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Manufacturers Bringing Production Home

For North American manufacturers that have chosen to outsource manufacturing tasks outside their core competencies, the sourcing equation may finally be tipping away from offshoring and back toward near-shoring of electronic assemblies and precision-machined parts. After about two decades of offshoring, largely for low labor costs, wages in emerging economies like China's have risen substantially. Meanwhile the high transportation cost and complex supply chain (which is prone to delay and disruption) of off-shoring can no longer be overlooked, particularly when precision is required and the total cost of ownership is considered. "Most companies make sourcing decisions based solely on price, oftentimes resulting in a 20 to 30 percent miscalculation of actual offshoring costs," states the Re-shoring Initiative, an advocacy group that provides a total cost of ownership estimator on its website. According to the recent MarketWatch story, there was a net increase of at least 10,000 US manufacturing jobs in 2014.

More manufacturers today are opting for domestic part suppliers over offshoring as they absorb the lesson that local sourcing often lowers the total cost of ownership.

David Dalton, CEO of **General Microcircuits**, based in Mooresville, NC, has noticed changes across nearly every industry sector. In the LED lighting sector, customers are disappointed in the quality and lead times from Asia; automotive customers need regionalized production spread over multiple geographies instead of having "all their eggs in one basket"; the oil and gas industry needs quicker response than from half a world away, not to mention the cultural and language barriers; industrial customers need lower-cost solutions in this hemisphere, not to wait for an Asian sea delivery that's hung up in Customs or a costly expedited air shipment; medical customers resist shipping products to Asia due to intellectual property compromise and quality concerns; aerospace companies are shifting work from Mexico to Costa Rica due to quality concerns and poor program management; and in the energy smart grid suppliers must meet aggressive lead times after the order is placed.

Finding low-cost manufacturing is not limited to North America. Mihaly Tunki, VP of Business Development at **VIDEOTON**, believes that "over the last 15 years we have been faced with quite a few situations in which projects were re-transferred to the Far East after a few years of production in Europe due to impacts of the supply chain (lack of possible localization). Our recent experience is that, for new transfers, EU companies are looking for central and eastern Europe locations rather than China. Currency movements between EUR and USD are important reasons for this. Furthermore, it is widely accepted that Far East costs are increasing, and so are the adjacent costs and risks of the long supply chain. Besides, the products still manufactured in the EU are less attractive for Far East manufacturing, volume-wise. The reasons behind this are manifold: fear of further dynamic cost increases in China, preparation for managing geopolitical risks, and looking for increasing flexibility without cost increase."

Some articles in this issue

Even the mighty Foxconn has not been immune to these changes. A Senior VP at the company interviewed by *MMI* states that "a few large American entities with a majority of operations in China have moved production to Mexico. One moved a little production from Mexico to Silicon Valley. None from China to USA…mostly networking products and some telecom…no consumer or IT." The reason behind this near-shoring effort was "Total cost of ownership [concerns] landed to customer ….and variables such as oil plugged in at differing rates… tax benefits, reduce overreliance in China – de-risk [concerns], reduction of some inventory and logistics costs. Sometimes end markets prefer local manufacturing away from China."

Another example comes from component suppliers such as Run-Rite/C.A.T. Products, Inc., a Stroudsburg, Pennsylvania-based provider of specialty cleaners, lubricants, and equipment to the automotive service marketplace. It has found that its total cost of ownership was actually lower and quality better with its domestic supplier, according to CEO Bruce Dobbs. Run-Rite relies on Dial Machine for CNC machining, metal fabrication, and aluminum die casting; forming of aluminum and acetyl parts; and for drilling, microdrilling, deburring, anodized finishing, and inspection. "It's harder to ensure quality control or make design changes with an offshore supplier unless you have an office there," says Dobbs. "That adds significant overhead and it's still challenging to try to respond to the market and innovate because of differences in distance, time, language, culture, and currency." In one case, Run-Rite went from product concept to finished piece in two weeks, with all the needed changes, by using Dial Machine. "If we'd attempted that with an offshore partner, it would have taken 3 to 6 months, assuming no problems," according to Dobbs.

When a manufacturer relies on product innovation to stay competitive in the market, offshoring production can expose its designs to patent infringement, counterfeiting, and even low-bid competition that copies the designs and undercuts the manufacturer in the market. Near-shoring with high-quality domestic suppliers can minimize or eliminate costly emergency air freight, scrap, and rework, while significantly reducing necessary inventory and capital costs. Despite the low-cost allure of offshored parts, experts predict the rise in overseas labor costs will continue as those markets mature and more workers join the middle class, pushing wages upward. In contrast, historically low US labor rates make near-shoring competitive today, and this edge is expected to grow as US precision parts suppliers implement new technology that makes existing workers more productive, according to the companies interviewed.

