Manufacturing Market INSIDER™

inside the contract manufacturing industry

Vol. 27, No. 6 June 2017

Negative Growth for the Contract Manufacturing Services Industries

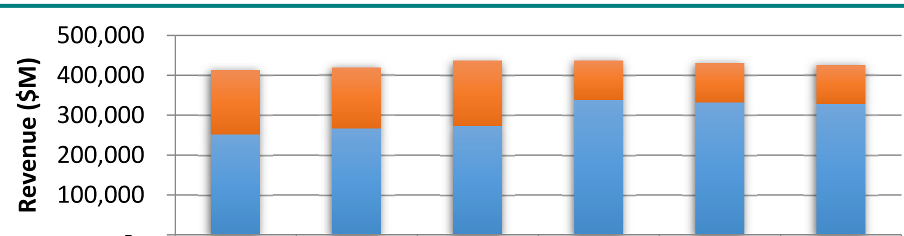
The last time there was any significant growth in the EMS industry was in 2011 when the market expanded by 11.3 percent, and then again in 2013 by 4.1 percent. But in 2015 and 2016 the market declined by 1.5% and 1.1%, respectively. To be fair, the overall growth of the electronics manufacturing industry has similarly stalled, with revenue growth in 2015 and 2016 coming in at 3.0 percent. What little growth occurred came from the automotive sector (4.1%), while all other sectors expanded between 2 and 3 percent.

The computer sector declined to 1.9 percent growth in revenue, and this was offset by the communications sector, which grew 3.7 percent. The industrial market did second best, with growth of 3.5 percent. The consumer, medical, and defense/aviation sectors all expanded between 2.7 percent and 3.1 percent.

Table 1 (p. 2) summarizes the assembly of electronics products by manufacturing type and industry segment for 2016. Most noteworthy is the percentage of EMS and ODM revenue from the computer and communications (IT) sectors. These two sectors ostensibly accounted for approximately 76 percent of total CM revenue and a shocking 83 percent of ODM revenue, as the latter suppliers are concentrated in the computer, communications, and consumer electronics sectors. EMS companies tend to be more general-purpose manufacturers compared with ODMs, and usually specialize in high-complexity and high-mix assemblies. It is interesting to note that a substantial proportion of available manufacturing remains in-house, particularly among the Japanese, Korean, and Chinese OEMs. Additionally, there is a large proportion of the market that cannot be readily outsourced, as the assemblies are too low in volume and high in complexity, or contain proprietary information or designs that should remain in-house.

Because of price pressures, as well as economies of scale in purchasing and managing capital equipment, the amount of OEM outsourcing is likely to grow again over time. There are periods of market contraction, as evidenced in 2009 and in the last three years. In previous years, *MMI* has tracked a number of mergers and acquisitions that redistributed the market share of leaders, as is normal for any market. Lower-tier EMS companies tend to make attractive acquisition targets, as they can provide a strategic solution such as the provision of a regional footprint, access to specific customers, technical capabilities, or positive cash flow. Most EMS companies cannot succeed via organic growth alone, but must supplement growth by acquiring weaker EMS players or suppliers that have good customer bases or regional control.

Figure 1 The Worldwide CM Market, 2011–2016



	2011	2012	2013	2014	2015	2016
ODM	160,237	152,079	163,327	98,036	97,476	95,935
EMS	252,516	267,417	273,392	338,747	332,606	329,217

Some articles in this issue

Communications

The EMS communications market stayed flat in 2016 after expanding by over $18 billion in 2015. Top tier-one suppliers continue to dominate this segment, with Foxconn achieving $58 billion in revenue followed by Pegatron ($23 billion) and Flex ($11 billion). This industry is expected to continue to grow, being driven by the extraordinary popularity of smart phones. EMS firms still dominate this segment, accounting for 87 percent of all revenue in 2016, although ODMs are developing feature phones as a specialty in emerging economies.

Computers/Peripherals

The CM computer market declined by almost $15 billion in 2016 (Foxconn's revenue declined by almost $2 billion) as desktop computers and tablets experienced a small decline. Leading EMS companies in 2016 were Foxconn, Jabil, and Pegatron, whereas leading ODMs in 2016 were Quanta Computer, Compal Electronics, and Inventec. EMS firms still dominate this segment, accounting for 58 percent of all revenue in 2016, although ODMs are driving LCD panel technology as a specialty. The computer market segment also includes peripherals such as monitors, storage systems, and printers. Monitors and printers are manufactured mostly in China today, as HP, Canon, and Epson either outsource or utilize their captive suppliers for assembly.

