

How's Business? OEM

Bishop & Associates tracks sales and profits of 13 market sectors and more than 120 companies. The objectives are to determine how selected electronic markets have performed, identify sales and profit trends for forecasting purposes, and monitor company performance within market sectors.

Due to late reporting of several OEMs after the close of 3Q17, we were not able to report 3Q17 results until now. Below is the 3Q17 results summary.

The following table provides the 2015/2016 percent change in revenues, and the first three quarters 2017 versus the first three quarters 2016 sales and percent change in sales by market sector.

Sales Performance - Percent Change

Market Sector	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Telecom/Datacom	-4.9%	\$269,889.3	\$270,906.5	0.4%
Automotive	3.1%	\$1,106,179.0	\$1,140,859.0	3.1%
Industrial	-7.7%	\$283,940.3	\$299,971.6	5.6%
Mil/Aero	-0.5%	\$222,741.7	\$227,595.2	2.2%
Computers	-1.0%	\$237,580.1	\$258,597.3	8.8%
Peripherals	1.6%	\$52,078.4	\$58,348.4	12.0%
Consumer	1.9%	\$203,331.8	\$208,457.4	2.5%
Transportation	-5.2%	\$264,611.6	\$255,199.6	-3.6%
Medical	6.3%	\$67,878.0	\$69,016.7	1.7%
Instrumentation	5.2%	\$25,923.0	\$28,344.8	9.3%
Semiconductors	4.1%	\$148,422.8	\$189,716.5	27.8%
CEMs	-0.9%	\$45,286.8	\$48,727.7	7.6%
Distribution	-8.1%	\$41,873.9	\$45,789.7	9.4%

\$ Millions

Of the 13 market sectors Bishop tracks, 12 had year-over-year growth in the first three quarters of 2017 versus the first three quarters of 2016. Semiconductors experienced the most significant growth at 27.8%. Transportation was the only market sector to decline in the first three quarters, decreasing 3.6%.

As a note: This database is not static. Companies are acquired or go into bankruptcy; thus, their financial data is no longer available, and they are removed from the database. These types of activities occurred frequently in 2009 and 2010, and because of this, as well as additions we have made to the database, it is not possible to directly compare current numbers to numbers referenced in past Bishop "How's Business? OEMs." These analyses are meant to be used as a relative measure of market sector performance. If you have any questions relative to this database or specific market sectors, please feel free to contact us.

The following pages display each market sector in detail, including the companies selected for each sector.

Telecom/Datacom Equipment Sector

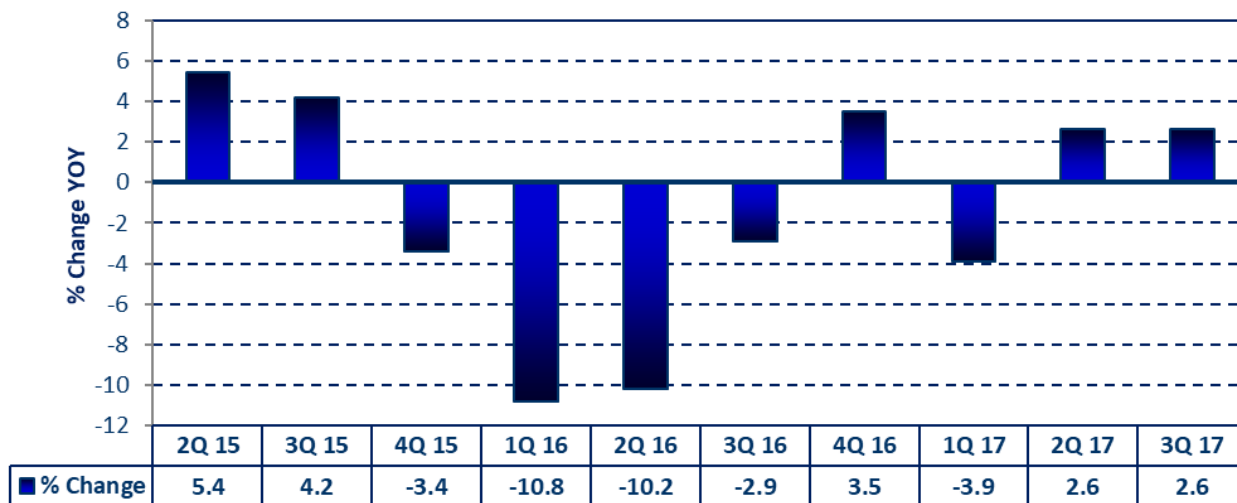
The telecom/datacom equipment sector recorded a sales decrease of 4.9% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 0.4% year-over-year. Net income as a percent of sales totaled 12.4% for the period, down 11.5% year-over-year.

Telecom/Datacom Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Cisco Systems	-1.6%	\$36,990.0	\$36,209.0	-2.1%
Harris Corp	5.2%	\$5,004.0	\$4,444.0	-11.2%
Motorola Solutions Inc	11.1%	\$4,155.0	\$4,423.0	6.5%
Nokia	22.7%	\$18,938.6	\$18,363.3	-3.0%
Apple (iPhone)	-10.3%	\$85,065.0	\$86,941.0	2.2%
Samsung	-5.8%	\$65,805.4	\$70,986.8	7.9%
Qualcomm	-0.7%	\$17,779.0	\$16,292.0	-8.4%
Ericsson	-11.3%	\$18,740.6	\$16,725.3	-10.8%
Juniper Networks	3.4%	\$3,603.9	\$3,788.0	5.1%
HTC Corp	-36.7%	\$1,728.4	\$1,517.9	-12.2%
ZTE Corporation	7.7%	\$12,079.5	\$11,216.2	-7.1%
Total Sales	-4.9%	\$269,889.3	\$270,906.5	0.4%
Total Net Income		\$37,851.0	\$33,508.2	-11.5%

\$ Millions

Telecom/Datacom Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 2.4%. Year-over-year, sales increased 2.6% in the third quarter.

Automotive Equipment Sector

The automotive equipment sector recorded a sales increase of 3.1% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 3.1% year-over-year. Net income as a percent of sales totaled 5.3% for the period, up 3.4% year-over-year.