Low-Cost Manufacturing Emerging in Costa Rica, Central America

Two EMS companies have emerged with operations in Costa Rica, Central America, that claim to have the best of both worlds—low-cost labor and high-quality manufacturing and program management. **General Microcircuits** (GMI) of Mooresville, NC and **Zollner** of Zandt, Germany have extensive operations in this area. GMI is located north of San Jose in the city of Alajuela, within several kilometers of the international airport, whereas Zollner's operation is located in Cartago, which is south of San Jose by approximately 28 kilometers. The GMI operation is located in the BES Free Trade Zone and is approximately 2,800 square meters in size and currently employs approximately 113 people. The operation and employees are expected to nearly double over the next year due to new and expanding customer programs. CEO David Dalton states that customers like the flexibility that Costa Rica provides, the alternative and shorter supply chain when compared to Asia, and the protection of customers' intellectual property in a widely English-speaking country. Direct wages for GMI employees are about 1,500 colon ($3USD) per hour. Technical education and training which is supported by the Costa Rican government helps both to sustain the country's 96% literacy rate and makes it easier to assembly complex products from GMI's industrial, medical and energy sector customers. GMI has been in Costa Rica since 2011.

Zollner's operation is slightly larger than GMI's, with 3,900 square meters located in the La Lima Free Zone and Business Park. The company employs approximately 200 people, with more to come, according to the company. Zollner's operation is intended to serve customers throughout America and Canada.

Low-Cost Manufacturing in Central and Eastern Europe (CEE)

The market for low-cost manufacturing in CEE is not easily established because of the wide variety of regions and economic environments. Comparing the leading countries, Bulgaria appears to be the lowest cost manufacturing region overall in terms of nominal wage rates, as seen in the summary table below.

Nominal Wage Rates in Low-Cost CEE Countries

Country	2014 (€/Mo.)	5-Year CAGR
Bulgaria	417.9	6.3%
Romania	517.1	3.5%
Hungary	770.0	1.6%
Slovakia	858.0	2.9%
Poland	904.2	4.7%
Czech Republic	929.9	1.0%
China	573.6	15.3%

Source: EUROSTAT

Nine-Month Sales Increase for Large CMs

Based on nine-month sales of 20 of the largest contract manufacturers, the outsourced manufacturing space is having a good year. Nine-month revenue for the 20 CMs totaled $245.3 billion, up by 4% year over year. Sales in US dollars were up or neutral at 11 companies; there were declines at nine companies, four of which posted double-digit declines (Table 1, p. 4).

The 20 CMs consist of eleven EMS providers, six ODMs, and three hybrid providers. *MMI* recently began using the hybrid category to identify companies that do substantial amounts of both ODM and EMS work and to separate them for the purposes of analysis from those whose sales put them in the traditional EMS or ODM classes. *MMI* believes that this three-way system, though far from perfect, will yield a clearer picture of EMS versus ODM performance while acknowledging the rise of the hybrid model.

Nine-month sales were up collectively for both the eleven EMS providers and the three hybrid providers, but the hybrid group's performance was better by 4 percentage points. Combined sales for the EMS group increased 5.4% year over year versus 9.5% for the hybrids. In stark contrast with these increases, aggregate sales of the six ODM providers declined 3.2%, largely due to **Ability Enterprise's** 22% decrease (Chart 1). For now, at least, the hybrid group is gaining share and poses a competitive threat to both EMS and ODM providers.

EMS providers generated the majority of the 20 CMs' sales for the period. Revenue in the EMS category amounted to $148.4 billion, or 60.5% of overall sales. ODMs contributed $56 billion, or 22.8% of sales, while the hybrid group accounted for $40.8 billion, or 16.6% of sales.

Upon further review, *MMI* has made one change to the EMS group. **Kimball Electronics** has been added to the group, replacing **AmTRAN Technology**. **Wistron** has also been reclassified as a hybrid provider (Table 1).

Of the 10 CMs that grew their nine-month revenue, two were hybrid providers, one was an ODM, and seven were EMS providers (Table 1). Out of 11 CMs, **Pegatron, Jabil**, **Universal Scientific Industrial,** and **Shenzhen Kaifa** achieved double-digit gains.

Hon Hai Precision Industry, the EMS giant, had a sizeable impact on the combined nine-month sales of the 20 CMs. Without Hon Hai, combined sales would have been up 1.9% from a year earlier, versus 4% including Hon Hai.

While nine-month sales were up overall for the 20 CMs, third-quarter results present a brighter picture. Totaling $84.6 billion, Q3 sales for the entire group rose 6.1% sequentially and 1.9% year over year. US-dollar increases at 10 CMs carried the day, and for three companies those gains were of the two-digit variety.

