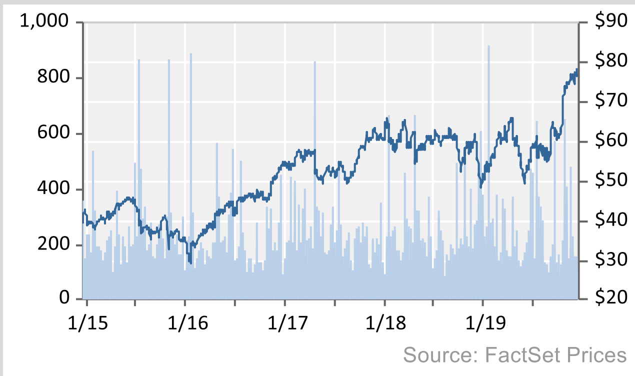
Recommendation: Hold

Current Price	**$79**	---	Ticker	PLXS
1 Year Bear	$37	*-53%*	Sh. Out. ($M)	31
1 Year Base	**$76**	***-4%***	M.Cap. ($M)	2,300
1 Year Bull	$95	*20%*	EV ($M)	2,452

Electronic Manufacturing Services

Plexus Corporation

Price History



	5Y	3Y	2Y	LTM	YTD	3M	1M
Return	108%	45.3%	26.8%	40.1%	51.7%	20.1%	3.5%

Financials

	2015	2016	2017	2018	2019	2020F	2021F
Sales($M)	**2,654**	**2,556**	**2,528**	**2,874**	**3,164**	**3,477**	**3,878**
Gr. %	*11.6%*	*-3.7%*	*-1.1%*	*13.7%*	*10.1%*	*9.9%*	*11.5%*
Cons.	-	-	-	-	-	*5.6%*	*8.3%*
Ind.	*2.2%*	*-0.8%*	*6.1%*	*11.9%*	*6.9%*	*0.91%*	*-4.2%*
EPS	**$2.74**	**$2.24**	***$3.33***	**$0.40**	**$3.59**	**$4.42**	**$5.51**
Gr. %	*8.7%*	*-18%*	*44.6%*	*-88%*	*808%*	*23.2%*	*24.7%*
Cons.	-	-	-	-	-	*17.9%*	*15.2%*
Ind.	*2.4%*	*26.9%*	*-26%*	*-35%*	*3.52%*	*2.2%*	*15.8%*

Ratios

	2015	2016	2017	2018	2019	2020F	2021F
NPM	**3.6%**	**3%**	**4.4%**	**0.5%**	**3.4%**	**3.6%**	**3.7%**
Ind.	*6.15%*	*9.03%*	*8.1%*	*8.5%*	*8.7%*	-	-
ROE	*11.6%*	*8.7%*	*11.5%*	*1.3%*	*12.2%*	*13.4%*	*13.5%*
Ind.	*14.2%*	*22.4%*	*17.5%*	*13.8%*	*15.7%*	-	-
ROA	*5.7%*	*4.4%*	*5.9%*	*0.7%*	*5.5%*	*5.8%*	*6.1%*
Ind.	*6.4%*	*10%*	*8.0%*	*7.2%*	*7.9%*	-	-
A T/O	1.6	1.47	1.34	1.46	1.61	1.60	1.64
A/E	2.02	1.93	1.93	2.1	2.31	2.14	2.09

Valuation

	2015	2016	2017	2018	2019	2020F	2021F
P/E	13.9	20.9	18.9	15.8	22.6	18.9	16.6
Ind.	15.6	10.9	18.6	22.8	15.5	19.9	13.3
P/S	0.49	0.62	0.77	0.69	0.61	-	-
P/B	1.5	1.7	1.8	2.3	2.0	-	-
P/CF	17	12.5	11.3	23.3	54.1	-	-
EV/EBITDA	9.8	12.7	12.2	12.6	16.7	-	-
D/P	-	-	-	-	-	-	-

Email: bwjensen@uwm.edu
Phone: 920-901-2084

Summary

I recommend a neutral rating with a target of $76. Plexus is very diversified in both the geographic regions and market segements it serves, retains a competent team of managers, and is currently poised to capture significant growth in the 2020s. But, many of Plexus's fundamentals are below the industry average while its valuation puts PLXS at a premium over the industry. Although it is well-run company with great growth prospects, Plexus needs time for its fundamentals to improve and match its current valuation.

