

# Manufacturing Market™ INSIDER

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## Five-Year Forecast of No Growth for EMS

EMS revenue will not grow over the period 2008 to 2013, according to a new forecast from market research service **InForum**. After falling sharply in 2009, EMS industry sales are not projected to reach their 2008 level again until 2013.

The new forecast estimates that EMS revenue will drop by 18.6% from \$126.7 billion in 2008 to \$103.1 billion in 2009. InForum predicts that the EMS industry will start to grow again in 2010 when sales will increase 4.5% to \$107.8 billion. Steady year-to-year growth in the range of 5.2 to 6.2% will then follow in the three subsequent years. But it will take four years of growth to gain back the revenue lost in 2009, based on InForum's forecast. In 2013, the final year of the forecast, EMS revenue will rise to a projected \$126.9 billion, virtually the same value as at the start of the forecast (see table).

If one excludes 2008 from the forecast period, EMS becomes a growth industry. A four-year CAGR of 5.3% from 2009 to 2013 can be calculated from InForum's forecast data for EMS revenue.

On the other hand, if one extends the forecast period to include the years 2006 and 2007, the EMS industry takes on a negative CAGR over the seven-year period. That's because according to InForum's data EMS revenue in 2006 totaled \$147.2 billion, \$20.3 billion higher than the 2013 value at the end of the forecast.

	2008	2009	2010	2011	2012	2013
TAM	\$1,270,924	\$1,153,196	\$1,202,773	\$1,263,816	\$1,316,734	\$1,373,795
EMS	\$126,747	\$103,122	\$107,773	\$114,407	\$120,302	\$126,858
ODM	\$115,822	\$106,578	\$113,212	\$121,762	\$128,479	\$135,330
Total outsourcing	\$242,569	\$209,700	\$220,986	\$236,168	\$248,781	\$262,188

Source: InForum

The EMS industry has always taken for granted that it is larger than the ODM side of the outsourcing space, but InForum's estimates have the EMS industry losing its size advantage. This year, ODM revenue will exceed EMS revenue, \$106.6 billion to \$103.1 billion, according to InForum's forecast. InForum notes that a major influence on the new forecast was the manner in which InForum treated the revenues for **Foxconn**, which for the first time were not all included in the EMS sector, but split between the EMS and ODM industries.

InForum reckons that ODM revenue will decline in 2009, but not as steeply as EMS revenue will. Estimat-

ed ODM sales of \$106.6 billion in 2009 represent an 8% decrease from 2008. The five-year forecast yields a CAGR of 3.2% for the ODM side, which starts at \$115.8 billion in 2008 and ends up at \$135.3 billion in 2013. In this forecast, the ODM industry loses its claim to fame as a high-growth business.

When 2008 is omitted from the CAGR calculation, a four-year CAGR of 6.2% for ODM revenue can be obtained from the forecast data. Compare that with the projected EMS CAGR of 5.3% over the same period. The InForum forecast implies that the ODM sector will grow less than one percentage point faster than the EMS industry

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## Market Data

over the next four years.

This year, combined outsourcing revenue (EMS plus ODM) will be down 12.6%, compared with a 9.3% decrease for the TAM (total available market), per InForum's forecast. In the following two years, outsourcing revenue is projected to grow at slightly higher rates than the TAM. The forecast calls for outsourcing revenue to increase 5.4% and 6.9% in 2010 and

2011 respectively, compared with growth of 4.3% and 5.1% for the TAM.

In 2008, outsourcing accounted for \$242.6 billion out of a \$1.27-trillion TAM, according to InForum. These numbers yield a penetration rate of 19%. At the end of the forecast period in 2013, outsourcing is projected at \$262.2 billion out of a \$1.37-trillion TAM, with the penetration rate essen-

tially unchanged. Penetration does not increase over the forecast period because in this forecast both outsourcing and TAM have the same five-year CAGR of 1.6%.

InForum's annual Five Year Forecast for the Electronics Manufacturing Industry was released to members this month at the Silicon Valley Q4 Forum. For more information, go to [www.inforuminc.com](http://www.inforuminc.com).