In the year-on-year comparison, seven companies achieved sales growth in Q3, more than offsetting the declines at the 13 other CMs. **Universal Scientific Industrial**, **Pegatron,** and **Jabil** all achieved double-digit increases. On the other hand, sales fell by double-digit percentages at **Shenzhen Kaifa, Qisda, Compal, Cal-Comp Electronics, Benchmark Electronics, Ability Enterprise,** and **Kinpo Electronics** (Table 1). However, without Hon Hai, aggregate sales would have been essentially flat. There was a wide range in Q3 sales results among the three CM groups. On a year-over-year basis, Q3 sales in the hybrid category increased 8.6% compared with a 4.7% decrease for ODMs and 2.8% growth for the EMS providers. Compared with the prior quarter, the hybrid group led with an 18.1% gain, followed by the EMS providers at 4.4% growth and ODMs with 2.5% (Table 2, p. 4).

When combined, Q3 income for the 20 CMs was approximately $2.3 billion, up from about $1.6 billion in the prior quarter and about $2.1 billion a year earlier. (Net income was approximate because not all companies follow the same accounting rules.) Net profit climbed about 13% year over year, with a corresponding sales increase of 1.9%. At 11 companies, Q3 net income increased versus a year ago, overwhelming the decrease at 9 others. Both Sanmina and Cal-Comp Electronics reported triple-digit gains. Hon Hai represented about 48.4% of Q3 net income, yet accounted for 38.2% of sales.

For the first nine months, the 20 CMs together earned net profit of approximately $5.7 billion. Net income increased at a faster rate than sales, as net income was up about 19.5% year over year compared with the 4% increase in sales for the period. Net margin overall came in at about 2.3% for the first nine months. Aggregate net margin for the EMS providers stood at about 2.8%, above the CM average, while the net margins for the ODM and hybrid groups were below average at about 1.5% and 1.6%, respectively.

Chart 1: Nine-Month Growth Year on Year (%)

