

# Manufacturing Market <sup>TM</sup>

# INSIDER

inside the contract manufacturing industry

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## 2015 Should Steadily Improve

In *MMI*'s annual outlook, published in the January issue, the Newsletter tries to get a sense of the latest trends in the EMS industry and the outlook for the coming year. Each year this is different because the EMS industry is evolving, starting in the late 1980s and early 1990s as an opportunistic business of printed circuit board assembly, to being today a full-service industry involving design concepts, assembly, and distribution. Most Western OEMs went from manufacturing in-house (as many Eastern OEMs still do today) to not even having a manufacturing department, and relying on their manufacturing partners for fulfillment. Apple is perhaps the best example of this business model.

With each year, more and more Eastern technology companies (such as Samsung and Sony) are being forced to accept the Apple business model to remain competitive. Even though outsourcing is not in these companies' DNA, technology innovation in manufacturing, time-to-market, and capital equipment investment demands make subcontracting production to specialists increasingly attractive. OEMs are finding it difficult to keep up with the technology investment necessary to manufacture their own products, let alone seek to innovate and get new products out the door.

As we begin 2015, we are seeing a slight improvement in the electronics industry. While capital equipment investment is up and the 3-month book-to-bill ratio is down slightly, Apple reported record profits not ever achieved by any company in history. But the main indicator for the EMS industry is to watch worldwide semiconductor capital spending, which climbed 12.9% in 2014, according to Gartner, a market research company (the Worldwide Semiconductor Trade Statistics [WSTS] association pegs growth at 9%). This includes wafer fab equipment, automated test equipment and packaging, and equipment assembly. Gartner is projecting flat growth for 2015 and 2016, yet 7%+ growth for 2017 and 2018. But consider that WSTS, which forecasts semiconductor consumption, estimates growth of 3.4% in 2015 and 3.1% in 2016. It's difficult to get excited over these numbers and their implications for the EMS industry.

However, based on the preliminary revenue numbers for the leading EMS and ODM firms in 2014, the future definitely looks brighter. Though official figures are not all available, leading EMS companies showed a solid 5.1% growth in revenue in 2014, while leading ODM companies grew at a slightly slower rate of 4.7%, averaging 5.0% for both supplier types (Table 1, next page). No doubt a lot of this positive growth was due to strong demand for tablets and smart phones. EMS companies performed well, except for Jabil and Celestica, which experienced a decline in revenue as a result of restructuring. Growth in the EMS industry, spectacular for many years, has been gradually slowing (particularly in the last three years) to the point that it is equal to (sometimes less than) that of the overall electronics (OEM) industry growth. Figure 1 (page 3) summarizes this trend for EMS and ODM industries from the time we first started following these markets in 1992.

With that preface, *MMI* will comment on some of the trends that it expects to come to pass for 2015.

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## Industry Shakeout

The trend of a slowdown in revenue growth is likely to lead to a period of consolidation in the industry over the next few years. There are literally thousands of small suppliers (e.g., less than \$20 million in annual sales), and in New Venture Research's annual report, *The Worldwide Contract Manufacturing Services Market, 2014 Edition*, nearly 100 EMS/ODM companies with sales of \$100 million or more are tracked. This leads to a crowded field in which the weaker suppliers will likely be acquired by the stronger ones. Industry shakeout and consolidation seems to be inevitable in the near future.

## Localization of Outsourced Manufacturing

This trend was highlighted last year in *MMI's* January issue, and today it seems even more prescient. There is no question that subcontracted manufacturing is moving closer to the customer each year, as it no longer makes economic or strategic sense to manufacture anything but commodity products abroad, where costs can be pushed to the margin. Historically, almost two-thirds of all electronics products manufactured by EMS and ODM suppliers were commodity computer and communications products. So while many complex and high-mix products found in the industrial, medical, and transportation industries are finding their way back into local production, a large percentage (such as motherboards, cell phones, and consumer electronics) will remain offshore and be produced in the lowest cost regions (China, Vietnam, Poland, and Romania). Having said this, there are token efforts by Foxconn and a few ODMs to "green-field" manufacturing facilities in high-cost regions such as the US and Germany.

What is lacking in the high-cost regions is the well-oiled supply chain so dominant in Asia today. Suppliers are as guilty as OEM companies in moving to low-cost locations to manufacture cheap components, printed circuit boards, and, more devastating, critical subsystems such as IC chips, displays, and storage drives. These assemblies will never return from any other geography than Asia—ostensibly because the OEM manufacturers are willing to sacrifice profit margins to ensure market share. The only component of any significant intellectual value today is the IC semiconductor chip. All other parts are commodity, including EMS assembly.

