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Nine-Month Revenue Increases for Top 12

Double-digit growth for the first nine months of 2017 raises the possibility that the top 12 EMS providers as a whole will end up with annual growth in 2017.

For the first nine months of 2017, revenue for the 12 largest EMS providers by total sales amounted to \$187.4 billion, up 10.4% year over year. This is in sharp contrast with 2016, which had a decline of 6.2%.

Unlike in 2016, when **Hon Hai** had exerted a drag on sales, so far this year Hon Hai gave a boost to top 12 sales. For the first nine months, top 12 sales without Hon Hai were 5.5%, versus an increase of 10.4% including the company (Chart 1). So Hon Hai improved the increase by 4.9 percentage points.

While top 12 revenue is not all EMS—ODM, component, and other types of revenue are mixed in—the majority of it is, enough so that this increase serves as a rough gauge of how well the EMS industry did in the first nine months, based on the belief that the top 12 account for about half of industry revenue.

Nine-month sales results can give one a partial view of how the top 12 order will shape up at the end of the year. The first three companies in the current standings—Hon Hai, **Pegatron**, and **Flex**, in that order—will easily retain those positions at year end, barring the entry of any potential new candidate. **Jabil**, **Sanmina**, and **Celestica** will remain

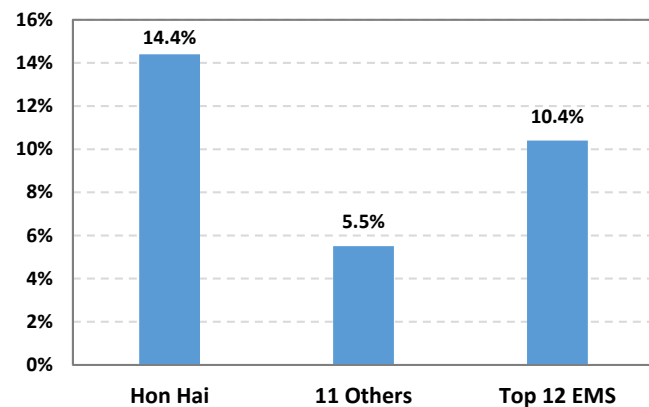
in fourth, fifth, and sixth place, respectively. However, **Cal-Comp**, a member of the **New Kinpo Group**, has 2017 sales that might challenge those of Sanmina in the annual ranking of the *MMI* Top 50.

The next four providers are in a fairly tight cluster after nine months, so it's unclear how **Universal Scientific Industrial (USI)**, **Cal-Comp**, **Venture**, and **Plexus** will finish, except to say that according to 2017 estimates, Plexus will rank ahead of **Benchmark**. The twelfth spot should go to **Shenzhen Kaifa**.

There were only three top 12 providers whose nine-month sales in US dollars fell from the year-earlier period. **Cal-Comp**, **Shenzhen Kaifa**, and **Plexus** were unable to increase their sales year over year. Conversely, **Venture**, **Universal Scientific Industrial**, and **Hon Hai** were able to post double-digit growth (Table 1, page 2).

For the first nine months, the 12 providers together earned net income of approximately \$5.2 billion, up about 36% from a year earlier. (The net income total is

Chart 1: Nine-Month 2017 Sales Growth Year Over Year



approximate because not all companies follow the same accounting standard.) Since nine-month sales increased by 10.4%, net income increased faster than sales did. Net profit increases at six companies and no change at another outweighed declines at the five remaining companies. Overall net margin for the first three quarters was about 2.8%. Hon Hai contributed about 69.7% of net income for the period while generating 56.5% of sales.

Q3 sales for the top 12 totaled \$57.2 billion, down 1.4% sequentially

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Table 1: Q3 and Nine-Month 2017 Results for the 12 Largest EMS Providers (M US\$ or %)