### Q3 Improvement for Top 11

Based on Q3 sales, recovery appears to have begun for a major part of the EMS industry, that is, the group consisting of the 11 largest EMS providers. Q3 revenue for the top-11 group, which totaled \$31.3 billion, was up 14.5% sequentially (Table 1). Although this growth was skewed by **Hon Hai's** 25.3% increase (in U.S. dollars), the combined Q3 revenue of the ten other providers still rose by

4.4% from the prior quarter. Sequential growth both with and without Hon Hai indicates that sales in the top-11 segment have bottomed out and are headed upward, at least for now. Here's another positive sign. Out of the 11 providers, only one company failed to achieve a sequential sales increase in Q3.

But it should come as no surprise that year-over-year results for the top 11 remain dismal. Both Q3 and nine-month revenue for the group fell by over 19% from the corresponding period a year ago (Table 1). Nine-month

sales for the top 11 amounted to \$83.7 billion versus \$103.9 billion a year earlier.

#### Some results in brief

Q3 results for some top-11 providers are briefly summarized below. Results for other companies in the group appeared last month (Oct., p. 3).

**Benchmark Electronics.** Q3 revenue of \$510.5 million increased by 5.9% over Q2. Benchmark saw stronger shipments in all of its sectors except telecom. Non-GAAP gross margin amounted to 7.2%, which was

**Table 1: Q3 and Nine-Month 2009 Results for the 11 Largest EMS Providers (M US\$ or %)**

Company (in order of 9-mo. sales)	Head- quarters	Reports in US\$	Q3 '09 sales	Q2 '09 sales	Qtr.- qtr. chg.	Q3 '08 sales	Yr.-yr. chg.	Q3 '09 net profit	Q3 '08 net profit	Q1-3 '09 sales	Q1-3 '08 sales	Yr.-yr. chg.	Q1-3 '09 net profit	Q1-3 '08 net profit
Hon Hai (Foxconn)	Tucheng City, Taiwan	No	16,435	13,113	25.3	18,379	-10.6	559	571	40,591	44,587	-9.0	1,403	1,476
Flextronics	Singapore	Yes	5,832	5,783	0.8	8,863	-34.2	20	39	17,197	24,988	-31.2	(384)	76
Jabil	St. Petersburg, FL	Yes	2,800	2,615	7.1	3,265	-14.3	6	58	8,302	9,412	-11.8	(889)	72
Celestica	Toronto, Canada	Yes	1,556	1,402	11.0	2,031	-23.4	(1)	32	4,428	5,743	-22.9	24	102
Sanmina-SCI	San Jose, CA	Yes	1,354	1,209	12.0	1,704	-20.5	(32)	(474)*	3,758	5,424	-30.7	(111)	(502)*
Cal-Comp Electronics	Bangkok, Thailand	No	833	797	4.5	1,113	-25.2	13	19	2,314	2,706	-14.5	29	58
Venture	Singapore	No	645	575	12.3	691	-6.6	27	29	1,695	2,069	-18.0	86	117
Elcoteq	Luxembourg	No	475	594	-20.1	1,112	-57.3	(10)	(16)	1,690	3,886	-56.5	(102)	(53)
Benchmark Electronics	Angleton, TX	Yes	511	482	6.0	642	-20.4	16	24	1,489	2,008	-25.9	37	68
Plexus	Neenah, WI	Yes	393	379	3.8	476	-17.4	15	17	1,161	1,383	-16.1	29	57
Universal Scien- tific Industrial	Nantou, Taiwan	No	424	362	17.1	536	-21.0	18	7	1,099	1,663	-33.9	37	36
<b>Top-11 Total/avg.</b>			<b>31,257</b>	<b>27,310</b>	<b>14.5</b>	<b>38,811</b>	<b>-19.5</b>	<b>631</b>	<b>305</b>	<b>83,723</b>	<b>103,869</b>	<b>-19.4</b>	<b>159</b>	<b>1,506</b>
<b>Total/avg. without Hon Hai</b>			<b>14,822</b>	<b>14,197</b>	<b>4.4</b>	<b>20,432</b>	<b>-27.5</b>	<b>72</b>	<b>(266)</b>	<b>43,132</b>	<b>59,283</b>	<b>-27.2</b>	<b>(1,244)</b>	<b>31</b>

Results in non-U.S. currencies were converted to U.S. dollars by applying a three- or nine-month average exchange rate for the corresponding period. Average exchange rates were based on monthly 2008 and 2009 data from the U.S. Federal Reserve. \*From continuing operations.