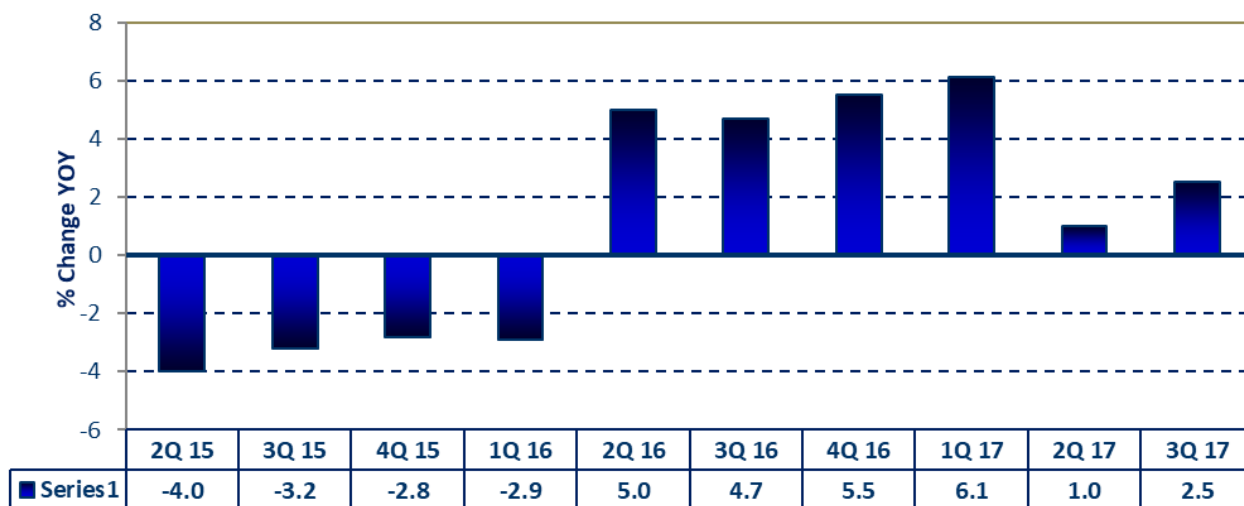
Automotive Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Borg Warner Auto	13.1%	\$6,811.8	\$7,211.7	5.9%
Daimler	2.9%	\$72,950.2	\$77,648.3	6.4%
Ford Motor Co.	1.5%	\$113,146.0	\$115,450.0	2.0%
General Motors	9.2%	\$122,462.0	\$107,873.0	-11.9%
Lear Corp.	1.9%	\$13,917.9	\$15,103.7	8.5%
Honda	7.9%	\$95,322.8	\$100,559.8	5.5%
Toyota	5.7%	\$184,090.9	\$193,324.6	5.0%
Volkswagon	-1.9%	\$178,536.1	\$190,028.0	6.4%
Kia Motors	2.8%	\$34,227.6	\$35,409.5	3.5%
Nissan	4.3%	\$78,455.4	\$81,302.3	3.6%
Fiat	-3.3%	\$90,732.5	\$91,236.9	0.6%
BMW AG	1.9%	\$77,302.9	\$80,839.3	4.6%
Tesla Auto	73.0%	\$4,715.0	\$8,471.3	79.7%
Continental AG	-1.4%	\$33,507.7	\$36,400.6	8.6%
Total Sales	3.1%	\$1,106,179.0	\$1,140,859.0	3.1%
Total Net Income		\$58,692.4	\$60,663.5	3.4%

\$ Millions

Tesla's sales increase resulted from the sales of their new models.

Automotive Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales decreased 0.7%. Year-over-year, sales increased 2.5% in the third quarter.

Industrial Equipment Sector

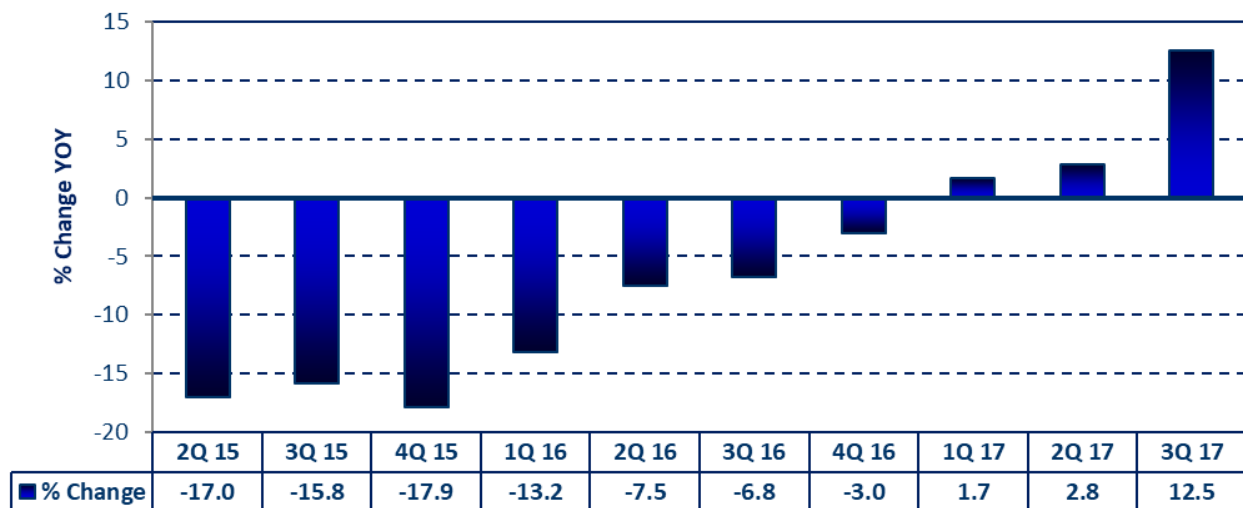
The industrial equipment sector recorded a sales decrease of 7.7% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 5.6% year-over-year. Net income as a percent of sales totaled 5.9% for the period, up 14.4% over prior year.