Company (in order of 9-mo. sales)	Headquarter s	Reports in US\$	3Q17 Sales	2Q17 Sales	Qtr.– Qtr. Chg.	3Q16 Sales	Yr.–Yr. Chg.	3Q17 Net Profit	2Q17 Net Profit	3Q16 Net Profit	Q1–3 '17 Sales	Q1–3 '16 Sales	Yr.–Yr. Chg.	Q1–3 '17 Net Profit	Q1–3 '16 Net Profit
Hon Hai (Foxconn)	Taiwan	No	30,323	32,135	(5.6)	28,585	6.1	588	928	548	105,997	92,658	14.4	3,650	2,510
Pegatron	Taiwan	No	7,902	7,877	0.3	6,964	13.5	113	128	124	26,964	25,018	7.8	423	423
Flex	Singapore	Yes	6,270	6,008	4.4	6,009	4.4	205	125	(3)	18,141	17,658	2.7	417	165
Jabil	Florida	Yes	5,023	4,490	11.9	4,431	13.4	46	(25)	38	13,958	13,145	6.2	41	122
Sanmina	California	Yes	1,755	1,711	2.5	1,666	5.4	26	36	101	5,149	4,947	4.1	94	161
Celestica	Canada	Yes	1,528	1,559	(1.9)	1,554	(1.7)	33	34	54	4,557	4,393	3.7	91	115
Universal Scientific Industrial	China	No	1,097	946	16.0	982	11.7	46	40	40	2,981	2,494	19.5	127	80
Cal-Comp	Thailand	No	722	755	(4.4)	773	(6.6)	9	9	7	2,314	2,721	(15.0)	28	33
Venture	Singapore	No	782	736	6.3	518	51.1	82	51	35	2,121	1,494	42.0	168	94
Plexus	Wisconsin	Yes	670	619	8.2	653	2.6	29	26	19	1,893	1,939	(2.4)	84	62
Benchmark Electronics	Texas	Yes	604	617	(2.2)	574	5.1	18	17	22	1,787	1,703	4.9	44	46
Shenzhen Kaifa	China	No	530	545	(2.7)	495	7.0	24	28	10	1,575	1,685	(6.5)	69	40
Total/Avg.			57,206	57,996	(1.4)	53,204	7.5	1,218	1,397	994	187,435	169,854	10.4	5,235	3,850
Total/Avg. without Hon Hai			26,883	25,862	3.9	24,618	9.2	631	469	446	81,438	77,196	5.5	1,586	1,340

These are the 12 largest EMS providers based on total sales. 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 2016 and 2015 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.

and up 7.5% year over year. Five companies' sales declined from the prior quarter, led by Hon Hai with a 5.6% decrease in US dollars. Cal-Comp was a close second, reporting a 4.4% decline (Table 1). On a year-over-year basis, 10 providers succeeded in growing their Q3 sales. These increases include double-digit gains at Venture, Pegatron, Universal, and Jabil. In the quarterly comparison, the presence of Hon Hai was a negative. Excluding Hon Hai, Q3 growth would have been 3.9%, meaning that the EMS giant subtracted 2.5 percentage points from the top 12's quarter-over-quarter growth.

Net income for the top 12 in Q3 amounted to approximately \$1.2 billion, for a net margin of about 2.1%. Without Hon Hai, combined net margin would have been 2.3%. Venture recorded net margins of 10% or better. Top 12 net income increased about 23% year over year, with 7.5% sales growth. Eight out of 12 providers raised their Q3 net income from a year earlier; these improvements more than offset lower net income results at the remaining four companies.

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An opposing trend continued, in that on a sequential basis, the top 12's net income decline in Q3 far outstripped the sales decline. Net income declined about 13% quarter on quarter, while sales declined 1.4%. The net income declined at five out of 12 providers on a quarter-over-quarter basis (Table 1).

Results for Five Providers

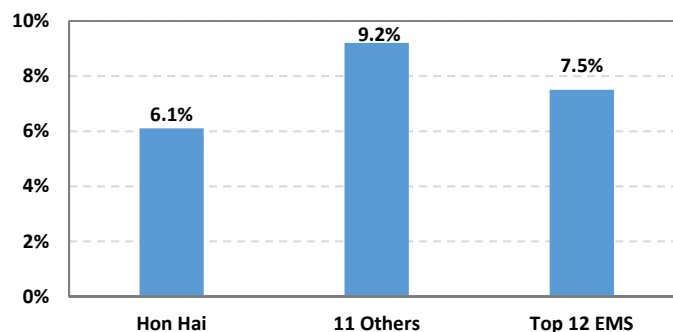
For the third quarter of 2017, **Pegatron** reported consolidated revenue totaling NT\$337 billion, an increase of 40% quarter over quarter from NT\$240 billion in the previous quarter. The growth was mainly driven by new product launches in the Communication segment, coupled with seasonal effects in the Consumer Electronics and Computing segments.

Gross margin dropped 1.38 percentage points to

3.4% in the third quarter, the company's lowest quarterly level since its debut on Taiwan's stock market. EPS for the 9-month period reached NT\$4.24, down from NT\$5.22 a year earlier.

Looking into the fourth quarter, notebook shipments are expected to increase 15–20% on quarter due to seasonal effects, while those for desktop PCs and motherboards will also continue to grow, according

Chart 2: 3Q2017 Sales Growth Year Over Year



to company CEO Liao Syh-jang.

Shipments of consumer electronics products and communication devices will stay flat compared with a year earlier, said Liao, adding that overall performance for the fourth quarter will outpace that recorded a quarter earlier.