*Manufacturing Market Insider, January 2015*

## Disruption of Labor in Low-Cost Regions

Foxconn is only the tip of the iceberg when it comes to labor abuse. The company has repeatedly failed to curb overtime and ensure reasonable labor practices. Its management methods are said to be draconian, brutal, and unforgiving, as evidenced by the unrelenting lack of compliance in labor conditions throughout its factories, as reported by the Eastern press. This pattern originates from the Chinese work ethic, which for thousands of years has been one of survival. But this has now become obsolete because the world is seeing a substantial and influential middle class emerging, with savings and a new standard of living. This has led to the rise in base wage rates—estimated to have tripled in China over the last several years, according to NVR's research, making the region less attractive for export production (but still of significant interest for the selling of products to the local economies). All these disruptions will lead to increased challenges for manufacturing in Asia for the foreseeable future, reducing the region's inherent competitive advantage.

Asia is not the only region that is struggling with low-cost labor. Working conditions in Mexico can be just as onerous and harsh, depending on the contracting company. Shifts can be 12 hours in length, as working hours are not regulated. The Mexican government does more than most countries to protect the workers by requiring at least one week of paid holiday, yearly bonuses, insurance, and pension plans. Labor organizations assist in requiring good and safe working conditions. The same can be said for Eastern Europe and North Africa, where there is a large contingent of migrant workers being employed in low-cost regions such as Romania, Poland, and even North Tunisia. This keeps the labor market fluid and wages in flux.

## More Value-Added Microelectronics Manufacturing Will Take Place

Several innovative technology trends have emerged over the last several years that will affect the future of contract manufacturing. In most cases, these developments come from the field of materials science (such as printed electronics), but others

**Table 1 – EMS/ODM Industry Growth (\$B)**

<b>EMS Companies</b>	<b>2013</b>	<b>2014</b>	<b>Growth</b>
Foxconn	133.2	139.0	4.4%
Pegatron	28.9	33.6	16.2%
Flextronics	24.7	26.9	9.1%
Jabil	18.3	16.0	-12.8%
New Kinpo Group	6.6	7.2	8.8%
Sanmina	5.9	6.4	9.7%
Celestica	5.8	5.6	-2.8%
Plexus	2.4	2.5	6.2%
<b>Total</b>	<b>225.8</b>	<b>237.4</b>	<b>5.1%</b>
<b>ODM Companies</b>			
Quanta Computer	29.1	30.6	5.2%
Compal Electronics	22.9	27.9	22.1%
Wistron	21.3	19.5	-8.5%
Inventec	15.2	14.4	-5.5%
Lite-On Technology	7.0	7.6	8.4%
<b>Total</b>	<b>95.5</b>	<b>100.0</b>	<b>4.7%</b>
<b>Total</b>	<b>321.3</b>	<b>337.4</b>	<b>5.0%</b>

Source: Company reports - NT converted at 30.306

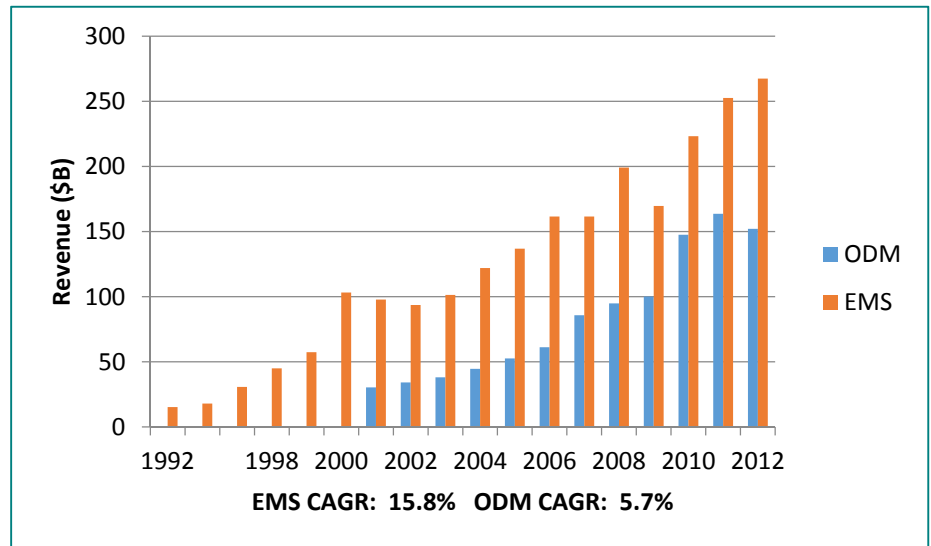
will emerge out of raw and breakthrough technology such as 3D (or additive) manufacturing. These are high-potential technologies that provide electronics companies with the tools to produce new and leading-edge products not previously possible.