Consumer Electronics

The consumer electronics market segment declined by more than $2 billion in 2016 as a result of a slump in demand for digital TVs from the previous year. Once again, Foxconn dominated this segment, with almost $26 billion in revenue ($.05 billion more than in 2015), mostly involving LCD/LED display products (TVs, monitors, etc.). EMS firms also dominate this segment, accounting for 76 percent of all revenue in 2016. The most popular products involved set-top boxes and games.

Table 1 Worldwide Electronics Market by Source and Industry, 2016

Total Assembly ($M)	EMS	ODM	OEM	Total	Percent
Computer	128,746	18,987	212,859	360,592	25.6%
Communications	83,617	60,129	266,544	410,290	29.1%
Consumer	45,846	14,547	221,596	281,990	20.0%
Industrial	30,357	1,083	88,717	120,156	8.5%
Medical	16,974	181	48,045	65,199	4.6%
Automotive	13,020	1,008	87,263	101,290	7.2%
Aviation/Defense/Other	10,671	-	58,551	69,222	4.9%
Total	329,231	95,935	983,574	1,408,740	100.0%

Industrial

The CM market for industrial products did not increase at all in 2016. Flex emerged as the largest supplier to this segment, followed by Foxconn, Pegatron, and Jabil. Other industrial sectors, like clean energy, robotics, and HVAC, benefited. The ODM supplier market increased significantly in size due to growth opportunities in the APAC region.

Medical

The CM medical equipment market increased 7.1 percent in 2016, mainly resulting from $1 billion in new EMS opportunities. Jabil, Flex, and Sanmina are the leading suppliers in this category, followed somewhat distantly by Plexus, Venture, and Benchmark. The majority of outsourced medical product assemblies are performed by small to medium-sized EMS companies worldwide. ODM suppliers experienced a flat year in revenue for 2016.

Automotive

The automotive market segment is one of the bright spots in the CM market as the latest electronic guidance (self-driving) and navigation systems become more essential to the automobile. Growth in EMS revenue was approximately $0.5 billion in 2016. OEMs prefer to outsource noncritical assemblies, such as instrument panel subsystems containing a microcontroller and sensors (federally mandated assemblies such as emission control and ABS are typically not outsourced).

Commercial Aviation, Defense, and Other Transportation

The combined market segment for all aerospace and military/defense spending for electronic assemblies increased by just 2.1 percent in 2016, despite the dramatic increase in spending for in-flight devices, including on-board entertainment and Internet services. North American top-tier EMS firms are the primary suppliers to this sector and include Celestica, Ducommun, Plexus, and Sanmina.

Table 2 Top 10 CMs' Growth	2015 ($M)	2016 ($M)	Percent
Creation Technologies	444	630	41.9%
Scanfil	419	562	34.4%
Firstronic	125	165	32.0%
Fabrinet	774	977	26.3%
AmTRAN Technology	642	807	25.8%
Fideltronik	216	265	22.7%
PC Partner	613	752	22.6%
SVI	288	353	22.5%
Di-Nikko Engineering	265	324	22.3%
TQ Group	199	237	19.1%

While the market for EMS may have been flat for the last few years, there were some surprising winners in terms of revenue growth in 2016. Table 2 (p. 2) summarizes the top ten companies with the highest revenue growth in 2016.

Creation Technologies' growth was entirely organic, but the company will not share with us the secret of its success. Scanfil achieved its growth through the acquisition of PartnerTech and has since right-sized its operations, going from 17 facilities down to 10 facilities in 2016 and 1H17. Firstronic attributes its success to focusing on "underserved" industries such as automotive, industrial, medical, and specialty products. Some examples of automotive programs include LED lighting (interior and exterior), electronic shift by wire and PRNDMs, seat actuators, fuel pump controllers, overhead console, seat heating and cooling controllers, electronic mirror controls, and lumbar systems.

The above discussion is excerpted from The Worldwide Electronics Manufacturing Services Market – 2017 Edition*, by **NVR.***

Starting the Year in a Small Hole

Combined Q1 sales for eight mid-tier and smaller EMS providers based in North America were off 3.3% year over year—not a great start for the year but not a terrible one, either. This group of North American providers won't need a tremendous amount of growth later in the year to make up for the aggregate sales decline in Q1. They're starting the year in the hole, but it's not a big one.