Sanmina (SANM). Sanmina reported fiscal fourth-quarter 2017 revenue of \$1.76 billion, up 5.4% year over year.

For the quarter ended September 30, GAAP net income was \$25.8 million, down 74.4% compared to the same period a year ago. GAAP operating income was \$43.1 million, or 2.5% of revenue, compared to \$55.1 million, or 3.3% of revenue, for the same period a year ago. Cash flow from operations for the quarter was \$49.3 million.

Revenue for fiscal 2017 was \$6.87 billion, up 6% compared to fiscal 2016. GAAP net income for fiscal 2017 was \$138.8 million, down 26.1%. GAAP operating income was \$226.5 million, up 0.8%. Cash flow from operations for the fiscal year was \$251 million.

First-quarter fiscal 2018 outlook: 1) Revenue between \$1.75 billion and \$1.80 billion. 2) GAAP diluted earnings per share between \$0.58 and \$0.64. 3) Non-GAAP diluted earnings per share between \$0.68 and \$0.74.

Celestica, Inc. (CLS). Celestica reported third-quarter revenue of \$1.53 billion, down 1.7% year over year.

Net earnings for the quarter were \$33.4 million, a decrease of 37.7% compared with the third quarter of 2016.

During the period ended September 30, revenue from Communications increased 2% compared to the third quarter of 2016, and represented 45% of total revenue, compared to 43% of total revenue during the same period last year.

Revenue from Advanced Technology Solutions decreased 4% and represented 31% of total revenue, compared to 32% of total revenue for the third quarter of 2016. Revenue from the Enterprise segment decreased 5% and represented 24% of total revenue, compared to 25% of total revenue last year.

For the quarter ending December 31, 2017, the company anticipates revenue to be in the range of \$1.5 billion to \$1.6 billion, non-IFRS operating margin to be 3.6% at the midpoint of its expectations, and non-IFRS adjusted earnings per

share to be in the range of \$0.27 to \$0.33. The company expects a negative \$0.09 to \$0.15 per share (pretax) aggregate impact on net earnings on an IFRS basis for employee stock-based compensation expense, amortization of intangible assets (excluding computer software), and restructuring charges.

Plexus Corp. (PLXS). Plexus reported fiscal fourth-quarter revenue of \$670 million, up 2.6% year over year and 8.2% sequentially.

For the quarter ended September 30, net income was \$29 million, an increase of 52% compared to the same period last year and 13.4% sequentially. Operating income was \$34 million, up 43.6% year over year and 15.3% sequentially.

During the fiscal fourth quarter, the firm won 34 manufacturing programs representing approximately \$172 million in annualized revenue when fully ramped into production.

The firm posted fiscal 2017 revenue of \$2.5 billion, up 45% from fiscal 2016.

The increase in fiscal fourth-quarter revenue and improvements in the company's inventory management contributed to an 8-day sequential improvement in its fiscal fourth-quarter cash cycle days. In fiscal 2017, the company delivered return on invested capital of 16.2%. This equates to an economic return of 570 basis points above its weighted average cost of capital of 10.5%, its best annual result in more than 10 years. Further, the company increased its annual free cash flow by approximately 37% in fiscal 2017, delivering approximately \$133 million.

Looking ahead to fiscal 2018, the company anticipates leveraging the momentum of its recent strong wins and robust funnel of qualified opportunities to achieve meaningful revenue growth. In fiscal first-quarter 2018, strength in the Industrial/Commercial and Communications market sectors is expected to offset modest weakening within its Aerospace/Defense market sector. As a result, the company is guiding fiscal first-quarter 2018 revenue in the range of \$665 million to \$705 million. At this level of revenue, the company expects GAAP diluted EPS in the range of \$0.75 to \$0.85 as it continues to invest in new program ramps.

Benchmark Electronics, Inc. (BHE). Benchmark Electronics reported third-quarter net sales of \$604 million, up 5.1% year over year and down 2.2% sequentially.

For the period ended September 30, net income was \$18 million, down 18.2% compared to the same quarter last year and up 5.9% sequentially. Cash was \$730 million as of September 30, of which \$75 million was available in the US.

Overall revenue increased 5% year over year, driven by continued strong demand in Test & Instrumentation serving the semicapital equipment market, Computing growth from existing and new customers, Medical growth from new programs, and Aerospace and Defense (A&D) growth from defense programs. Industrials and Telecommunications growth remained muted year over year from softness across several of its top customers.

The company projects that new program bookings for the third quarter will contribute \$138 to \$165 million to annualized revenue when fully launched in the next 12–18 months. The new program bookings align with Benchmark's strategic focus on higher-value markets.