Opportunities are emerging for EMS companies to provide a new portfolio of services that is years beyond traditional printed circuit board assembly (advanced as it once seemed), involving thick- and thin-film hybrids, conductive inks and *plastics*, and 3D manufacturing production, which can give a sub-contractor the ability to bring a product to market orders of magnitude faster than previously possible. NVR (the parent company of *MMI*) performed an in-depth study of the printed electronics industry in 2012, in which numerous product opportunities were apparent in various other industries (e.g., thin-film conductive inks in trace lines in avionics and automotive uses that reduce weight tenfold, and low-cost chemical trace strips for healthcare testing that can revolutionize the diagnostics industry). All that is lacking are the contract manufacturers with the understanding of the technology and the experience to apply this technology to the product applications (one pure-play example is an innovative small supplier,

GSI Technologies, that is entirely focused on this sector). Additive manufacturing technology allows for rapid and iterative prototypes to be developed in hours instead of days or weeks, giving an EMS company a definitive competitive edge not previously thought possible.

Primarily contract manufacturers—and not OEMs—are emerging as innovators of manufacturing production, providing competitive advantage in assembly (not the first time). We will be covering this in more depth in future *MMI* issues as the technology and markets evolve. Several EMS companies such as Jabil, Plexus, Celestica, Flextronics, and even Foxconn are positioning themselves to be leaders in this inspired and enterprising sector. Mike McCaughey, EVP, Communications, Enterprise and Managed Services at Celestica, calls this trend the “smart factory”—the integration of robotics, 3D

**Figure 1 – EMS/ODM Industry Growth (\$B), 1992–2012**



Source: New Venture Research

printing, materials science innovation, robust sensor and communication technology, and predictive analysis and supply chain tools—that portends more efficient automated manufacturing.

The EMS industry is clearly the driving supplier of this technology evolution and so will become more relevant in leading the cutting-edge revolution in electronics manufacturing.

## Some Quarterly Results

**Jabil.** For its fiscal Q1 ended Nov. 30, 2014, Jabil reported sales of \$4.55 billion, a 5% increase from the first quarter of fiscal 2014. GAAP operating income for the first quarter was \$144.8 million and GAAP earnings per share was \$0.37. Non-GAAP operating income was \$180.6 million and earnings per share was \$0.55. FY15 started on a strong footing for Jabil, with the Green Point business coming in stronger than expected and a large portion of the upside likely coming from Apple, Jabil’s largest customer (18% of FY14 sales).

At 57.8% of total sales, Electronics Manufacturing Services (EMS) reported revenue of \$2.63 billion, declining 5% y-o-y. The EMS segment appears largely stable, with a stronger fiscal year 2H anticipated from some recovery in industrial and energy, growth in automotive and digital home entertainment, and new wins and ramps in Enterprise and

Infrastructure. Diversified Manufacturing (DM), which is 42.2% of sales with an operating margin of 6.2%, delivered one of the strongest results in several quarters; good asset utilization, optimal yields, and product ramps helped.

Jabil now expects capital expenditure of \$650–750 million for FY15, higher than the \$350–450 million anticipated 3–6 months ago. About \$200 million of the capital expenditure is for mobility, and likely mainly for CNC machines. The FY15 free cash flow outlook of \$200–300 million implies an FCF yield of ~6%. Much of the incremental capex is to support 1.5–2 million square feet of manufacturing and infrastructure (real estate, IT, leasehold improvements, and equipment) expansion in China, Malaysia, and Indonesia, and for opportunities in wearables, embedded optics, polymers, materials sciences, drug delivery systems, and enterprise.

Jabil raised its FY15 outlook, now anticipating revenue of \$17.5–18.5 billion (was \$16.5–18 billion) and

EPS of \$1.85–2.15 (was \$1.65–1.95). The revenue outlook for DM was raised by \$500 million to \$7 billion, and that of EMS by \$250 million to \$11 billion.

**Celestica.** The company reported financial results for the Q4 ended Dec. 31, 2014 with revenue of \$1.424 billion, at the midpoint of its guidance range of \$1.375 billion to \$1.475 billion, which was relatively flat compared to the fourth quarter of 2013. Operating margin was 3.6%, compared to 3.3% for the fourth quarter of 2013. Adjusted EPS (non-IFRS) was \$0.23 per share (including a \$0.02 per share income tax expense resulting from foreign exchange fluctuations).