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consistent with Q2, while non-GAAP operating margin was 3%, up 20 basis points sequentially. For Q3, non-GAAP EPS equaled \$0.27 versus \$0.19 in the prior quarter and \$0.31 in Q3 2008. The company believes that its profitability improvement will continue, provided that product mix is consistent, due to its cost control measures and the strength of its financial model.

GAAP net income for Q3 stood at \$16.4 million, compared with \$23.6 million a year earlier. Q3 sales were down 20.4% year over year.

Cash flow from operations in Q3 was about \$41 million. During the quarter, Benchmark booked nine new programs totaling \$120 million to \$166 million in estimated annual revenue. **IBM** was the only 10% customer in Q3.

The company expects another quarter of sequential growth, with Q4 sales estimated to be in a range of \$520 million to \$560 million. Benchmark's Q4 outlook also calls for non-GAAP EPS between \$0.22 and \$0.26.

**Elcoteq.** Q3 sales totaled 331.7 million euros, down 23.9% sequentially and 55.2% year over year. Elcoteq said its current challenge is credibility in the market. The company reported that customers have withheld their orders until the company's balance sheet has been restructured (see Oct., p. 7) and the existing credit facility is refinanced. Sales have declined faster than the company has been able to reduce its costs.

Still, operating income continued to improve in Q3 and amounted to a loss of 3.3 million euros, compared with a loss of 11.5 million euros in the prior quarter. Excluding restructuring costs, operating income loss was 1.6 million euros, slightly below break even, compared with a loss of 11.0 million euros in Q2. Elcoteq reported a net loss of 6.3 million euros in Q3 versus a net loss of 11.5 million euros in the year-ago period. In Q3, the company gener-

ated 42.7 million euros in cash flow after investing activities. Interest-bearing net debt decreased by 114.2 million euros from Q3 2008.

For Q4, Elcoteq expects another sequential decline in sales. Operating income is expected to be negative.

**Hon Hai Precision Industry.** Hon Hai's consolidated Q3 sales totaled NT\$538.3 billion, up 24.1% sequentially but down 6.1% year over year. Net income for the quarter equaled NT\$18.3 billion, compared with NT\$17.8 billion a year earlier.

For the first nine months of 2009, revenue added up to NT\$1.35 trillion, 2.5% lower than in the year-ago period. Nine-month operating margin was 3.9%, down from 4.1% a year earlier. Net income attributable to Hon Hai amounted to NT\$46.7 billion versus \$45.8 billion in the first nine months of 2008.

Note that an unknown portion of Hon Hai's revenue comes from businesses other than EMS.

**Plexus.** For its fiscal Q4 ended Oct. 3, revenue totaled \$393.0 million, up 3.8% from the prior quarter. This is the first sequential increase since Q4 of fiscal 2008. Plexus' wireless infrastructure and industrial/commercial sectors performed above expectations, with sales growing sequentially by 44% and 34% respectively. Revenue in the provider's defense/security/aerospace segment also grew from the prior quarter, although slightly below expectations. Sales declined sequentially in the company's wireline/networking and medical sectors where results did not live up to expectations. Year over year, the company's fiscal Q4 revenue fell 17.4%.

Reporting EPS of \$0.38 for the quarter, Plexus exceeded guidance due to a \$0.08 benefit from a lower than expected tax rate for the full year. Gross margin of 9.6% rose by 50 basis points from the prior quarter. Operating margin was 3.8%. During the quarter, the company won 13 new

manufacturing programs anticipated to generate about \$122 million in annualized revenue when fully ramped.

Plexus has set forth Q1 fiscal 2010 guidance of \$405 million to \$430 million for revenue and \$0.31 to \$0.36 for EPS excluding any restructuring charges. This guidance suggests that revenue will be up about 6% at the midpoint.

**Sanmina-SCI.** Sales of \$1.35 billion for fiscal Q4 ended Oct. 3 rose 12.0% sequentially and exceeded the company's outlook of \$1.2 billion to \$1.3 billion. The provider posted sequential increases over 30% in its enterprise computing and storage, industrial/defense/aerospace/automotive, and multimedia segments. Medical sales grew 4.8% from the prior quarter, while communications revenue declined by 7.7%. Versus a year earlier, Sanmina-SCI's fiscal Q4 revenue was down 20.5%.

