# Manufacturing Market

inside the contract manufacturing industry

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## European Providers in Financial Trouble

In recent months, three Europebased EMS providers have sought protection from creditors under European insolvency laws. Yet these providers are not small players operating on a shoestring. All three took this step as providers with multiple sites as well as operations both inside and outside Europe. It is unheard of that three international providers, all based in the same region, would opt for insolvency protection in that region over a period of about six months. Whether or not this is a coincidence, it is a stark reminder of the perils of operating in the EMS industry.

Over the years, it has been asserted that EMS companies that are neither tier-one providers nor small niche players are more vulnerable to being put in a financial bind. According to this view, providers in the industry's middle tiers lack the resources to compete with the top-tier and the specialization to carve out a secure niche. In the past, there has been little evidence to back up this assertion. Even during or immediately after the Great Recession, there was no visible wave of financial distress in the middle tiers. But now with these moves, the assertion may be gaining some credibility.

The latest company to opt for protection from creditors is **Elcoteq**, which is based in Luxembourg. This month, the company filed for controlled management under the laws of

Luxembourg to ensure that operations continue and to allow an outside investor, **Platinum Equity**, to finalize due diligence for an equity and debt investment. Some of Elcoteq's affiliates will apply for similar procedures in their respective jurisdictions. Elcoteq took this action after its revolving credit facility lenders decided to accelerate its outstanding revolving credit facility despite requests not to do so.

On June 30, Elcoteq announced that due to its tight liquidity situation it would be unable to repay 48.5 million euros owed on its revolving credit facility, which expired on that day. The company had been negotiating with a Hungarian bank for a new facility, but the parties were unable to complete the financing in time. With the outstanding amount unpaid on the expired facility, facility lenders took actions to block some of the company's bank accounts.

According to Elcoteq, such enforcement actions against the company and its affiliates severely damage the company's operations as well as its customers and other creditors. Elcoteq's board has begun investigations into the legality of actions taken by the lenders and their advisors since 2008.

Also this month, Elcoteq said it plans to restructure its operations to adjust the company's cost structure to current business volumes and to improve profitability. In May, the company lowered its Q2 sales outlook to a sequential decline from expectations of a flat quarter. Elcoteq said business development was affected by a delay in securing long-term financing.

UK-based **Simclar Group**, parent company of a contract manufacturing group, also resorted to an insolvency procedure. In June, directors of the company appointed John Reid and Bill Dawson of **Deloitte** as joint administrators of the company and certain subsidiaries. The administrators intend to keep the UK business running if possible with a view to selling the business

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and its assets as a going concern.

The UK operations supply wiring, looms and sheet metal items to a number of blue chip customers including **Bombardier** and **Alexander Dennis**. These operations suffered as a result of investing in a series of new products, most notably an environmentally friendly plug, which could not be brought to market in time due to regulatory delays, according to a statement from Deloitte. As a result, the operations ran out of funding.

The UK site employs over 200 people, according to reports out of the UK. At one time, the site operated as a vertically integrated EMS campus with about 400 employees, based on a description from Simclar's website.

Simclar Group serves as parent company of a contract manufacturing group with operations in the UK, US, Mexico and China. The UK parent holds a majority stake in a US company, **Simclar, Inc.**, which operates plants in Hialeah, FL; Ozark, MO; Dayton, OH; and Matamoros, Mexico.

The US company is separately funded and managed, and its operations will not be affected by the administration of the UK holding company. "Simclar, Inc. retains the support of its bankers and will continue to trade in the US on a normal, stable basis," Barry Pardon, president of Simclar, Inc., told *MMI*. He said the US company has a track record of profitability. The company focuses on backplane assembly, PCBA, metal fabrication and cable and harness assembly.

The Chinese businesses in the Simclar Group are engaged in supplying backplanes, sheet metal fabrication and cable assembly to customers such as **Ericsson**, **Motorola** and **NCR**. Plans are to restructure the Chinese operations, consisting of a plant in Suzhou and one in Tianjin, and to keep the businesses going.

Note that the Deloitte administrators now control Simclar Group's ownership stake in its US and Chinese subsidiaries. Presumably, this ownership is among the assets that administrators intend to sell.

In the third case of financial trouble, the French operations of **TES Electronics Solutions**, a design and manufacturing services company, went into receivership earlier this year. The operations have since been divided among three buyers. TES's units outside France were not part of this process (June, p. 6).