The company reported fiscal year 2014 revenue of \$5.6 billion, which decreased by 3% compared to 2013. Operating margin was 3.5%, compared to 3.0% for 2013. Adjusted EPS reported was \$1.00 per share, compared to \$0.83 per share for 2013.

In 4Q2014, revenue from diversified end markets represented 27% of total sales, flat compared to the fourth quarter of 2013. The storage business had a very strong quarter (up 20%

q-o-q), due to seasonal demand and new program ramps. The server end market increased 7% q-o-q, consistent with management expectations. In FY2014, revenue from diversified end markets grew 7% from 2013 to represent 28% of total revenue, up from 25% of total revenue for 2013.

For the 1Q2015 outlook for the quarter ending March 31, 2015, the company anticipates revenue to be in the range of \$1.275 billion to \$1.375 billion, and non-IFRS adjusted net earnings per share to be in the range of \$0.18 to \$0.24. The company expects a negative \$0.04 to \$0.08 per share (pretax) aggregate impact on net earnings on an IFRS basis for employee stock-based compensation expense and amortization of intangible assets (excluding computer software).

**Plexus.** For its fiscal Q1 ended Jan. 3, 2015, the company recorded sales of \$665 million, relatively flat from the prior quarter and up approximately 25% from the comparable quarter last year. Non-GAAP diluted EPS was \$0.72 (excluding \$0.05 per share of restructuring charges), relative to its guidance of \$0.68 to \$0.74.

The Networking/Communications segment drove the upside, with flat sales q-o-q beating expectations of a decline due to year-end pull-in and one customer's stronger sales in emerging markets. Operating margins declined 20 basis points q-o-q to 4.6%, driven by new program ramps in Guadalajara (Mexico) and Neenah (US).

Plexus reported 32 new program wins this quarter, representing potential annualized revenue of \$190 million. New program wins over the past year have been driving Plexus's above-market growth, with sales up 25% in 1Q15 and expected to be up more than 10% in FY15, well above the market. While management noted that the Healthcare/Life Sciences sector has continued to be soft, the company is seeing positive revisions in this segment, which helped drive the upside to expectations in this segment in 1Q15.

The company established fiscal second quarter 2015 revenue guidance of \$630–\$660 million, suggesting a 3% sequential decline at the midpoint of the range which will dilute EPS by approximately \$0.10 per share.

**Sanmina.** For the first fiscal quarter ended December 27, 2014, the company recorded revenue of \$1.67 billion, compared to \$1.69 billion in the prior quarter and \$1.45 billion for the same period of fiscal 2014.

GAAP operating income in the first quarter was \$53.5 million or 3.2% of revenue, compared to \$39.5 million or 2.7% of revenue for the same period ended December 28, 2013. GAAP net income in the first quarter was \$22.7 million, compared to \$23.1 million for the same period a year ago. GAAP diluted earnings per share were \$0.26 for the first quarter in both fiscal years.

Non-GAAP operating income in the first quarter was \$68.3 million or 4.1% of revenue, compared to \$48.6 million or 3.4% of revenue in the first quarter of fiscal 2014. Non-GAAP net income in the first quarter was \$53.1 million, compared to \$35.5 million in the same period a year ago. Non-GAAP diluted earnings per share for the quarter were \$0.61, compared to \$0.41 for the same period a year ago.

In 2Q2015, the company expects revenue of between \$1.575 billion and \$1.625 billion and non-GAAP diluted earnings per share of between \$0.50 and \$0.55. Diluted EPS of \$0.64 to \$0.72 is expected, including approximately \$0.10 per share of stock-based compensation expense but excluding any unanticipated special items. The anticipated revenue decline reflects the expectation that the Networking/Communications sector will return to more normalized levels after a seasonally strong first quarter that exceeded the company's expectations.

## ***2015 Outlook for ODMs in Datacenter Market***

**Quanta Computer, Inc.** Quanta might see a turnaround in earnings momentum in 2015, driven by: (1) strong growth in datacenter earnings, helped by new order wins in switch, further traction of rack-level solutions, a breakthrough in the European market, and a tactical return to server ODM within **Cisco**; and (2) a cyclical pickup in **Apple** profits as Quanta enters a new product cycle for the Apple Watch and MacBook Air.

Europe will likely be a fast-growing end market in 2015; Quanta was seeing strong traction from Europe as a new end market in late 2014, with telecom carriers and enterprise vendors interested in full rack-level solutions. A key catalyst was the completion of a fulfillment center in Germany, which should enable Quanta to provide localized services for customers. Europe could be 10–15% of 2015 datacenter revenues, up from <5% in 2014. This should follow reasonable traction for design wins shown in Japan in 2014, with demand from **NTT Telecom** and **Sony** datacenters. Japan is still only ~1% of server revenues in 2014, but Quanta expects revenues to be approximately 10% by 2017.