Industrial Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Baker Hughes	-37.5%	\$9,753.0	\$11,496.0	17.9%
Caterpillar	-18.0%	\$28,963.0	\$32,566.0	12.4%
Deere & Co.	-4.5%	\$21,117.4	\$24,017.0	13.7%
FMC Corp.	-5.7%	\$2,224.4	\$1,899.0	-14.6%
General Electric	-4.9%	\$87,186.0	\$88,067.0	1.0%
Ingersoll Rand	1.6%	\$10,150.1	\$10,579.6	4.2%
Parker Hannifin	-5.7%	\$8,528.7	\$9,980.1	17.0%
Schlumberger	-21.6%	\$20,723.0	\$22,290.0	7.6%
ABB	-4.6%	\$24,828.6	\$24,927.0	0.4%
Siemens	0.0%	\$67,766.2	\$71,259.0	5.2%
Danaher	3.1%	\$2,700.0	\$2,890.9	7.1%
Total Sales	-7.7%	\$283,940.3	\$299,971.6	5.6%
Total Net Income		\$15,558.7	\$17,797.6	14.4%

\$ Millions

Industrial Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 8.5%. Year-over-year, sales increased 12.5% in the third quarter.

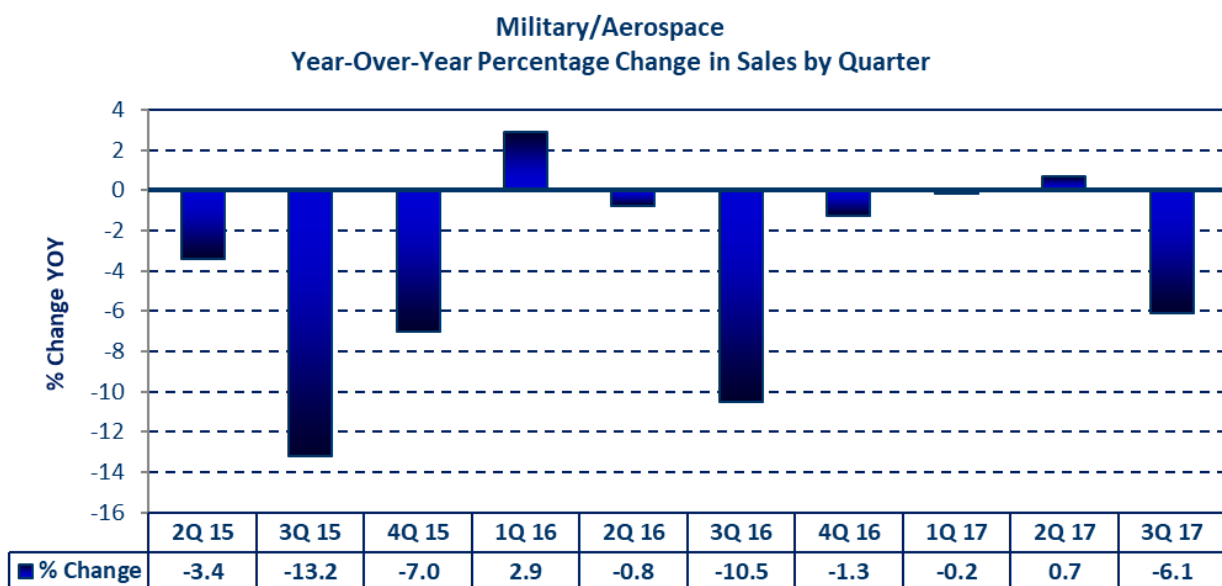
Military/Aerospace Equipment Sector

The military/aerospace equipment sector recorded a sales decrease of 0.5% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 2.2% year-over-year. Net income as a percent of sales totaled 9.3% for the period, up 2.3% year-over-year.

Mil/Aero Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Boeing (Mil/Aero)	-2.9%	\$17,281.0	\$18,840.0	9.0%
EADS (Mil/Aero)	-5.5%	\$13,385.3	\$11,883.0	-11.2%
General Dynamics	-1.2%	\$22,872.0	\$22,696.0	-0.8%
Honeywell	1.9%	\$29,317.0	\$29,691.0	1.3%
Lockheed Martin	5.3%	\$34,833.0	\$35,911.0	3.1%
Northrop Grumman	5.5%	\$18,111.0	\$19,169.0	5.8%
Raytheon	3.5%	\$17,831.0	\$18,565.0	4.1%
Textron	2.7%	\$9,963.0	\$10,181.0	2.2%
United Technologies	-2.8%	\$42,662.0	\$44,138.0	3.5%
L-3 Communications	-6.1%	\$7,522.0	\$8,047.0	7.0%
Finmeccanica	-17.0%	\$8,964.4	\$8,474.2	-5.5%
Total Sales	-0.5%	\$222,741.7	\$227,595.2	2.2%
Total Net Income		\$20,588.6	\$21,058.4	2.3%

\$ Millions



Quarter-to-quarter (3Q17 versus 2Q17) sales decreased 11.5%. Year-over-year, sales decreased 6.1% in the third quarter.

Computer Equipment Sector

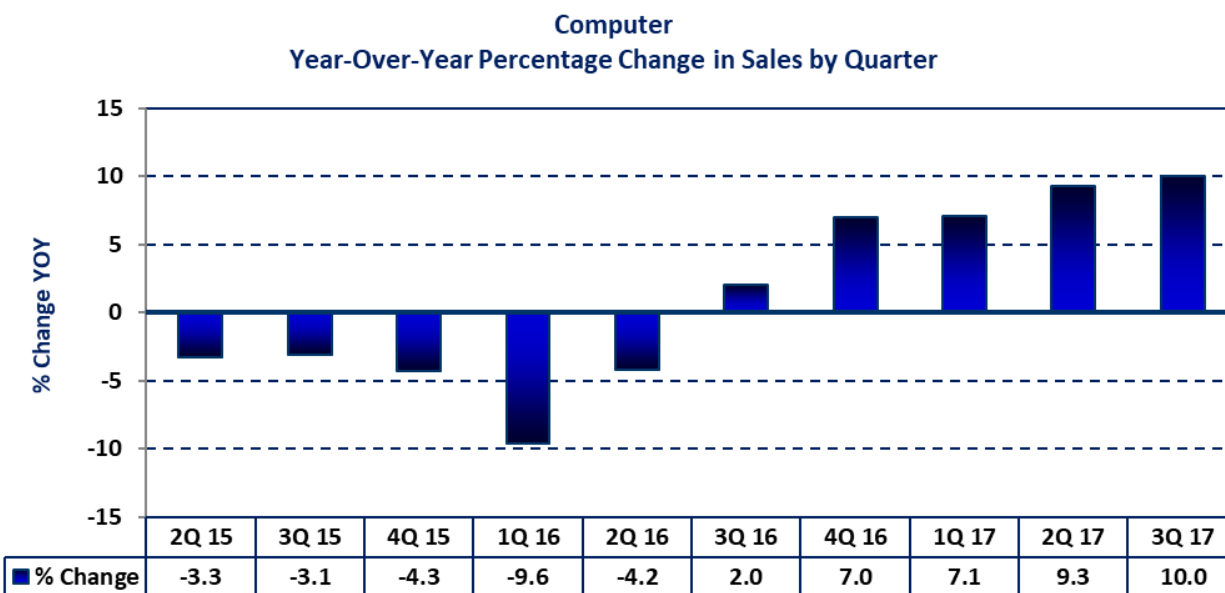
The computer equipment sector recorded a sales decrease of 1.0% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 8.8% year-over-year. Net income as a percent of sales totaled 5.0% for the period, down 18.4% year-over-year.

Computer Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Apple (Computers)	-9.0%	\$29,629.0	\$32,295.0	9.0%
Dell Technologies	20.9%	\$41,874.0	\$56,726.0	35.5%
HP Inc	-5.2%	\$35,992.0	\$39,643.0	10.1%
Hewlett Packard Enterprise	4.0%	\$23,838.0	\$23,314.0	-2.2%
IBM	-2.2%	\$58,148.0	\$56,597.0	-2.7%
NCR	2.7%	\$4,741.0	\$4,734.0	-0.1%
ASUSTeK	-3.1%	\$9,599.5	\$10,644.4	10.9%
Unisys	-6.4%	\$2,099.0	\$1,997.0	-4.9%
Lenovo	-9.6%	\$30,417.3	\$31,353.1	3.1%
Cray	-13.5%	\$280.5	\$226.0	-19.4%
Advantech	10.3%	\$961.8	\$1,067.7	11.0%
Total Sales	-1.0%	\$237,580.1	\$258,597.3	8.8%
Total Net Income		\$15,818.6	\$12,910.8	-18.4%

\$ Millions

Dell's sales increase was due to the acquisition of EMC. Cray's sales decline is due to adverse market conditions for super computers.



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 5.3%. Year-over-year, sales increased 10.0% in the third quarter.

Peripheral Equipment Sector

The peripheral equipment sector recorded a sales increase of 1.6% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 12.0% year-over-year. Net income as a percent of sales totaled 6.6% for the period, up 267.7% year-over-year.

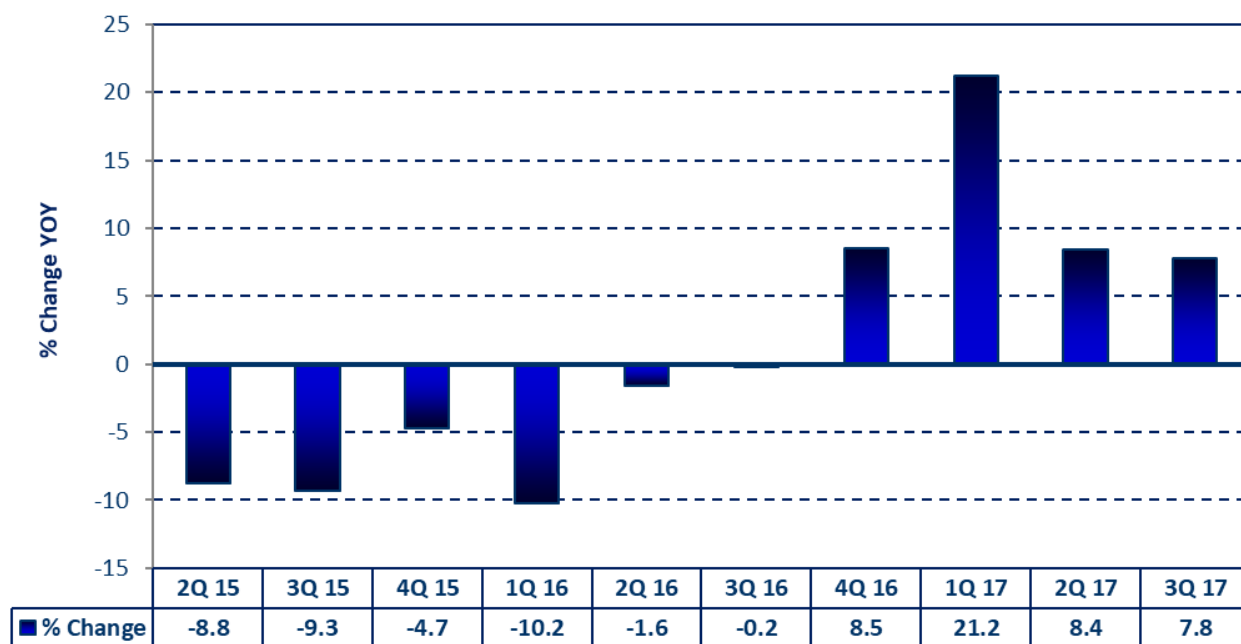
Peripheral Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Quantum	0.2%	\$371.1	\$344.7	-7.1%
Western Digital	18.6%	\$11,031.0	\$14,672.0	33.0%
Xerox	-6.1%	\$8,037.0	\$7,518.0	-6.5%
Seagate	-10.1%	\$8,046.0	\$7,712.0	-4.2%
Logitech	2.1%	\$1,475.0	\$1,648.6	11.8%
Canon	1.7%	\$23,118.3	\$26,453.1	14.4%
Total Sales	1.6%	\$52,078.4	\$58,348.4	12.0%
Total Net Income		\$1,049.2	\$3,857.8	267.7%

\$ Millions

Net income growth for this market sector is partially due to Western Digital writing off an extraordinary charge of \$503 million in 1Q16 and their sales growth is due to the acquisition of SanDisk.

Peripheral Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 3.1%. Year-over-year, sales increased 7.8% in the third quarter.

Consumer Equipment Sector

The consumer equipment sector recorded a sales increase of 1.9% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 2.5% year-over-year. Net income as a percent of sales totaled 4.3% for the period, up 44.4% year-over-year.

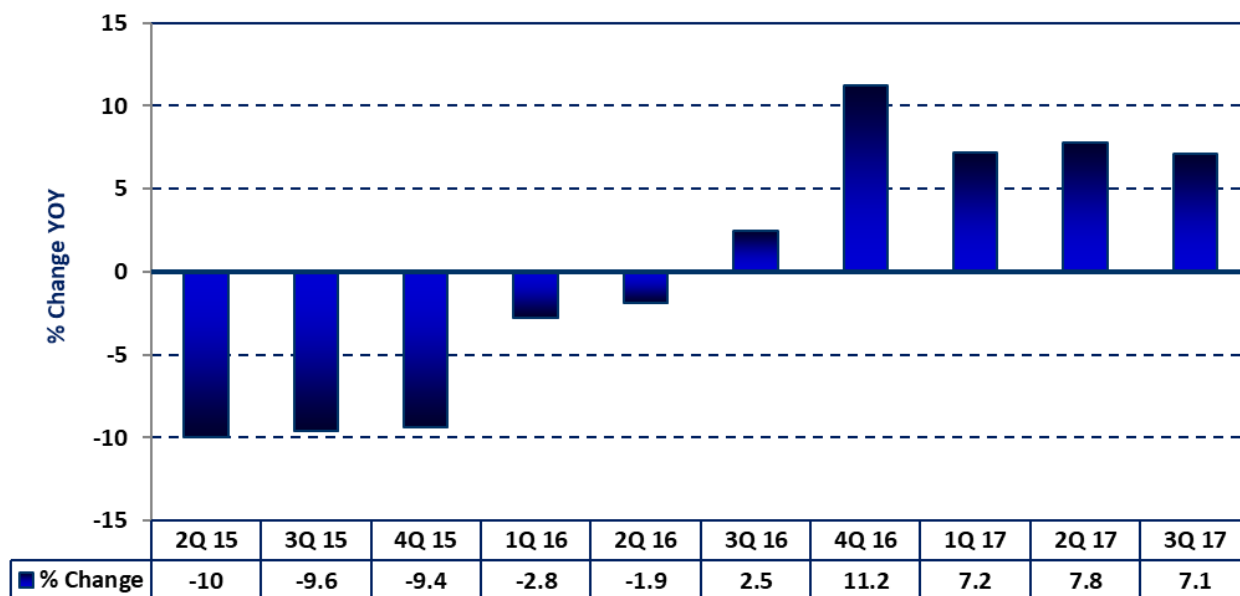
Consumer Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Kodak	-12.6%	\$1,154.0	\$1,117.0	-3.2%
Panasonic	4.8%	\$49,368.5	\$51,062.0	3.4%
Whirlpool Corp	-0.8%	\$15,062.0	\$15,551.0	3.2%
Sony	12.8%	\$47,058.5	\$52,059.7	10.6%
Philips	0.8%	\$19,281.4	\$15,687.8	-18.6%
Samsung	-3.1%	\$28,294.3	\$20,398.1	-27.9%
Nintendo	-19.0%	\$1,980.6	\$4,935.2	149.2%
Apple (iPod)	-7.9%	\$6,781.0	\$8,839.0	30.3%
LG	-4.7%	\$34,351.5	\$38,807.7	13.0%
Total Sales	1.9%	\$203,331.8	\$208,457.4	2.5%
Total Net Income		\$6,243.0	\$9,015.7	44.4%

\$ Millions

Nintendo's sales growth was due to the new product release of the Nintendo Switch. Net income growth was from the improving financial performance of LG, Philips, Apple and Panasonic as economic growth has improved worldwide.

Consumer Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 4.5%. Year-over-year, sales increased 7.1% in the third quarter.

Transportation Equipment Sector

The transportation equipment sector recorded a sales decrease of 5.2% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were down 3.6% year-over-year. Net income as a percent of sales totaled 6.3% for the period, up 49.1% year-over-year.

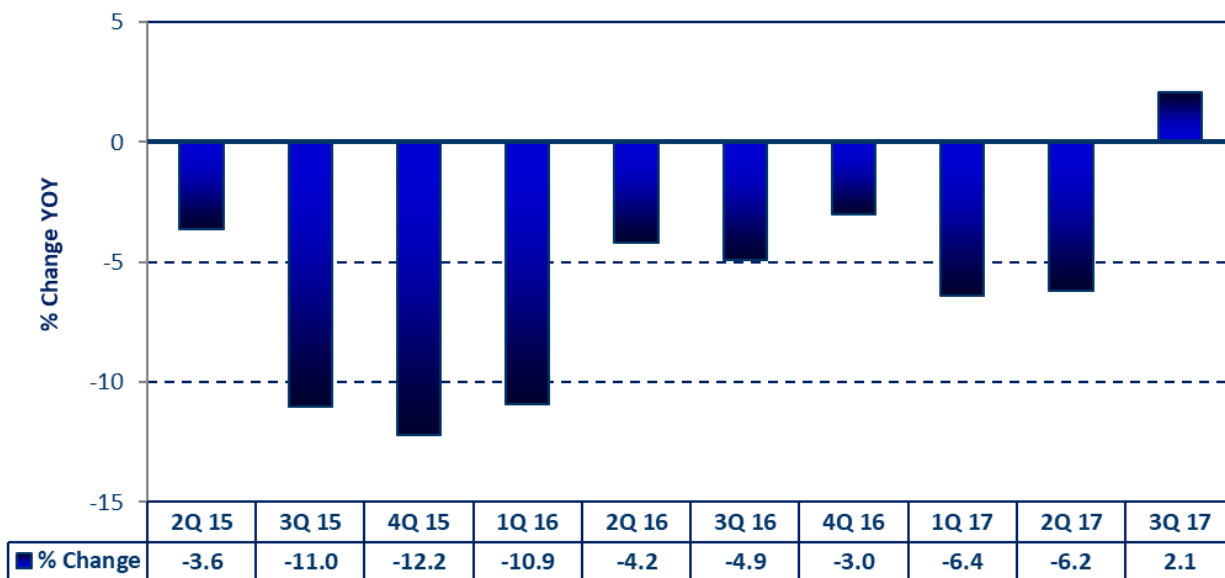
Transportation Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Boeing (Commercial)	-1.5%	\$47,055.0	\$45,000.0	-4.4%
EADS (Commercial)	8.8%	\$34,771.4	\$35,871.7	3.2%
Bombardier	-10.1%	\$11,959.0	\$11,498.2	-3.9%
Cummins Engine	-8.3%	\$13,022.0	\$14,952.0	14.8%
Harley-Davidson	0.0%	\$4,886.0	\$4,417.9	-9.6%
PACCAR	-10.9%	\$12,950.0	\$13,986.9	8.0%
Trinity Industries	-28.2%	\$3,484.9	\$2,757.3	-20.9%
Wabash Nat'l. Corp.	-9.0%	\$1,383.4	\$1,223.7	-11.5%
Westinghouse Air Brake	-11.4%	\$2,171.2	\$2,806.2	29.2%
Agco Corp.	-0.7%	\$5,317.3	\$5,778.6	8.7%
Volvo	-6.3%	\$26,322.1	\$28,172.8	7.0%
Hyundai Heavy Ind.	-14.3%	\$24,875.2	\$11,556.3	-53.5%
Daimler (Truck/Bus)	-8.6%	\$41,287.9	\$42,957.1	4.0%
Isuzu	12.4%	\$13,073.0	\$13,871.5	6.1%
CRRC	-11.5%	\$22,053.3	\$20,349.4	-7.7%
Total Sales	-5.2%	\$264,611.6	\$255,199.6	-3.6%
Total Net Income		\$10,708.8	\$15,962.2	49.1%

