

# Manufacturing Market <sup>TM</sup>

# INSIDER

inside the contract manufacturing industry

Vol. 29, No. 1

January 2019

## Preliminary Results for 2018 Show Continued Strong Growth

While it is too early to say, it appears that 2018 was another strong year for EMS. This follows a very strong year in 2017 in which the contract manufacturing industry expanded by 10.8% over the previous year. We had estimated revenue growth of 10.7 percent by looking at a sampling of leading companies and other indicators (such as the nine-month results) and anecdotes gathered from industry participants. But it looks like 2018 will be even stronger than 2017, with revenue growth somewhere in the 10–15% range, and possibly higher, once the lower tier data has been collected. Contract manufacturing results definitely outpaced OEM revenue growth, which was in the very healthy 5–6% range.

One indicator worth pointing out is in an October 2018 report by *Gartner*, which claims that semiconductor revenue was expected to rise 14.4% in 2018 to \$481 billion. Most of this increase can be attributed to memory devices (DRAM and flash) that are being used in cloud storage of digital video and image data. This drives demand for enterprise storage systems being sold by server manufacturers and computer

companies, which have seen a strong increase in capex spending over the last year. The main benefits of this accrue to Tier 1 CMs but also trickle down to lower tier CMs that manufacture advanced transportation solutions involving AV and AI assemblies.

Since 2011, EMS industry growth has been more or less flat, with the exception of 2017 and presumably 2018. The September 2018 issue of *MMI* showed that growth in the first half of 2018, for the 20 largest CMs, was 12.4%, with hybrid providers showing growth of 17.4%. The November issue reported that the top 12 EMS companies had revenue growth of 18.3% for the first nine months of 2018. Certain smaller firms (not the top 12 EMSs) had lower growth of 12.8% for the first nine months.

As we look back on 2018, we only have preliminary numbers for six leading EMS firms and five ODM companies. Though official figures are not all available,

leading EMS companies showed a solid 7.6% growth in revenue in 2018, while leading ODM companies grew at a lower rate of 6.8%, averaging 7.4% for both supplier types (Table 1, page 2). EMS companies showed stronger results due to strong demand for notebooks, smartphones, and automotive applications.

The top EMS companies performed extremely well, with **Jabil** reporting the highest growth of 15.9% and **Plexus** close behind at 13.6%. **Wistron** also achieved exceptionally high growth in 2018 with an expansion of 12.2%. Only **Quanta Computer** experienced a decline in revenue of 4.2%, no doubt due to a slowdown in demand for desktop computers. **Lite-On** has had two consecutive years of hyper growth that the company attributes to the expansion of its branded high-end server and networking power management systems, but not due to its ODM services.

With that preface, *MMI* will comment on some of the trends that it expects to come to pass for 2019.

### Some articles in this issue

<b>Cover Story</b> .....	<b>1</b>
Preliminary Results for 2018 Show Continued Strong Growth	
<b>Some Quarterly Results</b> .....	<b>2</b>
<b>Company News</b> .....	<b>5</b>
<b>East West Manufacturing Acquires General Microcircuits</b> .....	<b>5</b>

## Industry Consolidation

This trend of acquisition among certain EMS companies is likely to lead to another year of consolidation within the industry going forward. However, most of the activity for 2018 exists among the Tier 2 and 3 suppliers (e.g., \$20 million to \$200 million in annual sales) that are seeking to expand their customer base or manufacturing operations, or are in need of a supplier or capability such as plastic injection molding or a capability deal. There were only two deals this year that assumed an OEM operation (**Pegatron**'s purchase of **Arris** and **VTech**'s acquisition of **Pioneer Technology**, Malaysia).

## More Value-Added Microelectronics

Over the last several years, several innovative technology trends have emerged 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 emerge out of raw and breakthrough technology such as 3DIC systems (see December *MMI*), SiP (system in chip), and MCM (multi-chip modules). These are high-potential technologies that provide electronics companies 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 far beyond traditional printed circuit board assembly (advanced as it once was), involving thick and thin film hybrid PCBs, conductive inks and plastics, and 3D manufacturing production, which can give a subcontractor the ability to bring a product to market orders of magnitude faster than possible before. There are even some high-production 3D manufacturing systems coming to market soon.

There are numerous product opportunities apparent in the transportation industry (e.g., thin film conductive inks in trace lines in avionics and automotive applications that reduce weight tenfold) and low-cost chemical trace strips for healthcare testing that can revolutionize the diagnostics industry. All that is lacking are contract manufacturers with the understanding of the technology and the experience to apply this technology to the product applications.