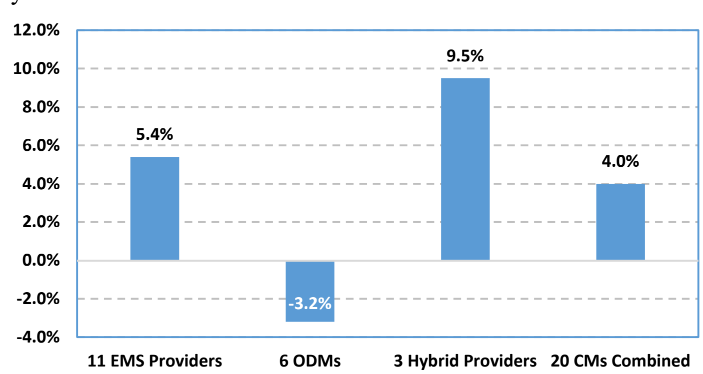

Table 1: Q3 and Nine-Month 2015 Results for 20 of the Largest Contract Manufacturers (M US$ or %)																
Company	Primary Business	Head-quarters	Re-ports in US$	3Q2015 Sales	2Q2015 Sales	Qtr.-qtr. Chg.	3Q2014 Sales	Yr.-yr. Chg.	3Q2015 Net Inc.	2Q2015 Net Inc.	3Q2014 Net Inc.	Q1–3 '15 Sales	Q1–3 '14 Sales	Yr.-yr. Chg.	Q1–3 '15 Net Profit	Q1–3 '14 Net Profit
Hon Hai	EMS	Taiwan	No	32,362.1	31,525.7	2.7	31,246.2	3.6	1,149.8	832.6	1,120.6	96,298.1	89,700.4	7.4	2,953.4	2,438.5
Quanta	ODM	Taiwan	No	8,378.9	8,135.2	3.0	8,032.1	4.3	177.1	109.3	155.6	23,072.0	22,303.8	3.4	403.8	445.3
Pegatron	ODM/EMS	Taiwan	No	9,400.6	7,063.1	33.1	7,781.3	20.8	182.6	150.9	156.1	25,228.9	22,076.3	14.3	535.8	296.0
Compal	ODM	Taiwan	No	6,555.7	6,450.7	1.6	7,455.5	(12.1)	87.7	48.8	84.9	19,337.9	19,819.8	(2.4)	201.0	89.7
Flex	EMS	Singapore	Yes	6,316.8	5,566.2	13.5	6,528.5	(3.2)	123.0	110.9	138.9	17,834.6	19,895.2	(10.4)	368.9	355.8
Wistron	ODM/EMS	Taiwan	No	4,628.8	4,734.3	(2.2)	5,120.2	(9.6)	19.9	2.5	47.6	14,179.5	13,802.9	2.7	45.5	99.4
Jabil	EMS	Florida	Yes	4,680.8	4,358.6	7.4	4,056.2	15.4	87.7	70.5	(25.2)	13,348.8	11,419.4	16.9	211.1	127.9
Inventec	ODM	Taiwan	No	3,201.7	2,939.4	8.9	3,331.4	(3.9)	59.0	37.9	60.1	8,995.1	10,676.5	(15.7)	143.4	171.8
Sanmina	EMS	California	Yes	1,636.6	1,539.3	6.3	1,686.2	(2.9)	315.4	24.5	132.5	4,703.4	4,767.6	(1.3)	354.6	174.1
Celestica	EMS	Canada	Yes	1,408.5	1,417.3	(0.6)	1,423.1	(1.0)	10.9	24.2	34.4	4,124.3	4,207.0	(2.0)	54.8	112.6
Cal-Comp Electronics	EMS	Thailand	No	1,066.8	1,067.6	(0.1)	1,222.0	(12.7)	13.2	8.8	6.6	3,359.6	3,221.4	4.3	31.9	14.2
Qisda	ODM	Taiwan	No	1,009.8	1,076.3	(6.2)	1,147.4	(12.0)	17.4	23.3	34.2	3,122.5	3,243.7	(3.7)	60.6	71.4
Universal Scientific Industrial	EMS	China	No	920.7	857.7	7.3	673.5	36.7	36.8	15.5	26.6	2,464.7	1,791.0	37.6	75.1	82.2
Plexus	EMS	Wisconsin	Yes	668.7	669.6	(0.1)	666.2	0.4	23.9	23.8	26.5	1,989.6	1,844.3	7.9	71.3	69.4
Benchmark Electronics	EMS	Texas	Yes	630.2	664.0	(5.1)	731.3	(13.8)	20.6	21.2	16.9	1,915.2	2,087.5	(8.3)	56.0	58.2
Shenzhen Kaifa	EMS	China	No	630.9	503.4	25.3	701.3	(10.0)	0.3	14.0	23.4	1,790.9	1,275.2	40.4	22.6	40.6
Venture Corp	ODM/EMS	Singapore	No	487.3	490.9	(0.7)	469.4	3.8	28.5	26.8	28.3	1,421.9	1,421.6	0.0	79.0	79.7
Kinpo Electronics	ODM	Taiwan	No	313.5	371.1	(15.5)	425.6	(26.4)	4.8	18.8	18.6	1,077.9	1,275.9	(15.5)	37.4	63.3
Kimball Electronics	EMS	Indiana	Yes	200.4	201.1	(0.3)	203.8	(1.7)	4.5	7.4	5.3	608.4	588.4	3.4	18.8	16.9
Ability Enterprise	ODM	Taiwan	No	151.1	160.0	(5.6)	196.5	(23.1)	8.8	6.2	6.4	459.7	589.2	(22.0)	18.8	0.3
Total/avg.				**84,649.8**	**79,791.5**	**6.1**	**83,097.8**	**1.9**	**2,371.9**	**1,577.9**	**2,098.3**	**245,333.0**	**236,007.1**	**4.0**	**5,743.8**	**4,807.3**
Total/avg. without Hon Hai				**52,287.8**	**48,265.9**	**8.3**	**51,851.6**	**0.8**	**1,222.1**	**745.3**	**977.7**	**149,034.9**	**146,306.7**	**1.9**	**2,790.4**	**2,368.8**

Results in non-US currencies were converted to US dollars by applying a three-month average exchange rate for the corresponding quarter. Average exchange rates were based on monthly 2015 and 2014 data from the US Federal Reserve. Company net profits shown here are attributable to shareholders. Net profit totals are approximate because not all companies follow the same accounting standard.

Table 2: Comparing Results Where Companies are Grouped by Primary Business (M US$ or %)														
Company (in order of 9-mo. sales)	Primary Business	3Q15 Sales	2Q15 Sales	Qtr.-qtr. Chg.	3Q14 Sales	Yr.-yr. Chg.	3Q15 Net Income	2Q15 Net Income	3Q14 Net Income	Q1–3 '15 Sales	Q1–3 '14 Sales	Yr.-yr. Chg.	Q1–3 '15 Net Income	Q1–3 '14 Net Income
11	EMS	50,522.5	48,370.6	4.4	49,138.4	2.8	1,785.9	1,153.3	1,506.5	148,437.6	140,797.4	5.4	4,218.5	3,490.4
6	ODM	19,610.7	19,132.7	2.5	20,588.5	-4.7	354.9	244.4	359.8	56,065.1	57,908.9	-3.2	865.0	841.8
3	EMS/ODM	14,516.7	12,288.3	18.1	13,370.9	8.6	231.1	180.2	232.0	40,830.3	37,300.8	9.5	660.3	475.1
20		**84,649.8**	**79,791.5**	**6.1**	**83,097.8**	**1.9**	**2,371.9**	**1,577.9**	**2,098.3**	**245,333.0**	**236,007.1**	**4.0**	**5,743.8**	**4,807.3**

Net profit totals are approximate because not all companies follow the same accounting standard.