Non-GAAP EPS reached break-even, compared with the company's outlook of (\$0.18) to (\$0.06) and the prior quarter's EPS of (\$0.14), all on a post-split basis. Non-GAAP gross margin amounted to 7.1%, a sequential improvement of 70 basis points. Non-GAAP operating margin was 2.6%, up 120 basis points from the previous quarter. For fiscal Q4, Sanmina-SCI recorded a GAAP net loss of \$32.3 million. Cash flow from operations was \$45.8 million.

The company's outlook for Q1 fiscal 2010 specifies revenue in a range of \$1.35 billion to \$1.45 billion and non-GAAP EPS of \$0.10 to \$0.15. Sanmina-SCI expects gross margin to continue to improve and is forecasting a margin range of 7.1 to 7.4% for the quarter.

**Universal Scientific Industrial.** USI, which does both EMS and ODM work, recorded Q3 revenue of NT\$13.89 billion, up 15.9% sequentially, with sales improving in all of its segments from the prior quarter. Revenue increased sequentially by more

than 20% in USI's computer and peripherals, communications products, and industrial and automotive segments. Compared with Q3 2008, sales (in NT\$) were down 17.1%.

Gross margin in Q3 was 12.2%, 90 basis points higher than in Q2 mainly due to better product mix, cost reduction and efficiency improvement. Operating margin came in at 4.8%, up 140 basis points sequentially. For Q3, USI earned net income of NT\$605 million, a 73% improvement over the prior quarter and a 163% advance

from a year earlier.

The company expects to see flat revenue growth for Q4.

**Venture.** The provider achieved Q3 revenue of S\$927.8 million, down 3.9% from the year-ago period but up 9.7% from the prior quarter. This sequential improvement follows a 16.6% increase from Q1 to Q2, and company said the quarter-over-quarter improvement in 2009 is broad-based across all product categories. Q3 profit after tax and minority interest (PATMI) was S\$38.2 million, 4.7% below the year-

earlier value and 61.2% lower than the Q2 figure. Adjusted PATMI rose slightly to S\$40.8 million from the prior quarter and represented 4.4% of Q3 sales, compared with 4.8% in Q2. Q3 EPS equaled S\$0.139, down from S\$0.222 in the second quarter.

In Q3, cash flow from operations amounted to S\$92.3 million. At the close of the quarter, Venture remained net cash positive at S\$293.4 million. Since the end of 2008, the net cash position has improved by more the 52%.

## 2nd Quarter of Sequential Growth Projected

Together, the six largest U.S.-traded EMS providers will generate a sequential sales increase of 6.7% in Q4, if they hit the midpoint of their Q4 sales guidance. This increase would

mark the group's second straight quarter of sequential improvement. In Q3, combined sales rose by 4.8% from the prior quarter. What's more, Q4 estimates pegged to guidance midpoints

show all six companies producing sequential sales growth in Q4, with increases ranging from 3.4% to 10.7% (table).

For 2009, sales for the six providers are projected to total \$49.6 billion, down 23.5% year over year.

**Q4 2009 Guidance and Estimates for the Six Largest U.S.-Traded Providers** (sales in B\$ except as noted)

Company	Q4 guidance	Q4 midpoint	Q3 '09 sales	Qtr.-qtr. estim. chg.	Q4 '08 sales	Yr.-yr. estim. chg.	Q1-3 '09 sales	2009 estimated sales	2008 sales	esti- mated change	Q3 EPS Non-GAAP* \$	Q4 Guidance Non-GAAP* \$
Flextronics	6.0 - 6.4	6.2	5.83	6.3%	8.15	-24.0%	17.20	23.40	33.14	-29.4%	0.13	0.14 - 0.16
Jabil	3.0 - 3.2	3.1	2.80	10.7%	3.38	-8.4%	8.30	11.40	12.79	-10.9%	0.16	0.24 - 0.32
Celestica	1.55 - 1.70	1.625	1.56	4.4%	1.94	-16.0%	4.43	6.05	7.68	-21.2%	0.17	0.14 - 0.20
Sanmina-SCI	1.35 - 1.45	1.4	1.35	3.4%	1.42	-1.4%	3.76	5.16	6.84	-24.6%	0.00	0.10 - 0.15
Benchmark	520 - 560 M	540 M	0.51	5.8%	0.58	-7.2%	1.49	2.03	2.59	-21.7%	0.27	0.22 - 0.26
Plexus	405 - 430 M	417.5 M	0.39	6.2%	0.46	-8.5%	1.16	1.58	1.84	-14.2%	0.38	0.31 - 0.36
<b>Total</b>		<b>13.28</b>	<b>12.45</b>	<b>6.7%</b>	<b>15.93</b>	<b>-16.6%</b>	<b>36.33</b>	<b>49.62</b>	<b>64.89</b>	<b>-23.5%</b>		

Q4 estimates equal midpoint of Q4 guidance. 2009 estimates equal nine-month sales plus midpoint of Q4 guidance.  
\*Non-GAAP EPS may not be comparable from company to company.