\$ Millions

Trinity's sales decline was a result of shipping fewer rail cars. Hyundai's sales decline due to the spin-off of their oil business.

Transportation Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales decreased 2.5%. Year-over-year, sales increased 2.1% in the third quarter.

Medical Equipment Sector

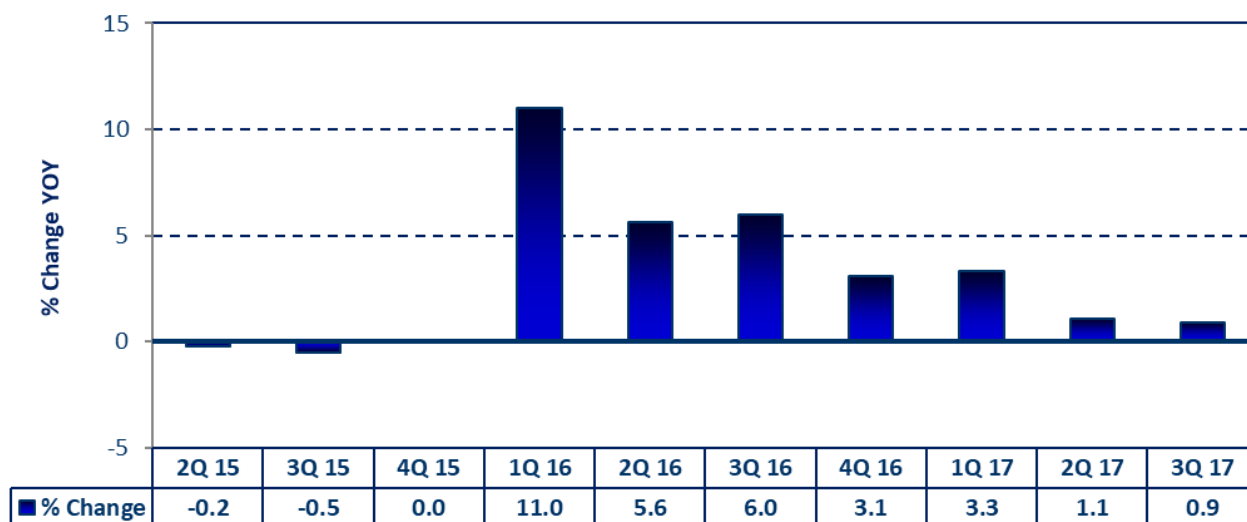
The medical equipment sector recorded a sales increase of 6.3% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 1.7% year-over-year. Net income as a percent of sales totaled 12.1% for the period, up 8.0% year-over-year.

Medical Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Becton Dickinson	10.7%	\$9,496.0	\$9,170.0	-3.4%
Boston Scientific	12.2%	\$6,195.0	\$6,639.0	7.2%
Medtronic	2.8%	\$22,078.0	\$22,356.0	1.3%
Owens & Minor	-0.5%	\$7,355.8	\$6,938.6	-5.7%
Quest Diagnostics	0.3%	\$5,654.0	\$5,773.0	2.1%
Baxter	2.0%	\$7,518.0	\$7,787.0	3.6%
Danaher	20.3%	\$9,581.2	\$10,353.1	8.1%
Total Sales	6.3%	\$67,878.0	\$69,016.7	1.7%
Total Net Income		\$7,725.2	\$8,342.1	8.0%

\$ Millions

Medical Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales decreased 0.4%. Year-over-year, sales increased 0.9% in the third quarter.