Flex (FLEX). Net sales for the second quarter ended September 29, 2017 were \$6.3 billion, growing 4.4% year over year and at the high end of the guidance range of \$5.9 to \$6.3 billion. GAAP income before income taxes was \$218 million for the quarter and adjusted operating income was \$188 million, above the midpoint of the guidance range of \$170 million to \$200 million. GAAP net income was approximately \$205 million and adjusted net income for the quarter was \$142 million. GAAP EPS was \$0.38 for the quarter and non-GAAP EPS was \$0.27 for the quarter.

For the third quarter ending December 31, 2017, revenue is expected to be in the range of \$6.3 to \$6.7 billion, and GAAP EPS is expected to be in the range of \$0.20 to \$0.24 and includes stock-based compensation expense and intangible amortization. Adjusted EPS is expected to be in the range of \$0.28 to \$0.32 per diluted share.

Growth Quarter for US-Traded Group

Combined Q3 sales for the six largest US-traded EMS providers rose on both a sequential and year-over-year basis, an outcome that wouldn't normally raise eyebrows. Except that this is the first time in two years that the group of six has achieved year-over-year growth in quarterly sales.

Revenue for the six providers totaled \$15.85 billion, up 5.6% sequentially and 6.5% year over year. Year-on-year growth at **Jabil** and **Sanmina** far outweighed the decline at just one company, though Jabil was the only provider with a double-digit gain. The two companies also increased their sales with respect to the prior quarter, supplying most of the push for the group's sequential growth in Q3 (Table 2 below). In this comparison also, Jabil led the way with a double-digit increase.

Actual Q3 sales were \$280 million (2%) above *MMI's* estimate for the quarter (Aug., p. 2). *MMI* based its estimates on the midpoint of each company's sales guidance for Q3. Four out of six companies reported sales above the midpoint of their guidance.

Group revenue for the first nine months of 2017 came in at \$45.48

billion, 1.1% higher than this newsletter's estimate of \$44.97 billion, and revenue increased 3.9% year over year, compared with an estimated growth of 1.6%. All companies succeeded in growing their nine-month sales from the year-earlier period except for **Plexus**. Jabil posted the highest growth among the six companies (Table 2).

Five out of six providers follow GAAP accounting rules, while the sixth, **Celestica**, adheres to IFRS reporting standards. For the five GAAP companies, only two companies were able to raise their gross margin sequentially, while Flex, Jabil, Plexus, and **Benchmark** were able to accomplish year-over-year growth.

Three companies were able to achieve sequential growth in operating margins: Flex, Jabil, and Plexus. Compared with a year earlier, margin increases occurred at Flex, Jabil, Plexus, and Benchmark. As for the lone IFRS reporting company, Celestica raised its operating margin sequentially but declined year on year (Table 2).

On a sequential basis, GAAP net income for the five companies in Q3 grew much faster than sales did. Their collective net income of \$323.1 million grew 81% more than the prior quarter. By contrast, sales went up 6.5%. Four out of five companies were able to boost their net income sequentially.

Flex posted the highest net income, at \$205.1 million. On a year-over-year basis, net income increased by 82.3%, whereas sales increased by 7.4%. Flex and Jabil were largely responsible for this increase. Q3 net margin for the GAAP reporting companies was 2.2%, up 87 basis points sequentially and year over year.

For the first nine months of 2017, combined GAAP net income for the five companies increased by 23% to \$680.1 million. This increase was far better than their 3.9% increase in sales.

Chart 3: US-Traded Group 3Q2017 Sales

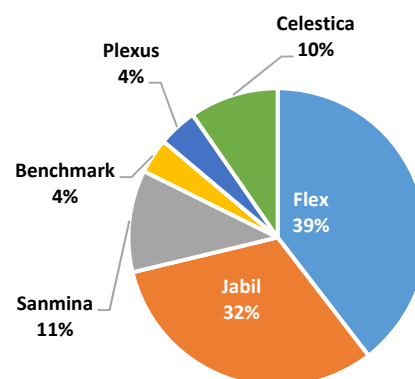


Table 2: Q3 and Nine-Month 2017 Results for the Six Largest US-Traded EMS Providers (M US\$ or %)