## Market Sector

### Automotive Market Driving Providers in Different Directions

Over the years, automotive electronics have held a certain allure for the EMS industry. The automotive sector has two qualities that EMS providers love to see. It has one of the lowest rates of penetration by the EMS industry, and the increasing electronics content of cars offers a built-in mecha-

nism to help propel long-term growth in the segment. Despite the perennial promise of automotive electronics as an engine of EMS growth, not every provider in the space is an advocate of automotive EMS.

Automotive electronics are often grouped with other lightly penetrated segments under the umbrella of non-traditional markets with lots of untapped outsourcing potential as opposed to the IT and communications sectors, which have been extensively mined by the EMS industry. But the structure of automotive sector sets it

apart from other nontraditional segments. When car companies farm out electronic systems, the design and manufacturing work goes to a company in the first tier of automotive suppliers. EMS providers in the automotive chain typically function as second-tier suppliers whose business in the sector depends on outsourcing from tier-one suppliers. Ultimately, this dependence on tier-one outsourcing has not been a recipe for success in the case of one EMS provider. Another has shunned the standard EMS role as a tier-two supplier in favor of a fo-

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cus on providing ODM products for automotive OEMs. Yet other EMS providers remain committed to building automotive electronics for their tier-one customers.

### Long-term growth still projected

Although not all EMS providers have the same approach to the automotive electronics segment, they faced a common problem in the well-publicized slowdown of the automobile market that began with the financial crisis of 2008. A lack of car buying drove volumes down in the supply chain. But that wasn't the only issue. Chris Thyen, VP of business development at **Kimball Electronics Group**, has seen cases where awarded programs or development work were delayed because of financial concerns. Program delays have also occurred for another reason. Thyen is aware of instances where the introduction of a next-generation module for a car platform has been postponed because the new unit offered only a marginal advantage over the existing technology. "We have seen where launches have been delayed for one and two years," he said.

But for Kimball Electronics, these effects have been confined to North America and Europe. "From what we've seen, the awards we have and the contracts for launch in Asia have carried on as planned even through the financial crisis," Thyen noted. Kimball Electronics, the EMS subsidiary of Kimball International, has supplied tier-one customers for over 25 years.

The unexpected drop in demand left excess capacity among the many tier-one suppliers who maintain internal manufacturing, but Kimball has observed only a single case of insourcing.

More recently, the "cash for clunkers" program of the U.S. government has created unforeseen demand in the supply chain. While this effect may be short lived, long-term growth is still

projected for both the automotive electronics TAM (total available market) and the EMS portion of the TAM.

**InForum**, a market research service formerly known as **TFI Quarterly Form**, estimates that the 2008 TAM of \$51.1 billion will grow at a five-year CAGR (compound annual growth rate) of 1.45%. But if you eliminate 2008, the four-year CAGR (2009-2013) becomes a respectable 7.2%.

EMS revenue in the sector will grow faster than the TAM over both periods, according to InForum. Starting at \$3.8 billion in 2008, EMS revenue will reach \$5.4 billion in 2013, corresponding to a five-year CAGR of 7.6%, InForum predicts. Eliminating 2008 from the forecast results in a four-year CAGR of 13.7%. Based on InForum estimates, *MMI* calculated EMS penetration rates as 7.4% and 9.8% for 2008 and 2013 respectively.

InForum expects ODM revenue in the automotive sector to increase at high growth rates, albeit from a low starting point of \$500 million in 2008. The firm's outlook calls for a five-year CAGR of 38.5% for ODM revenue and a four-year rate of 57.2%. Much of that growth will be available to ODMs focused on Chinese automobile production, says InForum. When the ODM numbers are added in, the five-year CAGR for outsourcing growth in the sector rises to 13.8%, representing the largest growth opportunity in InForum's forecast.