Advanced packaging and new SLP (substrate-like PCB) technologies are being promoted by **Samsung**, **Apple**, and others for their next-generation smartphones; these technologies allow for new opportunities in advanced product manufacturing, especially for contract manufacturers like **Flex**, **Jabil**, **Sanmina**, **Celestica**, **Foxconn**, and even some Tier 2 vertical contract manufacturers.

Selected CM Company Market Growth (\$M), 2017-2018

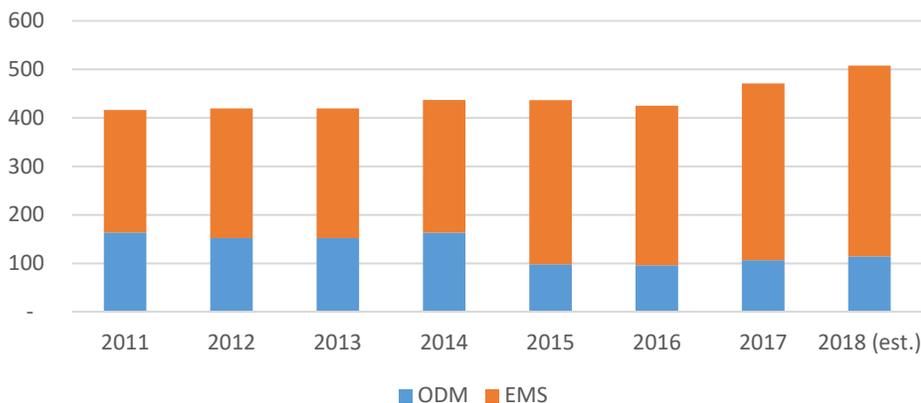
EMS Companies	2017	2018	Growth
Foxconn	160.3	171.7	7.1%
Pegatron	40.6	43.4	6.8%
Flex	23.9	25.4	6.4%
Jabil	19.1	22.1	15.9%
Sanmina	6.9	7.1	3.5%
Plexus	2.5	2.9	13.6%
<b>Total</b>	<b>253.2</b>	<b>272.6</b>	<b>7.6%</b>
<b>ODM Companies</b>			
Quanta	34.7	33.3	-4.2%
Compal	30.3	31.3	3.3%
Wistron	25.6	28.8	12.2%
Inventec	16.0	16.4	2.8%
Lite-On	2.4	6.7	179.9%
<b>Total</b>	<b>109.0</b>	<b>116.4</b>	<b>6.8%</b>
<b>Total</b>	<b>362.2</b>	<b>389.0</b>	<b>7.4%</b>

## Some Quarterly Results

**Jabil, Inc. (NYSE: JBL)** reported preliminary, unaudited financial results for its first quarter of fiscal year 2019. Net revenue of \$6.5 billion was an increase for the three months ended November 30, 2018 compared to the three months ended November 30, 2017.

Specifically, the DMS segment revenues increased 10% due to (i) a 6% increase in revenues from customers within its mobility business as a result of increased end-user product demand and (ii) a 4% increase in revenues from existing customers in its healthcare business. EMS segment revenues increased 22% primarily due to (i) an 11% increase in revenues from customers within its networking and telecommunications business, (ii) a 9% increase in revenues from existing customers within its industrial and energy business, (iii) a 4% increase in revenues from customers within its computing and storage business, and (iv) a 4% increase in revenues from

Chart 1: EMS/ODM Industry Growth (\$B), 2011–2018



customers within its printing business. The increase is partially offset by (i) a 4% decrease in revenue from customers within its digital home business and (ii) a 2% decrease in revenues spread across various industries within the EMS segment.

Gross profit decreased as a percent of net revenue during the three months ended November 30, 2018, compared to the three months ended November 30, 2017, primarily due to higher costs in its capital equipment business and ramp costs associated with new business awards in its EMS segment.

Selling, general, and administrative expenses decreased during the three months ended November 30, 2018, compared to the three months ended November 30, 2017. The decrease is primarily due to an additional \$32.4 million of stock-based compensation expense recognized during the three months ended November 30, 2017 as a result of the modification of certain performance-based restricted stock awards and a one-time cash-settled award. The decrease is partially offset by (i) an increase in salary and salary-related expenses and other costs to support new business growth and development and (ii) \$8.9 million in acquisition and integration charges related to its strategic collaboration with a healthcare company.

Research and development expenses remained consistent as a percentage of net revenue during the three months ended November 30, 2018, compared to the three months ended November 30, 2017.