As much as one might want to draw conclusions from the three cases of financial difficulty, they are not identical. TES was not a pure EMS company; it had a number of separate design centers. And Simclar's UK operation is no longer a PCBA site, if the current description is accurate. With Simclar and TES, protection from creditors was sought for operations in one country, while multiple jurisdictions will be involved in Elcoteq's case.

The three cases may or may not be a coincidence. But they do not speak well for Europe. And they raise a question. Are any other providers in the middle tiers at risk?

### M&A

# First-Half M&A Down by 25%

M&A deals made in the EMS industry during the first half of 2011 fell short of the number of transactions recorded for first half of last year. *MMI* identified 15 deals closed in the first six months of 2011, down from a revised total of 20 done in the year-earlier period (Chart 1). That's a decline of 25%. If M&A activity continues at the rate observed in first half, then 2011 will be a down year for M&A.

In fact, when the first-half rate is extrapolated for the full year, the resulting 2011 total would be below any of the past 15 years except for the recession year of 2009. This projection raises the question of whether deal

making is trending toward a new normal where fewer deals would go hand in hand with a mature EMS industry.

Of the four main categories *MMI* uses for classifying deals, the service or supply chain extension was the most popular type of transaction in the first half. Here, an EMS provider makes an acquisition to extend its service offering or expand its capabilities for vertical integration. Despite the overall decline in first-half transactions, there

was growth in this category. Here, seven transactions occurred in first six months compared with five in same period last year (Chart 2, p. 3). This kind of acquisition remains a time-tested option for adding a capability that cannot be readily developed in-house. Such deals become more palatable when the target activity is a "tuck-in" acquisition, that is, small in re-

lation to the size of the acquirer.

Lacroix Electronics and Neways Electronics International each acquired engineering activities to bolster their front-end capabilities. In France, Lacroix purchased three TES design groups out of receivership (June, p. 6). In The Netherlands, Neways acquired a department from an engineering and consulting firm, DHV. Benchmark Electronics, Celestica and Videoton

Chart 1: EMS Industry M&A Deals

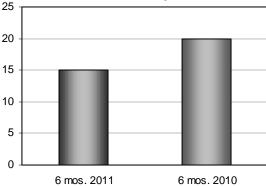
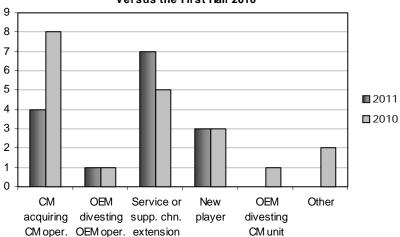


Chart 2: Deal Breakdown for the First Half 2011 Versus the First Half 2010



added mechanical capabilities through acquisition. Benchmark bought assets in Malaysia to expand its precision technologies capabilities (Feb., p. 8). Celestica acquired Brooks Automation's contract manufacturing operations for semiconductor equipment (April, p. 5-6). And Videoton purchased control of a mechanical engineering company in Hungary (see p. 7). On the back end, **Elcoteg** picked up BroadTech, a US provider of aftermarket services (March, p. 6). In the final deal of this type, Norway's Norautron acquired a supplier of customized hardware and software (March, p. 6).

Next in popularity were cases where one EMS provider acquired an operation from another provider. In the first half, four of these deals closed, down from eight in the year-earlier period (Chart 2). The decrease in these transactions amounts to 50%, which would indicate a sharp drop-off in this sort of M&A activity from last year if this result holds up for the full year.

Such deals can offer geographic expansion, diversification, more revenue, increased capacity and additional capabilities or a combination thereof. But the tier-one providers typically do not engage in this sort of M&A activity. Acquiring a smaller operation of a

competitor would add little if anything to their global footprint and capabilities. **Jabil Circuit** was the one exception in the first half, but it took back European operations that it had previously divested (Feb. p. 8).

Three of these
EMS acquisitions
can be termed
consolidation
deals, which resulted in the loss
of an independent
provider. In addition to Jabil,
Nortech Systems
(US) and Sparton (US) each
acquired a contract manufacturer. Nortech added

Winland Electronics' EMS operation (Jan., p. 7), while Sparton bought medical CM Byers Peak (March, p. 6). Compared with the first half of 2010, there were five fewer consolidation deals in the current period, representing a reduction of 63%. With the exception of recession-plagued 2009, the current total of three is lower than any since 2004 when *MMI* starting keeping track of this consolidation sta-

tistic (Chart 3). The current number raises the question of whether it reflects a temporary slowdown in consolidation deals or a new normal consistent with a mature industry.