Key Drivers

- Emerging markets exposure: The EMS industry has overexposed itself to China and, in turn, the U.S. – China trade war, leaving Plexus able to capture some of its competitors market share.
- U.S. macro-economic trends: Plexus's competition is more dependent on industries that are cyclical with the U.S. economy and may not see much growth going into the future.
- Healthcare equipment sales: PLXS's largest segment in terms of sales has grown significantly over the last decade. Pent-up demand in electromedical devices and its regulatory expertise should drive even more growth over the near future.
- Aerospace/defense growth: The increase in funding for the U.S. DoD's F-35 program and introduction of the Space Corps gives PLXS the unique opportunity to capture growth without any threat from its competition.

Valuation

Using a relative valuation approach, Plexus appears to be fairly valued in comparison to the EMS industry. DCF analysis implies that the stock is worth $79. A scenario analysis suggests that Plexus is overvalued, with a target price of $66. Overall, Plexus is currently fairly valued as the stock's value is about $75 and the shares trade at $78.

Risks

- Every geographic region PLXS operates in is fraught with political uncertainty.
- Overly dependent on a relatively small group of customers.
- Shifts in the value of the currencies PLXS does business in.

Company Overview

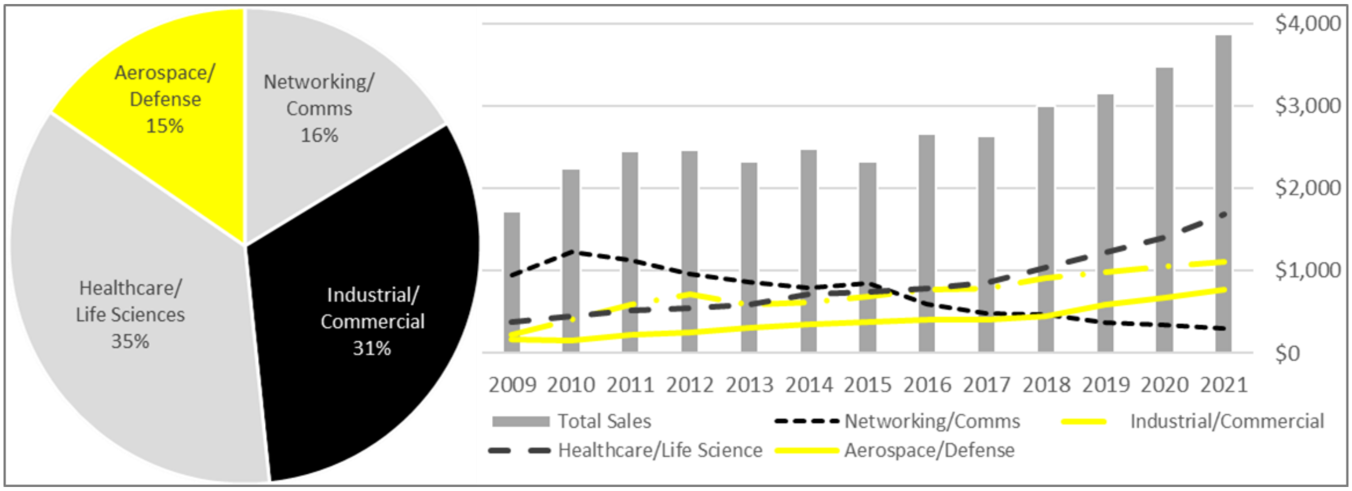
Plexus Corporation (PLXS, Plexus Corp, or Plexus) is an electronic manufacturing services (EMS) company based in Neenah, Wisconsin and was founded in 1979. Plexus is focused on the design and manufacture of low- to mid-volume/high-margin and high-complexity products. It works with around 140 customers in the healthcare/life sciences, industrial/commercial, communications, and aerospace/defense markets. Examples of Plexus's products and services in these markets are as follows:

1) Healthcare/life sciences: surgical devices, hospital and in-home monitoring, diagnostic imaging, pharmaceutical solutions, and DNA sequencing.
2) Industrial/commercial: semiconductor equipment, industrial equipment, computing and self-service retail kiosks.
3) Communications: wireless infrastructure, network management, cellular communications, and data center management.
4) Aerospace/defense: unmanned aircraft systems, ballistic and munition systems, engine and power controls, cockpit/flight instrumentation, lighting systems, and radar.

Although it is smaller and more regional than some of its larger competitors, Plexus's manufacturing footprint is still consistent in size relative to other low-volume/high-margin EMS companies. There are 23 active facilities located across the world, totaling roughly 4M square feet. There five manufacturing and 3 engineering facilities totaling 1.3M sq. ft. in the United States, and one mixed-use (e.g. manufacturing and engineering) facility totaling 265,000 sq. ft. in Mexico. Malaysia contains a 1.48M sq. ft. mixed-use facility, there are also three manufacturing facilities in China totaling 489,000 sq. ft., and a 12,000 sq. ft. manufacturing facility in Singapore. Romania is home to a 296,000 sq. ft. mixed-use facility, along with a manufacturing and a mixed-use facility in Scotland, equal to 119,000 sq. ft. when combined, and a 21,000 sq. ft. engineering facility in Germany.

Plexus's strategy to differentiate its business from its EMS competitors is by avoiding commodity-oriented, high-volume EMS products in market sectors such as consumer electronics and automotive, and instead focused on low- to mid-volume production runs that require the use of specialized processes and/or capabilities such as technology, quality, and regulatory certifications.

Figures 1 & 2: Share of sales by segment (right), total and segment sales in thousands (left)



Source: Company reports

The decade between 2009 and 2019 saw impressive growth for Plexus. Total sales grew by 83% from $1.7 to nearly $3 billion, its industrial/commercial segment grew by 337% from $224 to $918 million in sales, aerospace/defense grew by 241% from $173 to $445 million, healthcare/life sciences grew by 241% from $380 million to $1 billion, and networking/communications shrank by 61% from $950 to $471 million. The shrinking of Plexus's networking/communications segment's sales over this time period shouldn't be alarming as the margins in this segment, according to management, started to drop around 2010 and management decided the segment would be slowly phased out by accepting no new design and/or manufacturing contracts from new customers. Since Plexus's total sales growth for the past decade has came from its other three segments, it is anticipated that this will continue over the next two years with sales growth of 8% in 2020 and 10% in 2021 for its industrial/commercial segment, 15% in 2020 and 2021 for its aerospace/defense segment, and 15% in 2020 and 20% in 2021 for its healthcare/life sciences segment. Networking/communications will have a moderate negative growth of -10% in both 2020 and 2021, and total sales will grow by approximately 10% in 2020 and 12% in 2021. Geographically, sales growth between 2009 and 2019 was mainly driven by the APAC region with its sales increasing by 160% from $0.59 to $1.55 billion, sales to the EMEA region grew by 460% from $56 to $310 million, and sales to the AMER region grew by roughly 30% from $1.1 to $1.4 billion. Over the next two years, it is expected that sales growth in the APAC region will become more moderate with 8% in 2020 and 9% in 2021, growth in the AMER region will be better than average with 11% in 2020 and 12% in 2021, and finally growth in the EMEA region will grow quicker than total sales with 12% in 2020 and 19% in 2021.

Business/Industry Drivers

Plexus Corporation is a very well diversified company with many factors contributing to its success, yet the following are the drivers that hold the most potential to provide growth into the future:

1) Exposure to emerging markets
2) U.S. macroeconomic trends
3) Healthcare equipment spending
4) Aerospace/defense growth

<u>Exposure to Emerging Markets</u>

The EMS industry has over-exposed itself to the political uncertainty between China and the U.S.