**Wistron.** Wiwynn (Wistron's server subsidiary) saw muted revenue growth in 2014 (flat as compared to initial guidance of 65%+ growth) due to weaker-than-expected traction at **Amazon** and **Microsoft**. For 2015, Wistron's focus seems to be shifted back to the ODM area due to the positive demand as well as some market share gains from the top two customers (**Dell**, **Lenovo**), at the expense of **Hon Hai** (for Dell). Winning more share in the **Cisco** ODM area is also a positive for Wistron, as Cisco continues to diversify away from Hon Hai. In the whitebox datacenter space, Wiwynn continues to be the primary storage vendor for **Facebook** (Quanta is No. 2), while seeing some upside from Microsoft storage. In servers, the traction has been more muted, but 2015 looks more promising, with a reengagement with Facebook (at the expense of **Mitac**) and incremental share gains in Amazon.

**Inventec.** Inventec expects its whitebox datacenter revenue to grow by 20% y-o-y in 2015, a healthy growth trend, with most of the growth to come from China through the Project Scorpio procurement scheme for the top three Internet vendors in China. However, pricing remains quite competitive in this segment, with multiple local OEMs (**Huawei** and **Inspur** in particular) and much lower volumes than US ISP customers. Inventec is losing traction in Google



(where it owned 35–40% share in 2014), and is likely to see its share drop back down to 20% by 2H15. Overall, Inventec is expected to be a limited threat to Quanta, with different target markets (Inventec focuses more on China while Quanta dominates in the US/Europe/Japan). Inventec itself indicated that gross margins in its ODM business are now better than for whitebox servers.

## Company News

### *Sparton Acquires KEP Marine*

**Sparton Corporation's** (Schaumburg, IL) subsidiary, Sparton IED, has completed the acquisition of **KEP Marine** (Eatontown, NJ), a \$3 million revenue business, from Kessler-Ellis Products, Inc. KEP Marine designs and manufactures industrial displays, industrial computers, and HMI software for the marine market. These product lines will be consolidated into the Aydin Displays facility, located in Birdsboro, Pennsylvania, as reported by *Evertiq*.

The addition of KEP Marine into Aydin Displays will allow Sparton Corp. to further enhance its market position in the marine market. KEP Marine's revenue is expected to enhance the company's Manufacturing & Design Services segment EBITDA. Coupled with the IED acquisition in December, the company expects that Aydin Displays' revenue will increase by 30% and that the combined acquisitions will be accretive to earnings within the next nine to twelve months, once transitioning activities are completed. Sparton Corporation also announced that its wholly owned subsidiary, Sparton Design Services, LLC, completed the acquisition of **Real-Time Enterprises, Inc.** (RTEmd), a \$4 million revenue business, on January 20, 2015 in an all-cash transaction. RTEmd will continue to service its current and future customers out of its Pittsford, NY location.

RTEmd's capabilities complement Sparton's extensive electrical and mechanical design and manufacturing skills within the medical and biotechnology markets. Once integration

activities are complete, RTEmd's revenue will also enhance the company's Manufacturing & Design Services segment EBITDA and be accretive to earnings within the next nine to twelve months.

### *Elektrobit Acquiring Birdstep Technology Oy*

**Elektrobit Technologies, Ltd.**, a subsidiary of Elektrobit Corporation (Finland), has acquired 100% of the shares of **Birdstep Technology Oy**, which is a fully owned Finnish subsidiary of Birdstep Technology ASA, based in Norway. Birdstep Technology Oy provides its customers with high-quality information security solutions for mobile devices and portable computers. The company employs 19 persons and is located in Espoo, Finland.

With this acquisition, Elektrobit will get Birdstep's SafeMove Solutions, which provides customers with information security solutions and seamless connectivity to the enterprise network by creating protected mobile data communications between the organization's portable devices, as reported by *Evertiq*.

### *éolane/Syscom GmbH Incorporation Complete*

**éolane** (France) has finished the incorporation of the German prototyping and electronic equipment manufacturer, **Syscom GmbH** (Germany). This represents an opportunity for éolane to increase its presence in Germany and for Syscom to enjoy a foundation from which to strengthen its market position.

This acquisition significantly increases the services provided by the éolane network, especially in manufacturing and the automotive and medical industries... **Integrated Micro-Electronics, Inc. (IMI)**, a Philippine-based EMS provider, has bought out minority shareholders of **PSI Technologies, Inc.** (Philippines), a power semiconductor assembly and test service provider.