On December 12, 2018, the company's binding offer submitted on July 18, 2018 to form a strategic collaboration with Johnson & Johnson Medical Devices Companies was accepted. This collaboration will significantly expand Jabil's medical device manufacturing portfolio, diversification, and capabilities in the DMS segment. Completion of this transaction, which is subject to regulatory clearance and customary closing conditions, is expected to occur during fiscal years 2019 and 2020.

The company conducts operations in facilities that are located worldwide, including but not limited to China, Hungary, Malaysia, Mexico, Singapore, and the United States. It derived a substantial majority, 92.7%, of net revenue from its international operations for the three months ended November 30, 2018.

For fiscal year 2019, the company anticipates net capital expenditures will be approximately \$800.0 million. Its capital expenditures will support investments in new markets and ongoing maintenance in its DMS and EMS segments. The amount of actual capital expenditures may be affected by general economic, financial, competitive, legislative, and regulatory factors, among others.

**Plexus (NASDAQ: PLXS)** announced financial results for its fiscal first quarter ended December 29, 2018. It reported quarterly revenue of \$766 million during the fiscal first quarter of 2019. GAAP diluted EPS was \$0.69. Non-GAAP adjusted diluted EPS was \$0.91, excluding \$0.22 per share of tax expense related to recently issued regulations under US tax reform. It won 33 manufacturing programs during the quarter, representing \$230 million in annualized revenue when fully ramped into production. Trailing fourth-quarter manufacturing wins will total \$920 million in annualized revenue when fully ramped into production. Plexus purchased \$50.1 million of its shares at an average price of \$57.53 per share under its existing share repurchase program.

Top 10 customers comprised 59% of revenue during the fiscal first quarter, consistent with the fiscal fourth quarter of 2018. ROIC for the fiscal first quarter was 14.6%. The company defines free cash flow as cash flow provided by operations less capital expenditures. For the three months ended December 29, 2018, cash flow used in operations was \$33.3 million, less capital expenditures of \$24.9 million, resulting in free cash flow of \$8.4 million.

Fiscal first-quarter GAAP diluted EPS included \$0.22 per share of expense related to additional regulations issued by the US Department of the Treasury in November 2018 under the US Tax Cuts and Jobs Act. During the quarter the company, as mentioned above, repurchased over \$50 million of its shares, an action that was partially funded with repatriated cash. Since the enactment of US tax reform, the company has brought back over \$450 million.

As the company looks ahead to the fiscal second quarter, it expects new program ramps will offset weakness in the semiconductor capital equipment market. Therefore, the company is guiding revenue of \$760 million to \$800 million. The company anticipates revenue at this level will lead to GAAP diluted EPS in the range of \$0.80 to \$0.90.

The company anticipates non-operating expenses in the fiscal second quarter to be approximately \$1.6 million, or \$0.05 per share, higher than the fiscal first quarter. The increase is primarily related to additional interest expense from expected increased borrowing under its revolving credit facility and the commencement of a capital lease for its new facility in Guadalajara, Mexico. In addition, operating margin is expected to be slightly below its enduring target range as it absorbs the reset of payroll tax for US employees and seasonal salary adjustments.

**United Microelectronics Corporation (NYSE: UMC)** announced its consolidated operating results for the third quarter of 2018. Third-quarter consolidated revenue was NT\$39.39 billion, up 1.4% q-o-q from NT\$38.85 billion in 2Q18 and 4.5% y-o-y from NT\$37.70 billion in 3Q17. Consolidated gross margin for 3Q18 was 17.6%. Net income attributable to stockholders of the parent was NT\$1.72 billion, with earnings per ordinary share of NT\$0.14.

Foundry operating margin was 6.4%. The utilization rate reached 94%, bringing wafer shipments to 1.8 million 8-inch-equivalent wafers.

Loading across 8" and mature 12" technologies continued to operate at full capacity, as the company generated NT\$10.16 billion of free cash flow during the quarter. In addition, the company saw an increase in computing-related applications, which offset the decline in the communication segment. From a long-term perspective, numerous essential semiconductor components will continue to strengthen its specialty technology business. For example, **Allegro Microsystems**, a leader in high-performance power and sensor solutions, signed a multiyear manufacturing agreement with UMC to ensure long-term capacity support for its growing wafer requirements in the industrial and automotive sectors.

Looking into the next quarter, the company is seeing a softening of wafer demand from customers, partly due to continued softness in entry-level and mid-market smartphones. The recent escalation of trade tensions, rising global crude oil prices, and continuous weakening of emerging market currencies could further increase uncertainties in the broader economy.