The fourth EMS acquisition, **AsteelFlash's** purchase of a TES plant in France, was not a consolidation deal because TES assets outside of France were not in receivership and have not been sold.

In recent years, EMS acquisitions and service/supply chain extensions have represented the majority of M&A transactions in the EMS industry.

Another type of M&A transaction occurs when a new EMS player emerges from the sale of a manufacturing business. In the first half of 2011, three new-player deals took place, equaling the number from a year earlier (Chart 2). Despite the maturity and competitive nature of the EMS busi-

Chart 3: First-Half Consolidation Deals Over Time

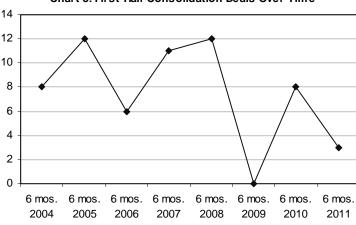


Chart 4: Percentage of Deals by Target's Region

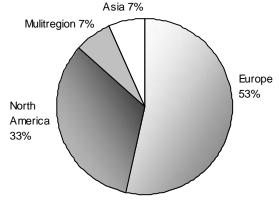


Chart 5: Percentage of Deals by Size of Acquirer

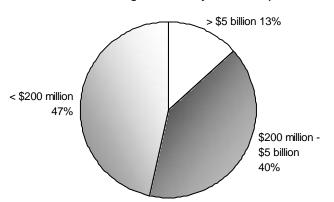
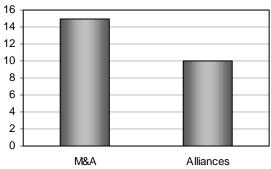


Chart 6: First-Half M&A Versus Alliances



in first-half transactions. But the drop in EMS (contract manufacturing) acquisitions had the greatest impact of

any category (Chart 2).

ness, companies continue to enter the business through acquisitions. Interestingly, two of this year's entrants, API Technologies and Ducommun, are both U.S.-based suppliers to the defense and aerospace industries. And each acquired an EMS provider with a defense portfolio as well as other customers. API's target was SenDEC (Jan, p. 6), while Ducommun acquired LaBarge (April, p. 6-7). In the third new-player deal, PhotonStar LED (UK) purchased Camtronics Vale, a UK provider, which will expand PhotonStar's manufacturing base.

The last of the four main categories for classifying deals is the OEM divestiture of assets to an EMS provider. The first half saw one such deal, the same as occurred a year earlier. OEM divestitures have largely fallen out of favor, but they have not gone extinct. In this year's divestiture, **HANZA** (Sweden) took over a small operation from **Saab's** Electronic Defence Systems business (June, p. 7).

Two categories that applied in 2010 were without any transactions in the first half of 2011. There was no deal requiring the use of an "other" category in the first half. Nor were there any cases of an OEM divesting a contract manufacturing operation. Rarely do you come across such a deal, but there was one in South Africa in the first half of 2010 (Chart 2, p. 3).

The absence of any deals in these two buckets contributed to the decline

Europe attracted more than its fair share of M&A deals in the first half. In 53% of the transactions, the acquisition took place in Europe. North American operations were bought 33% of the time. In one case (7%), the asset purchase was in Asia, and in the remaining deal the acquired business had operations in more than one region (Chart 4, p. 3).

First-half deals were also sorted by the size of the acquirer. Companies with less than \$200 million in sales made the largest share of the deals counted – 47%. This finding is consistent with the fact that by far the greatest number of industry companies are below \$200 million in revenue. Deal makers in the range of \$200 million to \$5 billion accounted for 40% of the transactions. Tier-one providers were responsible for the remaining 13% (Chart 5).

As has been written here before, alliances and equity partnerships give EMS providers a lower-cost alternative to an acquisition. Despite the cost saving aspect of these joint efforts, their numbers usually fall well below acquisition totals. In the first half, such arrangements were indeed outnumbered, but not overwhelmingly so. *MMI* counted 10 alliances (and no equity partnerships) versus 14 acquisi-

tions (Chart 6).

