



## Manufacturing Update

### May 2019

The Mufson Howe Hunter Manufacturing Update is designed to provide business leaders, investors, and industry professionals an update on current market trends and important developments within the manufacturing sector of the economy. This monthly report contains information on select companies in various subsectors within manufacturing emphasizing financial performance, stock performance, and recent news.

#### Macro-Economic Trends

	Mar-19	Apr-19	Trend
PMI	55.3	52.8	Negative
Total Unemployment	3.8	3.6	Positive
CPI Monthly Change	0.4	0.3	Positive
PPI Monthly Change	0.6	0.2	Positive
Industrial Production	109.7	109.2	Negative
Capacity Utilization	78.5	77.9	Negative
Manufacturing Production	105.2	104.7	Negative
Manufacturing Utilization	76.2	75.7	Negative

#### Sector Index Performance

	3-Year	1-Year	3-Month
Aerospace & Defense	65.6%	6.5%	9.4%
Components & Materials	8.7%	-14.9%	-2.2%
Industrial Equipment	68.9%	7.8%	12.5%
Engineering & Industrial Services	14.5%	4.4%	8.0%
NASDAQ	69.5%	14.6%	11.2%
S&P	42.6%	11.3%	8.9%

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## MHH Sectors/Sub-sectors

### Aerospace & Defense

- Aerospace
- Defense

### Components & Materials

- Electronic Components
- Specialty Materials
- Vehicle Parts and Supplies

### Industrial Equipment

- Construction Equipment
- Electrical Equipment
- Semiconductor Capital Equipment
- Measurement, Control and Testing Devices

### Engineering & Industrial Services

- Technical Services
- Industrial Distribution
- Industrial Recycling

**Note:** Please refer to Page 19 for the Universe components.

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MHH's coverage of the Manufacturing Sector spans companies in the following four sectors for each of which our index has been calculated as follows:

**The MMH Aerospace & Defense Index** is currently comprised of Airbus Group NV, BAE Systems plc, The Boeing Company, Embraer SA, General Dynamics Corp., Honeywell International Inc., Huntington Ingalls Industries, L-3 Communications Holdings Inc., Lockheed Martin Corp., Northrop Grumman Corp., Raytheon Company, Rolls Royce Holdings plc, Textron Inc., Thales SA, and United Technologies Corp.

**The MMH Components & Materials Index** is currently comprised of 3M Company, Akzo Nobel NV, Alps Electric Ltd., Amphenol Corp., Aptiv plc, Autoliv Inc., AVX Corp., BASF SE, Belden Inc., Bosch Ltd., Celanese Corp., Continental AG, Corning Inc., Denso Corp., Delphi Automotive plc, DowDuPont Inc., Encore Wire Corp., Evonik Industries, Ferro Corp., Johnson Controls Inc., Lear Corp., OMRON Corp., PPG Industries Inc., Solvay SA, Stanley Electric Co. Ltd., TE Connectivity Ltd., and Vishay Intertechnology.

**The MMH Industrial Equipment Index** is currently comprised of Ametek Inc., Applied Materials Inc., ASML Holding NV, Axcelis Technologies Inc., Brooks Automation Inc., Caterpillar Inc., Cohu Inc., Cummins Inc., Danaher Corp., Deere & Company, Eaton Corp. plc, Emerson Electric Co., Entegris Inc., FARO Technologies Inc., FormFactor Inc., Hubbell Inc., Hyundai Heavy Industries Co. Ltd, KLA-Tencor Corp., LamResearch Corp., MKS Instruments Inc., Nanometrics Inc., Navistar International Corp., Nova Measuring Instruments Ltd., Oshkosh Corp., Powell Industries, Inc., Regal Beloit Corp., Rockwell Automation Inc., Rudolph Technologies Inc., Schneider Electric SE, Teradyne Inc., Terex Corp., Tokyo Electron Ltd., Veeco Instruments Inc., and Xcerra Corp.

**The MMH Engineering & Industrial Services Index** is currently comprised of AECOM Technology Corp., Aurubis AG, Balfour Beatty plc, Cardno Ltd., Clean Harbors Inc., Commercial Metals Company, Dowa Holdings Co. Ltd., Fastenal Company, Fluor Corp., HD Supply Holdings Inc., Jacobs Engineering Group Inc., John Wood Group plc, KBR Inc., Lawson Products Inc., MRC Global Inc., MSC Industrial Direct Co. Inc., NV5 Global Inc., Primoris Services Corp., Sims Metal Management Ltd., Tetra Tech Inc., Transcat Inc., Veolia Environnement SA, WW Grainger Inc., and WESCO International Inc.

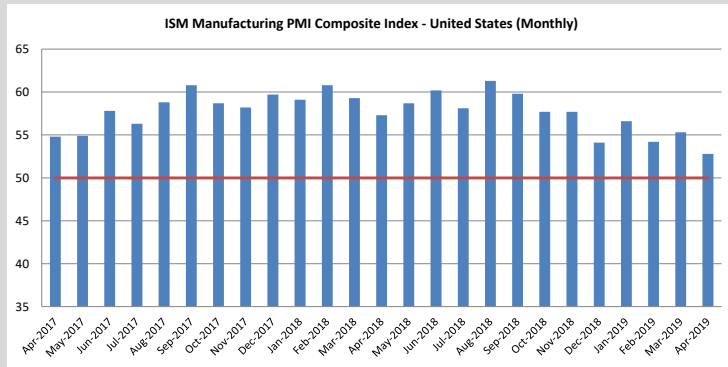
The companies that comprise each Index can change periodically as a result of a variety of reasons, including mergers, acquisitions, initial public offerings, and other transactions; therefore, comparisons to historical time periods and historical performance for each Index may not entirely correspond and correlate to the Index's current performance. In addition, historical performance is not a guarantee or prediction of future results.

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# Major U.S. Economic Indicators

## PMI (Purchase Manager Index)

A PMI reading above 50 percent (red line below) indicates that the manufacturing economy is generally expanding and below 50 percent means it is contracting.



Source: Institute for Supply Management

### Commentary

Economic activity in the manufacturing sector expanded in April as the economy grew for the 120<sup>th</sup> consecutive month. New Orders, Production, Employment, and Backlog grew. Supplier Deliveries, however, slowed and Prices were unchanged. The PMI fell in April but remains in expansionary territory.

## Unemployment Rate

Unemployment rate is traditionally defined as the percentage of the total labor force that is actively looking for gainful employment.



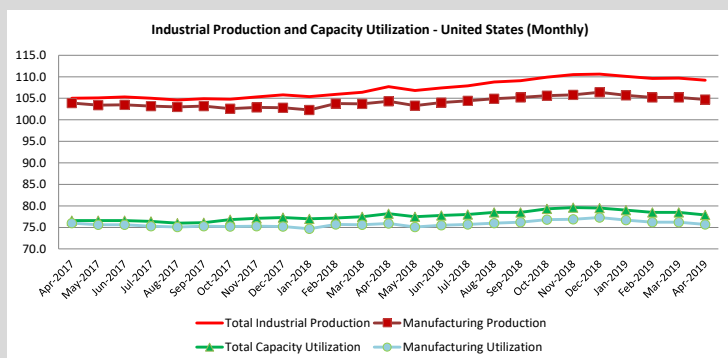
Source: United States Bureau of Labor

### Commentary

In April, the unemployment rate declined to 3.6% the lowest level since December 1969. Total nonfarm payroll employment increased by 263,000 with gains in business services, healthcare and construction. Manufacturing employment changed little in April, after increasing an average of 22,000 per mo. over the last 12 mos.

## Industrial Production and Capacity Utilization

The Production Index (in red below) measures real output and is expressed as a percentage of real output in a base year, currently 2007. The Capacity Index (in green below), which is an estimate of sustainable potential output, is also expressed as a percentage of real output in 2007.



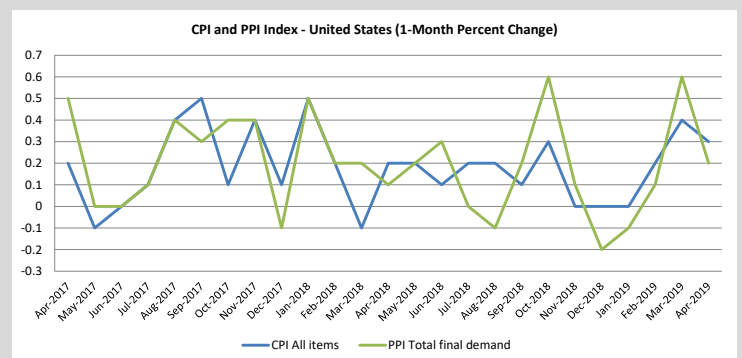
Source: United States Federal Reserve

### Commentary

Industrial production fell 0.5% in April. At 109.2% of its 2012 average, total industrial production was 0.9% higher in April than it was a year earlier. Both manufacturing production and capacity utilization for manufacturing fell 0.5%, weakened primarily by decreases in the output of both durables and nondurables.

## Producer Price Index (PPI) and Consumer Price Index (CPI)

The PPI measures the average change over time in prices received (price changes) by producers for domestically produced goods, services and construction. The CPI measures changes in the prices paid by urban consumers for a representative basket of goods and services.



Source: United States Bureau of Labor

### Commentary

CPI for all items increased 0.3% in April. The gasoline index continued to increase, rising 5.7% and accounting for two-thirds of the April CPI increase. PPI for final demand rose 0.2% in April. The rise in the index can be traced to an increase of 0.3% in prices for final demand goods. Final demand services edged up 0.1%.

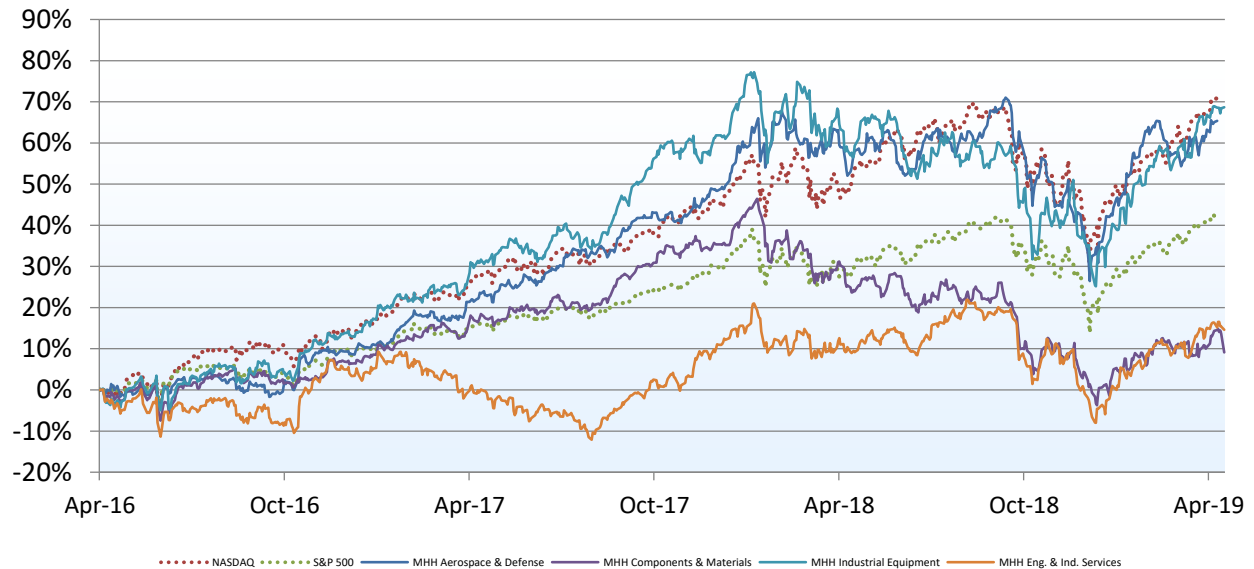
# Sector Index Performance

## Comparative Sector Index Performance (Last Three Years)

### Last Three Years

Daily from April 29, 2016 to April 30, 2019

Price as Percent of Base (April 29, 2016 = 0%)