Mixed Results for North American Group

For a group of eight mid-tier and smaller EMS providers based in North America, combined Q3 sales were either not bad or were rather disappointing, depending on how they are compared. On a year-over-year basis, the group's revenue was up 10.5%, but versus the prior quarter revenue was down 1.5%. Q3 sales for the group of eight North America-based providers totaled $713.3 million, representing modest growth from the group's year-earlier revenue of $645.5 million. Among the group, year-over-year sales performance varied greatly, ranging from –8.7% for **Ducommun LaBarge Technologies** to 46.2% for **Key Tronic**. Sales increases at five providers outweighed declines at the remaining three (Table 1A, p. 5). The group's 10.5% growth from a year earlier was significantly higher than the 2% collective gain of the six largest providers in the US-traded sector (Nov., p. 4).

In the sequential comparison, Q3 sales increased at four out of eight providers, which was offset by decreases at the other four providers. As a result, the group's revenue growth was negative. **Sparton** lowered its revenue from the previous quarter, which had a significant negative impact. On a sequential basis, the North American group's 1.5% decline in Q3 was more than 60 percentage points behind an 8.1% gain achieved by the six largest US-traded providers.

However, for the first nine months of 2015, the eight mid-tier and smaller EMS providers outperformed their larger counterparts in the sales department. Nine-month sales for the eight mid-tier and smaller providers grew 10.6% year over year, compared with a 0.4% drop for their larger competitors (Chart 1A). Collectively, the eight mid-tier and smaller providers generated sales of $2.1 billion for the first nine months, up from $1.9 billion in the year-ago period. Sales increases at five providers were enough to give combined sales a modest lift. Both Key Tronic and Sparton turned in double-digit gains, with 52.7% and 28.1% growth, respectively.

The group of eight mid-tier and smaller providers consists of six companies in the EMS space, all publicly traded, and two EMS units within larger publicly held corporations. Both Sparton and **IEC Electronics** turned in high gross margins of 17.5% and 13.7%, respectively.

Two providers increased their operating margins sequentially, and three raised their margins year over year (Table 1A). Sparton achieved the highest operating margin for small and medium-tier EMS providers at 4.2%. Operating margins at **Kimball Electronics** and **Ducommun LaBarge Technologies** were down from both the prior quarter and a year earlier.

The six stand-alone providers combined for a Q3 net loss of $1.6 million, compared with net income of $2.6 million and net loss of $1.8 million in Q2 and the year-ago period, respectively. **IEC Electronics**, which recorded a net loss of $4 million in Q3, was responsible for the aggregate net loss.

For the first nine months, net income for the stand-alone providers amounted to $6.1 million, an increase of 187% from a year earlier, a far cry from their increase in sales of 19.6%. Three providers—IEC Electronics, **Nortech Systems**, and **SMTC**— showed a net loss for the period (Table 1A). Nine-month net income improved overall due to increases in net income for Sparton, **SigmaTron,** and Key Tronic, which all also achieved year-on-year gains in their bottom-line results.

A Brief Look at Each Provider

Ducommun LaBarge Technologies (DLT). The company's EMS segment net revenue for the current third quarter was $97.5 million, compared to $106.8 million for the third quarter of 2014. The lower net revenue was primarily due to an approximately 14.6% decrease in military and space revenue mainly due to the decline in military fixed-wing platforms, and an approximate 2.2% decrease in non-aerospace and defense revenue, partially offset by an approximately 5.1% increase in commercial aerospace revenue.

DLT's net income for the current third quarter was $8.6 million, or 8.8% of revenue, compared to $8.3 million, or 7.8% of revenue, for the third quarter of 2014, primarily due to a favorable product mix of approximately $0.8 million and lower compensation and

Chart 1A: Nine-Month Sales Growth (%)

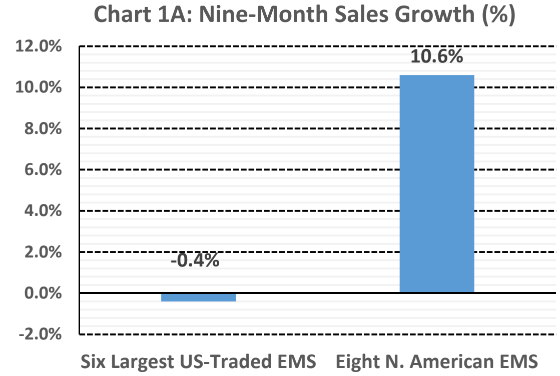

Table 1A: Q3 and Nine-Month 2015 GAAP Results for Eight Mid-Tier and Smaller EMS Providers Based in North America (M$ or %)