Editor's note: First-half 2011 statistics published here should be treated as preliminary. It is possible that *MMI* will come across additional first-half transactions after this article is published. Also be advised that this analysis excludes private equity deals as well as divestitures by EMS providers unless the operations sold are retained within the EMS industry.

### **Forecasts**

### NVR Releases New Forecasts

Both the EMS and ODM sectors will enjoy double-digit compound annual growth from 2010 to 2015, according to new forecasts by New Venture Research. NVR is projecting that EMS revenue will grow from \$223.2 billion in 2010 to \$391.6 billion in 2015, corresponding to a compound annual growth rate of 11.9%. The firm predicts that ODM revenue will increase at a slightly higher CAGR of 12.8%, as the ODM sector expands from \$147.5 billion in 2010 to \$268.9 billion in 2015 (table, p. 5). Given what NVR describes as minor differences between the EMS and ODM business models, the firm foresees little separation between the two types of suppliers with regard to customer services and revenue growth. But NVR believes that ODMs should outperform EMS providers over the forecast period, because the ODM

	NVR's Forecast for the Contract Manufacturing Market, 2010-2015 (M US\$)						
	2010	2011	2012	2013	2014	2015	CAGR
EMS	223,220	242,930	276,577	313,234	350,822	391,610	11.9%
ODM	147,518	160,683	185,362	212,317	240,356	268,861	12.8%
Total con- tract mfg.	,	403,613	461,940	525,551	591,178	660,471	12.2%
Yryr. growth		8.9%	14.5%	13.8%	12.5%	11.7%	
Source: New Venture Research							

Source. New venture resear

model is the stronger of the two.

In 2011, combined revenue for the two contract manufacturing sectors will total \$403.6 billion, up 8.9% from \$370.7 billion in 2010, according to NVR. This year's single-digit growth follows an unexpected surge in 2010 estimated at 37.5%. In 2012, growth of contract manufacturing sales will return to double digits with a projected increase of 14.5%. NVR is forecasting slight declines in annual growth for each of the remaining years in the forecast period, but contract manufacturing growth rates will still be in two-digit territory for those years (table).

At the end of the forecast period in 2015, contract manufacturing sales will reach \$660.5 billion, reflecting a five-year CAGR of 12.2%.

Contract manufacturers (EMS providers and ODMs) accounted for 38% of the total assembly market in 2010 and will raise their penetration rate to 48% by 2015. So internal OEM production will still account for a majority of the total assembly market at the end of the forecast period. NVR pegs the total market at \$967.9 billion in 2010, increasing to \$1.38 trillion in 2015. These values yield a CAGR of 7.3%.

According to NVR, the EMS industry will see the strongest growth over the forecast period in the medical, communications, consumer electronics and computer segments. NVR expects the medical segment to be the EMS growth leader with a CAGR of 15.4%, followed by communications and consumer electronics with CAGRs of 12.8% and 12.2% respectively.

The shift in production to low-cost regions is starting to wane, says NVR.

Today, the firm sees OEM customers requiring their contract manufacturers to manufacture products near the regions where they are to be sold. For certain high-volume products such as mobile phones and PCs, OEMs need to leverage the lowest cost in manufacturing and thus tend to utilize China. However, for other products NVR finds that the labor cost differentials are becoming less significant when weighed against the total cost of production including transportation and logistical challenges. Still, Asia Pacific's share of the contract manufacturing market will end up at 71% in 2015, a gain of about one percentage point, while the Americas' share will remain essentially unchanged at 17%, according to NVR.

India will experience the highest contract manufacturing CAGR of any country from 2010 to 2015, predicts NVR.

In past analysis, large contract manufacturers have grown faster than medium-sized and small CMs, and NVR expects this trend to continue. It is especially true in periods of economic recovery because when spending resumes the impact is greatest on the top-tier firms. NVR projects that large CMs will have a CAGR advantage of 1.6 percentage points over medium-sized CMs and 2.2 percentage points over small CMs. The firm estimates that in 2010 there were 3,720 contract manufacturing companies with 4,950 facilities.

NVR's forecasts appear among other information in its new report entitled *The Worldwide Electronics*Manufacturing Services Market, 2011

Edition. The report covers both EMS providers (which NVR defines as "CMs") and ODMs under its definition of the EMS market.