Net operating revenues in 3Q18 increased 1.4% to NT\$39.39 billion, including NT\$39.33 billion from the foundry segment. Revenue contribution from 40 nm and below technologies declined to 40%. Gross profit increased 3.7% to NT\$6.92 billion, or 17.6% of revenue. Operating expenses increased 9.4% to NT\$5.70 billion. Net other operating income was NT\$1.21 billion, leading to operating income of NT\$2.44 billion. Net non-operating expense was NT\$1.61 billion. Net income attributable to stockholders of the parent was NT\$1.72 billion.

Earnings per ordinary share for the quarter were NT\$0.14. Earnings per ADS were US\$0.023. The basic weighted average number of outstanding shares in 3Q18 was 12,053,892,152, compared with 12,048,575,089 shares in 2Q18 and 12,208,239,978 shares in 3Q17.

Revenue from Asia/Pacific increased to 52%, while sales contribution from

North American customers declined to 34%. Revenue from Japan remained at 3%. Business from 14 nm increased to 5% of 3Q18 revenue, while 28 nm contribution declined to 13%.

Revenue from fabless customers increased to 93% of revenue. The communication segment declined to 43% of sales, while revenue from consumer applications remained at 28%. Computer-related applications represented 19% of revenue.

UMC's fourth-quarter 2018 outlook and guidance calls for wafer shipments to decrease by 4–5%, the foundry segment's capacity utilization to be in the high 80% range, and 2018 capex for the foundry segment to be US\$1.1 billion.

**Benchmark Electronics, Inc. (NYSE: BHE)** announced financial results for the third quarter ended September 30, 2018. Sales for the three months ended September 30, 2018 increased 5% to \$640.7 million, compared to \$610.9 million during the comparable 2017 period. Sales for the first nine months of 2018 were \$1.9 billion, a 7% increase from sales of \$1.8 billion for the same period in 2017. Gross profit decreased 9% to \$52.8 million for the three months ended September 30, 2018 from \$58.2 million in the same quarter of 2017; it was \$165.4 million for the nine months ended September 30, 2018 and \$165.3 million in the same period of 2017.

Segment revenues were as follows: Industrial third-quarter sales increased 2% to \$128.3 million from \$125.9 million in 2017. Sales during the first nine months of 2018 increased 1% to \$372.0 million from \$367.9 million in the same period of 2017. Aerospace and Defense third-quarter sales increased 9% to \$105.0 million from \$96.3 million in 2017. Sales during the first nine months of 2018 were \$301.3 million compared to \$296.3 million in the same period of 2017. The increases were primarily due to greater demand for communication equipment and security products. Medical third-quarter sales decreased 6% to \$96.3 million from \$102.1 million in 2017, primarily from the timing of new program transitions. Sales increased 6% to \$290.1 million during the first nine months of 2018 from \$273.8 million in the same period of 2017, primarily due to

increased demand and new programs. Test & Instrumentation third-quarter sales decreased 14% to \$76.6 million from \$89.1 million in 2017. Sales during the first nine months of 2018 increased 12% to \$285.3 million from \$253.7 million in the same period of 2017. The nine-month increase is primarily due to the strong demand in its precision manufacturing machining operations serving the semi-capital equipment market during the first half of 2018, partially offset by the slowdown experienced in the same market during the three months ended September 30, 2018. Computing third-quarter sales increased 16% to \$145.4 million from \$125.3 million in 2017, and during the first nine months of 2018 increased 11% to \$409.6 million from \$367.8 million in the same period of 2017. The increase is primarily due to strength in demand for legacy storage products and from data security customers.

Telecommunications sales increased 23% to \$89.1 million in 3Q18, from \$72.2 million in the 3Q17. Sales increased 10% to \$251.1 million during the first nine months of 2018 from \$228.9 million in the same period of 2017 due to increased demand from existing customers and the ramp-up of a new satellite program.

Fourth-quarter guidance reflects strength in its core business and sustained operational improvement, but remains tempered by softness in the semi-cap market, which the company expects will persist through the first half of 2019. Despite an expected 10% year-over-year reduction in the Test & Instrumentation sector, it expects annual revenue growth in 2019 of 3–5%. For 2019, the company also expects gross and operating margin expansion not only from operational execution and the progressive growth of its new RF and high-speed design center, but also the reduction of its cost and expense structure, including SG&A and the evaluation of marginal or dilutive contracts.