The EMS industry, specifically its constituents based in developed markets, have witnessed the rise of Asia-based competitors such as Hon Hai Precision and Foxconn Technology over the last 20 years. Luckily, these Asia-based competitors carved out a niche in the high-volume/low-margin products of the EMS industry, while many of those outside of Asia no longer compete in this product space. This has left the low- to mid-volume/high-margin and high-complexity product space relatively underserviced in these markets. Yet, there are still countries outside of Asia that can be considered emerging and two of them, Mexico and Romania, have been of interest for Plexus.

The U.S. based EMS industry was relatively successful in growing its revenue in emerging markets between 2018 and 2019. Revenues from Mexico grew by 15.5%, Singapore by 16.6%, and Malaysia by 3.9%, while also shrinking exposure to the United States, Germany, Japan by 0.1%, 3.6%, and 0.9% respectively. Paradoxically, industry revenue exposure to developed markets grew from 61.7% to 62.2% while emerging markets exposure shrank from 34.4% to 34.1%, chiefly due to the industry's revenue share per country. The top eight countries in terms of share for the U.S. based EMS industry are: United states at 26%, China at 20%, Switzerland at 14.9%, Singapore at 3.5%, Mexico at 3.4%, Germany and Japan at 3.2%, and Malaysia at 2.7%.

Figure 3: PLXS Share of Sales and Growth of Sales by Reported Country

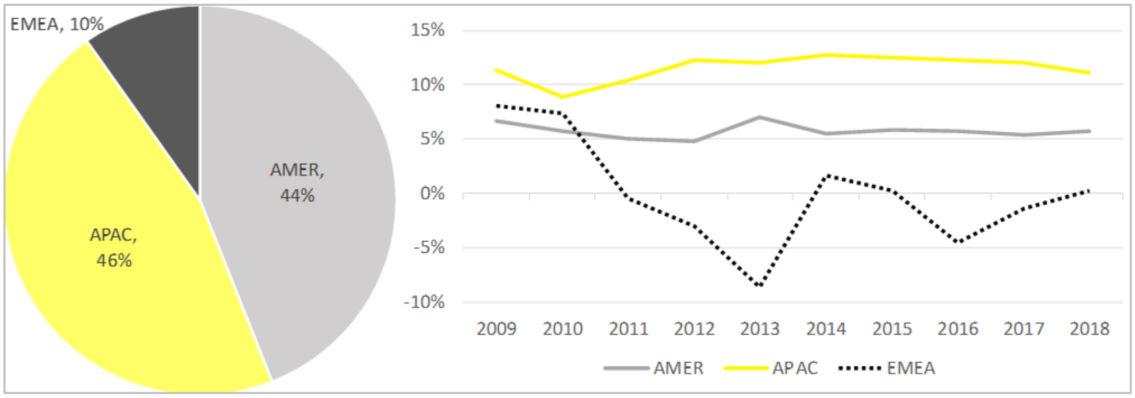
Share of Sales	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020E	2021E
United States	58.3%	51.3%	48.5%	47.0%	43.1%	47.8%	46.3%	42.6%	37.3%	33.4%	36.3%	36.7%	36.8%
Malaysia	29.7%	35.1%	34.0%	35.5%	37.6%	32.1%	32.9%	31.7%	35.6%	37.3%	34.5%	34.0%	33.3%
China	4.4%	6.1%	9.2%	9.7%	11.5%	13.4%	12.8%	11.9%	12.9%	12.7%	12.7%	12.5%	12.3%
United Kingdom	3.2%	3.2%	3.1%	2.5%	3.5%	2.9%	2.5%	3.1%	2.7%	3.0%	3.0%	3.1%	3.3%
Mexico	4.5%	4.2%	4.6%	4.0%	2.5%	2.0%	3.1%	7.3%	6.9%	7.3%	7.0%	7.1%	7.1%
Romania	0.0%	0.0%	0.7%	1.4%	1.6%	1.6%	2.3%	3.1%	4.3%	5.9%	5.9%	6.1%	6.5%
Germany	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.2%	0.3%	0.4%	0.4%	0.4%	0.5%
Emerging	38.5%	45.5%	48.5%	50.5%	53.3%	49.1%	51.0%	54.1%	59.7%	63.1%	60.2%	59.7%	59.2%
Developed	61.5%	54.5%	51.5%	49.5%	46.7%	50.9%	49.0%	45.9%	40.3%	36.9%	39.8%	40.2%	40.6%