"Severe damage to the automotive industry, combined with very positive behavioral and technology trends, make automotive a bottom-of-the-market opportunity," InForum stated in a report released this month detailing its current forecast for the electronics manufacturing industry. (See p. 1.) Despite chronic overcapacity, bankruptcy filings among tier-one suppliers, and pressures to innovate rapidly, InForum believes that "this is a tremendously exciting time for automotive electronics." Not only are

electronics the potential savior of the automotive industry and the key to automobile popularity, wrote InForum, but upheavals in the automotive industry create potential opportunities for contract manufacturers.

Another forecast, put out by market research firm **Electronic Trend Publications**, estimates that the 2008 TAM for automotive electronics was \$72.9 billion. ETP's report, *The Worldwide Electronics Manufacturing Services Market, Sixth Edition*, predicts that the TAM will exhibit a five-year CAGR of 5.3%, despite a drop in 2009, and end up at \$94.3 billion in 2013. In 2008, contract manufacturing (EMS) accounted for \$5.4 billion, or 7.4%, of the automotive TAM, according to ETP. Interestingly, this is the same penetration rate calculated from InForum's forecast. ETP expects that by the end of the forecast period in 2013, contract manufacturing sales will amount to \$7.3 billion, equating to a CAGR of 6.2%. ETP projects nearly the same CAGR for ODM revenue, which will go from an estimated \$970 million in 2008 to \$1.3 billion in 2013.

### Jabil pursues exit strategy

These market researchers are projecting long-term growth for automotive EMS, but **Jabil Circuit** no longer sees the automotive sector as deserving of its resources. During the company's earnings conference call in September, Jabil announced that it expects to divest its automotive electronics manufacturing entity located in Western Europe during the company's November quarter (Oct., p. 3). The company's latest SEC Form 10-K identifies this entity as Jabil Circuit Automotive, SAS and states that Jabil entered into an agreement on Sept. 24 to sell the operations of this subsidiary to an unnamed third party. Furthermore, the 10-K lists Jabil's facility in Meung-sur-Loire, France, as belonging to the entity being sold. Upon closing of the transaction, Jabil will no longer

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own this facility, which Jabil acquired in 2002 from **Valeo**, a tier-one automotive supplier.

The divestiture in Europe is part of Jabil's exit strategy for the automotive sector. Jabil president and CEO Tim Main explained during the September call that the company has been reducing its North American exposure to the sector over Jabil's last several quarters. Main said the European operation represented 75% or 80% of the remainder of Jabil's automotive business. By the company's February 2010 quarter, "we'll essentially be out of automotive electronics completely if this transaction closes," he noted.

Jabil will be ending its decades-long involvement with the automotive industry with whom the company was closely identified in its early years. In 1976, for example, Jabil made a name for itself by winning a large contract with **General Motors**. Over the years, diversification greatly reduced the automotive percentage of Jabil's sales, but the company continued to promote its experience and capabilities in automotive electronics.

Why is Jabil closing the door on its automotive legacy? "We have done several significant deals with major OEMs to try and provoke and activate an outsourcing process," said Main. "I think we just counted cards and determined that we did not provoke a wave of outsourcing, and, along with the recessionary period and the restructuring and rationalization and everything else that's going on in the automotive marketplace generally, that this is an end market that does not afford the company the type of growth opportunities or return opportunities that we really require to continue to invest in the area." For Jabil, there are better end market opportunities to focus on.

Although Jabil has not seen a swell of outsourced automotive electronics rolling its way, the company could have tried becoming a tier-one supplier. As a tier-one, Jabil would be in a

position to control the supply chain for electronics outsourced by car brands. Though a potential avenue of success, this option "would require significant management attention, capital and risk that we're not willing to take," said Main.

### **Flextronics takes the ODM route**

Back in fiscal 2007, Flextronics decided that being a conventional tier-two supplier to the automotive industry would not be in its best interests. Building "SMT assemblies for **Visiteon** or **Delphi** or something is not a model where there's ever going to be any real profit in it," said Flextronics CEO Mike McNamara during the company's analyst and investor meeting in November 2008. So instead, the company opted to focus on ODM products within the automotive space. The ODM model allows Flextronics to supply automotive OEMs directly, and the company is heavily focused on European OEMs. At the meeting, Flextronics reported that it would be supplying an overhead lighting model for all 2010 and 2011 **Mercedes** and lights for **BMW** models of the same years.