This North American group of seven mid-tier and smaller providers fell short in a Q1 comparison with a cohort of large competitors. On a year-over-year basis, collective sales growth of the mid-tier and smaller providers in Q1 was 5.6 percentage points below that of the six largest US-traded EMS providers (Chart 1, p. 4). Overall, smaller was not better in this Q1 analysis. But that is not always the case. For example, through nine months of last year, the mid-tier and smaller providers combined for a sales drop of 2.1%, compared with a 7.5% decline for their six large competitors.

Q1 revenue for the mid-tier and smaller group totaled $672 million, compared with $695 million in the same period a year ago. Year-on-year sales increases at three providers were essentially offset by declines at five others. **IEC Electronics** recorded by far the highest double-digit decline at 35.7%, with the second highest decline of 34.7% posted by **SMTC** (Table 3). Of the three providers with revenue increases, **Kimball Electronics** recorded by far the highest sales growth, at 8.8%.

Versus the prior quarter, Q1 sales for the group of eight fell 2.1%. In this comparison, however, the mid-tier and smaller providers together outperformed their large US-traded counterparts, whose combined sales sank 7.5% sequentially (Chart 2, p. 4). It appears that the large providers, which have significant amounts of consumer and computing sales, are collectively more subject to seasonality than their smaller competitors.

Six out of the eight North American providers saw their Q1 sales drop from the prior quarter, with SMTC and **SigmaTron** registering the furthest tumbles.

Table 3: Q1 and Nine-Month 2017 GAAP Results for Eight Mid-Tier and Smaller EMS Providers Based in North America (M$ or %)

Company	1Q17 Sales	4Q16 Sales	Qtr.–Qtr. Chg.	1Q16 Sales	Yr.–Yr. Chg.	1Q17 Gross Marg.	4Q16 Gross Marg.	1Q16 Gross Marg.	1Q17 Oper. Marg.	4Q16 Oper. Marg.	1Q16 Oper. Marg.	1Q17 Net Inc.	4Q16 Net Inc.	1Q16 Net Inc.
Stand-Alone EMS Providers														
KeyTronic	113.6	118.5	–4.1	118.4	–4.1	8.0%	8.1%	8.4%	1.6%	2.1%	2.3%	1.0	1.5	1.8
Sparton	95.4	97.4	–2.1	102.2	–6.6	17.7%	14.1%	16.4%	1.6%	0.2%	2.7%	0.4	–0.9	1.1
SMTC	39.7	42.7	–7.1	60.7	–34.7	8.6%	8.5%	9.1%	–0.5%	0.4%	2.2%	–0.6	0.0	0.8
SigmaTron	61.9	65.8	–6.0	59.2	4.5	8.8%	8.4%	9.6%	0.6%	0.5%	1.1%	0.0	0.0	0.2
IEC Electronics	21.3	21.0	1.5	33.1	–35.7	10.8%	8.6%	17.3%	–1.9%	–3.1%	6.0%	–0.6	–0.9	1.5
Nortech Systems	28.3	29.0	–2.4	29.0	–2.2	11.0%	12.2%	11.7%	0.4%	1.1%	0.8%	0.0	0.1	0.1
Kimball Electronics	232.9	230.3	1.2	214.1	8.8	8.0%	8.9%	8.0%	4.3%	4.9%	3.4%	8.1	7.8	7.5
Subtotal/avg.	**593.1**	**604.7**	**–1.9**	**616.8**	**–3.8**	**11.4%**	**12.1%**	**12.7%**	**2.2%**	**2.4%**	**2.8%**	**8.2**	**7.7**	**12.9**
EMS Unit of Larger Public Company														
Ducommun*	78.7	81.7	–3.6	78.1	0.8				9.0%	11.3%	8.2%			
Total/avg.	**671.8**	**686.4**	**–2.1**	**694.9**	**–3.3**									

*For Ducommun we have considered its "Electronic Systems" segment revenue for our analysis. Operating and net income are not necessarily equivalent to GAAP results on a stand-alone basis.