## Company News

### Platinum Equity to Acquire Singapore-Based PCI Limited

Platinum Equity announced that **Pagani Holding III Limited** (“Offeror”), an indirectly wholly owned subsidiary of investment funds and entities affiliated with and advised by Platinum Equity, has signed a definitive agreement to acquire **PCI Limited** (“PCI”), a Singapore-listed electronics manufacturing services provider, for S\$1.33 in cash per share. The transaction is subject to shareholder and regulatory approval and is expected to close in 2Q2019.

PCI provides design, manufacturing, testing, and supply chain services to an expanding global customer base. The business serves diverse end markets, including the automotive, industrial equipment, commercial, consumer/lifestyle, and medical segments.

Platinum Equity’s Singapore-based investment team has been actively pursuing new investment opportunities in the region. The proposed transaction marks the second privatization from the Singapore Stock Exchange announced by the team in the last 18 months.

PCI will join other Asia-based companies in Platinum Equity’s portfolio, including Broadway Systems and Technology, a Chinese manufacturer of protective packaging solutions, insulation, and component products; Ying Shing Enterprises, a fully integrated manufacturing solutions provider for plastic injection molded and metal stamping components that was merged with Fischer Tech, Limited in November 2017; and Compart Systems, a manufacturer of precision-engineered metal components.

### East West Manufacturing Acquires General Microcircuits

**East West Manufacturing, LLC** (“East West” or the “Company”), a design, manufacturing, and distribution business, announced that it has acquired

**General Microcircuits, Inc.** (“GMI”), a large provider of specialized electronics manufacturing services, including advanced printed circuit board assemblies, box-build assemblies, testing, and new product introduction services. GMI was founded in 1980 and operates manufacturing facilities in Mooresville, North Carolina and San Jose, Costa Rica. The acquisition of GMI further enhances the growth of East West and advances its strategic focus on growing its global electronics capabilities by significantly expanding its US and near-shore manufacturing operations.

This acquisition, along with its recent acquisition of **Team Manufacturing**, allows East West to offer customers domestic and near-shore higher mix, lower volume, quick turn advanced electronics manufacturing services. Its collective design, manufacturing, and supply chain capabilities will enable it to provide even higher levels of service and support to customers on a global basis.

Alex Mammen, Heritage Growth Partners Founder and East West Board member, added, “The acquisition of GMI provides East West with the ability to marry its high-volume international design, manufacturing, and distribution capabilities with a large, domestic manufacturer with near-shore capabilities in Costa Rica to address the diverse needs of customers, from new product design and development to full-scale production.

### 5G Is Set to Impact These Three Key Industries

The widespread implementation of 5G is starting right now. In **Jabil’s** 5G Technology Trends survey of 204 telecommunications stakeholders, 60 percent of participants said they believe 5G will reach mainstream status within the next two years. This amount jumps to 92 percent of participants when considering a four-year timeline.

5G is not necessarily an extension of 4G wireless communication. Instead, 5G has its own distinct capabilities and infrastructure. The next-generation mobile broadband encompasses as many as 17 different technologies, including

5G New Radio (NR), millimeter wave, massive MIMO (multiple-input multiple-output) radios, and network slicing technology. The goal of 5G is to offer three core services: an enhanced mobile broadband, ultra-low latency, and massive connectivity for machines. Basically, the network bandwidth will be greater, which will allow more devices to communicate via the network at the same time. Network speeds will also be faster, and there will be less lag time in communications.

The benefits of this new technology will no doubt improve the ways Internet-connected devices are used and enable new possibilities in terms of products and services. But between now and this connected future, the transition will be complicated and require sizable infrastructure investments. In line with this, 72 percent of the survey participants believe 5G business applications will come before consumer applications. Specifically, the automotive and transportation, healthcare, and manufacturing industries are all primed to benefit from 5G.

5G may make driving safer and more entertaining. The automotive and transportation industry is undergoing its own revolution as innovations—such as vehicle connectivity, advanced driver-assistance systems (ADAS), and more—are being added to cars at a rapid pace. In addition, the release and adoption of autonomous vehicles will change the way cars work, streets are designed, and people travel.

While these technologies do not need 5G to work, 5G will certainly make them work better. Connectivity, ADAS, and infotainment systems create and transmit massive amounts of data that can burden slower systems. The larger bandwidth of 5G, as well as the low latency, can handle these large data packets quickly and reliably. This also means that cars will be able to receive higher-definition information, Eric Adams writes on The Drive. For example, the fast data-transfer speeds of 5G can enable data-intensive augmented reality systems to wirelessly transmit high-definition navigational instructions and vehicle alerts to drivers. This would give a driver more

information about a route so that he or she can arrive at the destination safely and on time.