Flextronics aims to grow its market share of electronics content within newly developed cars. Accordingly, the company expects to add "design and product competencies over time," said McNamara during the company's earnings call last month. Today, automotive business represents about 2% of Flextronics' sales.

The company has begun to make good on this pledge. **MMI** confirmed that Flextronics has agreed to acquire **AFL Stribel Production GmbH**, a supplier of vehicle electronics, from **Alcoa**. The electronics operations of AFL Stribel were formerly part of Alcoa Electrical and Electronic Solutions, which Alcoa announced was for sale in January. Alcoa EES was engaged in the design, development and production of electrical and electronic

distribution systems for personal and commercial vehicles. In June, **Platinum Equity**, a private equity group, bought the wire harness and electrical distribution portion of Alcoa EES, by far the largest part of the EES business. At that time, Alcoa continued to shop the remaining electronics business and was in discussions with multiple parties.

As of June, the electronics business had about 500 employees in three European countries. Two of those locations have been identified as Frickenhausen, Germany, and Mór, Hungary. AFL Stribel Production is the name that Alcoa chose to operate this business under.

This is not the first time that Flextronics has sought to augment its automotive business by acquisition. In 2007, the company bought **Sidler**, a German ODM supplier of interior automotive products, out of bankruptcy. Flextronics intends to move the Sidler Automotive operation in Tübingen to the AFL Stribel location in Frickenhausen, according to a translated report on the *tagblatt.de* website of a local newspaper.

Flextronics is also making connections with the automotive industry in another way. **Delphi Automotive**, the company that emerged from the Chapter 11 reorganization of the former **Delphi Corporation**, has appointed Flextronics CEO McNamara to Delphi Automotive's new board of managers.

### **Kimball Electronics: a tier-two story**

Like Jabil, Kimball Electronics Group has many years of experience serving as a tier-two supplier to the automotive industry. But in contrast with Jabil, Kimball Electronics remains committed to automotive electronics as one of four segments that comprise its mix of business. Kimball Electronics focuses on assembling products with high durability requirements for medical, automotive, indus-

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trial and public safety applications.

Earlier in the decade, Kimball Electronics was heavily dependent on revenue from the automotive segment. The provider decided to diversify and by spreading its revenue among the four segments was able to reduce its reliance on automotive sales.

By calendar year 2008, the automotive share of Kimball Electronics' revenue had dropped to 30% from above 70% three years before.

While Kimball has reduced its exposure to the automotive segment, an automotive tradition remains part of the company's DNA. Automotive electronics work "is our heritage. It's where we began. It's the foundation of much of who we are today," Kimball's Chris Thyen told *MMI*.

"Automotive has been and continues to be one of our primary focuses. Even though we have diversified, it doesn't mean that we're not committed to the automotive segment," said Thyen. He added, "We have facilities in Europe, in North America and in Asia that are heavily focused on automotive. We don't see that changing."

Thyen believes that automotive electronics has a bright future based on the combination of several trends. One is the proliferation of electronics into

applications such as stability control, vision and collision avoidance. Another is the continuing demand for communication and infotainment systems and conveniences such as power windows and gates. Yet another trend involves the conversion to an electric drive train in green vehicles of the future. Finally, the expected boom in auto sales in China and other emerging markets will also fuel the demand for electronics.

Kimball is encouraged by what it has seen of future product designs by tier-one customers. Given what is on customers' drawing boards, "it just looks very, very promising as far as potential revenue goes in the automotive segment," said Thyen.

The provider recently generated some positive momentum in its automotive segment revenue. Its sales in the segment increased sequentially over the last two quarters.

With over 100 million automotive electronics modules to its credit, Kimball supports a wide range of automotive products. Among them are braking ECUs (electronic control units), stability control ECUs, infotainment systems, telematics, video camera systems and navigation systems. Earlier this year, Kimball won a program to manu-

facture ignition sensing and control products for vehicle platforms in Europe. A short time later, the provider landed a contract from an existing North American customer to produce Bluetooth hands-free radio devices at an annual volume expected to exceed 500,000 units.

But Kimball doesn't pursue every automotive opportunity that comes down the pike. "We're pretty selective about the partners we engage with," said Thyen. "We want to know what car platforms the product is going onto. We want to understand what the technology is, where it is in its lifecycle, whether deployment may be growing or accelerating," said Thyen. Kimball's evaluation also includes ascertaining the financial stability of a potential customer.