Growth of Sales	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020E	2021E
United States	14.2%	3.7%	-3.0%	-13.2%	18.3%	9.7%	-13.0%	-13.2%	1.6%	8.9%	0.9%	0.4%
Malaysia	53.7%	6.2%	4.3%	0.6%	-9.0%	16.0%	-8.8%	11.3%	18.9%	-7.4%	-1.5%	-2.1%
China	81.8%	64.9%	5.0%	13.0%	24.4%	7.7%	-11.8%	6.9%	12.0%	0.3%	-1.5%	-2.1%
United Kingdom	28.7%	5.9%	-20.4%	35.4%	-11.3%	-2.9%	16.4%	-14.3%	30.3%	-0.5%	2.1%	7.1%
Mexico	22.3%	19.0%	-11.5%	-41.1%	-14.4%	71.3%	126.3%	-6.6%	20.2%	-3.3%	0.9%	0.4%
Romania	10980.0%	1389.0%	105.1%	12.7%	2.4%	67.4%	28.1%	36.6%	54.9%	0.7%	2.1%	7.1%
Germany	0.0%	0.0%	0.0%	130.4%	58.3%	4.5%	4.9%	71.4%	56.0%	-1.7%	2.1%	7.1%
Emerging	18.2%	6.4%	4.3%	5.5%	-7.8%	3.9%	6.0%	10.3%	5.8%	-4.6%	-0.8%	-0.8%
Developed	-11.4%	-5.4%	-4.0%	-5.6%	9.0%	-3.8%	-6.3%	-12.2%	-8.5%	8.0%	1.0%	1.0%

Source: Company reports

Compared to Plexus Corporation, the EMS industry is more exposed to China (20% vs PLXS' 12.7%), but less exposed to Mexico (3.8 % vs 7%), Malaysia (2.5% vs. 34.5%), Romania (<2% vs. 5.9%) , and emerging markets overall (33.4% vs 53.9%). While many see exposure to China as a sure-fire way to ensure future growth, the current geopolitical reality is far less certain. The U.S.-China trade war has been ongoing since June 2018 and while there has been a phase one deal, that is no guarantee that it will be over any time soon. I believe that due to Plexus's exposure to China being 8% less than the industry average, it is in a relatively enviable position to be relatively more sheltered from this political uncertainty. Industry revenue from China has already started to slip, with a -4.1% change between 2018 and 2019 versus Plexus's -1.1%. Looking at comparable EMS companies, I don't believe that the difference in performance is due to non-Plexus EMS companies having a greater manufacturing/design footprint in China compared to its overall presence in Asia. Instead, I believe it's due to the end-markets of its products as the EMS industry average exposure to the semiconductor industry is 29.73% of revenues. While PLXS is also exposed to this industry, it falls under its industrial/commercial segment and according to management, the company's exposure to semiconductors has waned in the last few years. The three-month moving average of worldwide semiconductor shipments has dropped roughly 20% since its peak in October of 2018, with China exporting approximately 25% of the world's semiconductors. All of this leads me to believe that Plexus can weather the storm and possibly gain market share in China, despite the current tensions and softness is the semiconductor space, due to its unique product mix and lack of revenue exposure to the country when compared to the industry.