5G may enable healthcare to save more lives. Just as 5G will change the way people travel in cars, the service also will create new ways that the healthcare industry can deliver services to patients. The growing practice of telemedicine integrates wearable sensors, video conferencing, and more to connect primary care physicians, specialists, and patients in different places. This means that patients in rural areas don't necessarily have to drive long distances to see a doctor, and parents don't have to pull sick children out of their beds to see a pediatrician.

Virtual visits and monitoring are no doubt a real time-saver for patients, but the efficiency and convenience of this service currently is limited by 4G network capabilities, AT&T points out. As more devices enter the market, more bandwidth is being utilized, which reduces connection speeds and increases latency. In turn, this cuts down on the number of patients a doctor can help in a day and increases the wait time for patients to virtually consult with a doctor, the company says.

5G also promises to bring greater safety and productivity to the manufacturing industry and could unlock manufacturing efficiencies. The next-generation mobile broadband's low latency and greater bandwidth will support smarter factory equipment, thus improving the performance of buzzworthy technology like robots, augmented and virtual reality, artificial intelligence and machine learning, sensors for predictive maintenance and production monitoring, and more. In addition, 5G will enable companies to conduct remote operations—including identifying and tracking goods, inspecting situations, and monitoring machine operations—in real time.

Although some of these technologies already are in use, 5G might make them better. At the 2018 Mobile World Congress Americas, **Nokia** and **Verizon** demonstrated the difference in productivity between an automated guided vehicle (AGV) controlled via Wi-Fi and an AGV guided by 5G. As both

AGVs were transporting pallets, cartons, and products throughout a facility, the 5G-connected AGV was able to quickly react to an obstruction in its path, thanks to 5G's speed and low latency. By comparison, the Wi-Fi-connected vehicle stalled when it reached the obstruction, which in turn would slow down manufacturing operations.

In the near term, the implementation of 5G is an evolutionary update. It will enable connected devices and networks to work faster and better than they did before. Cars will be able to stream navigation information faster, doctors will be able to virtually visit more patients, and machine productivity will be improved. Although these changes are an improvement compared with current operations, at the end of the day, they really are just incremental steps.

## Huawei Unveils New Chipset Using ARM Design for Server Push

**Huawei Technologies Co.** unveiled a new processor chip for servers as the Chinese telecommunications gear giant pushes ahead with expansion despite closer scrutiny from abroad.

The Kunpeng 920 is built using the cutting-edge 7-nanometer process and uses the semiconductor architecture of **ARM Holdings**, Shenzhen-based Huawei said in a statement. The new chips would compete with the dominant x86 server architecture used by US giants **Intel Corp.** and **Advanced Micro Devices, Inc.**

The Kunpeng 920 performs 25 percent faster than the industry benchmark, operates at better power efficiency than its peers, and will boost the development of big data, the company said. The company also unveiled a new server based on the processors.

While best known for its networking gear and smartphones, Huawei also sells components and services for Internet-connected devices. Its Enterprise Business Group generated more than \$10 billion in revenue in 2018, about a tenth of the company's total.

The company shipped 918,000 server units in 2018, a 25 percent increase from the year earlier, according to presentation materials from Huawei.

## Éolane Expands in Estonia

**Éolane's** subsidiary here opened a 118,000-square-foot manufacturing plant in Lasnamäe, Tallinn. The second-largest France-based EMS provider now employs 500 workers in Estonia, where it says further expansion is coming.

"Our revenue has increased manifold in the recent years, and our next goal involves both the expansion of operation in our region and making further steps in the Nordic market," said Antoine Yon, board member, Éolane Tallinn AS, in a news release. "The new modern plant will provide excellent opportunities for expanding our production and increasing export."

Éolane's Tallinn subsidiary is its largest operation, with sales of €68 million (\$77 million). It primarily makes custom communication devices and lighting components for automotive customers.

## ALL Circuits Expands EMS Ops to Guadalajara

**ALL Circuits** opened a new factory in Guadalajara in early January, part of its strategy to become a global EMS company.

The France-based EMS outfitted the plant with the same equipment, software, and consumables as its other factories in France and Tunisia.

"ALL Circuits is an electronic manufacturer that brings to Mexico its automotive expertise, exceptionally high standards and a strong commitment to automation and quality," said Pascal Auboïs, director, ALL Circuits Mexico, in a news release. "We chose Guadalajara for the quality of its talent and infrastructure, which allows us to support our international clients in the Americas. Using the same equipment and processes as the rest of our plants makes us more agile and responsive."