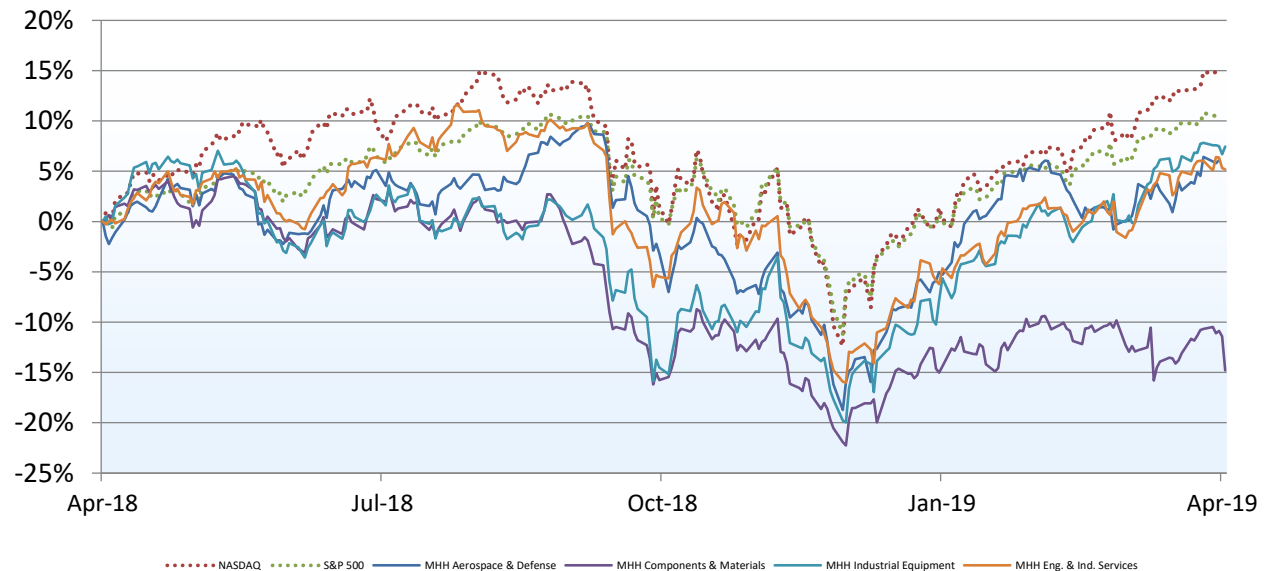
Source: CapitalIQ

## Comparative Sector Index Performance (Last Twelve Months)

### Last Twelve Months

Daily from April 30, 2018 to April 30, 2019

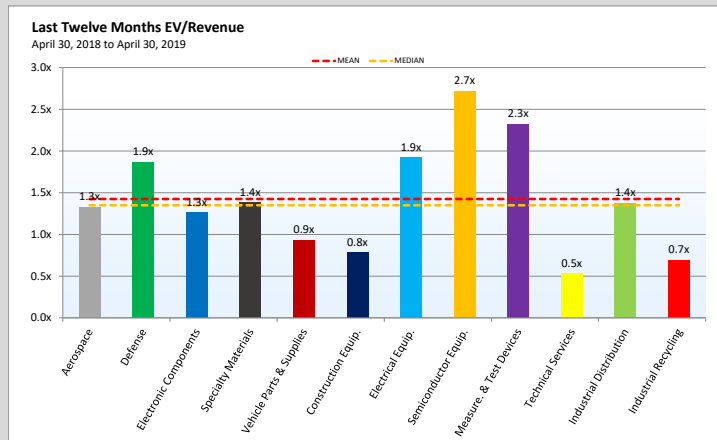
Price as Percent of Base (April 30, 2018 = 0%)



Source: CapitalIQ

# Subsector Trading Multiples & Margins

## Comparative Subsector LTM EV/Revenue

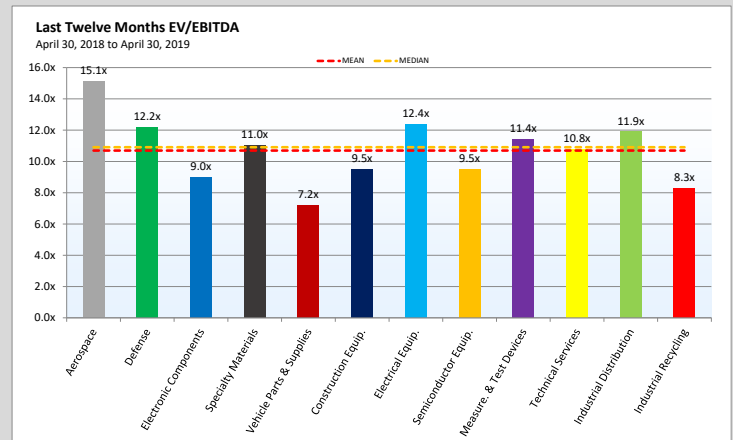


Source: CapitalIQ

### Commentary

During the last twelve months, our index subsectors had a mean EV/Revenue of 1.4x and a median of 1.3x. Of the subsectors, Semiconductor Capital Equipment had the high multiple at 2.7x and Technical Services had the low multiple at 0.5x.

## Comparative Subsector LTM EV/EBTIDA

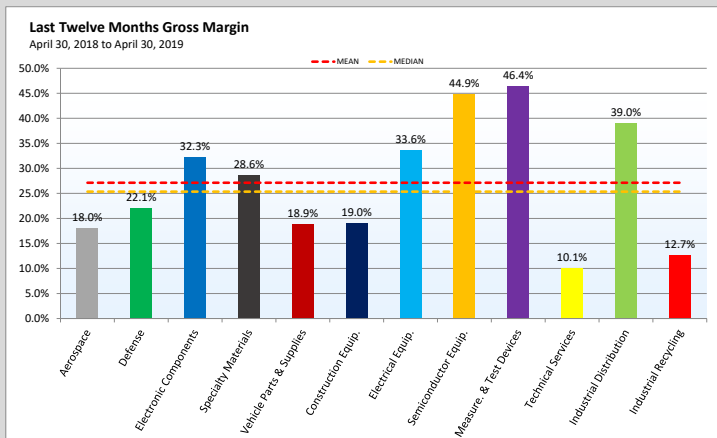


Source: CapitalIQ

### Commentary

During the last twelve months, our index subsectors had a mean EV/EBITDA of 10.7x and a median of 10.9x. Of the subsectors, Aerospace had the high multiple at 15.1x and Vehicle Parts & Supplies had the low multiple at 7.2x.

## Comparative Subsector LTM Gross Margin

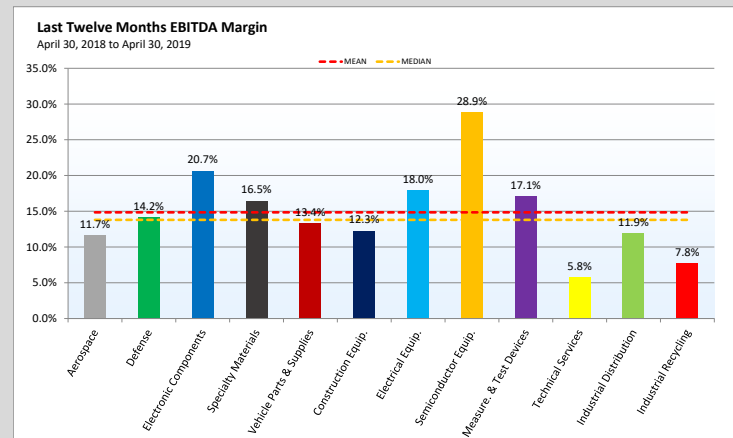


Source: CapitalIQ

### Commentary

During the last twelve months, our index subsectors had a mean Gross Margin of 27.1% and a median of 25.4%. Of the subsectors, Measurement, Control, and Testing Devices had the high margin at 46.4% and Technical Services had the low margin at 10.1%.

## Comparative Subsector LTM EBITDA Margin

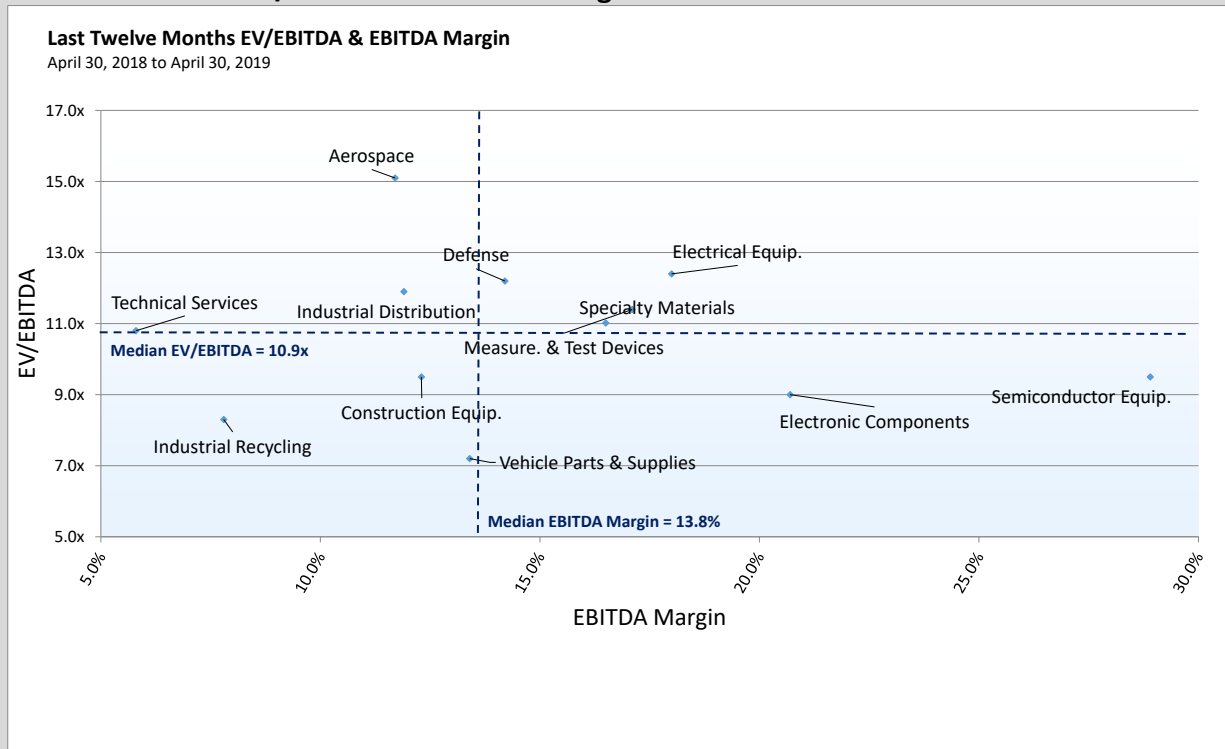


Source: CapitalIQ

### Commentary

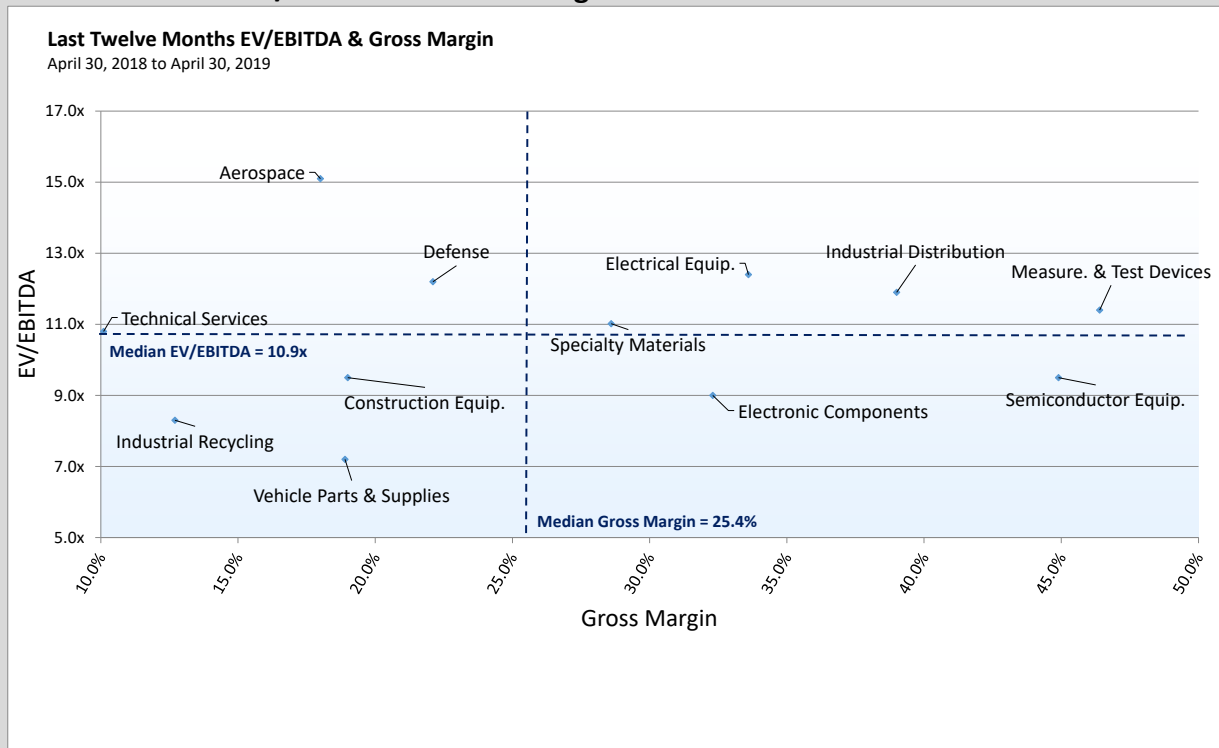
During the last twelve months, our index subsectors had a mean EBITDA Margin of 14.9% and a median of 13.8%. Of the subsectors, Semiconductor Capital Equipment had the high margin at 28.9% and Technical Services had the low margin at 5.8%.

## Index Subsector LTM EV/EBITDA vs. EBITDA Margin



Source: CapitalIQ

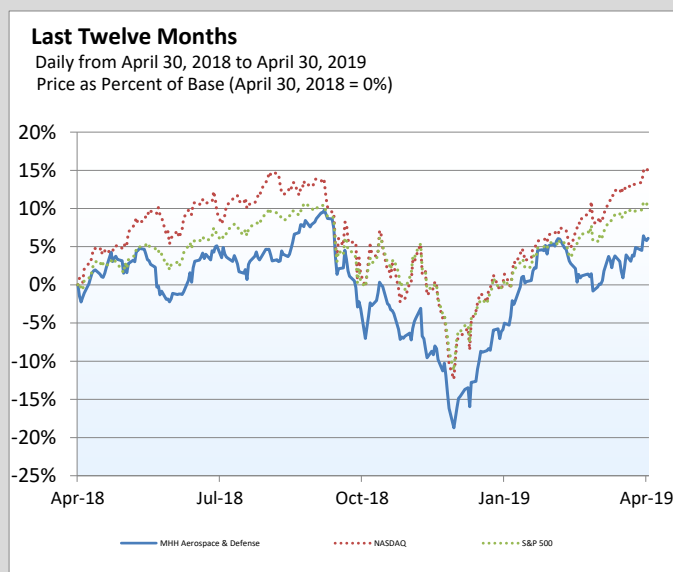
## Index Subsector LTM EV/EBITDA vs. Gross Margin



Source: CapitalIQ

## Comparative Index Performance

The Mufson Howe Hunter Aerospace & Defense Index<sup>(a)</sup> increased by 9.4% during the three months ending April 30, 2019.



### Price Performance

	3-Year	LTM	3 Month
Mufson Howe Hunter Aerospace & Defense Index <sup>(a)</sup>	65.6%	6.5%	9.4%
NASDAQ	69.5%	14.6%	11.2%
S&P 500	42.6%	11.3%	8.9%

(a) Market cap weighted index assuming no dividend reinvestment. Mufson Howe Hunter Aerospace & Defense Index is comprised of all companies listed on the following page.

*Please see Page 13 for sector news*

## Highlighted M&A Transaction – Aerospace and Defense

**\*NOTE:** No disclosed M&A activity among the companies represented in the Aerospace & Defense Index during the period.

## Selected Valuation Metrics

(\$ in USD millions, except per share data)

Company	Market & Capitalization			LTM Performance <sup>(3)</sup>			Valuation			Margins	
	Price <sup>(1)</sup>	Equity Value	Enterprise Value <sup>(2)</sup>	Revenue	EBITDA <sup>(4)</sup>	EPS	Enterprise Value/Revenue	EBITDA	Price/EPS	Gross Profit	EBITDA
<b>Aerospace</b>											
The Boeing Company (BA)	\$377.69	\$212,500	\$220,686	\$100,662	\$13,450	\$11.87	2.19x	16.4x	31.8x	19.2%	13.4%
United Technologies Corporation (UTX)	142.61	122,971	166,836	69,624	11,875	5.52	2.40x	14.0x	25.8x	25.0%	17.1%
Honeywell International Inc. (HON)	173.63	126,358	132,686	40,294	8,779	6.29	3.29x	15.1x	27.6x	31.2%	21.8%
Airbus SE (ENXTPA:AIR)	136.56	105,934	107,741	74,228	6,587	3.97	1.45x	16.4x	34.4x	14.0%	8.9%
Rolls-Royce Holdings plc (LSE:RR.)	11.91	22,578	22,230	20,047	-232	-0.37	1.11x	NM	NM	7.6%	NM
Thales S.A. (ENXTPA:HO)	119.27	25,345	22,072	18,153	2,153	4.72	1.22x	10.3x	25.3x	25.8%	11.9%
Textron Inc. (TXT)	53.00	12,336	15,880	13,785	1,577	2.55	1.15x	10.1x	20.8x	16.8%	11.4%
Embraer S.A. (BOVESPA:EMBR3)	4.98	3,664	4,706	4,836	260	-0.05	0.97x	18.1x	NM	15.0%	5.4%
<b>Mean</b>		<b>\$78,961</b>	<b>\$86,605</b>	<b>\$42,704</b>	<b>\$5,556</b>	<b>\$4.31</b>	<b>1.72x</b>	<b>14.3x</b>	<b>27.6x</b>	<b>19.3%</b>	<b>12.8%</b>
<b>Median</b>		<b>65,639</b>	<b>64,986</b>	<b>30,170</b>	<b>4,370</b>	<b>4.34</b>	<b>1.33x</b>	<b>15.1x</b>	<b>26.7x</b>	<b>18.0%</b>	<b>11.9%</b>
<b>Defense</b>											
Lockheed Martin Corporation (LMT)	\$333.33	\$94,179	\$107,166	\$56,463	\$8,879	\$14.14	1.90x	12.1x	23.6x	14.0%	15.7%
General Dynamics Corporation (GD)	178.72	51,504	65,763	37,919	5,380	8.58	1.73x	12.2x	20.8x	17.9%	14.2%
Northrop Grumman Corporation (NOC)	289.91	49,227	64,956	31,549	5,149	13.72	2.06x	12.6x	21.1x	22.1%	16.3%
Raytheon Company (RTN)	177.59	49,702	53,749	27,520	3,936	7.34	1.95x	13.7x	24.2x	27.6%	14.3%
BAE Systems plc (BA.)	6.44	20,592	21,989	21,439	2,299	0.33	1.03x	9.6x	19.4x	64.8%	10.7%
L3 Technologies, Inc. (LLL)	218.58	17,337	19,700	10,573	1,402	7.78	1.86x	14.1x	28.1x	25.9%	13.3%
Huntington Ingalls Industries, Inc. (HII)	222.58	9,272	10,315	8,382	1,165	13.46	1.23x	8.9x	16.5x	20.8%	13.9%
<b>Mean</b>		<b>\$41,688</b>	<b>\$49,091</b>	<b>\$27,692</b>	<b>\$4,030</b>	<b>\$9.34</b>	<b>1.68x</b>	<b>11.9x</b>	<b>22.0x</b>	<b>27.6%</b>	<b>14.1%</b>
<b>Median</b>		<b>49,227</b>	<b>53,749</b>	<b>27,520</b>	<b>3,936</b>	<b>8.58</b>	<b>1.86x</b>	<b>12.2x</b>	<b>21.1x</b>	<b>22.1%</b>	<b>14.2%</b>

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

‡ = excluded from Mean and Median calculations

Source: CapitalIQ

(1) As of close April 30, 2019.

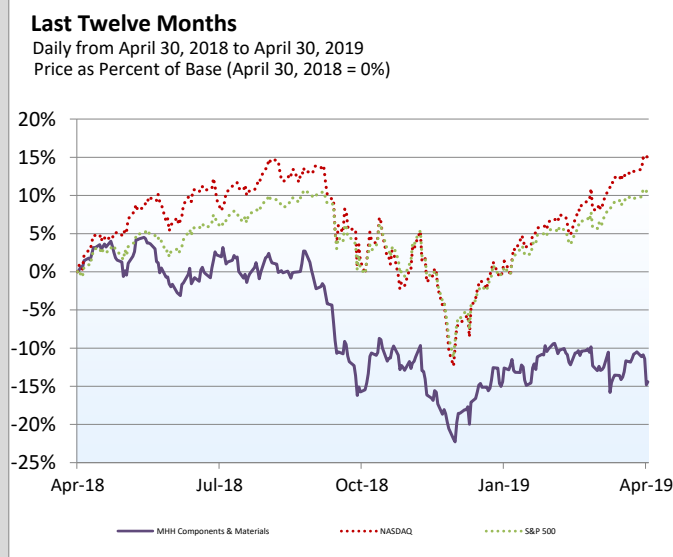
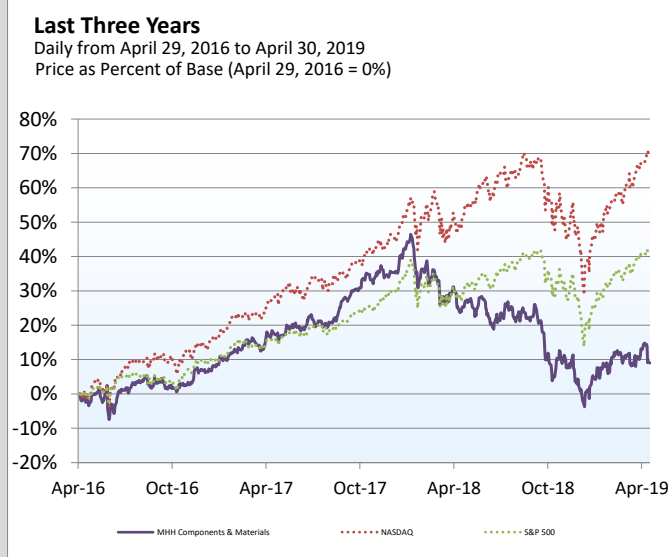
(2) Enterprise value is defined as equity value plus net debt, preferred stock and minority interests. Net Debt includes long term debt, short term debt, post-retirement benefits and unfunded pensions, if applicable, less cash and cash equivalents.

(3) As of March 31, 2019 excluding TXT (March 30, 2019); LLL (March 29, 2019); and BA, EMBR3, HO and RR (December 31, 2018).

(4) Excludes non-recurring and discontinued operations.

## Comparative Index Performance

The Mufson Howe Hunter Components & Materials Index<sup>(a)</sup> decreased by 2.2% during the three months ending April 30, 2019.



Price Performance	3-Year	LTM	3 Month
Mufson Howe Hunter Components & Materials Index <sup>(a)</sup>	8.7%	-14.9%	-2.2%
NASDAQ	69.5%	14.6%	11.2%
S&P 500	42.6%	11.3%	8.9%

(a) Market cap weighted index assuming no dividend reinvestment. Mufson Howe Hunter Components & Materials Index is comprised of all companies listed on the following page.

*Please see Page 14 for sector news*

## Highlighted M&A Transaction – Components & Materials

Target	Acquirer	Value*
		\$320.0

Lear Corporation (NYSE:LEA) entered into a definitive agreement to acquire Xevo Inc. for \$320 million on April 2, 2019. Xevo Inc. develops cloud-based software solutions to enterprise companies in automotive, hotel, cruise, and retail industries. Xevo Inc. was formerly known as UIEvolution, Inc. and changed its name to Xevo Inc. The company was incorporated in 2000 and is headquartered in Bellevue, Washington with additional offices in Tokyo, Japan and Detroit, Michigan.

*\*ND – Not disclosed. Transaction values reported on the basis of enterprise value in USD millions.*

# Components & Materials

## Selected Valuation Metrics

(\$ in USD millions, except per share data)

Company	Market & Capitalization			LTM Performance <sup>(3)</sup>			Valuation			Margins	
	Price <sup>(1)</sup>	Equity Value	Enterprise Value <sup>(2)</sup>	Revenue	EBITDA <sup>(4)</sup>	EPS	Enterprise Value/Revenue	EBITDA	Price/EPS	Gross Profit	EBITDA
<b>Electronic Components</b>											
TE Connectivity Ltd (TEL)	\$95.65	\$32,221	\$35,668	\$13,849	\$3,050	\$4.13	2.58x	11.7x	23.2x	33.2%	22.0%
Amphenol Corp. (APH)	99.56	29,742	32,542	8,294	2,029	3.20	3.92x	16.0x	31.1x	32.3%	24.5%
Corning Inc. (GLW)	31.85	24,907	31,875	11,602	2,983	1.59	2.75x	10.7x	20.1x	39.7%	25.7%
Omron Corp. (TSE:6645)	53.43	10,972	10,000	7,756	966	1.95	1.29x	10.3x	27.3x	41.2%	12.5%
Alps Electric Ltd (TSE:6770)	21.07	4,447	4,594	7,683	847	0.91	0.60x	5.4x	23.2x	19.0%	11.0%
Belden Inc. (BDC)	55.55	2,191	3,234	2,567	448	3.77	1.26x	7.2x	14.7x	39.9%	17.5%
Vishay Intertechnology (VSH)	19.81	2,859	2,591	3,063	635	1.85	0.85x	4.1x	10.7x	29.2%	20.7%
AVX Corp. (AVX)	16.31	2,753	1,940	1,792	406	1.23	1.08x	4.8x	13.3x	26.9%	22.7%
Encore Wire Corp. (WRE)	59.29	1,239	1,061	1,312	118	3.11	0.81x	9.0x	19.1x	14.8%	9.0%
<b>Mean</b>		<b>\$12,370</b>	<b>\$13,723</b>	<b>\$6,435</b>	<b>\$1,276</b>	<b>\$2.42</b>	<b>1.68x</b>	<b>8.8x</b>	<b>20.3x</b>	<b>30.7%</b>	<b>18.4%</b>
<b>Median</b>		<b>4,447</b>	<b>4,594</b>	<b>7,683</b>	<b>847</b>	<b>1.95</b>	<b>1.26x</b>	<b>9.0x</b>	<b>20.1x</b>	<b>32.3%</b>	<b>20.7%</b>
<b>Specialty Materials</b>											
DowDuPont Inc. (DWDP)	\$38.45	\$86,373	\$114,975	\$84,116	\$16,259	\$2.62	1.37x	7.1x	14.7x	25.6%	19.3%
3M Company (MMM)	189.51	109,239	123,104	32,350	9,061	7.61	3.81x	13.6x	24.9x	49.0%	28.0%
BASF SE (DE:BAS)	81.17	74,549	95,913	70,878	9,117	3.26	1.35x	10.5x	24.9x	28.6%	12.9%
PPG Industries, Inc. (PPG)	117.50	27,737	33,013	15,217	2,235	4.51	2.17x	14.8x	26.0x	41.6%	14.7%
Akzo Nobel N.V. (ENXTAM:AKZA)	84.82	18,712	17,540	10,398	967	1.40	1.69x	18.1x	NM	42.3%	9.3%
Celanese Corp. (CE)	107.89	13,660	17,506	6,991	1,556	6.79	2.50x	11.3x	15.9x	27.3%	22.3%
Evonik Industries AG (DE:EVK)	29.74	13,848	17,206	16,907	2,790	2.07	1.02x	6.2x	14.4x	30.4%	16.5%
Solvay SA (ENXTBR:SOLB)	120.06	12,384	15,255	12,737	2,412	6.91	1.20x	6.3x	17.4x	27.0%	18.9%
Ferro Corporation (FOE)	17.87	1,469	2,200	1,594	200	0.75	1.38x	11.0x	23.9x	27.5%	12.5%
<b>Mean</b>		<b>\$39,774</b>	<b>\$48,524</b>	<b>\$27,910</b>	<b>\$4,955</b>	<b>\$3.99</b>	<b>1.83x</b>	<b>10.98x</b>	<b>20.26x</b>	<b>33.3%</b>	<b>17.2%</b>
<b>Median</b>		<b>18,712</b>	<b>17,540</b>	<b>15,217</b>	<b>2,412</b>	<b>3.26</b>	<b>1.38x</b>	<b>11.02x</b>	<b>20.62x</b>	<b>28.6%</b>	<b>16.5%</b>
<b>Vehicle Parts and Supplies</b>											
Johnson Controls Inc. (JCI)	\$37.50	\$34,227	\$47,148	\$31,708	\$4,666	\$2.01	1.49x	10.1x	18.6x	29.7%	14.7%
Continental AG (DB:CON)	164.82	32,965	35,573	49,875	4,954	12.43	0.71x	7.2x	13.3x	24.8%	9.9%
Denso Corp. (TSE:6902)	43.58	33,839	33,958	48,396	5,446	2.29	0.70x	6.2x	19.1x	15.5%	11.3%
Aptiv PLC (APTIV)	85.70	22,102	26,090	14,380	2,188	3.29	1.81x	11.9x	26.1x	18.5%	15.2%
Lear Corp. (LEA)	143.00	8,903	10,412	20,575	2,114	13.35	0.51x	4.9x	10.7x	11.1%	10.3%
Autoliv, Inc. (ALV)	78.49	6,846	8,606	8,611	1,144	5.33	1.00x	7.5x	14.7x	18.9%	13.3%
Bosch Ltd. (BSE:500530)	258.13	7,613	7,203	1,776	327	6.02	4.06x	22.0x	NM	45.5%	18.4%
Stanley Electric Co. Ltd. (TSE:6923)	27.03	4,418	3,628	3,918	789	1.78	0.93x	4.6x	15.2x	22.9%	20.1%
Delphi Automotive PLC (DLPH)	22.13	1,959	3,280	4,713	633	2.44	0.70x	5.2x	9.1x	17.4%	13.4%
<b>Mean</b>		<b>\$16,986</b>	<b>\$19,544</b>	<b>\$20,439</b>	<b>\$2,473</b>	<b>\$5.44</b>	<b>1.32x</b>	<b>8.9x</b>	<b>15.8x</b>	<b>22.7%</b>	<b>14.1%</b>
<b>Median</b>		<b>8,903</b>	<b>10,412</b>	<b>14,380</b>	<b>2,114</b>	<b>3.29</b>	<b>0.93x</b>	<b>7.2x</b>	<b>15.0x</b>	<b>18.9%</b>	<b>13.4%</b>

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

‡ = excluded from Mean and Median calculations

Source: CapitalIQ

(1) As of close April 30, 2019.

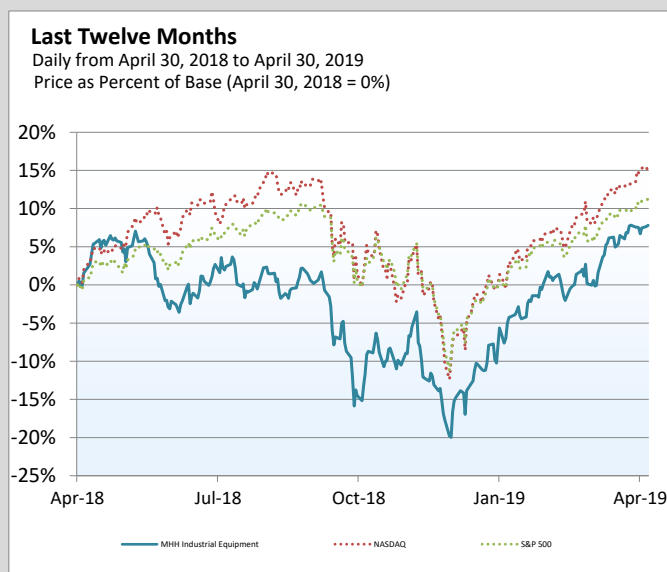
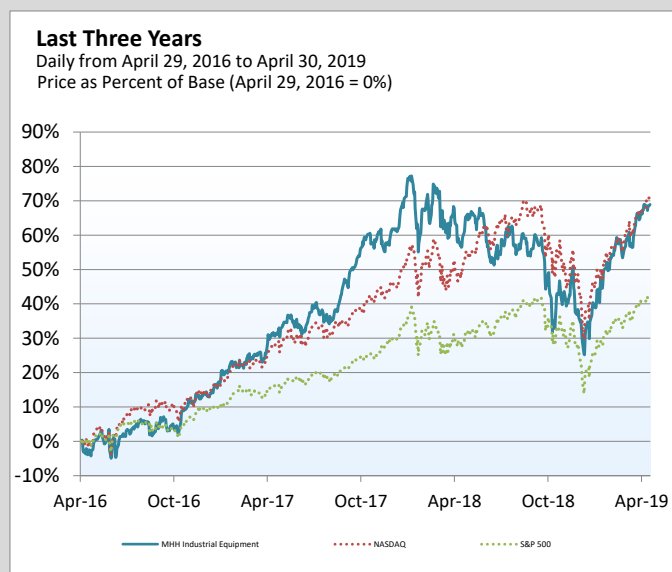
(2) Enterprise value is defined as equity value plus net debt, preferred stock and minority interests. Net Debt includes long term debt, short term debt, post-retirement benefits and unfunded pensions, if applicable, less cash and cash equivalents.

(3) As of March 31, 2019 excluding LEA and VSH (March 30, 2019); TEL (March 29, 2019); and 500530 (March 31, 2018).

(4) Excludes non-recurring and discontinued operations.

## Comparative Index Performance

The Mufson Howe Hunter Industrial Equipment Index<sup>(a)</sup> increased by 12.5% during the three months ending April 30, 2019.



### Price Performance

	3-Year	LTM	3 Month
Mufson Howe Hunter Industrial Equipment Index <sup>(a)</sup>	68.9%	7.8%	12.5%
NASDAQ	69.5%	14.6%	11.2%
S&P 500	42.6%	11.3%	8.9%

(a) Market cap weighted index assuming no dividend reinvestment. Mufson Howe Hunter Industrial Equipment Index is comprised of all companies listed on the following page.

*Please see Page 16 for sector news*

## Highlighted M&A Transaction – Industrial Equipment

Target	Acquirer	Value*
<p>Digital Specialty Chemicals</p> 		\$67.0

Entegris, Inc. (NasdaqGS:ENTG) acquired Digital Specialty Chemicals Limited for \$67 million on April 25, 2019. Digital Specialty Chemicals will be a part of the Specialty Chemicals and Engineered Materials segment. Digital Specialty Chemicals manufactures fine-chemicals to pharmaceutical, semiconductor, and specialty chemical markets worldwide. The company was founded in 1987 and is based in Toronto, Canada.

\*ND – Not disclosed. Transaction values reported on the basis of enterprise value in USD millions.

# Industrial Equipment

## Selected Valuation Metrics

(\$ in USD millions, except per share data)

Company	Market & Capitalization			LTM Performance <sup>(3)</sup>			Valuation			Margins	
	Price <sup>(1)</sup>	Equity Value	Enterprise Value <sup>(2)</sup>	Revenue	EBITDA <sup>(4)</sup>	EPS	Enterprise Value/Revenue	EBITDA	Price/EPS	Gross Profit	EBITDA
<b>Construction Equipment</b>											
Caterpillar Inc. (CAT)	\$139.42	\$79,731	\$108,426	\$55,329	\$11,133	\$8.58	1.96x	9.7x	16.2x	27.3%	20.1%
Deere & Company (DE)	165.63	52,752	93,304	38,388	5,877	8.18	2.43x	15.9x	20.2x	24.0%	15.3%
Cummins Inc. (CMI)	166.29	26,187	28,368	24,205	3,365	11.65	1.17x	8.4x	14.3x	25.1%	13.9%
Hyundai Heavy Industries Co. Ltd (KOSE:A009540)	106.73	7,548	8,239	11,785	-123	(7.10)	0.70x	NM	NM	2.6%	NM
Navistar International Corp. (NAV)	34.14	3,382	7,689	10,778	828	2.78	0.71x	9.3x	12.3x	16.9%	7.7%
Oshkosh Corp. (OSK)	82.59	5,774	6,271	8,026	853	5.85	0.78x	7.4x	14.1x	18.0%	10.6%
Terex Corp. (TEX)	33.33	2,346	3,515	5,145	295	1.30	0.68x	11.9x	25.6x	19.0%	5.7%
<b>Mean</b>		<b>\$25,389</b>	<b>\$36,545</b>	<b>\$21,951</b>	<b>\$3,175</b>	<b>\$4.46</b>	<b>1.21x</b>	<b>10.4x</b>	<b>17.1x</b>	<b>19.0%</b>	<b>12.2%</b>
<b>Median</b>		<b>7,548</b>	<b>8,239</b>	<b>11,785</b>	<b>853</b>	<b>5.85</b>	<b>0.78x</b>	<b>9.5x</b>	<b>15.3x</b>	<b>19.0%</b>	<b>12.3%</b>
<b>Electrical Equipment</b>											
Schneider Electric SE (ENXTPA:SU)	\$84.55	\$46,067	\$53,449	\$29,448	\$4,808	\$4.21	1.82x	11.1x	20.1x	39.0%	16.3%
Emerson Electric Co. (EMR)	70.99	43,632	48,385	18,061	3,717	2.79	2.68x	13.0x	25.4x	42.7%	20.6%
Eaton Corporation plc (ETN)	82.82	35,134	42,745	21,663	3,905	3.96	1.97x	10.9x	20.9x	33.0%	18.0%
Rockwell Automation Inc. (ROK)	180.71	21,389	22,718	6,728	1,482	6.49	3.38x	15.3x	27.9x	43.3%	22.0%
Amelec Inc. (AME)	88.17	20,060	22,339	4,961	1,330	2.72	4.50x	16.8x	32.4x	34.3%	26.8%
Hubbell Inc. (HUBB)	127.60	6,955	8,568	4,578	733	5.65	1.87x	11.7x	22.6x	29.1%	16.0%
Regal Beloit Corporation (RBC)	85.08	3,642	4,729	3,621	527	4.52	1.31x	9.0x	18.8x	26.7%	14.6%
Powell Industries, Inc. (POWL)	29.25	361	300	490	15	0.17	0.61x	19.4x	NM	15.7%	NM
<b>Mean</b>		<b>\$22,155</b>	<b>\$25,404</b>	<b>\$11,194</b>	<b>\$2,065</b>	<b>\$3.81</b>	<b>2.27x</b>	<b>13.4x</b>	<b>24.0x</b>	<b>33.0%</b>	<b>19.2%</b>
<b>Median</b>		<b>20,725</b>	<b>22,529</b>	<b>5,844</b>	<b>1,406</b>	<b>4.09</b>	<b>1.92x</b>	<b>12.4x</b>	<b>22.6x</b>	<b>33.6%</b>	<b>18.0%</b>
<b>Semiconductor Capital Equipment</b>											
ASML Holding NV (ASML)	\$207.89	\$87,512	\$87,297	\$12,220	\$3,363	\$4.40	7.14x ‡	26.0x ‡	NM	44.5%	27.5%
Applied Materials, Inc. (AMAT)	44.07	41,840	43,438	16,801	4,915	2.73	2.59x	8.8x	16.1x	44.9%	29.3%
Lam Research Corp. (LRCX)	207.43	31,099	29,735	10,418	3,131	10.61	2.85x	9.5x	19.5x	45.7%	30.1%
Tokyo Electron Ltd (TSE:8035)	158.44	25,977	22,451	11,535	3,025	11.02	1.95x	7.4x	14.4x	41.2%	26.2%
KLA-Tencor Corp. (KLAC)	127.48	20,864	20,408	4,380	1,662	5.91	4.66x	12.3x	21.6x	62.2%	37.9%
Teradyne Inc. (TER)	49.00	8,486	8,020	2,107	609	1.63	3.81x	13.2x	30.0x	58.8%	28.9%
Veeco Instruments Inc. (VECO)	12.18	585	612	483	7	(0.69)	1.27x	NM ‡	NM	35.6%	1.4%
<b>Mean</b>		<b>\$30,909</b>	<b>\$30,280</b>	<b>\$8,278</b>	<b>\$2,388</b>	<b>\$5.09</b>	<b>2.85x</b>	<b>10.2x</b>	<b>20.3x</b>	<b>47.5%</b>	<b>25.9%</b>
<b>Median</b>		<b>25,977</b>	<b>22,451</b>	<b>10,418</b>	<b>3,025</b>	<b>4.40</b>	<b>2.72x</b>	<b>9.5x</b>	<b>19.5x</b>	<b>44.9%</b>	<b>28.9%</b>
<b>Measurement, Control, and Testing Devices</b>											
Danaher Corporation (DHR)	\$132.44	\$94,818	\$103,001	\$20,078	\$4,840	\$2.99	5.13x	21.3x	NM	55.8%	24.1%
Xcerra Corporation (XCRA)	33.17	27,108	35,568	30,673	3,831	1.64	1.16x	9.3x	20.2x	32.4%	12.5%
Entegris, Inc. (ENTG)	40.86	5,537	6,182	1,574	439	1.18	3.93x	14.1x	34.6x	46.4%	27.9%
MKS Instruments, Inc. (MKSI)	91.01	4,935	5,529	1,984	519	4.76	2.79x	10.7x	19.1x	46.4%	26.2%
Brooks Automation, Inc. (BRKS)	37.51	2,706	3,112	710	90	0.24	4.38x	NM	NM	39.9%	12.7%
FormFactor, Inc. (FORM)	18.95	1,412	1,327	544	84	0.33	2.44x	15.7x	NM	40.1%	15.5%
FARO Technologies, Inc. (FARO)	56.25	974	841	404	24	0.15	2.08x	NM	NM	56.8%	6.0%
Cohu, Inc. (COHU)	14.83	605	793	504	41	(0.06)	1.57x	19.5x	NM	42.3%	8.1%
Nova Measuring Instruments Ltd. (NVMI)	27.86	778	602	245	62	1.23	2.46x	9.7x	22.7x	57.4%	25.3%
Nanometrics Incorporated (NANO)	29.79	731	594	309	59	1.26	1.92x	10.1x	23.6x	55.6%	19.0%
Rudolph Technologies, Inc. (RTEC)	24.19	748	573	262	49	0.88	2.19x	11.8x	27.4x	52.7%	18.6%
Axcelis Technologies, Inc. (ACLS)	21.29	699	569	412	52	0.80	1.38x	11.0x	26.5x	41.3%	12.6%
<b>Mean</b>		<b>\$11,754</b>	<b>\$13,224</b>	<b>\$4,808</b>	<b>\$841</b>	<b>\$1.28</b>	<b>2.62x</b>	<b>13.3x</b>	<b>24.9x</b>	<b>47.2%</b>	<b>17.4%</b>
<b>Median</b>		<b>1,193</b>	<b>1,084</b>	<b>524</b>	<b>73</b>	<b>1.03</b>	<b>2.32x</b>	<b>11.4x</b>	<b>23.6x</b>	<b>46.4%</b>	<b>17.1%</b>

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

‡ = excluded from Mean and Median calculations

Source: CapitalIQ

(1) As of close April 30, 2019.

(2) Enterprise value is defined as equity value plus net debt, preferred stock and minority interests. Net Debt includes long term debt, short term debt, post-retirement benefits and unfunded pensions, if applicable, less cash and cash equivalents.

(3) As of March 31, 2019 excluding COHU, ENTG, FORM, NANO and RBC (March 30, 2019); DHR (March 29, 2019); NAV (January 31, 2019); AMAT and DE (January 27, 2019); and A009540, SU and XCRA (December 31, 2018).

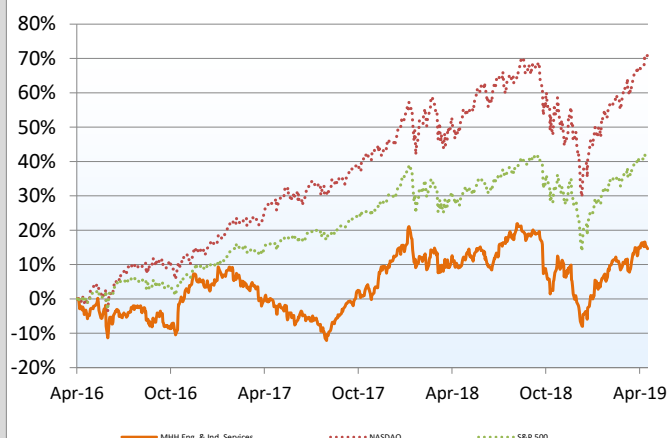
(4) Excludes non-recurring and discontinued operations.

## Comparative Index Performance

The Mufson Howe Hunter Engineering & Industrial Services Index<sup>(a)</sup> increased by 8.0% during the three months ending April 30, 2019.

### Last Three Years

Daily from April 29, 2016 to April 30, 2019  
Price as Percent of Base (April 29, 2016 = 0%)



### Last Twelve Months

Daily from April 30, 2018 to April 30, 2019  
Price as Percent of Base (April 30, 2018 = 0%)



## Price Performance

	3-Year	LTM	3 Month
Mufson Howe Hunter Engineering & Industrial Services Index <sup>(a)</sup>	14.5%	4.4%	8.0%
NASDAQ	69.5%	14.6%	11.2%
S&P 500	42.6%	11.3%	8.9%

(a) Market cap weighted index assuming no dividend reinvestment. Mufson Howe Hunter Engineering & Industrial Services Index is comprised of all companies listed on the following page.

*Please see Page 18 for sector news*

## Highlighted M&A Transaction – Engineering & Industrial Services

Target	Acquirer	Value*
		\$602.5

Jacobs Engineering Group Inc. (NYSE:JEC) entered into a definitive merger agreement to acquire The KeyW Holding Corporation (NasdaqGS:KEYW) for approximately \$600 million on April 21, 2019. The KeyW Holding Corporation, together with its subsidiaries, provides national security solutions to the intelligence, cyber, and counterterrorism communities in the United States. The Company was founded in 2008 and is headquartered in Hanover, Maryland.

\*ND – Not disclosed. Transaction values reported on the basis of enterprise value in USD millions.

## Selected Valuation Metrics

(\$ in USD millions, except per share data)

Company	Market & Capitalization			LTM Performance <sup>(3)</sup>			Valuation		Margins		
	Price <sup>(1)</sup>	Equity Value	Enterprise Value <sup>(2)</sup>	Revenue	EBITDA <sup>(4)</sup>	EPS	Enterprise Value/Revenue	EBITDA	Price/EPS	Gross Profit	EBITDA
<b>Technical Services</b>											
Jacobs Engineering Group Inc. (JEC)	\$77.94	\$10,874	\$12,747	\$16,506	\$1,032	\$3.09	0.77x	12.3x	25.2x	18.6%	6.3%
AECOM (ACM)	33.90	5,292	8,546	20,531	838	1.37	0.42x	10.2x	24.7x	3.6%	4.1%
John Wood Group PLC (LSE:WG)	6.13	4,109	5,747	10,014	529	0.22	0.57x	10.9x	28.2x	11.9%	5.3%
Fluor Corporation (FLR)	39.73	5,547	5,410	18,536	742	1.64	0.29x	7.3x	24.2x	3.6%	4.0%
Tetra Tech, Inc. (TTEK)	64.72	3,573	3,770	2,262	239	2.13	1.67x	15.8x	30.4x	17.4%	10.6%
KBR, Inc. (KBR)	22.22	3,143	3,699	5,215	394	1.08	0.71x	9.4x	20.5x	9.5%	7.6%
Balfour Beatty plc (LSE:BBY)	3.27	2,237	2,413	8,455	163	0.10	0.29x	14.8x	32.1x	5.7%	1.9%
Primoris Services Corporation (PRIM)	21.92	1,114	1,337	3,097	230	1.37	0.43x	5.8x	16.0x	10.8%	7.4%
NV5 Global, Inc. (NVEE)	63.34	796	802	441	58	1.93	1.82x	13.8x	32.8x	47.7%	13.2%
Cardno Limited (ASX:CDD)	0.70	316	394	827	37	0.03	0.48x	10.7x	25.2x	7.5%	4.5%
<b>Mean</b>		<b>\$3,700</b>	<b>\$4,487</b>	<b>\$8,588</b>	<b>\$426</b>	<b>\$1.30</b>	<b>0.74x</b>	<b>11.1x</b>	<b>25.9x</b>	<b>13.6%</b>	<b>6.5%</b>
<b>Median</b>		<b>3,358</b>	<b>3,735</b>	<b>6,835</b>	<b>316</b>	<b>1.37</b>	<b>0.53x</b>	<b>10.8x</b>	<b>25.2x</b>	<b>10.1%</b>	<b>5.8%</b>
<b>Industrial Distribution</b>											
Fastenal Company (FAST)	\$70.55	\$20,200	\$20,725	\$5,089	\$1,166	\$2.20	4.07x	17.8x	32.0x	48.1%	22.9%
W.W. Grainger, Inc. (GWW)	282.00	15,635	17,830	11,254	1,635	13.73	1.58x	10.9x	20.5x	38.7%	14.5%
HD Supply Holdings, Inc. (HDS)	45.69	7,802	10,011	6,047	816	2.07	1.66x	12.3x	22.0x	39.3%	13.5%
MSC Industrial Direct Co., Inc. (MSM)	83.65	4,615	5,156	3,321	527	4.97	1.55x	9.8x	16.8x	43.1%	15.9%
WESCO International, Inc. (WCC)	57.24	2,566	3,705	8,144	404	3.79	0.45x	9.2x	15.1x	19.3%	5.0%
MRC Global Inc. (MRC)	17.33	1,465	2,461	4,132	202	0.67	0.60x	12.2x	25.7x	16.8%	4.9%
Lawson Products, Inc. (LAWS)	32.84	295	319	357	19	0.75	0.90x	16.9x	NM	53.9%	5.3%
Transcat, Inc. (TRNS)	23.05	166	190	159	16	0.77	1.20x	11.7x	30.1x	24.4%	10.3%
<b>Mean</b>		<b>\$6,593</b>	<b>\$7,550</b>	<b>\$4,813</b>	<b>\$598</b>	<b>\$3.62</b>	<b>1.50x</b>	<b>12.6x</b>	<b>23.2x</b>	<b>35.4%</b>	<b>11.5%</b>
<b>Median</b>		<b>3,590</b>	<b>4,430</b>	<b>4,610</b>	<b>466</b>	<b>2.14</b>	<b>1.37x</b>	<b>11.9x</b>	<b>22.0x</b>	<b>39.0%</b>	<b>11.9%</b>
<b>Industrial Recycling</b>											
Veolia Environnement S.A. (ENXTPA:VIE)	\$23.60	\$13,051	\$25,159	\$29,470	\$3,248	\$0.84	0.85x	7.7x	28.1x	16.2%	11.0%
Clean Harbors, Inc. (CLH)	76.00	4,246	5,539	3,331	490	1.22	1.66x	11.3x	NM	30.3%	14.7%
Commercial Metals Company (CMC)	17.29	2,039	3,371	5,193	377	1.09	0.65x	8.9x	15.8x	12.9%	7.3%
Dow Chemicals Company, Ltd. (TSE:5714)	32.46	1,921	3,009	4,087	341	2.30	0.74x	8.8x	14.1x	12.5%	8.3%
Aurubis AG (DE:NDA)	48.65	2,187	2,375	11,666	343	2.74	0.20x	6.9x	17.7x	8.3%	2.9%
Sims Metal Management Limited (ASX:SGM)	7.26	1,472	1,354	4,805	201	0.52	0.28x	6.7x	14.0x	11.3%	4.2%
<b>Mean</b>		<b>\$4,153</b>	<b>\$6,801</b>	<b>\$9,759</b>	<b>\$834</b>	<b>\$1.45</b>	<b>0.73x</b>	<b>8.4x</b>	<b>18.0x</b>	<b>15.2%</b>	<b>8.1%</b>
<b>Median</b>		<b>2,113</b>	<b>3,190</b>	<b>4,999</b>	<b>360</b>	<b>1.15</b>	<b>0.69x</b>	<b>8.3x</b>	<b>15.8x</b>	<b>12.7%</b>	<b>7.8%</b>

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

‡ = excluded from Mean and Median calculations

Source: CapitalIQ

(1) As of close April 30, 2019.

(2) Enterprise value is defined as equity value plus net debt, preferred stock and minority interests. Net Debt includes long term debt, short term debt, post-retirement benefits and unfunded pensions, if applicable, less cash and cash equivalents.

(3) As of March 31, 2019 excluding NVEE (March 30, 2019); JEC (March 29, 2019); MSM (March 2, 2019); CMC (February 28, 2019); HDS (February 3, 2019); BBY, CDD, NDA, SGM and WG (December 31, 2018); and TRANS (December 29, 2018).

(4) Excludes non-recurring and discontinued operations.

## Selected News – Aerospace & Defense

**Airbus SE (ENXTPA:AIR)** reported first quarter net income of \$44.9 million for fiscal year 2019 as compared to \$348.7 million for the prior year period. Earnings per share were \$0.06 versus \$0.45 for the prior year period. Revenues for the quarter increased to \$14,084.2 million from \$12,466.4 million for the same period in fiscal year 2018.

**General Dynamics Corporation (NYSE:GD)** reported first quarter net income of \$745.0 million for fiscal year 2019 as compared to \$799.0 million for the prior year period. Earnings per share were \$2.56 versus \$2.65 for the prior year period. Revenues for the quarter increased to \$9,261.0 million from \$7,535.0 million for the same period in fiscal year 2018.

**Honeywell International Inc. (NYSE:HON)** reported first quarter net income of \$1,416.0 million for fiscal year 2019 as compared to \$1,439.0 million for the prior year period. Earnings per share were \$1.92 versus \$1.89 for the prior year period. Revenues for the quarter decreased to \$8,884.0 million from \$10,392.0 million for the same period in fiscal year 2018.

**Lockheed Martin Corporation (NYSE:LMT)** reported first quarter net income of \$1,704.0 million for fiscal year 2019 as compared to \$1,157.0 million for the prior year period. Earnings per share were \$5.99 versus \$4.02 for the prior year period. Revenues for the quarter increased to \$14,336.0 million from \$11,635.0 million for the same period in fiscal year 2018.

**Northrop Grumman Corporation (NYSE:NOC)** reported first quarter net income of \$863.0 million for fiscal year 2019 as compared to \$840.0 million for the prior year period. Earnings per share were \$5.06 versus \$4.79 for the prior year period. Revenues for the quarter increased to \$8,189.0 million from \$6,735.0 million for the same period in fiscal year 2018.

**Raytheon Company (NYSE:RTN)** reported first quarter net income of \$781.0 million for fiscal year 2019 as compared to \$633.0 million for the prior year period. Earnings per share were \$2.77 versus \$2.19 for the prior year period. Revenues for the quarter increased to \$6,729.0 million from \$6,267.0 million for the same period in fiscal year 2018.

**Textron Inc. (NYSE:TXT)** reported first quarter net income of \$179.0 million for fiscal year 2019 as compared to \$189.0 million for the prior year period. Earnings per share were \$0.76 versus \$0.72 for the prior year period. Revenues for the quarter decreased to \$3,109.0 million from \$3,296.0 million for the same period in fiscal year 2018.

**Thales S.A. (ENXTPA:HO)** reported net income of \$1,124.1 million for fiscal year 2018 as compared to \$816.3 million for the prior year. Earnings per share were \$5.27 versus \$3.83 for the prior year. Revenues for the year decreased to \$18,152.9 million from \$18,284.7 million for fiscal year 2017.

**The Boeing Company (NYSE:BA)** reported first quarter net income of \$2,149.0 million for fiscal year 2019 as compared to \$2,477.0 million for the prior year period. Earnings per share were \$3.75 versus \$4.15 for the prior year period. Revenues for the quarter decreased to \$22,917.0 million from \$23,382.0 million for the same period in fiscal year 2018.

**United Technologies Corporation (NYSE:UTX)** reported first quarter net income of \$1,346.0 million for fiscal year 2019 as compared to \$1,297.0 million for the prior year period. Earnings per share were \$1.56 versus \$1.62 for the prior year period. Revenues for the quarter increased to \$18,365.0 million from \$15,242.0 million for the same period in fiscal year 2018.

*Note: All per share results are reported on a fully-diluted basis.*

## Selected News – Components & Materials

**3M Company (NYSE:MMM)** reported first quarter net income of \$891.0 million for fiscal year 2019 as compared to \$602.0 million for the prior year period. Earnings per share were \$1.51 versus \$0.98 for the prior year period. Revenues for the quarter decrease to \$7,863.0 million from \$8,278.0 million for the same period in fiscal year 2018.

**Akzo Nobel N.V. (ENXTAM:AKZA)** reported first quarter net income of \$73.0 million for fiscal year 2019 as compared to \$311.7 million for the prior year period. Earnings per share were \$0.31 versus \$1.39 for the prior year period. Revenues for the quarter decrease to \$2,452.3 million from \$2,680.8 million for the same period in fiscal year 2018.

**Alps Alpine Co., Ltd. (TSE:6770)** reported net income of \$199.6 million for fiscal year 2019 as compared to \$446.2 million for the prior year. Earnings per share were \$0.99 versus \$2.28 for the prior year. Revenues for the year decrease to \$7,682.8 million from \$8,081.7 million for fiscal year 2018.

**Amphenol Corporation (NYSE:APH)** reported first quarter net income of \$267.5 million for fiscal year 2019 as compared to \$265.6 million for the prior year period. Earnings per share were \$0.87 versus \$0.84 for the prior year period. Revenues for the quarter increase to \$1,958.5 million from \$1,866.9 million for the same period in fiscal year 2018.

**Autoliv, Inc. (NYSE:ALV)** reported first quarter net income of \$111.4 million for fiscal year 2019 as compared to \$126.7 million for the prior year period. Earnings per share were \$1.27 versus \$1.45 for the prior year period. Revenues for the quarter decrease to \$2,174.0 million from \$2,240.9 million for the same period in fiscal year 2018.

**AVX Corporation (NYSE:AVX)** reported net income of \$271.8 million for fiscal year 2019 as compared to \$4.9 million for the prior year. Earnings per share were \$1.61 versus \$0.03 for the prior year. Revenues for the year increase to \$1,791.8 million from \$1,562.5 million for fiscal year 2018.

**Celanese Corporation (NYSE:CE)** reported first quarter net income of \$337.0 million for fiscal year 2019 as compared to \$363.0 million for the prior year period. Earnings per share were \$2.63 versus \$2.67 for the prior year period. Revenues for the quarter decrease to \$1,687.0 million from \$1,851.0 million for the same period in fiscal year 2018.

**Celanese Corporation (NYSE:CE)** announced that **Mark Rohr**, Chairman and Chief Executive Officer (CEO), will assume the position of Executive Chairman of Celanese's Board of Directors.

**Corning Incorporated (NYSE:GLW)** reported first quarter net income of \$499.0 million for fiscal year 2019 as compared to (\$589.0) million for the prior year period. Earnings per share were \$0.55 versus (\$0.72) for the prior year period. Revenues for the quarter increase to \$2,812.0 million from \$2,500.0 million for the same period in fiscal year 2018.

**DENSO Corporation (TSE:6902)** reported net income of \$2,296.9 million for fiscal year 2019 as compared to \$3,018.3 million for the prior year. Earnings per share were \$2.95 versus \$3.86 for the prior year. Revenues for the year increase to \$48,396.1 million from \$48,098.4 million for fiscal year 2018.

**DowDuPont Inc. (NYSE:DWDP)** announced three additional members to the future board of directors of DuPont, **Frank K. Clyburn**, chief commercial officer at Merck & Co. Inc., **Terrence R. Curtin**, CEO of TE Connectivity, and **Frederick M. Lowery**, senior vice president and president, Life Sciences Solutions and Laboratory Products at Thermo Fisher Scientific Inc.

**Encore Wire Corporation (NasdaqGS:WIRE)** reported first quarter net income of \$13.4 million for fiscal year 2019 as compared to \$11.4 million for the prior year period. Earnings per share were \$0.64 versus \$0.54 for the prior year period. Revenues for the quarter increase to \$314.7 million from \$291.4 million for the same period in fiscal year 2018.

## Selected Highlights

**Lear Corporation (NYSE:LEA)** reported first quarter net income of \$228.9 million for fiscal year 2019 as compared to \$353.7 million for the prior year period. Earnings per share were \$3.73 versus \$5.16 for the prior year period. Revenues for the quarter decrease to \$5,160.1 million from \$5,733.7 million for the same period in fiscal year 2018.

**OMRON Corporation (TSE:6645)** reported net income of \$490.2 million for fiscal year 2019 as compared to \$594.7 million for the prior year. Earnings per share were \$2.35 versus \$2.80 for the prior year. Revenues for the year decrease to \$7,756.4 million from \$8,097.4 million for fiscal year 2018.

**PPG Industries, Inc. (NYSE:PPG)** reported first quarter net income of \$312.0 million for fiscal year 2019 as compared to \$334.0 million for the prior year period. Earnings per share were \$1.31 versus \$1.33 for the prior year period. Revenues for the quarter decrease to \$3,624.0 million from \$3,781.0 million for the same period in fiscal year 2018.

**PPG Industries, Inc. (NYSE:PPG)** announced the appointment of **Devashish Saxena** as vice president and chief digital officer, effective April 1, 2019.

**PPG Industries, Inc. (NYSE:PPG)** announced at its annual meeting of shareholders that **Cathy R. Smith**, executive vice president and chief financial officer, Target Corporation, and **Steven A. Davis**, former chairman and chief executive officer, Bob Evans Farms, Inc., have been elected to join its board of directors, effective immediately.

**Stanley Electric Co., Ltd. (TSE:6923)** reported net income of \$363.4 million for fiscal year 2019 as compared to \$339.0 million for the prior year. Earnings per share were \$2.22 versus \$2.05 for the prior year. Revenues for the year decrease to \$3,917.7 million from \$4,163.3 million for fiscal year 2018.

**TE Connectivity Ltd. (NYSE:TEL)** reported second quarter net income of \$439.0 million for fiscal year 2019 as compared to \$490.0 million for the prior year period. Earnings per share were \$1.29 versus \$1.38 for the prior year period. Revenues for the quarter decrease to \$3,412.0 million from \$3,562.0 million for the same period in fiscal year 2018.

*Note: All per share results are reported on a fully-diluted basis.*

## Selected News – Industrial Equipment

**ASML Holding N.V. (ENXTAM:ASML)** reported first quarter net income of \$398.9 million for fiscal year 2019 as compared to \$664.9 million for the prior year period. Earnings per share were \$0.94 versus \$1.55 for the prior year period. Revenues for the quarter decreased to \$2,501.8 million from \$2,815.1 million for the same period in 2018.

**Brooks Automation, Inc. (NasdaqGS:BRKS)** reported second quarter net income of \$3.4 million for fiscal year 2019 as compared to \$67.0 million for the prior year period. Earnings per share were \$0.05 versus \$0.95 for the prior year period. Revenues for the quarter increased to \$198.4 million from \$157.0 million for the same period in fiscal year 2018.

**Caterpillar Inc. (NYSE:CAT)** reported first quarter net income of \$1,881.0 million for fiscal year 2019 as compared to \$1,665.0 million for the prior year period. Earnings per share were \$3.25 versus \$2.74 for the prior year period. Revenues for the quarter increased to \$13,466.0 million from \$12,859.0 million for the same period in fiscal year 2018.

**Cummins Inc. (NYSE:CMI)** reported first quarter net income of \$663.0 million for fiscal year 2019 as compared to \$325.0 million for the prior year period. Earnings per share were \$4.20 versus \$1.96 for the prior year period. Revenues for the quarter increased to \$6,004.0 million from \$5,570.0 million for the same period in fiscal year 2018.

**Danaher Corporation (NYSE:DHR)** reported first quarter net income of \$333.8 million for fiscal year 2019 as compared to \$566.6 million for the prior year period. Earnings per share were \$0.46 versus \$0.80 for the prior year period. Revenues for the quarter increased to \$4,879.9 million from \$4,695.4 million for the same period in fiscal year 2018.

**Eaton Corporation plc (NYSE:ETN)** reported first quarter net income of \$522.0 million for fiscal year 2019 as compared to \$488.0 million for the prior year period. Earnings per share were \$1.23 versus \$1.10 for the prior year period. Revenues for the quarter increased to \$5,305.0 million from \$5,251.0 million for the same period in fiscal year 2018.

**Eaton Corporation plc (NYSE:ETN)** announced that **Olivier Leonetti** has been appointed to the company's Board of Directors effective April 24, 2019.

**Entegris, Inc. (NasdaqGS:ENTG)** reported first quarter net income of \$32.7 million for fiscal year 2019 as compared to \$57.6 million for the prior year period. Earnings per share were \$0.24 versus \$0.40 for the prior year period. Revenues for the quarter increased to \$391.0 million from \$367.2 million for the same period in fiscal year 2018.

**FARO Technologies, Inc. (NasdaqGS:FARO)** announced that **Michael D. Burger** has been appointed President and Chief Executive Officer of the company, effective June 17, 2019.

**Hubbell Incorporated (NYSE:HUBB)** reported first quarter net income of \$72.3 million for fiscal year 2019 as compared to \$58.3 million for the prior year period. Earnings per share were \$1.32 versus \$1.05 for the prior year period. Revenues for the quarter increased to \$1,087.3 million from \$991.2 million for the same period in fiscal year 2018.