For more information, email rsherman@newventureresearch.com.

### Results

### Some Quarterly Results in Brief

In the latest quarterly results from four of the largest US-traded providers, revenue grew from a year earlier in all cases, with double-digit increases posted by three of the four companies. Here are brief summaries of what each company reported.

Celestica. Q2 revenue totaled \$1.83 billion, up 15% year over and 2% sequentially. Non-IFRS EPS of \$0.27 rose by 23% year over year and 8% sequentially. For Q2, the company reported IFRS net earnings of \$45.7 million, compared with \$13.0 million in the year-ago period and \$30.0 million in the prior quarter.

Non-IFRS gross margin came in at 7.1% versus 6.7% in Q1. Non-IFRS operating margin was 3.7%, up 10 basis points year over year and 40 basis points sequentially. Originally, the company did not expect to achieve its margin target of 3.5% to 4% until the second half of the year (April, p. 2). The Q2 operating margin resulted from improving revenue mix and better operating margin performance from recently ramped programs.

Revenue from the diversified end markets of industrial, aerospace and defense, healthcare and green technology grew 15% sequentially and now represent 13% of total revenue. Celestica has set a goal to raise that percentage to 25% to 30% over the next three years. Server business also produced double-digit sequential growth at 13%,

while sales from enterprise communications increased by 4%. The consumer, storage and telecom segments all showed sequential revenue declines. On a year-over-year basis, Celestica saw growth in five out of six end markets, with four of them in double-digits. Only telecom business decreased from a year earlier (-14%).

For Q3, the company expects revenue of \$1.725 billion to \$1.875 billion and non-IFRS EPS of \$0.23 to \$0.29. At the midpoint of guidance, revenue would be down sequentially about 2%, and operating margin would be about 3.7%. Celestica said this sequential decline reflects a level of uncertainty across a few of its end markets. Despite seeing some revenue headwinds in the second half, the company anticipates achieving its 10% to 15% revenue growth target for 2011, which now includes the **Brooks Automation** acquisition.

Celestica president and CEO Craig Muhlhauser reported that visibility of customer forecasts is getting shorter.

Flextronics. For its fiscal Q1 ended July 1, the company generated sales of \$7.55 billion, up 15% year over year and 10% sequentially. Revenue was at the high end of guidance. Non-GAAP EPS was \$0.21, up 11% year over year but flat sequentially. Non-GAAP net income of \$157 million rose 2% from the year-ago quarter, while GAAP net income of \$132 million increased 12%.

Non-GAAP operating margin stood at 2.6%, down 20 basis points from the prior quarter and 30 basis points from a year earlier. Flextronics' PC ODM business, which the company is exiting (May, p. 8), dragged non-GAAP operating margin down by 50 basis points. This business produced a \$19-million operating loss in the June quarter, and the company expects to be finished with the ODM business by the end of the December quarter. Flextronics' components business, which contribut-

ed a loss of about \$0.01 a share in the June quarter, is expected reach 4% operating margin at the end of the fiscal year. The company said the margins swings from ending its PC ODM business and improving performance of its components business will enable it to attain its target of exiting the fiscal year at a 3.5% (non-GAAP) operating margin.

Recently, Flextronics changed its revenue breakdown from five market segments to four business groups. High Reliability Solutions encompass medical, automotive, and aerospace and defense business. Integrated Network Solutions consist of telecom infrastructure, data networking, servers and storage, and products for the connected home. High Velocity Solutions are comprised of mobile, consumer and computing business. Industrial & Emerging Industries include semiconductor capital equipment, test and measurement, clean tech products, office automation, smart metering, home appliances, kiosks, and building automation and security.

All four business groups grew by double digits year over year, led by High Reliability Solutions at 35%. On a sequential basis, three groups saw their business rise by double digits, with a high of 17% turned in by Industrial & Emerging Industries. High Velocity Solutions was the only group with a single-digit increase (8%).

Guidance for the September quarter calls for sales of \$7.6 billion to \$8.0 billion, which corresponds to a sequential increase of 1% to 6%, and non-GAAP EPS of \$0.21 to \$0.23.

CEO Mike McNamara described the macro environment as a "little soft" and said the company is seeing "some reduction in some of our orders." He noted that recent bookings are offsetting that softness.

The company's board has authorized another program for the repurchase of up to \$200 million worth of

stock, subject to shareholder approval.