Chart 1: Q1 Sales Growth Year Over Year

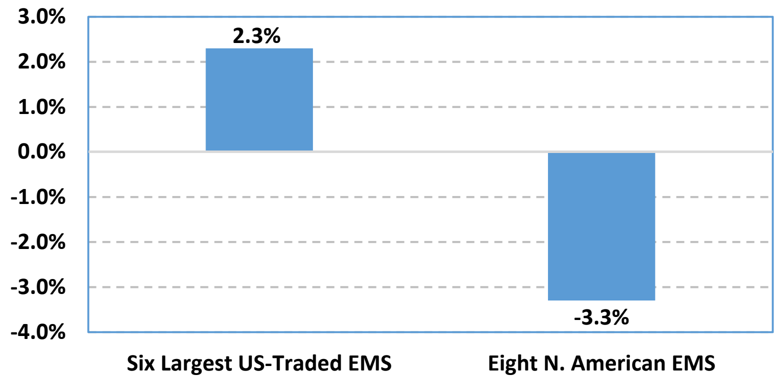
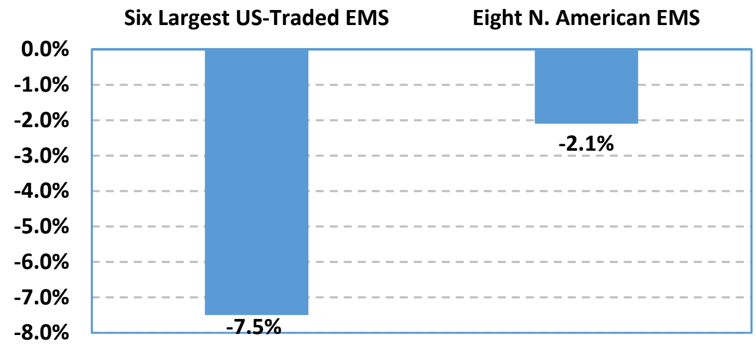


Chart 2: Q1 Sales Growth Quarter to Quarter



The sequential declines at those six providers outweighed the gains at the other two players, IEC and Kimball Electronics Group (Table 3).

The group of eight mid-tier and smaller providers consists of seven companies in the EMS space, all publicly traded, and one EMS unit within a larger publicly held corporation. Together, the seven stand-alone providers produced a Q1 gross margin of 11.4%, down 70 basis points sequentially and 130 basis points year over year. Three out of seven providers attained double-digit gross margins, with a high of 17.7% turned in by **Sparton**.

In the aggregate, Q1 operating margin for the seven stand-alone providers stood at 2.2%, down 20 basis points sequentially and 60 basis points year over year. Kimball recorded a high of 4.3%. Sparton, IEC, and SigmaTron were the companies able to raise their margins from the prior quarter. In the year-over-year comparison, all providers except Kimball Electronics saw their operating margins erode (Table 3).

As for the sole EMS unit, the Q1 operating margin at **Ducommun** showed a sequential decline, but increased versus a year earlier.

For the seven stand-alone providers, net income in Q1 amounted to $8.2 million, up from $7.7 million in the prior quarter but down from net income of $12.9 million a year earlier. The year-over-year drop in net income occurred in line with the 3.8% decrease in sales versus a year ago.

Q1 net margin came in at 1.4%, higher by 110 basis points sequentially but down 710 basis points year over year. Only Kimball Electronics was able to sustain net income growth on a sequential and year-over-year basis.

A Brief Look at Each Provider

KeyTronic Corporation (NASDAQ: KTCC). For the third quarter of fiscal year 2017, KeyTronic reported total revenue of $113.6 million, compared to $118.4 million in the same period of fiscal year 2016. Net income for the third quarter of fiscal year 2017 was $1.0 million or $0.09 per share, compared to $1.8 million or $0.16 per share for the third quarter of fiscal year 2016. For the third quarter of fiscal year 2017, gross margin was 8.0% and operating margin was 1.6%, compared to 8.4% and 2.3%, respectively, in the same period of fiscal 2016.

The company recently won two new programs involving electronic scheduling devices and pool controllers. Moving into the fourth quarter, it continues to see a strong pipeline of potential new business and its new programs continue to ramp up, offsetting softening demand for a few current programs. At the same time, it continues to invest in expanding its SMT, sheet metal, and plastic molding capabilities in preparation for future growth.

For the fourth quarter of fiscal year 2017, the company expects to report revenue in the range of $112 million to $117 million, and earnings in the range of $0.10 to $0.15 per diluted share.

Sparton Corporation (NYSE: SPA). For 3Q2017, it reported net sales of $95.4 million. Gross profit margin increased 140 bps from the prior quarter to 17.7%. The company reported earnings per share of $0.04 and adjusted earnings per share of $0.22.

Sparton has two reportable segments: Manufacturing and Design Services (MDS) and Engineered Components and Products (ECP). The decrease in net sales was a result of reduced sales of $6.2 million and $0.5 million in the MDS and ECP segments, respectively. Selling and administrative expense was lower due to the continued focus of effort on cost containment and expense reduction.

For the Manufacturing and Design Services segment, reported gross sales were $61.1 million. The $6.2 million decrease in net sales was due to the continued insourcing of a large customer in its medical end market, the loss of a customer in its industrial end market, and the closure of its Lawrenceville facility, as well as other volume reductions. These losses were offset by new revenue wins and increased volume with other customers. MDS's backlog was $118.0 million on April 2, 2017, compared with $160.3 million on March 27, 2016.

For the Engineered Components and Products segment, reported gross sales were $37.1 million. The segment had decreases of $2.7 million in engineering sales to the US Navy, $1.0 million in domestic sonobuoy sales, and $0.3 million in rugged electronics, partially offset by an increase of $3.4 million in foreign sonobuoy sales. Total sales to the US Navy in the third quarter of fiscal years 2017 and 2016 were $19.7 million and $23.4 million, respectively. For the third quarter of fiscal years 2017 and 2016, sales to the US Navy accounted for 21% and 23%, respectively, of consolidated company net sales and 53% and 62%, respectively, of ECP segment net sales.

SMTC Corporation (NASDAQ: SMTX). Revenue for the first quarter of 2017 was $33.2 million, compared with $41.9 million in the first quarter of the prior year. The decrease was primarily the result of one customer that transferred its business to other contract manufacturers. In addition, demand decreased with one long-standing customer, which was offset by revenue from a new customer during the quarter.

Gross profit for the first quarter was $3.6 million or 10.7%, compared to $4.9 million or 11.6% in the first quarter of 2016. Adjusted gross profit was $2.3 million or 6.9%, compared to $3.8 million or 9.1% in the first quarter of the prior year.

Net loss was $0.4 million for the quarter compared to a net income of $1.0 million for the first quarter in the prior year. When excluding the impact of an unrealized foreign exchange gain of $1.3 million on unsettled forward exchange contracts in the first quarter, net loss was $1.7 million. When excluding the impact of an unrealized foreign exchange gain of $1.0 million on unsettled forward exchange contracts in the first quarter of the prior year, net income was nil.

Adjusted EBITDA was $(0.3) million, compared with $1.4 million in the first quarter of the prior year, due to the reduction in revenue and corresponding reduction in gross margin, with higher relative selling, general, and administrative expenses.

On May 15, 2017, the Board of Directors of SMTC approved a corporate restructuring plan for its manufacturing facilities and corporate-level operations, which includes the closure of the Suzhou facility in China and a reduction in labor force impacting approximately 210 employees.

SigmaTron International, Inc. (NASDAQ: SGMA). Revenues increased to $61.9 million for the third quarter of fiscal 2017, from $59.2 million for the same quarter in the prior year. A net loss of $47,852 was incurred in the third fiscal quarter compared to net income of $218,728 for the same period in the prior year. Basic and diluted (loss) per share were each ($0.01) for the quarter ended January 31, 2017, compared to basic and diluted earnings per share each of $0.05 for the same quarter in fiscal 2016. Gross profit decreased during the three-month period ended January 31, 2017 to $5,419,018 or 8.8% of net sales, compared to $5,708,096 or 9.6% of net sales for the same period in the prior fiscal year.

IEC Electronics Corp. (NYSE: IEC). IEC reported revenues of $21.3 million for the second quarter of fiscal 2017, a decrease of 35.5% compared with revenues of $33.1 million in the second quarter of fiscal 2016. Sequentially, revenues remained consistent with the first quarter of 2017. Gross profit margin for the second quarter was 10.7%, compared to 17.3% in the same quarter last year and an increase compared to gross margin of 8.6% in the first quarter of 2017. The company recorded a net loss of $0.6 million, or $0.06 per share, compared to net income of $1.5 million, or $0.14 per share, in the same period of the prior year.

Revenues from all three major market sectors decreased year over year. The medical market sector decreased $9.6 million; the aerospace and defense market sector decreased $1.9 million; and the industrial market sector decreased $0.5 million. Offsetting these decreases was an increase of $0.3 million in the communication and other market sector. The medical market sector's revenue decrease of $9.6 million was primarily due to decreases in demand from two customers. The lower demand was due to a decline in their end-market demand as well as their high inventory position. The company anticipates the demand from one customer will increase during the second half of fiscal 2017. It also expects the other customer will not increase its demand until early 2018. The company had several other medical customers with lower demand during the second quarter of fiscal 2017 that was caused by the stage of their programs.

Various increases and decreases for its aerospace and defense customers resulted in a net decrease of $1.9 million in the second quarter of fiscal 2017. Programs frequently fluctuate in demand, or come to an end and are replaced by new programs. Aggregate decreases of $3.4 million in the quarter were partially offset by $1.6 million in increases from other customers. Another $0.5 million decrease was due to the company's decision to disengage with a customer due to lack of profitability. Two new customers were added that increased revenue by $0.6 million.

The net decrease in demand in the industrial market sector of $0.5 million resulted primarily from decreased demand from customers whose end market had softened.

Healthy Q1 Growth for European Group

First-quarter sales in euros for a group of five European EMS providers rose 1.2% year over year, a few basis points below the European Union's GDP growth rate. Revenue for the five mid-sized providers totaled €417.6 million, up from €412.5 million in the year-ago quarter. As a group, the five providers made a good start in 2017, with a healthy year-over-year increase in Q1.

Sales grew from a year earlier at two out of five providers and **Kitron** was the only one able to achieve a double-digit gain (Table 4). At **Neways Electronics International**, Q1 net turnover increased organically by 9.5% on a year-over-year basis, with higher sales contributions from its Semiconductor, Automotive, and Defence sectors. Sales in the Industrial and Medical sectors remained approximately stable. Supported by the application of its life cycle management tool, Neways is gradually intensifying partnerships with several existing (long-term) customers, while at the same time new customer leads are generated. During the quarter the order intake increased by 13.1% year over year. The order book stood at €205.9 million, compared to €177.0 million at the end of March 2016, with a book-to-bill ratio of 1.10. The increase in the order intake and order book reflects continued growth, particularly in the Semiconductor and Automotive sectors.

As for **Scanfil**, its Q1 sales declined by 6.3% year over year. Its turnover was €122 million and operating profit €6.2 million. The operating profit increased by one-fifth compared with adjusted operating profit a year ago, and the realized 5% operating margin is coming close to the target level. The close-down of the Vantaa and Biatorbagy plants continued. The company continued its investment program: It installed a new surface-mount technology (SMT) line in Suzhou, and punching machines as well as bending lines in Myslowice; in addition, it decided to invest in an SMT line at its Malmö plant. Furthermore, it made a decision to double its production space in Atlanta.

At **LACROIX Electronics**, Q1 sales declined 5% year over year. LACROIX Electronics' activity declined by 5.0%, mainly due to the decision in January 2016 by a major customer of the French site to insource its electronics manufacturing, to the rescheduling of product introductions won in 2016 in Germany, and to slower growth of the Polish site. The group confirms prospects of moderate revenue growth and a more significant PFOA (profit from operating activities) increase over the financial year.

Kitron saw its Q1 revenue grow 17.7% from a year earlier in its NOK reporting currency. Order intake in the quarter was NOK619.8 million, which is 41.4% higher than for the first quarter of 2016. The Defence/Aerospace sector's revenue increased by 46.3% compared with last year. The Energy/Telecoms sector's revenues increased by 23.3%. The Industry sector showed a revenue increase of 21.1%. Revenue in the Medical Device sector decreased by 11.4%. The Offshore/Marine sector's revenue decreased by 50.8%.

For 2017, Kitron expects revenue to grow to between NOK2,150 million and NOK2,350 million. The EBIT margin is expected to be between 5.6 and 6.4 percent. The growth is primarily driven by customers in the Industry sector.

Finally, **Connect Group** reported that Q1 sales declined by 3% from the same period last year. This decline in sales can be attributed to the loss of **ASML** as a customer in the Netherlands. This customer had accounted for annual sales of more than €12 million in past years and the cessation of the relationship had an immediate effect, causing the redundancy of 33 employees in the Netherlands. Despite the loss of ASML (whose orders amounted to €7.7 million at the end of 2015), orders have risen from €86.6 million at the end of 2015 (including the €7.7 million from ASML) to €89.4 million at the end of 2016, constituting an increase of over 13 percent. As a result, the company is entering 2017 on a positive note.