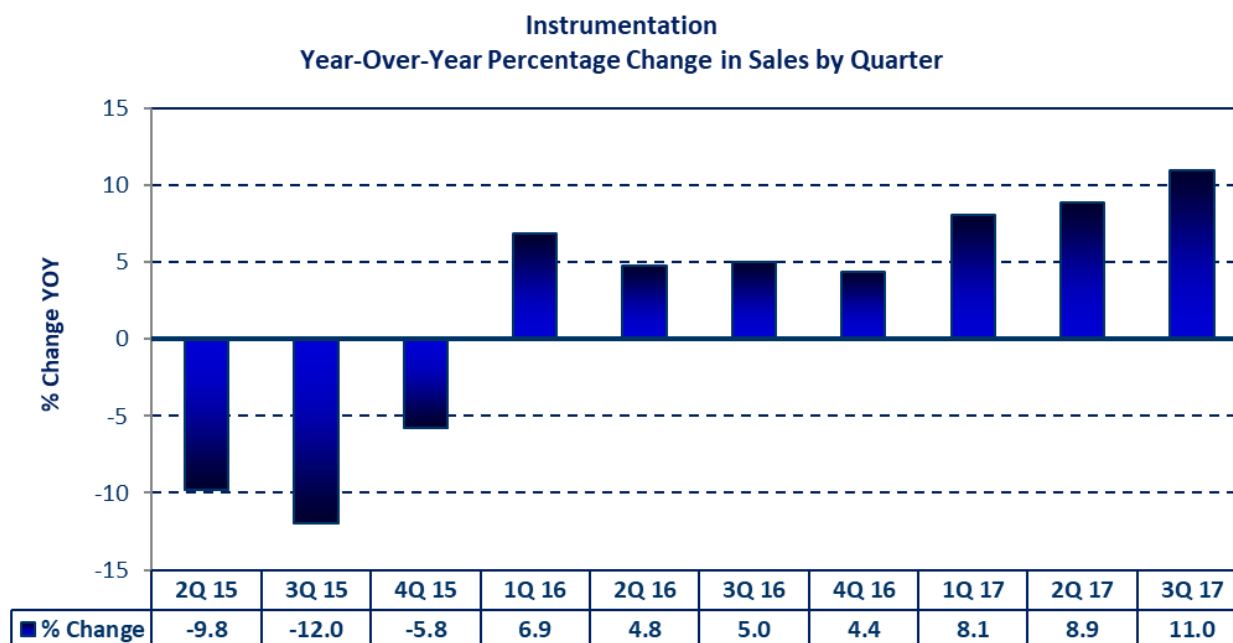
Instrumentation Equipment Sector

The instrumentation equipment sector recorded a sales increase of 5.2% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 9.3% year-over-year. Net income as a percent of sales totaled 13.1% for the period, up 38.5% year-over-year.

Instrumentation Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
ThermoFisher Scient.	7.7%	\$13,320.8	\$14,871.0	11.6%
Mettler Toledo	4.7%	\$1,798.6	\$1,947.0	8.3%
PerkinElmer	-6.5%	\$1,659.4	\$1,615.4	-2.7%
Teradyne	6.9%	\$1,373.3	\$1,657.2	20.7%
Agilent Technologies	5.0%	\$3,174.0	\$3,405.0	7.3%
Fortive	2.6%	\$4,597.0	\$4,849.2	5.5%
Total Sales	5.2%	\$25,923.0	\$28,344.8	9.3%
Total Net Income		\$2,677.7	\$3,708.8	38.5%

\$ Millions



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 1.2%. Year-over-year, sales increased 11.0% in the third quarter.

Semiconductor Equipment Sector

The semiconductor equipment sector recorded a sales increase of 4.1% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 27.8% year-over-year. Net income as a percent of sales totaled 29.8% for the period, up 121.4% year-over-year.

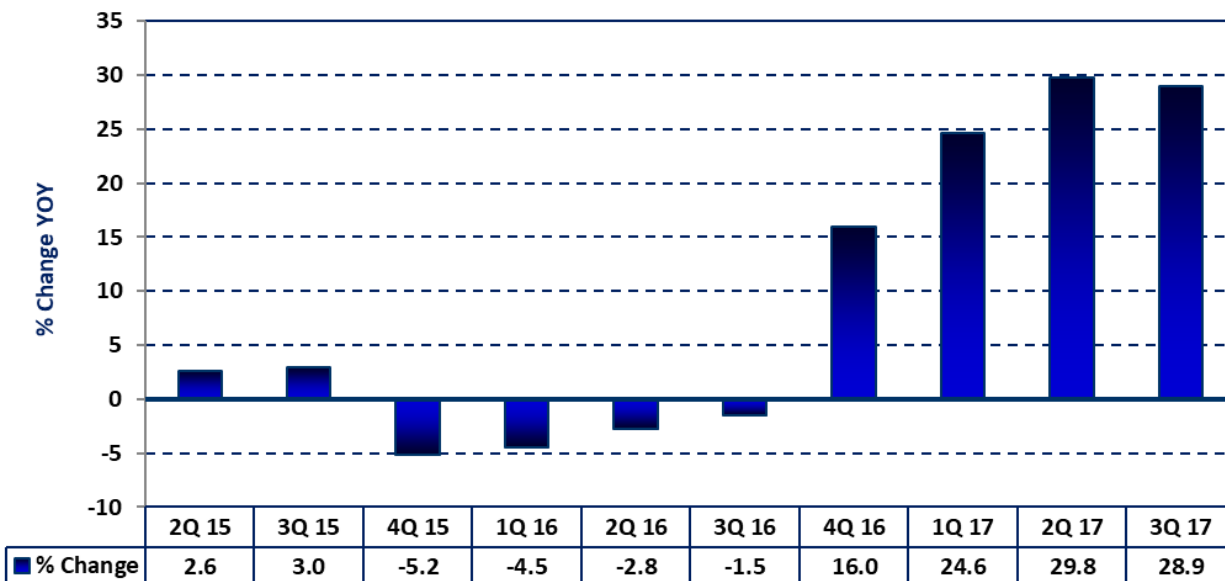
Semiconductor Equipment Sector - Sales and Net Income

Company	2015/2016 %Change	3 Quarters 2016	3 Quarters 2017	Percent Change
AMD	7.0%	\$3,166.0	\$3,849.0	21.6%
Analog Devices	6.0%	\$2,652.4	\$4,123.0	55.4%
Intel	7.3%	\$43,013.0	\$45,708.0	6.3%
Micron Tech.	-13.0%	\$9,049.0	\$17,017.0	88.1%
Texas Instruments	2.8%	\$9,956.0	\$11,211.0	12.6%
Xilinx	4.6%	\$1,725.3	\$1,844.4	6.9%
Taiwan Semi	11.7%	\$21,174.1	\$22,893.9	8.1%
Infineon Tech.	2.4%	\$5,487.8	\$6,031.9	9.9%
Microchip Tech	41.9%	\$2,228.4	\$2,886.8	29.5%
Samsung	5.2%	\$31,277.2	\$46,451.5	48.5%
ON Semi	11.8%	\$2,645.9	\$4,165.6	57.4%
Hynix	-10.7%	\$11,613.2	\$18,426.3	58.7%
Renesas	2.0%	\$4,434.5	\$5,108.2	15.2%
Total Sales	4.1%	\$148,422.8	\$189,716.5	27.8%
Total Net Income		\$25,503.1	\$56,462.6	121.4%

\$ Millions

The strong sales growth in semiconductor is a result of an improving worldwide economy and the industry's recovery from a down year.

Semiconductor Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 13.5%. Year-over-year, sales increased 28.9% in the third quarter.