IMI completed the \$500,000 acquisition of the remaining shares of PSI from private investment firms Narra

Venture Capital II LP and Narra Associates II Limited, increasing its stake in PSI from 83.25% to 100% of the company. The buyout consolidated IMI's ownership in the company, giving it better control of PSI's operations as well as the strategic direction of its business...

**Kulicke and Soffa Industries, Inc.** (Singapore) has entered into a definitive agreement to acquire a 100% equity stake of **Assembléon B.V.** (Netherlands) in an all-cash transaction for \$98 million. Assembléon's calendar 2014 revenue is currently anticipated to be approximately \$90 million. Kulicke & Soffa intended to close this acquisition by January 15, 2015 and expects the transaction to be accretive within the first year, as reported by *Evertiq*.

*Spin-Off...* **Advanced Semiconductor Engineering, Inc.** (Taiwan) announced that its board of directors passed resolutions to spin off its subsidiary **Universal Scientific Industrial Co., Ltd. (USI)** as part of an effort to enhance operational flexibility via structural adjustments.

USI passed resolutions authorizing the spin-off as well as capital reduction proposals that will assign its investment business with an estimated value of NT\$35.5 billion (including assets, liabilities, and business) to USI, Inc. (USI), a newly established business entity. The new USI will issue approximately 1 billion new shares at the ratio of 1,000 existing USI shares to 609.2743815 new shares.

*Executive Changes...* The supervisory board of the **ERNI Group AG** (Switzerland) named Rudolf Hausladen as the new CEO of ERNI International AG. He follows Walter Regli, who age-relatedly vacated his long-lasting function as CEO at ERNI International AG.

Rudolf Hausladen has more than 20 years of international management expertise, working for different enterprises in the automation industry. Recently he was General Manager for Asia-Pacific of a Swiss automation company and leader of "global strategy" based in China. As the new CEO of the ERNI Group he will operate from

Switzerland... **M-Comp A/S** (Denmark) has changed its sales strategy by employing Lennarth Engman as Country Manager for Sweden, Norway, and Finland. Engman has many years of experience in the electronics business as Sales Manager and Key Account Manager at **ELFA AB** and **Sharp Microelectronics Europe GmbH**. He will be working out of Stockholm, Sweden... **Sanmina** (San Jose, CA) has appointed Mario Kramer as Director of Interconnect Sales for the EMEA (Europe, Middle East, and Africa) region. Mr. Kramer is based in Sanmina's offices in Germany, and manages a team including Business Development, Field Applications Engineering, and Customer Service.

Mr. Kramer has more than 15 years of experience in the PCB industry, with expertise in the automotive, clean technology, industrial, medical, aerospace, and communications markets.

*Partnerships...* EMS provider **Enics** (Switzerland) has been selected to become **Watersprint's** (Sweden) long-term strategic partner for manufacturing the company's product for water purification in professional facilities such as hospitals and swimming halls.

*Facilities Expansion & Investments...* Effective January 1, 2015, three member enterprises of the **exceet Group** (Germany), namely **electronics GmbH**, **Contec GmbH**, and **Mikrap AG**, will begin operation under the joint brand name exceet electronics. Collaboration between the companies as electronics GmbH, Contec GmbH, and Mikrap AG within the exceet Group was already intensified in 2014 to expand the product and services portfolio addressing the development and production of complex electronic modules, components, and systems for industrial and medical technology uses... **Stadium Group's** (UK) iEMS division continues to invest in key equipment to bolster the manufacturing capabilities at the centres of excellence in both Asia (Dongguan, China) and Europe (Hartlepool, UK). The investments made throughout 2014 include a new SMT assembly line

installed at the Hartlepool facility, along with equipment from DEK (screen print), Assembleon (AX range of pick and place), and Vitronics Soltec (reflow) to complement the existing SMT capability. This new equipment enables Stadium UK iEMS to assemble PCBs as large as 800 mm x 460 mm, strengthening its position in the LED arena and opening up a host of new opportunities and customers in the growing LED lighting market.

### ***Hanza Consolidates Production Sites***

EMS provider **Hanza** (Sweden) plans to consolidate its production to increase the company's profitability in the current unpredictable economic climate. Hanza plans to initiate trade union negotiations to move the company's manufacturing site in Töreboda, Sweden, to other Hanza sites.

In view of the prolonged recession in the industry and continued uncertainty about the long-term economic situation, Hanza has decided on a developed strategy. The purpose is to affect profitability positively through consolidation of production sites and targeted, strategic acquisitions.

### ***Flextronics Opens New Facility in Detroit***

**Flextronics** (Singapore) is linking the high-technology advances of Silicon Valley with the automotive industry in Detroit. At its newly established location adjacent to Detroit, Flextronics's specialized automotive team is actively helping to further enable swift implementation of cutting-edge, smart, connected technologies and applications by collaborating with the Detroit Big Three (**Ford**, **General Motors**, and **Chrysler**) and partnering with OEM customers and partners on projects at various stages of development, enabling sketch-to-scale solutions offerings.

The newly opened Flextronics facility will enable innovation and disruptive technology development that further supports customers' needs for differentiation. Services provided include product design and

development, engineering, validation testing, a development garage, prototyping, and quality engineering, as reported by *SMTOnline*.

### ***Inventec Eyes India for Next Production Base***

**Inventec** (Taipei, Taiwan) is considering establishing new production plants in India to help clients better supply products to non-China countries, said chairman Richard Lee, who pointed out that the company's president, K.C. Huang, is currently visiting India to evaluate the feasibility of such a move. With non-China countries becoming a focus of **Xiaomi's** smart phone business, Lee said that Inventec will coordinate with its clients to establish new plants in non-China countries. To satisfy client demand, Inventec will also establish new plants in Beijing, China. Inventec's current capacity in Beijing is about 6 million units a month and it is planning to increase the volume to 8 million units after the first phase of construction of the new plants and then to 10 million units after the second phase, in 2015.

Inventec currently has plants in Chennai, southeastern India, and the new plants may be located in the northeastern region, as reported by *Digitimes*.

### ***Anuva Expands Capacity, Builds New Florida Facility***

**Anuva Manufacturing Services**, part of the "Design to Distribution" family of businesses that started in 2008 with the launch of Anuva Services in Morrisville, NC, has a new home. A newly constructed 40,000-square-foot facility in the heart of Melbourne, FL will soon house an expanded staff and increase the home automation and electronics manufacturer's output by 250%.

The impetus for the move into larger space is closely tied with Anuva's recent acquisition of the **TiO®** (Turn It On) brand of building automation.

products. TiO is an entirely new approach to home automation driven by an “outside in” philosophy that focuses on the customer experience.

## ***Quanta, Wiwynn Look Overseas to Set Up Server Factories***

**Quanta Computer** (Taiwan), in view of large potential demand for servers used in cloud computing datacenters in Europe and North America, will set up a server factory in Germany, while **Wistron** (Taiwan) subsidiary **Wiwynn** will do so in Mexico and the Czech Republic.

Quanta Computer has already set up a marketing office in Seattle, Washington and another in Fremont, California, with the former targeting **Amazon** and **Microsoft** and the latter **Google** and **Facebook**, according to a *Digitimes* news item. **Inventec** also plans to set up a server marketing base in Europe.

## ***Compal Electronics Aims to Ship 100 Million Devices in 2015***

ODM **Compal Electronics** (Taipei, Taiwan) aims to ship 100 million notebooks, tablets, AIO (all-in-one) PCs, smart phones, LCD TVs, and servers in total in 2015, according to company president Ray Chen and as reported by *Digitimes*.

Compal shipped 43 million notebooks in 2014 and expects 2015 shipments to remain unchanged, Chen said. The company shipped nearly 20 million smart phones and 4 million LCD TVs in 2014 and expects 2015 shipments to increase to 40 million and 4.5 million units, respectively, Chen noted.

Compal expects server business operations to suffer continued net operating losses in 2015 and to swing into profitability in 2016. Compal will expand its server R&D staff to 300–350 members in the second quarter of 2015.

Following its merger with affiliated handset ODM **Compal Communications** in March 2014,

Compal has used the latter’s factory in Nanjing, eastern China, to produce tablets and has shifted smart phone production to its factory in Kunshan, eastern China, Chen indicated.

To cope with continual wage hikes and labor shortages in China, Compal will set up smart phone production lines at its existing factory in Hanoi, northern Vietnam, with those smart phone shipments expected to account for 10–15% of its total smart phone shipments at the end of 2015 and for 25% in 2016. Wage rates in Vietnam are about half of those in China and in addition, the average turnover rate in Vietnam is only 2%, while in China it is 20%, Chen said.

Compal has begun to produce smart phones at its notebook factory in Brazil. In addition to ODM production of smart phones, China-based vendor **Huawei Technologies** will have Compal produce 4G base station equipment at the factory. While several market research companies forecast global tablet demand in 2015 to grow year on year by 5–6%, Chen holds the opinion that demand will decrease by at least 10%, mainly due to competition from large-screen smart phones. The tablet supply chain in Shenzhen has been shrinking and therefore shipments of whitebox tablets in 2015 will significantly decrease, Chen said.