Company News

Celestica's CFO to Leave

Canada-headquartered EMS provider **Celestica, Inc.** will look for a new Chief Financial Officer.

Darren Myers, Chief Financial Officer, has made the decision to leave Celestica, effective the end of July, to pursue an opportunity in another industry, a press release states.

Mandeep Chawla, Senior Vice President, Finance, will immediately assume the role on an interim basis. The company will conduct a search for a permanent replacement that will include both internal and external candidates.

TDK Completes Acquisition of InvenSense

TDK Corporation has completed the all-cash acquisition of **InvenSense**. The total acquisition price was approximately $1.3 billion.

TDK's President and CEO, Mr. Shigenao Ishiguro, noted that by merging TDK's strengths in magnetic sensor technologies and the extensive portfolio of sensor products from TDK Group's EPCOS, TDK-Micronas, and Tronics with InvenSense's leading sensor and software platforms, it will be able to bolster TDK's sensor business, one of its strategic growth areas.

Table 4: 1Q2017 Results for Six European EMS Providers (M€ or %)

Company (in order of Q1 '17 sales)	Head-quarters	Reports in Euros	Q1 '17 sales	Q1 '16 sales	Yr.-yr. chg.
Neways Electronics International	Netherlands	Yes	107.6	98.3	9.5%
Scanfil	Finland	Yes	122.2	130.4	–6.3%
LACROIX Electronics	France	Yes	70.6	74.3	–5.0%
Kitron	Norway	No	62.4	53.0	17.7%
Connect Group	Belgium	Yes	54.8	56.5	–3.0%
Total/avg.			**417.6**	**412.5**	**1.2%**

Results in non-euro currencies were converted to euros by applying a three-month average exchange rate for the corresponding quarter. Average exchange rates were obtained from OANDA. Note: For Connect Group we have considered its second-half 2016 figures.

As a result of the completed acquisition, InvenSense will become a wholly owned subsidiary of TDK, and Mr. Behrooz Abdi will continue to lead InvenSense as its CEO, additionally serving as General Manager of the MEMS Sensors Business Group of the Sensor Systems Business Company within the newly formed Sensor Systems Business Company of TDK.

Asteelflash Opens New Factory in Tunisia

Last year, EMS provider **Asteelflash Group** started test production at its newly built facility in La Soukra, Tunisia.

This 15,000-square-meter facility is the heart of a project called IMTIEZ ("excellence" in the local language) and opens its doors to its customers, suppliers, and partners for an official inauguration. With a substantial investment of €2.5 million, Asteelflash also modernized its machine park and increased its production capacity in Tunisia.

CTS Acquires Sensor Manufacturer Noliac

CTS Corp. has acquired **Noliac A/S**, a designer and manufacturer of tape cast and bulk piezoelectric components, sensors, and transducers.

Headquartered in Denmark with manufacturing facilities in Denmark and the Czech Republic, Noliac serves OEMs in the aerospace and defense, test and measurement, medical, and industrial markets.

In 2016, CTS acquired single-crystal production capabilities to strengthen its piezoelectric product portfolio. By acquiring Noliac, it expands tape cast manufacturing capabilities. This enables it to provide a more complete range of piezoelectric solutions to its customers, while growing its European presence and further diversifying its end-market profile.

NEXTracker Goes Big in Western Hemisphere

NEXTracker, a **Flex** company, has started supplying its advanced single-axis trackers to the largest solar power plant in the Western Hemisphere.

This grid-connected project of over 750 megawatts will deliver energy to the northern Mexico region under a long-term contract. Scheduled to enter commercial operation by mid-2018, NEXTracker has shipped over 200 MW to the project site to date. The company will manufacture a range of structural, mechanical, and electrical components locally for this project.

Mexico, along with India, Australia, and the Middle East, is part of a new wave of renewable energy markets poised for significant growth over the next few years, noted NEXTracker CEO Dan Shugar.

TE Connectivity Acquires Microgroup

Kirtland Capital Partners and other shareholders have sold **MicroGroup, Inc**. to **TE Connectivity, Ltd**. Terms of the transaction were not disclosed.

MicroGroup is a manufacturer of precision medical components and subassemblies with expertise in small-diameter stainless steel tubing. MicroGroup's customers include more than half of the world's largest medical device and analytical instrument companies across the analytical and diagnostic instruments, cardiology, gastroenterology and endoscopy, neurology and spinal, and orthopedic and sports medicine segments, a press release states.