Company	3Q15 sales	2Q15 sales	Qtr.-qtr. chg.	3Q14 sales	Yr.-yr. chg.	3Q15 gross marg.	2Q15 gross marg.	3Q14 gross marg.	3Q15 oper. marg.	2Q15 oper. marg.	3Q14 oper. marg.	3Q15 net inc.	2Q15 net inc.	3Q14 net inc.	Q1–3 '15 sales	Q1–3 '14 sales	Yr.-yr. chg.	Q1–3 '15 net inc.	Q1–3 '14 net inc.
Key Tronic	126.2	120.4	4.8	86.3	46.2	6.5%	8.6%	4.3%	0.9%	2.7%	−2.6%	0.8	2.3	−1.5	359.6	235.5	52.7	5.0	1.3
Sparton	106.7	126.4	−15.6	77.0	38.5	17.5%	20.3%	16.6%	4.2%	8.9%	1.1%	2.4	5.1	0.2	326.1	254.5	28.1	11.5	7.4
SMTC	53.4	57.7	−7.5	55.5	−3.8	5.8%	9.4%	9.7%	−1.7%	2.5%	0.2%	−1.3	1.0	−0.8	159.9	171.5	−6.8	−0.8	−1.5
SigmaTron	64.2	60.1	6.9	54.9	16.9	9.7%	9.7%	10.8%	1.8%	1.1%	0.4%	0.7	0.2	0.0	178.0	164.7	8.1	1.4	1.2
IEC Electronics	34.4	32.9	4.7	33.0	4.4	13.7%	7.8%	15.2%	1.0%	−14.8%	1.5%	−4.0	−5.5	−0.1	98.3	99.9	−1.6	−10.3	−16.1
Nortech Systems	30.4	26.8	13.5	28.0	8.5	9.5%	9.1%	12.6%	0.1%	−1.8%	1.7%	−0.1	−0.4	0.3	83.8	81.6	2.7	−0.7	0.7
Subtotal/avg.	**415.4**	**424.3**	**−2.1**	**334.9**	**24.0**							**−1.6**	**2.6**	**−1.8**	**1,205.7**	**1,007.7**	**19.6**	**6.1**	**−7.0**
EMS Units of Larger Public Companies																			
Kimball Electronics	200.4	201.1	−0.3	203.8	−1.7				3.5%	4.5%	3.8%	4.5	7.4	5.3	608.4	588.4	3.4	18.8	16.9
Ducommun	97.5	98.7	−1.2	106.8	−8.7				5.5%	8.9%	6.6%	8.6	7.7	8.3	297.1	312.7	−5.0	22.6	25.9
Total/avg.	**713.3**	**724.1**	**−1.5**	**645.5**	**10.5**										**2,111.2**	**1,908.8**	**10.6**		

Operating and net income are not necessarily equivalent to GAAP results on a stand-alone basis. Segment operating income did not include corporate general and administrative expenses. For Sparton Corp. and Key Tronic, the figures mentioned for 3Q2015 are from their 1Q2016 fiscal quarter.

benefit costs of approximately $0.7 million, partially offset by loss of efficiencies resulting from lower manufacturing volume of approximately $1.3 million.

The company did see a rebound in the total backlog of $553 million, mostly driven by commercial aerospace, with a sequential increase of 13%. Meanwhile, the defense backlog was down 1.2% sequentially and 3% y-o-y. Management attributes this to a continued slowdown in spending and contracting. Management sees opportunities within missile defense and modernization upgrade programs, areas where the budget should shift.

Sparton Corporation. Sparton began its fiscal 2016 with an upside surprise in both revenues and profitability. Helped by several acquisitions made in 2015, revenues increased 39% to $106.7 million, compared with $77 million reported in fiscal 1Q2015. Of the increase, $24 million was from acquired businesses. Strong profitability in the ECP segment helped the company produce consolidated gross margins of 19.8% and earnings of $0.24.

As a reminder, at the beginning of fiscal 2015, Sparton reconfigured its three former business units into two reporting units: Manufacturing & Design Services (MDS) comprises the prior Medical and Complex Systems segments and is a contract manufacturer, where Sparton designs and manufactures the complex electromechanical products of other companies. Engineered Components & Products (ECP) consists of the former Defense and Security Systems (DSS) business and comprises the electro-mechanical products that are owned by Sparton.

Management emphasized that it is taking a break from acquisitions, given the large number undertaken over the last several years. Sparton is addressing MDS issues in part with the closure of excess capacity in Lawrenceville and Irvine. The company is working on new product development and capturing the synergies of recent acquisitions.

The outlook for fiscal 2016 is multifaceted. Sparton is accelerating organic growth initiatives. This is supported by a new business funnel and a planned increase in both domestic and foreign sonobuoy sales. There is the rugged electronics platform in ECP. **Hunter Technology** in MDS is another focus. Sparton aspires to expand its margins, and this is being done through continued cost reductions and synergy initiatives. Sparton is managing ECP by product platform with the current product lines and is identifying and developing new product platforms that support both MDS and ECP.

The company's longer-term 2020 Vision is a plan to grow revenues to over $1 billion by the end of fiscal 2020 and increase EBITDA margins to 12% (currently at 9%). This strategy consists of (1) focusing on regulated and demanding environments with high barriers to entry, (2) pivoting the business model to include a higher concentration of differentiated products and services (thereby limiting substitution options), and (3) applying the Sparton Business System (SBS)—the company’s proprietary practices, tools, and principles—to unlock value and drive performance.