Company	3Q17 Sales	2Q17 Sales	Qtr.-Qtr. Chg.	3Q16 Sales	Yr.-Yr. Chg.	3Q17 Gross Marg.	2Q17 Gross Marg.	3Q16 Gross Marg.	3Q17 Oper. Marg.	2Q17 Oper. Marg.	3Q16 Oper. Marg.	3Q17 Net Inc.	2Q17 Net Inc.	3Q16 Net Inc.	Q1-3 '17 Sales	Q1-3 '16 Sales	Yr.-Yr. Chg.	Q1-3 '17 Net Inc.	Q1-3 '16 Net Inc.
Flex	6,270.4	6,008.3	4.4	6,008.5	4.4	6.0%	6.4%	4.9%	4.0%	2.9%	0.7%	205.1	124.7	-2.5	18,141.3	17,658.0	2.7	417	165
Jabil	5,023.0	4,489.6	11.9	4,430.8	13.4	8.3%	7.1%	7.1%	2.3%	0.7%	2.1%	45.7	-25.3	38.1	13,958.2	13,145.1	6.2	41.1	122.2
Sanmina	1,755.0	1,711.4	2.5	1,665.8	5.4	7.1%	7.6%	7.6%	2.6%	4.0%	3.5%	25.8	36.4	100.8	5,148.6	4,946.5	4.1	94.0	160.7
Plexus	669.9	618.8	8.2	653.1	2.6	9.9%	9.9%	9.4%	5.2%	5.0%	3.9%	29.0	25.6	19.1	1,893.0	1,939.3	-2.4	83.9	62.0
Benchmark	603.6	616.9	-2.2	574.3	5.1	9.2%	9.1%	8.6%	3.6%	3.7%	3.2%	17.5	17.2	21.7	1,787.0	1,702.9	4.9	44.4	45.5
Subtotal/Avg.	14,321.9	13,444.9	6.5	13,332.5	7.4							323.1	178.6	177.2	40,928.1	39,391.8	3.9	680.1	555.0
Celestica	1,528.2	1,558.5	-1.9	1,554.0	-1.7	6.7%	6.8%	7.0%	2.8%	2.6%	3.6%	33.4	34.4	53.6	4,556.6	4,392.8	3.7	90.6	115.4
Total/Avg.	15,850.1	15,003.4	5.6	14,886.5	6.5										45,484.7	43,784.6	3.9		

All results are based on GAAP except those of Celestica, which has adopted IFRS reporting. With the exception of sales, GAAP and IFRS results are not necessarily comparable. Intangible amortization was subtracted from reported operating income. Net income from continuing operations.

Modest Growth Projected for US-Traded Group, 2017

If the six largest US-traded EMS providers hit the midpoint of their Q4 sales guidance, 2017 will be a growth year for the group as a whole. According to *MMI*'s Q4 estimates, which have been set equal to the midpoint of providers' guidance, the group's 2017 sales will increase by 3.9%.

Group revenue for the year is estimated at \$62.1 billion, up from \$59.76 billion in 2016. If this estimate proves true, then 2017 will mark the first year of increasing sales for the group. Projected 2017 sales remain 4% below a post-recession high of \$64.62 billion in 2011. Overall, this sector of the EMS industry may have recovered from the Great Recession and has prospered.

In order to turn 2017 into a growth year, the six providers must generate Q4 sales of more than \$2.3 billion above 2016 sales for the year. That means the providers would need to exceed the midpoint of their Q4 guidance by more than that amount on a combined basis—a pretty tall order.

MMI is projecting that **Jabil** will be the provider to achieve the highest sales growth, at 6% for 2017. (In this analysis, Jabil's annual sales run from December to November.) Sales increases at the other five companies are projected to range from slight to modest.

While 2017 may end up with an increase, the estimate for combined Q4 sales offers a more hopeful sign. Projected Q4 revenue of \$16.61 billion represents year-over-year growth of 5.1%. If such an increase were realized, then Q4 would be the third quarter in a row to show year-on-year growth. Three quarters would not constitute a trend, but they would show this group heading in the right direction. If the group is truly on a growth trajectory, that will be borne out in the next one or two quarters.

Estimates say **Plexus** will be the prime mover in the quarterly increase, with a 7.9% increase at the midpoint of its guidance. *MMI*'s projections also indicate that two other companies will attain year-over-year growth for their Q4 sales. Jabil's growth is expected to reach 7.8%, while **Flex** should eke out a 6.3% gain. Two companies are estimated to report revenue declines, namely **Celestica** and **Benchmark Electronics**, with declines of 4.3% and 1.3%, respectively (Table 3).

Compared with a year earlier, the group's Q4 revenue will tick upward by 4.9%, according to *MMI*'s forecast, with Benchmark being the only exception with a small decline. Sequential increases at Jabil and Flex provide 10% and 3.7% increases, respectively.

Guidance suggests that adjusted EPS for Q4 will improve sequentially at Jabil, and at the midpoint of its guidance, the growth would be 22%. One can also infer from guidance that Celestica, Benchmark, and Plexus expect a sequential decline in their adjusted Q4 EPS. At the midpoint of their guidance, the decrease would be 7.7% at Benchmark, 4.8% at Plexus and 3.2% at Celestica. On a year-over-year basis, Q4 guidance implies that adjusted EPS will rise only at Jabil, with an increase of 13% at the midpoint of its guidance.