Jabil Circuit. For its fiscal Q3 ended May 31, the company reported sales of \$4.23 billion, up 7.6% sequentially and 22.3% year over year. Non-GAAP operating income increased 5.6% sequentially and 34.8% year over year. Non-GAAP EPS of \$0.58 rose 7.4% sequentially and 45% year over year. GAAP net income amounted to \$104.7 million, compared with \$55.4 million for the prior quarter and \$52.0 million for the year-earlier period.

Non-GAAP operating margin came in at 4.2%, down 10 basis points from the prior quarter but up 40 basis points from a year earlier. The sites that Jabil took back in France and Italy caused a 20-basis-point drag on non-GAAP operating margin (Feb., p. 8).

Representing 36% of total sales, the company's Diversified Manufacturing Services segment grew 9.4% sequentially and 44% year over year. The DMS segment's non-GAAP operating margin improved by 10 basis points from the previous quarter to 6.2%. Sales from the Jabil's Enterprise & Infrastructure segment increased by 11.8% sequentially and 15.5% year over year. Non-GAAP operating margin for the E&I segment stood at 3.9%, including a 50-basis-point hit from the sites taken back in Europe. Jabil's High Velocity segment expanded by 1.7% from the prior quarter and 10% from a year earlier. Here, non-GAAP operating margin was 2.2%, up 20 basis points sequentially.

For the August quarter, Jabil expects revenue of \$4.1 billion to \$4.3 billion, the midpoint of which yields a slight sequential decline of 0.7% but year-over-year growth of 8.8%. The company is projecting that High Velocity sales will fall by 13% sequentially as a result of late new product introductions and eroding demand from a major mobility customer, said to be **RIM**. Both the DMS and E&I

segments are expected to grow quarter to quarter.

Jabil's board has authorized the repurchase of up to \$200 million in common stock over 12 months.

**Plexus.** In its fiscal Q3 ended July 2, revenue totaled \$559 million, up 4.3% year over year but down 1.6% sequentially. Customer forecast volatility during the quarter was significant, and demand reductions affected all of the company's market sectors in Q3 and extended into fiscal 2012. As a result, fiscal Q3 revenue fell below the midpoint of guidance (\$550 million to \$580 million), and Plexus' outlook for the September quarter has softened dramatically from earlier forecasts. EPS of \$0.58 exceeded the high end of guidance by \$0.01 primarily due to a favorable customer mix and foreign currency exchange benefits.

Gross margin for fiscal Q3 amounted to 9.7%, above expectations but 10 basis points below the prior quarter's margin. Operating margin came in at 4.5%, slightly better than expectations but also down 10 basis points sequentially.

Compared with the prior quarter, the company's medical sector suffered a sales decline of about 11%, while the wireline/networking and wireless infrastructure sectors were down about 3% and 6% respectively. Partially offsetting these declines, Plexus' defense/security/aerospace and industrial/commercial segments grew by about 12% and 5% respectively from the prior quarter.

During the quarter, the company won 25 new manufacturing programs expected to generate about \$124 million in annualized revenue when fully ramped. Plexus reported that its funnel of qualified opportunities increased to \$2.0 billion.

For fiscal Q4 (the September quarter), the company has issued guidance of \$530 million to \$560 million for revenue and \$0.50 to \$0.55 for non-GAAP EPS. Plexus is now forecasting

that sales will bottom in fiscal Q4 before resuming growth in Q1 of fiscal 2012. Looking ahead to fiscal 2012, the company is aligning its cost structure and setting internal performance targets with the objective of achieving its 5% operating margin target based on revenue growth in the high single-digit to low double-digit range. That's below Plexus' goal of 15% revenue growth, to which it remains committed.

### News

### Cisco to Sell Facility to Hon Hai

Cisco Systems has agreed to sell its set-top box manufacturing facility in Juarez, Mexico, to a subsidiary of Hon Hai Precision Industry (Tucheng City, Taiwan). According to Cisco, this sale is an important step in simplifying its operations and brings its set-top box manufacturing in line with Cisco's strategy of partnering with world-class EMS organizations. The deal also supports Hon Hai's commitment to co-locate with customers in order to better meet their end-market needs.

Hon Hai will take on about 5,000 employees currently working at the Juarez facility. Subject to regulatory approvals, the transaction is projected to close by October 2011.

Cisco assumed ownership of the facility with the acquisition of **Scientific Atlanta** in 2006.

According to a joint statement, the agreement positions the two companies to further expand their relationship in North America.

### Videoton Makes Mechanical Deal

Top 50 EMS provider **Videoton** (Székesfehérvár, Hungary) has purchased 94% ownership in **Ventifilt Zrt**, a mechanical engineering compa-

ny in Hajdúnánás, Hungary. The acquisition extends Videoton's activities into industrial air technology as well as the design, production and installation of equipment for reducing environmental contamination. Ventifilt is also involved in other areas including noise and vibration isolation solutions to meet environmental regulations.

Alliances... Hon Hai and Sharp have entered into a joint venture that will allow them to combine purchases of LCD panel components, according to published reports that relied on Japan's Nikkei. In addition, Hon Hai affiliate Chimei Innolux and Sharp will reportedly supply one another for certain panel sizes. On the Taiwan Stock Exchange, Hon Hai stated that cooperating with the leading Japanese companies is the direction it is taking. ...Prevas (Vasteras, Sweden), which does business in embedded systems and industrial IT, and Top 50 EMS provider **Kitron** (Billingstad, Norway) have entered into a strategic cooperation agreement for customer support in product development and manufacturing.

Some new business... Reports from Taiwan said China's Huawei Technologies and Foxconn Technology Group, which is anchored by Hon Hai, have signed a memorandum of understanding calling for Huawei to give Foxconn \$2 billion in orders by 2013. Digitimes reported a Huawei executive as saying that Foxconn will get more of Huawei's overseas manufacturing than Flextronics will. In addition, Hon Hai has won tablet PC business from Amazon and a low level of digital camera orders from Panasonic, according to Digitimes.

...KACO new energy (Neckarsulm, Germany), a solar inverter manufacturer, has engaged Sanmina-SCI (San Jose, CA) in a US manufacturing partnership. Sanmina-SCI has begun producing a line of KACO's blueplanet inverters in San Jose.

### Stretching the EMS Label

Celestica recently acquired Brooks Automation's contract manufacturing operations that specialize in manufacturing complex mechanical equipment used in semiconductor production. In the past, this prospective deal might have seemed out of character for an EMS company. After all, the "E" in EMS has always stood for electronics. Sure, an EMS provider might vertically integrate plastics and metal parts into a product, but the end result was electronic in nature. With one or two exceptions, machining and other such processes for building complex mechanical systems were considered outside the domain of EMS. Up until a few years ago, this division between EMS and mechanical work was hard and fast. But in recent years, the dividing line has blurred. Celestica is only the latest in a procession of EMS providers who have sought manufacturing business in areas where the final product requires mechanical processes that don't fit into an SMT or final assembly line. As a result, EMS providers of today, especially the large ones, are stretching the definition of what it means to be an EMS company.

Much of the expansion into mechanical work can be traced to the EMS industry's hot pursuit of underpenetrated markets, particularly the industrial sector. And one way to grow in that market where mechanical systems, rather than electronics, usually represent the majority of COGS is to build the entire product including the mechanical side. Such programs typically represent a lot more revenue than the electronics alone. They also attract fewer competitors. Semiconductor capital equipment served as a major proving ground for this approach. There are now at least five EMS providers building machinery for semiconductor equipment OEMs.

Two programs provide highly visible examples of EMS providers working with mechanical systems. **Flextronics** is assembling electric motorcycles for **Brammo**, while **Plexus** is building mechatronic dispensing systems for **Coca Cola**.

Healthcare is another underpenetrated area where mechanical knowhow can become an advantage. Again, rather than just providing electronics assemblies, an EMS provider may see greater opportunities in supplying a finished medical product. If the product involves motion or fluid flow, then a mechanical system must be dealt with in manufacturing.

Clean tech is yet another area where mechanical systems come into play. Building solar modules, a highgrowth area for some large providers, consists of a series of mechanical steps that are entirely separate from SMT.

More growth will be available in such markets as industrial, clean tech and healthcare to providers who add mechanical skills and capabilities outside the realm of board assembly and box build. A number of providers, of course, have already realized this and are proceeding accordingly. *MMI* believes this is an important trend that remains partly hidden for competitive reasons. As the trend plays out, EMS providers will redefine the scope of EMS.

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