*Marketing Alliances...* **Europlacer** (Dorset, UK), a manufacturer of comprehensive SMT pick-and-place equipment for the global electronics industry, has appointed **EMS Partners** (Lakeville, MN) as its manufacturers’ representative, servicing Minnesota, Wisconsin, North Dakota, South Dakota, Iowa, Nebraska, Missouri, and Kansas.

In addition to serving as an enhanced resource for Europlacer customers in these regions, EMS partners will contribute to Europlacer’s growth trajectory, as more assembly businesses are choosing Europlacer printers, pick-and-place equipment, and SMD storage towers in support of higher-efficiency production processes.

*New Contracts Awarded...* **API Technologies Corp.** (Orlando, FL) has announced that it has received a new, \$7.3 million order to produce electronic

products in support of US Department of Defense C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) initiatives. The order was placed by a US Department of Defense prime contractor with deliveries scheduled over the next six months... **Centrex, Inc.** (Farmingdale, NY) has announced that the company has received new orders in excess of \$5 million in its electronics manufacturing business. Deliveries of the new products are expected to begin early this year and continue over the next 12 months, primarily to European and global original equipment manufacturers. Approximately half of the new orders were related to the medical devices industry and the remaining orders were from a variety of industries, including wearables, industrials, and automotive.

## ***EPM Global Services and STACI Corporation Announce New Name of Combined Companies: Vexos***

Following a merger announcement, **EPM Global Services** (Markham, Ontario) and **STACI Corporation** (LaGrange, Ohio), both in electronic manufacturing services, PCBs, and electromechanical components, unveiled their new global brand, **Vexos**, to support their long-term growth strategy.

The new brand follows a period of expansion and added production capabilities for the merged businesses.

*New Orders...* **Pegatron** (Taiwan) received new business from several auto electronics vendors. Chairman Tzu-Hsien Tung confirmed that Pegatron had won new orders from **Audi** for designing and assembling mobile tablets in cars. He expected the partnership with Audi to help grow Pegatron’s 2015 revenue from the auto electronics business tenfold from that of 2014, as reported by *Commercial Times*. This can help diversify Pegatron’s product portfolio into the non-ICT (information and communication technology) space, lowering its operational risks gradually.



## Industry Update: Global Aerospace Sector Presents Strong Opportunities for EMS Companies

New analysis from Frost & Sullivan, *Global EMS Providers Market in Aerospace and Defense*, finds that the market earned revenues of \$16.64 billion in 2014. This will increase steadily to \$25.23 billion by 2019.

Aerospace and defense (A&D) original equipment manufacturers (OEMs) increasingly depend on electronic manufacturing service (EMS) providers to address risk management, logistics, and aftermarket service needs. EMS providers with a global supply chain and advanced technological capabilities are in the best position to exploit this trend.

To maximize revenues, EMS providers must respond effectively to changes in the A&D industry, noted the Frost & Sullivan report. Specifically, they must take advantage of market opportunities and stave off threats that have emerged with the decline in the defense sector and the growth of the aerospace sector. EMS providers that offer cost-effective solutions and have a global presence, extensive and collaborative supply chain, and advanced technological capabilities will have a huge advantage in the future.

Chief among these threats is the sequestration of defense budgets in the United States and Europe. To lessen

the impact of this, EMS providers must target critical defense segments that have witnessed fewer budget cuts and still have high growth potential.

EMS providers should look at the aerospace sector, which is leaning toward more electronics usage. As global gross domestic product expands and air passenger traffic increases, growth potential in the aerospace segment is particularly promising.

The Asia-Pacific region will be a hotspot for EMS providers as aerospace OEMs shift focus to this region. Toward the end of the forecast period given in the report, the Latin American market—especially Brazil—is also expected to become a lucrative destination for EMS providers in the aerospace sector. Tapping into these markets in the face of intensifying competition may prove challenging. EMS providers must invest in responsive manufacturing and offer specialized services to gain patronage among A&D OEMs.

More EMS providers are focusing on customer satisfaction as the key strategy to retain contracts. Traditionally, A&D OEMs were wary of switching EMS providers, as the costs associated with switching were high. This trend will change as the competition intensifies and more Tier II (revenues between \$200 million and \$1 billion) and Tier III (revenue less than \$200 million) participants become equally equipped and capable

of addressing the needs of OEMs. Moreover, the lower tier EMS providers participating in the A&D industry in the recent past will have gained the recognition and experience that can, in turn, provide OEMs with many alternatives. This trend will be more significant in the aerospace sector than in the defense sector. Suppliers will gain more contracts because of their quick response time and price competitiveness, which will threaten the dominance of Tier I EMS providers.

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