Contract Electronic Manufacturers (CEM) Sector

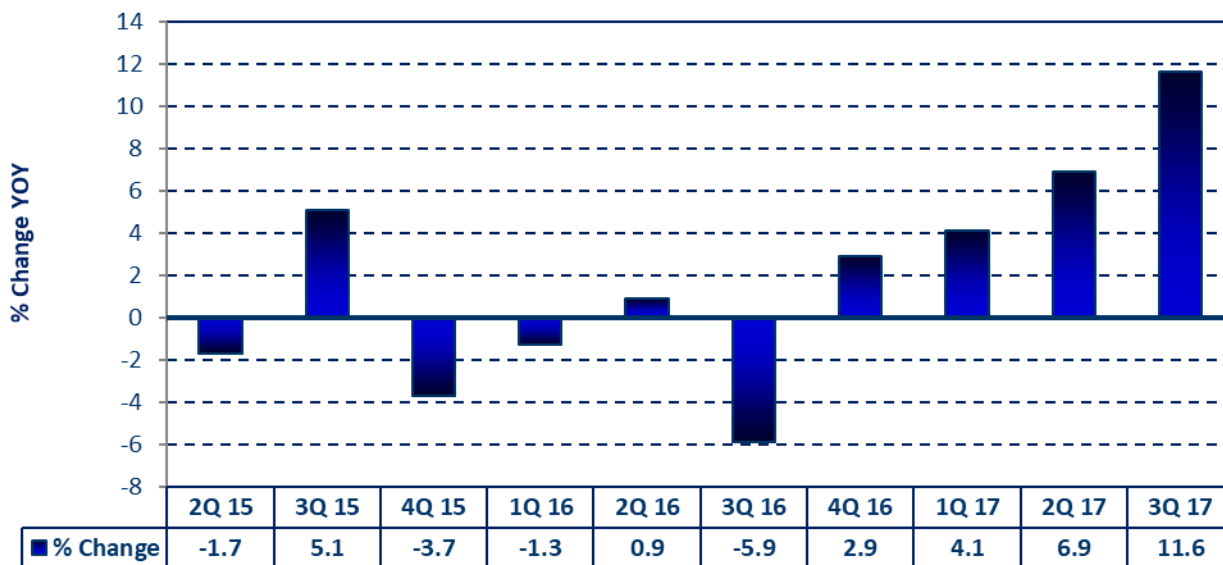
The CEM sector recorded a sales decline of 0.9% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 7.6% year-over-year. Net income as a percent of sales totaled 2.0% for the period, up 71.2% year-over-year.

CEM Equipment Sector - Sales and Net Income

Company	2015/2016 %Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Benchmark Elec.	-9.1%	\$1,702.9	\$1,787.0	4.9%
Celestica	5.7%	\$4,393.4	\$4,554.7	3.7%
Flex	-3.4%	\$17,658.7	\$18,140.6	2.7%
Jabil Circuit, Inc.	-2.0%	\$13,172.5	\$15,098.6	14.6%
Plexus Corp.	-1.2%	\$1,939.3	\$1,893.0	-2.4%
Sanmina	6.9%	\$4,946.2	\$5,148.3	4.1%
Venture Corp	7.7%	\$1,473.8	\$2,105.6	42.9%
Total Sales	-0.9%	\$45,286.8	\$48,727.7	7.6%
Total Net Income		\$572.7	\$980.4	71.2%

\$ Millions

CEM Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 5.7%. Year-over-year, sales increased 11.6% in the third quarter.

Electronic Distribution Sector

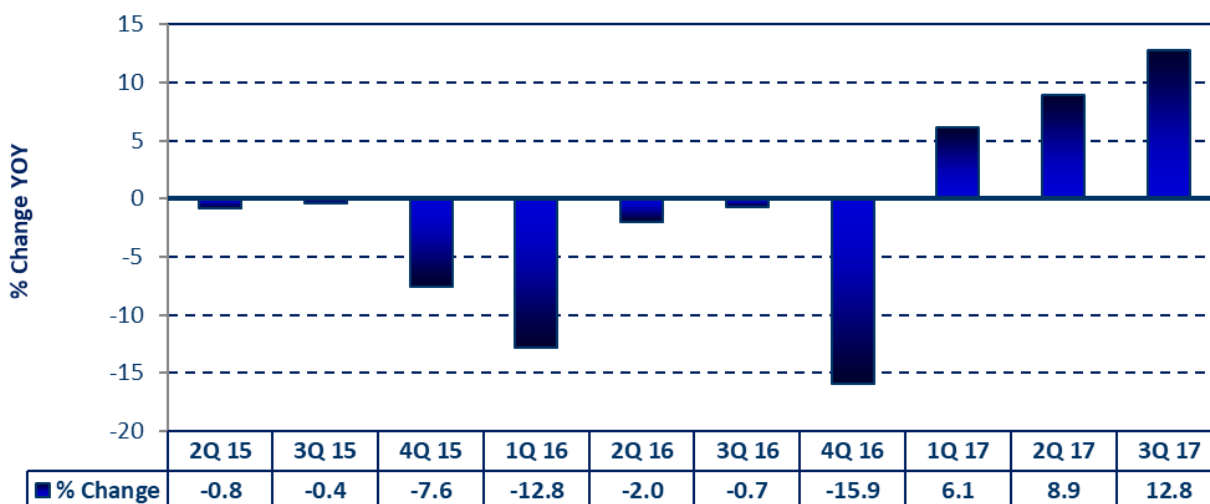
The electronic distribution sector recorded a sales decrease of 8.1% in 2016. Sales for the first three quarters of 2017 versus the first three quarters of 2016 were up 9.4% year-over-year. Net income as a percent of sales totaled 1.6% for the period, down 0.7% year-over-year.

Electronic Distribution Equipment Sector - Sales and Net Income

Company	2015/2016 % Change	3 Quarters 2016	3 Quarters 2017	Percent Change
Arrow Electronics	2.3%	\$17,382.2	\$19,178.6	10.3%
Avnet	-24.9%	\$12,224.0	\$13,708.9	12.1%
WPG Holdings	2.8%	\$12,267.7	\$12,902.2	5.2%
Total Sales	-8.1%	\$41,873.9	\$45,789.7	9.4%
Total Net Income		\$760.7	\$755.3	-0.7%

\$ Millions

Electronic Distribution Year-Over-Year Percentage Change in Sales by Quarter



Quarter-to-quarter (3Q17 versus 2Q17) sales increased 7.5%. Year-over-year, sales increased 12.8% in the third quarter.