Company News

Embron Group Acquires Swedish Electronics and Software Developer

Embron Group, the parent company of EMS provider **Norautron**, has signed an agreement to acquire 100% of the electronics and software development company **QRTECH**.

Based in Gothenburg, Sweden, QRTECH employs about 90 people and estimates revenues in the range of SEK 120 million (€12.3 million) in 2017.

The acquisition of QRTECH aims to strengthen Embron's service offering

Table 3: Q4 2017 Guidance and Estimates for the Six Largest US-Traded Providers (sales in \$B except as noted)

Company	4Q17 Guidance	4Q17 Mid-point	3Q17 Sales	Qtr.-Qtr. Estim. Chg. (%)	4Q16 Sales	Yr.-Yr. Estim. Chg. (%)	2017 Estimated Sales	2016 Sales	Estimated Change	Q4 Guidance Adj. EPS* \$	Q4 EPS Mid-point \$	3Q17 Adj. EPS* \$	EPS Q-Q Chg. at Mid-point	4Q16 Adj. EPS* \$	EPS Y-Y Chg. at Midpoint
Flex	6.3-6.7	6.50	6.27	3.7	6.12	6.3	24.64	23.86	3.3	0.28-0.32	0.30	0.27	11.1	0.34	-11.8
Jabil	5.25-5.75	5.50	5.00	10.0	5.10	7.8	19.46	18.35	6.0	0.65-0.91	0.78	0.64	21.9	0.69	13.0
Sanmina	1.75-1.80	1.78	1.76	0.9	1.72	3.2	6.93	6.67	3.9	0.68-0.74	0.71	0.64	10.9	0.75	-5.3
Celestica	1.5-1.6	1.55	1.53	1.3	1.62	-4.3	6.11	6.02	1.5	0.27-0.33	0.30	0.31	-3.2	0.41	-26.8
Benchmark	590-610 M	0.60	0.60	-0.7	0.61	-1.3	2.39	2.31	3.3	0.34-0.38	0.36	0.39	-7.7	0.45	-20.0
Plexus	665-705 M	0.69	0.67	2.4	0.64	7.9	2.58	2.56	0.9	0.75-0.85	0.80	0.84	-4.8	0.82	-2.4
Total/Avg.		16.61	15.83	4.9	15.80	5.1	62.10	59.76	3.9						

Q4 estimates equal midpoint of Q4 guidance. 2017 estimates equal nine-month sales plus midpoint of Q4 guidance. *Adjusted EPS may not be comparable from company to company.

within R&D and Engineering services. QRTECH specializes in electronics and software development and delivers engineering competence and product development services ranging from concepts and prototypes to mass production.

QRTECH's main market segments include automotive, industrial, medtech, and energy and building automation. Its software and electronics expertise will complement Norautron's electronics manufacturing activities and contribute to strengthening Embron's service offering.

The Final Hurdle Cleared: Foxconn Wisconsin Is a Go

Governor Scott Walker took to Twitter to confirm that Wisconsin's economic development agency has approved the \$3 billion incentives package for EMS giant **Foxconn** to set up shop in the state.

The vote by the Wisconsin Economic Development Corporation was the last hurdle to clear for the deal. The Taiwanese company expects to be able to open the \$10 billion manufacturing plant in 2020, *Reuters* reports.

As previously reported by *Evertiq*, the new LCD plant will initially employ 3,000 people, but Foxconn has previously stated that this number could grow to as many as 13,000, which would make Foxconn a huge employer for the region.

Benchmark Breaks Ground for New HQ

Benchmark Electronics has broken ground on its new headquarters in Tempe, Arizona. With the new building the company plans to bring an additional 500 jobs to the greater Phoenix area over the next five years.

The company has already joined forces with Arizona State University through a strategic partnership to foster an ecosystem that benefits students and businesses. Benchmark plans to leverage the talent fostered at ASU's Ira A. Fulton School of Engineering and W. P. Carey School of Business in its hiring efforts.

Construction of Benchmark's Tempe headquarters is expected to be completed in early 2019. It will house the corporate leadership team and key corporate functions. Benchmark's Internet of Things (IoT) Center of Innovation will also transition to the new location.

Kitron Receives New Order from Husqvarna Group

Kitron has received a further order from **Husqvarna Group** in addition to already existing manufacturing volumes.

Kitron will manufacture and deliver controller units to Husqvarna Group's factory in Sweden for the next four years. The controller units are important parts of Husqvarna Group's battery-powered equipment such as chainsaws, blowers, and trimmers.

Production will take place at Kitron's plant in Kaunas, Lithuania.