Key Tronic Corporation. For the first quarter of fiscal year 2016, Key Tronic reported total revenue of $126.2 million, up 46.2% from $86.3 million in the same period of fiscal year 2015. Results for the first quarters of fiscal years 2016 and 2015 included approximately $35 million and $11 million, respectively, in revenue from the acquisition of **Ayrshire**.

As previously announced, the company had approximately $2.0 million of unanticipated expenses and erosion of gross margin related to a single long-standing customer that requested a significant and immediate increase in production volumes for a new program at the start of the quarter and then later abruptly canceled those orders.

For the first quarter of fiscal year 2016, gross margin was 6.5% and operating margin was 0.9%, compared with 4.3% and –2.6%, respectively, in the same period of fiscal year 2015. Net income for the first quarter of fiscal year 2016 was $0.8 million, or $0.07 per share, up from –$1.5 million or –$0.14 per share for the first quarter of fiscal year 2015.

In the first quarter of fiscal year 2016, the top five customers represented 47% of total revenue, compared with 50% a year ago and 64% two years ago. Key Tronic also continued to see a healthy pipeline of potential new business, winning new programs involving telecommunications and security equipment.

For the second quarter of fiscal year 2016, the company expects to report revenue in the range of $115 million to $120 million, and earnings in the range of $0.08 to $0.13 per diluted share. These expected results assume an effective tax rate of 35%.

In the second and third quarters, the company expects the decline from the same long-standing customer to continue to impact its growth. By the fourth quarter, it expects the lost revenue from this program to be more than offset by new revenue from the continued ramp-up of new programs. At the same time, it anticipates increased operating efficiencies and profitability in coming periods.

Nortech Systems, Inc. Reported net sales were $30.4 million for the third quarter ended September 30, compared with net sales of $28.0 million for the third quarter of 2014, up 8.5% over the prior year and 13.5% sequentially. Backlog rose 23% during the quarter. For the nine months ended September 30, Nortech’s net sales were $83.8 million, compared with $81.6 million for the same period in 2014.

Operating income for the third quarter was $23,000, due to increased revenue and ongoing cost-reduction efforts; the company had reported operating losses the prior two quarters.

Nortech Systems reported a net loss in the third quarter of $124,000, or $0.05 per diluted common share, compared with net income of $333,000, or $0.12 per diluted common share, for the same period last year. For the nine months ended September 30, Nortech reported a net loss of $695,000, or $0.25 per diluted common share. This compares with net income of $666,000, or $0.24 per diluted common share, for the same period in 2014. Net income in 2015 has been impacted by customer mix, external factors, acquisition expenses, and ramp-up costs for growth and cost-reduction initiatives in Mexico and Asia.

During the third quarter, Nortech moved its corporate headquarters to a location offering additional space for expansion and a more collaborative environment.

SMTC Corporation. 3Q2015 revenue decreased by $2.1 million, or 3.8%, from $55.5 million for the third quarter of 2014 to $53.4 million for the third quarter of 2015. Revenue decreased by $17.2 million, primarily related to two long-standing customers transferring some of their business to other contract manufacturers. These decreases were partially offset by three new customers, with revenue of $11.8 million. Two of these customers were added in 2014, and experienced revenue growth in 2015. There were additional net volume increases of $3.3 million related to numerous other customers.

With regard to business segment performance, revenue from the industrial sector as a percentage of total revenue decreased to 55.0% in the third quarter of 2015 compared with 71.3% in the third quarter of 2014. Revenue from the industrial sector decreased $10.2 million, mostly related to the two long-standing customers mentioned above transferring business to other contract manufacturers. The communications sector decreased in the third quarter of 2015 to $6.2 million, representing 11.6% of total revenue compared with $7.4 million, or 13.3% of total revenue, for the third quarter of 2014. The networking and enterprise computing sector increased to $14.8 million, or 27.7% of total revenue, for the third quarter of 2015, compared with $5.7 million in 2014, or 10.3% of revenue, in the third quarter of 2014. The medical sector increased slightly to $3.1 million, or 5.7% of total revenue, in the third quarter of 2015, compared with $2.9 million, or 5.2% of total revenue, in the third quarter of 2014.

The company's ten largest customers represented 80.1% of revenue during the third quarter of 2015, compared with 89.9% in the third quarter of 2014.

For the third quarter of 2015, 64.8% of its revenue was attributable to production from its operations in Mexico, 18.2% in China, and 17.0% in the US. The company recorded approximately $1.6 million in sales of raw materials inventory to customers, which carried limited margin, compared with $0.7 million in the third quarter of 2014.

New customers added revenue of $13.1 million this quarter and respective year- to-date revenue of $24.9 million.

Strong Growth in Q3 for European Providers

Third-quarter sales for a group of five European EMS providers were strong compared with the year-earlier period. Revenue for the five providers totaled €379.8 million versus €271.7 million in the year-ago quarter. Sales in Q3 rose by a noticeable 39.8%.

All five providers posted revenue growth. **Scanfil** reported triple-digit growth, at 139.5%, which can be credited to its merger with former competitor **PartnerTech**.

Kitron and **LACROIX Electronics** achieved double-digit growth, with 22.4% and 21.7%, respectively. **Neways Electronics** published its Q3 trading update, in which total revenues increased 7.3%, driven completely by implementation of its group-wide improvement program, "Up to the Next Level," which will further reinforce Neways' positioning as a one-stop provider in the electronic manufacturing services (EMS) market. Given the continued integration of the **BuS Group** and the resultant improved spread across market sectors, the company is now in a better position to respond effectively to fluctuations in demand.

At Scanfil, Q3 operating profit was up 3.9%. Profit was €2.8 million, down 27.6%. The operating profit for January–September includes a total of €4.2 million of nonrecurring expenses, comprised of €2.1 million in entries related to the acquisition of PartnerTech AB and a write-down of €2.1 million related to the Hungarian operations. Scanfil revised its estimate of its turnover to €360–385 million.

LACROIX Electronics' EMS segment grew 21.7% in Q3, with €70 million. The company continues to increase its market share and develop its business in Poland.

Kitron saw its revenue increase 22.4% compared to the same period last year. Revenue in the Defense/Aerospace market sector increased by 54.7%, Energy/Telecom was up 25.6%, Industry increased by 4.1%, Medical Equipment increased by 26.3%, and Offshore/Marine was down 25.1% compared with 3Q2014.

Connect Group saw its 3Q2015 revenue increase by 3.3%. EBITDA was down €254,000 due to restructuring measures that impacted the result. The order book amounted to €80.8 million.

Table 1B: 3Q2015 Results for Five European EMS Providers (M€ or %)

Company (in order of 3Q15 sales)	Head-quarters	Reports in Euros	3Q15 sales	3Q14	Yr.-yr. Chg.
Neways Electronics International	Nether-lands	Yes	96.5	89.9	7.3%
Scanfil	Finland	Yes	135.8	56.7	139.5%
LACROIX Electronics	France	Yes	70.0	57.5	21.7%
Kitron	Norway	No	49.1	40.1	22.4%
Connect Group	Belgium	Yes	28.4	27.5	3.3%
Total/avg.			**379.8**	**271.7**	**39.8%**

Results in non-euro currencies were converted to euros by applying a three-month average exchange rate for the corresponding quarter. Average exchange rates were obtained from OANDA.

Company News

Relocation… **Neways Electronics** (Netherlands) plans to reallocate the operational activities of Neways Micro Electronics (NME) in Echt and China in line with the improvement program it launched in mid-2015. Following an automation process, the activities will be largely transferred to the Neways Micro Electronics location in Echt. Neways Wuxi Electronics in China will take over the remaining activities.

Facilities sold… Swedish EMS group **Hanza** is selling its subsidiary in Slovakia, while the company intends to develop the Group's new manufacturing cluster in central Europe.

Hanza Holding AB has signed an agreement to sell the Slovakian subsidiary, which has about 50 employees and is included in Hanza's Electronics Division. Part of the production in Slovakia will be transferred to other production units within Hanza Group.

Furthermore, Hanza intends to develop a new manufacturing cluster for electronics/mechanics in Poland and the Czech Republic, instigated by its acquisition of **metalliset** in September 2015.

The buyer of the subsidiary is a Slovak private investor, Andrei Beňuška, reports *Evertiq*.

Acquisitions… **Flex** (Singapore) has acquired **Farm Design**, a full-service product development company providing development and design services for medical device and diagnostic companies.

Adding Farm Design's team and design capabilities to Flex's medical segment expands Flex's medical expertise.

People on the move… EMS provider **AWS Electronics Group** (United Kingdom) has strengthened its team with the appointment of Tracy Court as UK Business Development Director.

Her role is to drive growth in the UK, offering not only the services of AWS's UK facility in Newcastle-under-Lyme, but also those of the lower-cost plant in Námestovo, Slovakia.

Expansion… EMS provider **Cal-Comp** (Thailand), a subsidiary of **New Kinpo Group**, will expand its presence in South America, opening a new factory and adding a new plastic injection production line to its factory in Manaus, Brazil. The new 3,500-square-meter factory is set to start production in March 2016, as reported by *Evertiq*.

Hon Hai Plans to Spin Off FIT

Hon Hai Precision Industry is planning to spin off its Foxconn Interconnect Technology (FIT) business in an initial public offering in Hong Kong valued at $1.5 billion, scheduled for the second quarter of 2016, as reported by *Reuters*.

The funds generated from the deal are expected to be used to expand the company's overseas business, as well as to develop new technologies, the report noted.

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