ALL Circuits had sales of €317 million in 2017. The Mexico site joins ALL Circuits' other production sites in Meung-sur-Loire, France, and Bayonne, Tunisia. In all, the company has over 25 assembly lines across more than 50,000 square meters of plant space.

*Facilities Expansion...* **ATA IMS** will add at least six SMT lines in 2019 as part of a major expansion, the firm said this week. Company management told stock analysts that expansion in electronics assembly and plastic molding is planned in the wake of higher orders. ATA IMS has purchased multiple buildings in Jalan Hasil and Japan Dewani, Johor Bahru, with a combined production floor space of 375,922 square feet. The deals bring the EMS firm's overall capacity to nearly one million square feet of production space.

ATA plans to double its number of plastic injection molding machines to 110 machines and add four final assembly lines, bringing the total to 12 lines. The additional SMT lines will bring ATA's total to 10. Formerly **Denko Industrial Corp.**, ATA IMS was established in 1972. It employs more than 7,000 workers and sales for its second fiscal quarter ended September 30 were \$169 million, mostly from plastic molding shipments... **Kinpo Electronics** is set for major expansions of its existing factories in Thailand and the Philippines, driven in part by customers looking to move production from China to avoid the US-China tariffs. The company will spend nearly \$115 million to add 1.9 million square feet of capacity, said Simon Shen, president. Capacity at the EMS company's sites in Thailand will be increased by nearly 1.3 million square feet. The sites in the Philippines will be increased by 581,000 square feet. Kinpo will add some 15,000 workers this year across its plants in southeast Asia, bringing the total to 50,000, Shen reportedly said. The company had previously noted plans to expand in the Philippines, having broken ground there in late November... **Wistron** will invest \$431 million in new facilities in India as it moves more electronics production there, the company said in a stock exchange filing. The ODM, which operates in India under Wistron InfoComm Manufacturing (India), indicated it would complete phase one of its expansion by June this year.

Wistron plans to use the funds to expand the Narasapura campus, outside Bengaluru, where it will build smartphones, PCs, and IoT, medical, and cloud service products. This is the latest move by the world's major ODM/EMS companies to shore up their capacity outside China in order to avoid tariffs levied by the US. The Narasapura campus opened on a 100-acre plot last year. Wistron also operates multiple plants in Peenya, where it employs more than 1,000 workers... **KeyTronic** has signed a letter of intent to lease a new 86,000-square-foot facility in Da Nang, Vietnam. The facility is strategically located in an established industrial park inside a government-sponsored export zone, within five miles of an international port. The new manufacturing facility is expected to be operational by July 2019. "We expect that commencing operations in Vietnam will significantly augment our Asian footprint and reduce production costs," said Craig Gates, president and CEO of KeyTronic. "By further diversifying our global manufacturing, we also believe it provides an additional hedge against uncertainty in a lingering or future trade war with China."

## Season Group Enters the IoT Market

Hong Kong-based electronics manufacturer **Season Group** announced the launch of its latest venture: expanding the scope of the company with a new subsidiary, **SG Wireless**.

SG Wireless is a full stack IoT solutions provider, expanding on Season Group's existing manufacturing experience and assisting customers in taking their Internet of Things (IoT) concepts to a finished product.

"From a vertically integrated EMS provider to a full stack IoT provider, SG Wireless is a natural progression for Season Group," says SG Wireless CEO, Carl Hung, in a press release detailing the new company. "With our global manufacturing experience and our IoT design capabilities, we really differentiate ourselves from other players in the market."

The company's services include design, development and manufacturing, application programming, management of devices, and networks, analytics, and integration.

## Varitron Acquires XCELSIA, Plans Rapid Prototype Manufacturing Center

Canada's **Varitron**, an integrated EMS provider, has acquired all of the assets of **XCELSIA Technologies**, a Mirabel-based manufacturing services provider specializing in electronic circuit assembly.

Varitron, which owns plants in Saint-Hubert and Granby, Québec and Hudson, New Hampshire, plans to immediately integrate the Mirabel acquisition into its operations. In an email, a spokesperson for Varitron told Evertiq that this fourth site will function as a "rapid prototype manufacturing center" and will focus on providing fast prototyping services to clients immediately. Additionally, small-batch production will be considered when it can be ensured that no disruption will occur to the company's primary mandate on prototyping services. Currently, one production line is in place at Mirabel, and a second line will be added in the next six months.