Advantech Expands European Service Center

Continuous growth in the European market has led to Advantech's plans to expand its production, logistic, and office facilities in Eindhoven—and all are set to open in January 2018.

In addition to housing nearly 150 employees, the building will also serve as a demonstration site, displaying Advantech's latest service IoT and Industry 4.0 applications.

The expansion of the Advantech European Service Center (AESC) will see its warehouse and office space double in size, while its assembly services (CTOS) will nearly triple in production capacity. As the European HQ, Advantech Eindhoven also houses most of its staff and back-office personnel for the European organization.

Jabil Expands with New Facility in Hungary

Hungarian real estate developer **Infogroup** is building an €11.5 million logistics center in the Tiszaújváros

Industrial Park—and EMS provider **Jabil** will rent it.

Jabil Circuit Magyarország will rent the almost 17,000-square-meter facility. The foundation stone has already been laid and the building is expected to be ready by summer 2018, reports the Hungarian Investment Promotion Agency, HIPA.

Jabil's Hungarian subsidiary began operations in Tiszaújváros in 2000, and is the company's largest manufacturing facility in Europe. The company currently employs almost 3,500 people in Hungary, all at its 54,000-square-meter facility.

The new logistics center being built by Infogroup will serve as a distribution center alongside the electronics manufacturing activities, the report continues.

Compal, Foxconn to Benefit from Smart Speaker Demand, Says Paper

With **Apple** rescheduling the launch of its smart speaker HomePod from December to early 2018, Amazon's Echo series is expected to dominate the smart speaker market during the year-end holidays of 2017, to the benefit of device manufacturers **Foxconn Electronics** (Hon Hai Precision Industry) and **Compal Electronics**, according to a Chinese-language *Apple Daily* report.

Compal has already delivered its orders for display-featured smart speakers, the Echo Spot and Echo Show, to **Amazon** and is currently working with Amazon to develop new models for 2018, the paper noted.

The HomePod's rescheduled launch is expected to undermine **Inventec's** shipment performance in the fourth quarter. Foxconn reportedly will join HomePod's supply chain to provide assembly services.

Inventec also turned conservative about its 2018 smart device shipments, which it expects to grow by only a single-digit percentage year to year from 2017's 70 million units, since the company is planning to stop accepting orders with low margins, the paper added.

Celestica Expands Romanian Operations

Celestica has expanded its operations in Romania to increase manufacturing services for customers in eastern Europe.

The 9,000-square-meter expansion reflects Celestica's growing customer base and opportunities, primarily in advanced technology markets such as smart energy, industrial, and health technology, the firm says.

"Over the last 13 years, Celestica's operation in Oradea has become central to our global footprint and to driving flexibility, quality and greater value for our customers," said Rob Schormans, Senior Vice President, Operations, Advanced Technology Solutions, Celestica. "Our continued investment in Oradea reflects our commitment to the local community and to our highly skilled workforce."

The Oradea operation specializes in high-reliability, high-complexity applications for multiple markets, reports *Circuits Assembly*.

CFIUS: No National Security Concerns in Sparton, Ultra Electronics Deal

A US government agency has given its assent to the previously proposed acquisition of Sparton by Ultra Electronics Holdings.

On November 20, the Committee on Foreign Investment in the United States (CFIUS) announced that there were no unresolved national security concerns after completing its review of the proposed deal. CFIUS is an inter-agency committee authorized to review transactions that could result in control of a US business by a foreign person or entity.

The transaction remains subject to other governmental approvals, including clearance of the transaction under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, as well as other customary closing conditions.

EMS at Productronica

Productronica is primarily an exhibition for showcasing electronics assembly equipment and materials, but in a few cases those manning booths are producers instead, as reported by *Circuits Assembly*.

More than a dozen EMS companies exhibited this year. All were smaller players, with sales ranging from a few million to about \$150 million. Unlike two years ago, when many EMS firms were clustered by country, Estonia was the only nation to sponsor a common booth this year. The other participating EMS companies were generally local ones, helping to fill out the otherwise shrinking bare board fabrication exhibition space.

Technocare Electronic Systems (TES), also known under the **WTronic** name, has a production plant in Italy with two SMT lines, and a box build site in Slovenia; it employs 80 workers. It focuses on industrial, lighting, and medical applications. More than half of its revenue is from domestic sources, and less than 10% comes from outside the EU.

Also in Italy, **FM Elettronica** will be moving to a new plant that more than doubles its footprint and adding an SMT line in 2019. Currently it operates from a 38,000-square-foot site in Guidizzolo, home to its 120 workers and two SMT lines. The firm performs PCB design, SMT, and final assembly and builds enclosures for the automotive, power supply, renewable energy, and biomedical sectors.

The two largest EMS players at Productronica this year were **Nationgate** and **Global EMS H.K.** The former is based in Malaysia and has reached \$150 million in sales. The latter is based in Hong Kong, with two factories in southeast China, and has revenues approaching \$100 million.

Switzerland-based **Cicor** is working on a new 140,000-square-foot building in Arad, Romania, located adjacent to its existing site. The new plant is scheduled to open in the second half of 2018. Cicor makes bare boards and supplies EMS.

Finally, the award for uniqueness goes to **Selteka**, a Lithuanian EMS firm that has designed and built an inline-capable automatic programming, calibration, and functional tester and AOI. The firm uses it

on one of its four SMT lines and says it plans to fully implement the new machine—which doesn't have a name but is being commercialized—across all its lines.

Jabil Launches Blue Sky Center in Singapore

Jabil is launching its newest Blue Sky Innovation Center in Singapore.

Blue Sky Singapore will test advanced manufacturing processes and spearhead Jabil's research and development efforts in manufacturing technologies to power the development of next-generation electronic products.

The venue is expected to be fully operational by 2020 and will house R&D facilities for additive manufacturing, organic light-emitting diode process development and deployment, and roll-to-roll processing.

It will also connect capabilities from other Blue Sky Innovation Centers in San Jose, CA, Clinton, MA, and Tortosa, Spain, to Singapore.

The Jabil Digital Lab is the first lab to open at Blue Sky Center Singapore. Leveraging technologies such as the Internet of Things and virtual reality/augmented reality, the lab will demonstrate digital solutions to accelerate product design and prototyping and improve manufacturing processes and supply chain management. The lab will also serve as a collaborative space.

By early 2018, Jabil expects to expand to a new facility in Changi North, bringing its total size in Singapore to 354,000 square feet. The new facility will house a Class 10,000 clean room and focus on semiconductor equipment assembly and testing.

EMS Company Deals Rose in Q3

Six EMS companies changed hands in the September quarter, one more than in 2016, according to new data from *Lincoln International*.

Three EMS companies were acquired by competitors, two were involved in vertical/horizontal convergences, and one was purchased by private equity investors. No sites were divested during the period.

There were two transactions each in North America and Europe, and two cross-border transactions.

Two of the deals involved Tier 1 EMS firms (**Jabil**, **Flex**) and one involved midtier EMS providers (**Ultra's** acquisition of **Sparton**). The others were deals among companies with less than \$300 million a year in revenue (**GUB Management**, **Stadium Group**, and **Integra**).

Quanta Gearing Up Investments for AI, AR, VR, and Big Data

Quanta Computer is expanding its investments in AI, AR, VR, wearable devices, and big data solutions and expects to roll out more new products starting in 2019, according to company chairman Barry Lam.

The advent of the 5G era in 2020 will bring in a new wave of digital products, with related AI technologies and applications being pushed to every corner of the world and resulting in a leap forward for the technology industry, Lam asserted.

For this reason, Quanta earmarked NT\$1 billion (US\$33.16 million) in the third quarter of 2017 for the development of new technologies and products, including those for AR, VR, and cloud solutions, Lam said.

The company's capex for the first three quarters of 2017 totaled NT\$9.2

billion (US\$305.08 million), increasing 12.2% from a year earlier, Lam added.

Quanta's notebook shipments came to 11.5 million units in the third quarter, up 8.5% on quarter, which was higher than the company's guidance of 5%.

However, the company's notebook shipments are expected to stay flat sequentially in the fourth quarter, as reported by *DigiTimes*.

Apple Likely to Expand Supply Chain for Apple Watch

Apple has seen an over 50% sequential increase in Apple Watch Series 3 sales in the fiscal quarter ended September 30, and some market watchers expect that Apple is likely to add more partners to its upstream supply chain to increase its profitability, while reducing production risk.

Overall shipments of the Apple Watch are expected to reach at least 25 million units in 2018 and most of the sales will be to first-time buyers instead of replacement demand from users of previous-generation models, the sources estimated.

Upstream players including **Quanta Computer**, **Universal Scientific Industrial (USI)**, **Career Technology**, **Kinsus Interconnect Technology**, and **E&R Engineering** are expected to see increasing orders for the Apple Watch, said the sources, adding that the

Foxconn Group's affiliate ShunSin Technology has also recently landed orders for providing SiP (system in package) packaging services to Apple Watch, to begin in March 2018.

Excess Overtime at Foxconn

Foxconn said company policy doesn't allow interns, who represent a "very small" percentage of its workforce, to work more than 40 hours a week on "program-related assignments." Foxconn did acknowledge a "number of cases where portions of our campuses have not adhered to this policy".

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