Figure 4: PLXS revenue share in 2018 (left) and gross margin (right) by region



Source: Company reports

Moving to Mexico, Malaysia, and Romania, I believe that these countries hold much better opportunities in the short term when compared to China. Looking at figure 4, it may seem odd to suggest that Romania could spark growth when the gross margin in the EMEA region is often negative. But I believe that margins are lackluster in this market is because Plexus doesn't have a large manufacturing footprint in EMEA, it has a large design footprint and the margins in this industry come from manufacturing products. There is a silver lining though, as design work can be turned over into manufacturing contracts at a rate of 20% for new customers and 80% for existing customers. This means the current margins in the EMEA are forgivable because the design work done in this region can support manufacturing work done in the Americas and APAC which in turn, keeps margins in those regions relatively high. I believe that the recent uptick of margins in the EMEA region is indicative of a return of manufacturing activity to Europe for Plexus; granted that EMEA margins aren't likely to be as high as APAC's due to the difference in labor costs. If, for instance, margins were to rise to be 2% versus the 1% average margin PLXS has had so far in 2019, then that would double operating income for the region. This is not out of the realm of possibility for 2020, if the current trend of rising margins since 2016 holds.

On the other hand, Mexico and Malaysia are currently more geared towards manufacturing as seen by the gross margin of their respective regions. Plexus has it invested heavily into upgrading and expanding facilities in these countries between 2018 and 2019. Sales to Malaysia, despite growing to become Plexus's largest market, grew at an average of about 10% a year for the last decade while sales to Mexico grew 20% a year. While over the same period, Mexico's GDP grew at an average of 2.5% a year and Malaysia's grew at 6.4%. I believe that this shows Plexus can consistently outgrow, and in turn penetrate, many of the markets it enters. Overall, I am convinced that Plexus is better situated to capture the growth in emerging markets when compared to its rivals.

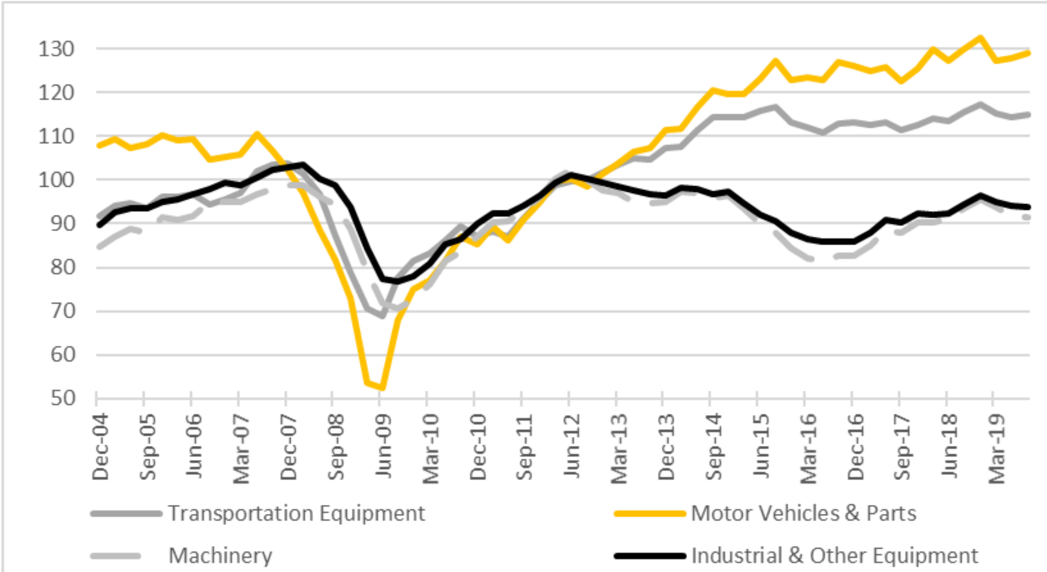
<u>United States Macroeconomic Trends</u>

The United States has always been an important market for Plexus despite its share of sales steadily declining by approximately 2.5% a year since 2009 and finally losing its place as Plexus's largest source of sales to Malaysia in 2018. The U.S. maintains its importance because many customers, suppliers, partners, etc. to Plexus and its competitors do business and are headquartered there. Various correlations were run between Plexus and its competitors' performance against the U.S. nominal GDP over the last ten years, a 15 month (approximately 5 fiscal quarters) lagged GDP provides the highest correlation and R^2 for both Plexus and its competitors' at approximately 0.6 and 0.4. Statistically speaking, the performance of Plexus and its competitors is semi-independent of the U.S. GDP. