.5)	(0.1)	0.4
Key Tronic	44.2	47.0	-6.0	51.5	-14.2	3.3	7.5	4.2	8.2	0.4	1.0	1.5	2.9	0.3	0.1	1.2
Nortech	21.6	27.0	-20.0	31.2	-30.8	0.8	3.8	4.8	15.4	(2.1)	-9.7	1.2	3.8	(1.3)	0.1	0.6
IEC	16.3	15.8	3.2	11.9	36.8	2.6	16.0	1.4	11.6	1.1	7.0	0.4	3.2	2.6	0.5	0.7
<b>Total/avg.</b>	<b>359.6</b>	<b>442.6</b>	<b>-18.8</b>	<b>430.3</b>	<b>-16.4</b>	<b>36.3</b>	<b>10.1</b>	<b>54.0</b>	<b>12.5</b>	<b>(2.2)</b>	<b>-0.6</b>	<b>19.2</b>	<b>4.5</b>	<b>(1.8)</b>	<b>(16.4)</b>	<b>36.2</b>

Despite the downturn, the smaller providers collectively achieved a double-digit gross margin for Q1, albeit 240 basis points below the year-earlier level. The group's gross margin for the quarter stood at 10.1%, compared with 12.5% for the same period a year ago. The composite Q1 margin of the smaller providers was far above the 4.3% group margin of the large providers in the U.S.-traded sector. Still, aggregate gross income was down 32.7% year over year, slightly below the 35.1% drop computed for the large providers. Both **LaBarge** and **IEC**

Electronics attained two-digit gross margins, and top honors went to **LaBarge** (table above).

Three of smaller providers reported an operating loss for the quarter, and four recorded a net loss. Operating loss for the smaller providers totaled \$2.2 million versus operating income of \$19.2 million in the year-ago period, and net loss amounted to \$1.8 million compared with a net loss of \$16.4 million in the prior quarter and net income of \$36.2 million a year earlier.

Six out of the seven companies are based in North America, while only

**Nam Tai** has its headquarters and all of its manufacturing in Asia. If the six North American providers are considered as a separate group, the sequential and year-over-year sales declines for Q1 narrow to 5.9% and 9.1% respectively. Gross margin for this North American group rises to 11.4%. The group produced an operating margin of 1.7%, down from 4.0% a year earlier. Net income totaled \$2.1 million versus a net loss of \$2.0 million in the prior quarter and net income of \$7.8 million in the year-ago period.

## Q2 Estimates Offer Some Solace

If the six largest U.S.-traded providers hit the midpoint of their Q2 sales guidance, then the first half of 2009 will look as bad for this sector as the disastrous first quarter did based on a year-over-year comparison of revenue. First-half estimates incorporating the midpoint of companies' Q2 sales guidance total \$23.57 billion, down 26.3% from the year-earlier period. This decline is actually 3.2

percentage points worse than the year-over-year drop in Q1. But despite this gloomy projection, one can also find solace in a different comparison.

When the sum of Q2 guidance midpoints is measured against Q1 revenue for this group of six, things don't look so bad. Q2 midpoints add up to \$11.55 billion, representing a 3.9% decrease

from Q1 (table). Compare that projected change to Q1's composite free-fall of 24.5% from the prior quarter. If Q2 sales come in at guidance midpoints, then the aggregate sales decline quarter to quarter will be a lot more tolerable than what happened in Q1.

What if providers' Q2 sales don't reach the middle of their guidance

### Q2 Guidance and First-Half 2009 Revenue Estimates for Six Large U.S.-Traded Providers (sales in B\$ except as noted)

Company	Q1 '09 sales	Q2 guidance	Q2 midpoint	Qtr.-qtr. change	Q1-2 '09 estimated sales	Q1-2 '08 sales	% esti- mated growth	Q1 EPS Non- GAAP* \$	Q2 Guidance Non- GAAP* \$
Flextronics	5.58	5.0 - 6.0	5.5	-1.5	11.08	16.13	-31.3	0.03	0.04 - 0.08
Jabil	2.89	2.5 - 2.7	2.6	-10.0	5.49	6.15	-10.7	0.13	(0.08) - 0.08
Celestica	1.47	1.3 - 1.45	1.375	-6.4	2.84	3.71	-23.4	0.13	0.07 - 0.13
Sanmina-SCI	1.20	1.175 - 1.250	1.213	1.5	2.41	3.72	-35.3	(0.06)	(0.04) - (0.02)
Benchmark	497 M	460 - 520 M	490 M	-1.4	0.99	1.37	-27.8	0.16	0.13 - 0.21
Plexus	389 M	355 - 385 M	370 M	-4.9	0.76	0.91	-16.4	0.28	0.18 - 0.25
<b>Total</b>	<b>12.02</b>		<b>11.55</b>	<b>-3.9</b>	<b>23.57</b>	<b>31.98</b>	<b>-26.3</b>		

First-half 2009 estimates equal Q1 sales plus midpoint of Q2 guidance.

\*Non-GAAP EPS may not be comparable from company to company.

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range? One pessimistic scenario would have revenue at the low end of each company's guidance. Under that scenario, combined sales would decrease by 10.2% sequentially, indicating the possibility of a more distant recovery.

On the other hand, what if estimates based on guidance midpoints are too conservative? If providers' Q2 revenues match the high end of their guidance, then the group would achieve sequential growth of 2.4%, making the case for the start of a recovery for this sector of the EMS industry.

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## News

### **Toshiba To Outsource Phone Production**

Japan's **Toshiba** said it will outsource mobile phone production for the Japanese market to EMS providers outside the country. The company's Hino operations in Japan, a mobile phone facility serving the Japanese market, will outsource manufacturing to overseas EMS providers starting October 2009.

The approximately 200 employees now engaged in mobile phone production at Hino will be reassigned within Toshiba group.

Japan's mobile phone market went into a steep decline following the introduction of a new sales system that raised handset prices and encouraged a long-term replacement cycle. The decline was reinforced by a loss of consumer demand resulting from the current recession. In responding to these new market conditions, Toshiba has undertaken a full review of mobile phone production under profitability improvement programs announced in January.

Product development and design will continue at Hino, which will also focus on product control, NPI support for EMS providers, and repair and service.

Smart phone production for all

With Q2 sales estimates set equal to guidance midpoints, sequential sales growth for the quarter would range from -10.0% for **Jabil Circuit** to 1.5% for **Sanmina-SCI**. But first-half projections incorporating these Q2 estimates show double-digit declines year over year for each company in the group. If these projections prove accurate, first-half sales at four out of six providers would drop by more than 20% from a year earlier, with **Flextronics** and Sanmina-SCI each posting decreases over 30% (lower table, p. 6).

markets will continue to take place at a Toshiba operation in Hangzhou, China.

Toshiba produced 3 million handsets in its last fiscal year, and most of them went into the Japanese market, according to a report by the *Associated Press*.

*Some new business...* **Enphase Energy** (Petaluma, CA) has selected **Flextronics** (Singapore) as its global manufacturing partner for the production of solar microinverters. Enphase Microinverter Systems convert the DC output of a single solar module into AC power....A top-five North American automotive supplier has awarded **Kimball Electronics Group** (Jasper, IN) a three-year contract to produce Bluetooth hands-free radio devices for the automotive OEM market. Paired with Bluetooth-enabled mobile phones, these devices provide drivers with cell phone calls through a vehicle's audio system. Annual volume is expected to exceed 500,000 units. Production will take place at Kimball's Jasper, IN, facility, which has been manufacturing Bluetooth devices since 2007....The Rogerstone, UK, site of **TT electronics integrated manufacturing services** (Weybridge, UK) has won a contract in excess of £2.5 million a year to supply PCB manufacturing services to **Crowcon Detection Instruments** (Abingdon, Oxfordshire,

Flextronics' Q2 guidance implies that non-GAAP EPS will improve from the prior quarter. Sanmina-SCI's internal forecast is also targeting non-GAAP EPS improvement, but the company would still produce a non-GAAP loss per share, based on this outlook. Both Jabil and **Plexus** expect their non-GAAP EPS to decrease sequentially in Q2. **Celestica's** Q2 guidance calls for non-GAAP EPS to remain flat or decline versus the prior quarter. No such conclusions can be drawn from **Benchmark's** guidance.

UK), a maker of portable and fixed gas detection products. Crowcon decided to move to a single manufacturing partner.

*Facility projects...* **Hon Hai Precision Industry** (Tucheng City, Taiwan) will invest 30 billion yuan (\$4.4 billion) to erect an industrial park in Xiamen, China, with an emphasis on optoelectronics and will start construction in July for an R&D center in the Kaohsiung Software Park in Taiwan, reported Asian sources *Digitimes* and *China Knowledge*....EMS provider **Cirtronics**, which is celebrating its 30-year anniversary, has added 75,000 ft<sup>2</sup> to its facility in Milford, NH, since the beginning of the year....**Sibex, Inc.** (Safety Harbor, FL), an EMS company using the trade name Sibex Electronics, is building a 52,500-ft<sup>2</sup> manufacturing facility in Homosassa, FL.

*Technology sharing...* **Freescale Semiconductor** has partnered with Flextronics to create a high-performance reference design for the enterprise WLAN access point market....A researcher from Singapore's Agency for Science, Technology and Research enabled **CEI Contract Manufacturing** (Singapore) to strengthen its capabilities in electro-optics under a government-sponsored program, *The Straits Times* reported.

## Lean Supply Chains Could Turn Mean

So far, the pursuit of lean supply chains has proved a good thing for those who participate at the various stages of a supply chain. Levels of inventory overhang that burdened providers and OEMs during the last recession are absent this time around. In today's environment, supply-chain players conserve cash by minimizing the amount of inventory they control and the capital tied up therein. But lean supply chains are not necessarily a strategy for all seasons. These chains could end up getting in the way of a recovery.

Not only has inventory been taken out of supply channels, but there are concerns that downstream suppliers seeking to create leaner operations during the downturn have also cut back on capacity. "Throughout the past few quarters of downturn there has been capacity taken out of many points in the supply chain, which will make the spring-back to action more difficult in different points," said Gayla Delly, president of **Benchmark Electronics**, during the company's earnings conference call in April. Benchmark is trying to anticipate how quickly its supply chain will be able to respond when markets come back.

For many EMS programs, new orders will not start with a return of end market

demand. In such cases, providers will start ramping production when OEM customers give them orders to begin supplying product for finished goods stocks that have been drawn down during the recession. Another sign of an industry recovery will appear when customers restart new programs that have been pushed out or put on hold.

What happens if large numbers of OEMs decide to restart programs or increase production at about the same time? This scenario could very well happen. The downturn was broad in its reach, prompting a reduction in finished goods stocks across the board. If markets stabilize around the same time, many OEMs will start thinking about ordering more product to fill their channels. Others will consider restarting programs that have been delayed or suspended.

At one EMS provider, **I. Technical Services**, several of its new customers across various industries will resume their program schedules around the July to August time frame. If many other OEMs have similar plans for the summer, that could spell trouble. "My concern, as we have seen before, is if all of these requirements in different industries start up late summer, we could see some component-level and capacity shortages as they all vie for the same resources," said Michael Thompson, CEO of I. Technical Services (and an

*MMI* adviser). He points to past shortages of LEDs, tantalum capacitors, oscillators, raw card capacity and even memory. "With this timing along with the end of the year selling cycle before school starts, holidays and a slightly recovering economy, there could be component-level shortages ahead," he warned.

If lean supply chains end up causing component-level shortages that delay shipments during a recovery, it will become apparent that there are times when inventory is not such a bad thing.

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