MicroGroup was founded in 1971 and is headquartered in Medway, Massachusetts. Medway is home to an FDA-registered facility, which will be added to TE Connectivity's manufacturing footprint.

Kitron Opens Latest EMS Site in Sweden

Kitron ASA officially opened its EMS facility at Torsvik, celebrating in an event attended by customers, business partners, representatives of the local community, and employees.

Over the past months, Kitron's operation in Jönköping has been moved to the new facility, according to budget and without significant technical problems. Kitron has invested approximately SEK25 million ($2.8 million) in the new facility and equipment.

Benchmark to Lose Two Top VPs

Benchmark Electronics said two executive vice presidents, including its head of global operations, will be leaving the company.

In April, the company announced plans to relocate its corporate headquarters from Angleton to the greater Phoenix area and to consolidate its corporate staff in Arizona beginning in this month.

Jon King, executive vice president of global operations, will not be relocating to Arizona, but has agreed to remain with the EMS company and assist in the transition of his responsibilities to his successor when that person is named.

The company also announced that Greg Cominos, executive vice president of sales and marketing, will not be relocating to Arizona and has decided to pursue other interests. Cominos joined Benchmark in 2015.

Paul Tufano will assume responsibility for the sales and marketing organization until a successor for Cominos is named.

Beset by Lingering Sales Slump, SMTC to Close Suzhou Site

Wounded by steadily declining sales, **SMTC** announced it would close its factory in Suzhou as part of a larger reorganization aimed at cutting costs across the company.

SMTC said it expects to take $1.6 million in charges tied to a global restructuring plan to align operational functions and reduce its cost structure. The plan is expected to result in approximately $5 million in annualized savings once complete.

As part of the restructuring, SMTC will wind down and close its Suzhou facility, a move expected to be substantially completed by the end of the second quarter. The firm will also lay off 210 employees at its manufacturing facilities and corporate headquarters, reports *Circuits Assembly*.

Inventec Appliances Reportedly to Receive Orders from Apple, Google, and Baidu for Voice Assistance Products

Inventec Appliances, a subsidiary of **Inventec**, reportedly has landed orders for smart voice assistance devices from **Apple**, **Google**, and China-based **Baidu**, but has declined to comment on its orders.

Inventec Appliance president David Ho pointed out that its clients have recently accelerated their paces on the devices' development upon seeing strong demand for **Amazon**'s Echo.

Some market watchers pointed out that Amazon's Echo is manufactured by Foxconn Electronics (Hon Hai Precision Industry), as reported by *DigiTimes*.

Qualcomm Sues 4 Major ODMs Over Contract Issues

Qualcomm has filed a lawsuit in US District Court accusing four major ODMs of failing to pay royalties on chips the company sold to Apple.

In the suit, filed in the Southern District of California court, Qualcomm cites **Foxconn, Pegatron, Wistron,** and **Compal Electronics** for failing to pay as much as $1 billion in fees associated with past chip purchases. The chipmaker asked the court to compel the manufacturers to comply with their contractual obligations, plus unspecified damages.

All the ODMs are suppliers to **Apple**, which is suing Qualcomm over contractual pricing claims. At the heart of the matter is a reported $1 billion in rebates Apple insists it is owed by Qualcomm. For its part, Qualcomm claims Apple is withholding royalty payments to the ODMs that in turn should be remitted to Qualcomm, as reported by *Circuits Assembly*.

Beyonics Adding to Malaysian Operations

Beyonics will invest some $3 million in a new metal stamping facility in Malaysia, according to published reports.

The EMS/ODM will locate the new facility next to an existing plant in the i-Park Industrial Park.

Company officials expect the plant to be completed in August or September this year, and the additional investment brings the total expenditure by Beyonics in Kulai to $17 million, as reported by *Circuits Assembly*.

Michigan Seeks Foxconn Business

Michigan is willing to offer millions in incentives as part of a deal to attract **Foxconn** to the state, according to published reports.

The state Senate has passed a bill that would give businesses that expand or move to Michigan a 100% abatement on personal income tax withholdings of new employees for up to 10 years, provided the company brings in at least 250 new jobs and at exceptional wages. Michigan has its eye on the Foxconn business, sources told the *Lansing Free Press*.

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Editor: Anna Reynolds

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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. ISSN 1072-8651

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