"Varitron always invests in its manufacturing plans on a yearly basis. This site will be treated the same way. Two parameters will drive investment at that site: prototyping speed and capabilities enhancements to perform," the spokesperson added. With this in mind, the company estimates an annual investment of between US\$250,000 and US\$500,000.

In addition to small-batch and increased prototyping capabilities, job creation is also on the horizon. While the transaction calls for all 15 positions in XCELSIA and its facility in Mirabel to be maintained, Varitron President and CEO Michel Farley said in a press release that "the strategic position on Montréal's North Shore enables us to better serve the Greater Ottawa region and access a broader pool of talent, which is a significant advantage in these times of global labor shortage."

## SMTC Corp Receives Contract from the United States Navy

EMS provider **SMTC Corporation** announced that its subsidiary, **MC Test Services**, was recently awarded a US\$9 million, five-year contract to support the US Naval Undersea Warfare Center Division.

SMTC expects to begin production and provide full engineering, testing, and support for the MK48 MOD 6 Exercise Electronics System and Torpedo Swim Out Box beginning in the second quarter of 2019. This new application will be in full compliance with all domestic and foreign contract requirements, the company writes in a press release.

*Management Changes...* **Stoneridge, Inc.** has appointed Laurent Borne as president of the Electronics Division of Stoneridge, Inc. Borne will also retain the role of chief technology officer (CTO), to which he was appointed in August 2018. Borne will begin transitioning to his new role immediately and will relocate to Solna, Sweden later this year. Borne will continue to report to CEO DeGaynor.

## Profound Medical Begins Cooperation with Scanfil

EMS provider **Scanfil** announced that it had signed an agreement with the

medical technology company **Profound Medical Corp.**

Scanfil will take part in making Profound's new cancer treatment equipment, which combines MRI and ultrasound for better and more precise treatment.

## Two New US Patents For Sparton

**Sparton Corporation** has been issued two patents by the United States Patent and Trademark Office. One is for an invention that protects electronic circuits from electromagnetic fields and one is for the invention of a high-efficiency power amplifier.

Patent number 10,070,547 is an invention that protects electronic circuits and devices from radiated electromagnetic fields by using nickel phosphorus or nickel chromium material embedded within the layers of a printed circuit board to function as a filter. Tests on Sparton sonobuoys to meet Hazards of Electromagnetic Radiation to Ordnance (HERO) standards have demonstrated an ability to significantly reduce electronic circuit and device vulnerability, a press release reads.

Patent number 10,090,771 is an invention that improves switching mode power amplifiers. The improved design eliminates undesirable effects of finite transition time, provides higher efficiency, and is scalable. The amplifier also provides other performance

advantages relative to conventional switching mode power amplifier designs. This invention made it possible to significantly improve the Navy's AN/SSQ-125 sonobuoy.

**Publisher:** Randall Sherman

**Editor:** Anna Reynolds

**Research Analyst:** Vivek Sharma

**Board of Advisors:** Michael Thompson, CEO, I. Technical Services; Ron Keith, CEO, Riverwood Solutions; Andy Leung, CEO, VTech Holdings, Ltd.

*Manufacturing Market Insider* is a monthly newsletter published by New Venture Research Corp., 337 Clay St., Suite 101, Nevada City, CA 95959. Phone (530) 265-2004, Fax (530) 265-1998. Copyright 2019 by NVR™. ISSN 1072-8651

The information and analysis presented here are based on sources believed to be reliable, but content accuracy is not guaranteed. The publisher shall not be held liable for any business decisions influenced by this publication.

**E-mail:** rsherman@mfgmkt.com

**Website:** www.newventureresearch.com

### Subscription Form

I want an electronic subscription to **MMI**. Email me 12 monthly issues (PDF files) for the annual cost of US\$615.

I want a print subscription to **MMI**. Send me 12 printed issues for the annual cost of US\$715.

Payment is enclosed to New Venture Research Corp.

**Mail or fax to:** NVR Corp., 337 Clay St., Nevada City, CA 95959. Phone (530) 265-2004, Fax (530) 265-1998.

Please bill me.  Charge my credit card (see below).

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_ Phone \_\_\_\_\_

Street Address \_\_\_\_\_ Fax \_\_\_\_\_

City/State/ZIP \_\_\_\_\_ Email \_\_\_\_\_

MasterCard \_\_\_\_\_ Visa \_\_\_\_\_ AMEX \_\_\_\_\_ Number \_\_\_\_\_ Expires \_\_\_\_\_