Thyen believes that the financial crisis in many cases has made tier-one companies more dependent on their tier-two providers. Forced to cut capacity and capabilities, these tier ones "are leveraging their partners to provide something they may have provided," he noted. As a result, Thyen foresees much less shopping around among tier ones than in the past and greater value placed on existing relationships.

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## News

*New business...* **BP Solar**, part of BP Alternative Energy, has engaged **Jabil Circuit** (St. Petersburg, FL) to manufacture BP Solar modules for the European market in Jabil's plant in Poland. The contract calls for an initial capacity of 45 megawatts in 2009 with the opportunity for expansion as demand increases.... **Tomra Systems** in Norway has chosen **PartnerTech** (Malmö, Sweden) to supply Tomra's T53 reverse vending machines for beverage containers. PartnerTech will deliver most of the machines for Tomra's markets in the U.S. Annual revenue from the program is projected to be SEK 35 million (about \$5 million).

*Acquisition...* **SIIX** (Osaka, Japan), a top-20 EMS provider, has reached an agreement to acquire **Fuchi Electronics** (Taoyuan, Taiwan) and **Suzhou FDK** (Suzhou, China) from **FDK** (Tokyo, Japan). Fuchi and Suzhou FDK are manufacturers of signal processing modules for LCDs. SIIX aims to take advantage of Fuchi's R&D functions both in existing and new businesses and Suzhou's manufacturing activities for expansion of EMS operations in Eastern China.

*Shopping...* **Celestica** (Toronto, Canada) is drawing up a list of acquisition possibilities for its medical business, president and CEO Craig

Muhlhauser told *Bloomberg*.

*Alliances...* EMS providers **Express Manufacturing Inc.** (Santa Ana, CA) and **Beyonics Technology** (Singapore) have signed a memorandum of understanding that calls for the two companies to join forces in providing high-volume Asian manufacturing services for products requiring design and development in North America.... Under a new cooperation agreement, **EN ElectronicNetwork** (Limburg, Germany) will be able to offer Eastern Europe production to its customers by utilizing the Romanian factory of **Connect Systems International** (Kampenhout, Belgium).

## Industrial Commons

In the July-August edition of the *Harvard Business Review*, two Harvard Business School professors, Gary Pisano and Willy Shih, assert that over time outsourcing of production from the U.S. has made the country unable to create a new generation of high-tech products. One could respond that, yes, this assertion is generally valid for high-volume products like notebook computers and consumer electronics, but that plenty of other products in such fields as medical, industrial, military and aerospace are still developed in the U.S. Furthermore, whether or not the U.S. should become more competitive in areas where it can no longer innovate depends on a person's world view. Someone with a global perspective might say that product development belongs in the regions where it can be done most cost effectively. But a person concerned about the state of the U.S. economy might well buy the professors' prescription that steps should be taken to make the U.S. more competitive in the development and manufacture of high-tech products. One of these steps, in part, calls for a more realistic look at the benefits and dangers of outsourcing. Whether or not one agrees with the professors, they introduce the concept of industrial commons, which, it turns out, is as important to the EMS industry as it is to their argument.

Pisano and Shih describe the term industrial commons as the "collective capabilities" of companies serving an industry, which include "suppliers of advanced materials, tools, production equipment, and components." The professors write that outsourcing from the U.S. has eroded the country's industrial commons "serving a number of high-tech sectors." But outsourcing has also fueled the development of industrial commons in other parts of the world.

Indeed, the staying power of China as a manufacturing center has as much to do with its industrial commons as anything else. Labor and other costs of doing business in China have gone up in recent years, yet China remains the undisputed heavyweight of electronics manufacturing. Thanks in no small part to outsourcing, the country has amassed a supply base and a pool of skilled labor and technical talent making up an industrial commons that is hard to compete with. Conversely, inadequate industrial commons have impeded EMS development in such low-cost locations as India, Vietnam and Tunisia.

Lately, there has been more talk of regional supply chains as they cut transportation costs, travel time and carbon emissions; speed up supply chain response; and reduce pipeline inventory. But *MMI* believes that the full flowering

of regional supply chains will not occur until more robust industrial commons are available to serve North America and Europe. Until then, lots of parts and board assemblies will be shipped from Asia to support product assembly in the other two regions.

Whether or not you agree with the professors, a strong industrial commons somewhere in North America would facilitate further development of regional supply chains. And that's a good thing for the EMS industry and the planet.

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