**Lam Research Corporation (NasdaqGS:LRCX)** reported third quarter net income of \$547.4 million for fiscal year 2019 as compared to \$778.8 million for the prior year period. Earnings per share were \$3.47 versus \$4.33 for the prior year period. Revenues for the quarter decreased to \$2,439.0 million from \$2,892.1 million for the same period in fiscal year 2018.

**MKS Instruments, Inc. (NasdaqGS:MKSI)** reported first quarter net income of \$12.5 million for fiscal year 2019 as compared to \$105.1 million for the prior year period. Earnings per share were \$0.23 versus \$1.90 for the prior year period. Revenues for the quarter decreased to \$463.6 million from \$554.3 million for the same period in fiscal year 2018.

**Nanometrics Incorporated (NasdaqGS:NANO)** reported first quarter net income of \$3.0 million for fiscal year 2019 as compared to \$16.4 million for the prior year period. Earnings per share were \$0.12 versus \$0.67 for the prior year period. Revenues for the quarter decreased to \$67.1 million from \$82.3 million for the same period in fiscal year 2018.

**Oshkosh Corporation (NYSE:OSK)** reported second quarter net income of \$128.5 million for fiscal year 2019 as compared to \$110.8 million for the prior year period. Earnings per share were \$1.82 versus \$1.47 for the prior year period. Revenues for the quarter increased to \$1,990.2 million from \$1,886.4 million for the same period in fiscal year 2018.

**Oshkosh Corporation (NYSE:OSK)** announced it has appointed **John C. Pfeifer** as Executive Vice President and Chief Operating Officer, a newly created role, effective May 1, 2019.

**Rockwell Automation, Inc. (NYSE:ROK)** reported second quarter net income of \$346.0 million for fiscal year 2019 as compared to \$227.4 million for the prior year period. Earnings per share were \$2.88 versus \$1.77 for the prior year period. Revenues for the quarter increased to \$1,657.2 million from \$1,651.2 million for the same period in fiscal year 2018.

**Schneider Electric S.E. (ENXTPA:SU)** reported net income of \$2,672.3 million for fiscal year 2018 as compared to \$2,581.7 million for the prior year. Earnings per share were \$4.76 versus \$4.57 for the prior year. Revenues for the year decreased to \$29,448.1 million from \$29,710.6 million for fiscal year 2017.

**Teradyne, Inc. (NasdaqGS:TER)** reported first quarter net income of \$109.1 million for fiscal year 2019 as compared to \$87.0 million for the prior year period. Earnings per share were \$0.62 versus \$0.43 for the prior year period. Revenues for the quarter increased to \$494.1 million from \$487.5 million for the same period in fiscal year 2018.

**Teradyne, Inc. (NasdaqGS:TER)** announced that **Sanjay Mehta** will join the company on April 25, 2019 as Vice President and Chief Financial Officer.

**Terex Corporation (NYSE:TEX)** reported first quarter net income of (\$66.6) million for fiscal year 2019 as compared to \$50.3 million for the prior year period. Earnings per share were (\$0.93) versus \$0.61 for the prior year period. Revenues for the quarter increased to \$1,136.6 million from \$1,116.6 million for the same period in fiscal year 2018.

**Tokyo Electron Limited (TSE:8035)** reported net income of \$2,240.1 million for fiscal year 2019 as compared to \$1,924.3 million for the prior year. Earnings per share were \$13.60 versus \$11.69 for the prior year. Revenues for the year increased to \$11,535.4 million from \$10,646.7 million for fiscal year 2018.

*Note: All per share results are reported on a fully-diluted basis.*

## Selected News – Engineering & Industrial Services

**Aurubis AG (XTRA:NDA)** announced **Roland Harings** will be appointed to the Aurubis AG Executive Board effective May 20, 2019, and will serve as Deputy Executive Board Chairman until June 30, 2019.

**Fastenal Company (NasdaqGS:FAST)** reported first quarter net income of \$194.1 million for fiscal year 2019 as compared to \$174.3 million for the prior year period. Earnings per share were \$0.68 versus \$0.61 for the prior year period. Revenues for the quarter increased to \$1,309.3 million from \$1,185.8 million for the same period in fiscal year 2018.

**John Wood Group PLC (LSE:WG.)** announced that Group Finance Director **Adrian Marsh** has been appointed with effect from 10 May 2019 as a non-Executive Director.

**Lawson Products, Inc. (NasdaqGS:LAWS)** reported first quarter net income of \$4.1 million for fiscal year 2019 as compared to \$1.2 million for the prior year period. Earnings per share were \$0.44 versus \$0.13 for the prior year period. Revenues for the quarter increased to \$91.3 million from \$84.5 million for the same period in fiscal year 2018.

**MSC Industrial Direct Co., Inc. (NYSE:MSM)** reported second quarter net income of \$68.4 million for fiscal year 2019 as compared to \$117.6 million for the prior year period. Earnings per share were \$1.24 versus \$2.06 for the prior year period. Revenues for the quarter increased to \$823.0 million from \$769.0 million for the same period in fiscal year 2018.

**Primoris Services Corporation (NasdaqGS:PRIM)** announced that **John F. Moreno, Jr.** has been hired as its Chief Operating Officer.

**W.W. Grainger, Inc. (NYSE:GWW)** reported first quarter net income of \$253.0 million for fiscal year 2019 as compared to \$232.0 million for the prior year period. Earnings per share were \$4.48 versus \$4.07 for the prior year period. Revenues for the quarter increased to \$2,799.0 million from \$2,766.0 million for the same period in fiscal year 2018.

*Note: All per share results are reported on a fully-diluted basis.*

# MHH Manufacturing Universe Directory

Company	Sector
3M Company	Components & Materials
AECOM	Eng. & Ind. Services
Airbus Group SE	Aerospace & Defense
Akzo Nobel N.V.	Components & Materials
Alps Electric Co. Ltd.	Components & Materials
AMETEK, Inc.	Industrial Equipment
Amphenol Corporation	Components & Materials
Applied Materials, Inc.	Industrial Equipment
Aptiv PLC	Components & Materials
ASML Holding N.V.	Industrial Equipment
Aurubis AG	Eng. & Ind. Services
Autoliv, Inc.	Components & Materials
AVX Corp.	Components & Materials
Axcelis Technologies, Inc.	Industrial Equipment
BAE Systems plc	Aerospace & Defense
Balfour Beatty plc	Eng. & Ind. Services
BASF SE	Components & Materials
Belden Inc.	Components & Materials
Bosch Ltd	Components & Materials
Brooks Automation, Inc.	Industrial Equipment
Cardno Ltd.	Eng. & Ind. Services
Caterpillar Inc.	Industrial Equipment
Celanese Corporation	Components & Materials
Clean Harbors, Inc.	Eng. & Ind. Services
Cohu, Inc.	Industrial Equipment
Commercial Metals Company	Eng. & Ind. Services
Continental Aktiengesellschaft	Components & Materials
Corning Inc.	Components & Materials
Cummins Inc.	Industrial Equipment
Danaher Corporation	Industrial Equipment
Deere & Company	Industrial Equipment
Delphi Automotive PLC	Components & Materials
DENSO Corporation	Components & Materials
Dowa Holdings Co., Ltd.	Eng. & Ind. Services
DowDupont Inc.	Components & Materials
Eaton Corporation plc	Industrial Equipment
Embraer S.A.	Aerospace & Defense
Emerson Electric Co.	Industrial Equipment
Encore Wire Corp.	Components & Materials
Entegris, Inc.	Industrial Equipment
Evonik Industries AG	Components & Materials
FARO Technologies, Inc.	Industrial Equipment
Fastenal Company	Eng. & Ind. Services
Ferro Corporation	Components & Materials
Fluor Corporation	Eng. & Ind. Services
FormFactor, Inc.	Industrial Equipment
General Dynamics Corporation	Aerospace & Defense
HD Supply Holdings, Inc.	Eng. & Ind. Services
Honeywell International Inc.	Aerospace & Defense
Hubbell Incorporated	Industrial Equipment
Huntington Ingalls Industries, Inc.	Aerospace & Defense

Company	Sector
Hyundai Heavy Industries Co., Ltd.	Industrial Equipment
Jacobs Engineering Group Inc.	Eng. & Ind. Services
John Wood Group plc	Eng. & Ind. Services
Johnson Controls Inc.	Components & Materials
KBR, Inc.	Eng. & Ind. Services
KLA-Tencor Corporation	Industrial Equipment
L-3 Communications Holdings Inc.	Aerospace & Defense
Lam Research Corporation	Industrial Equipment
Lawson Products, Inc.	Eng. & Ind. Services
Lear Corp.	Components & Materials
Lockheed Martin Corporation	Aerospace & Defense
MKS Instruments, Inc.	Industrial Equipment
MRC Global Inc.	Eng. & Ind. Services
MSC Industrial Direct Co., Inc.	Eng. & Ind. Services
Nanometrics Incorporated	Industrial Equipment
Navistar International Corporation	Industrial Equipment
Northrop Grumman Corporation	Aerospace & Defense
Nova Measuring Instruments Ltd.	Industrial Equipment
NV5 Global, Inc.	Eng. & Ind. Services
OMRON Corporation	Components & Materials
Oshkosh Corporation	Industrial Equipment
Powell Industries, Inc.	Industrial Equipment
PPG Industries, Inc.	Components & Materials
Primoris Services Corporation	Eng. & Ind. Services
Raytheon Company	Aerospace & Defense
Regal Beloit Corporation	Industrial Equipment
Rockwell Automation Inc.	Industrial Equipment
Rockwell Automation Inc.	Industrial Equipment
Rolls Royce Holdings plc	Aerospace & Defense
Rudolph Technologies, Inc.	Industrial Equipment
Schneider Electric S.E.	Industrial Equipment
Sims Metal Management Limited	Eng. & Ind. Services
Solvay SA	Components & Materials
Stanley Electric Co. Ltd.	Components & Materials
TE Connectivity Ltd.	Components & Materials
Teradyne, Inc.	Industrial Equipment
Terex Corporation	Industrial Equipment
Tetra Tech, Inc.	Eng. & Ind. Services
Textron Inc.	Aerospace & Defense
Thales SA	Aerospace & Defense
The Boeing Company	Aerospace & Defense
Tokyo Electron Limited	Industrial Equipment
Transcat, Inc.	Eng. & Ind. Services
United Technologies Corporation	Aerospace & Defense
Veeco Instruments Inc.	Industrial Equipment
Veolia Environnement S.A.	Eng. & Ind. Services
Vishay Intertechnology Inc.	Components & Materials
W.W. Grainger, Inc.	Eng. & Ind. Services
WESCO International, Inc.	Eng. & Ind. Services
Xcerra Corporation	Industrial Equipment

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## Mergers & Acquisitions

- Advise buyers and sellers (public and private companies)
- Sale of businesses, strategic acquisitions, management buy-outs, and industry build-ups

## Raise Capital

- Equity (control and non-control)
- Mezzanine financing
- Senior and junior debt
- Typically raise capital from banks, finance companies, private investment funds, and private equity groups

## Financial Advisory Services

- Analysis of business strategies and options
- Fairness opinions
- Valuations

### The Mufson Howe Hunter Manufacturing Update Indices

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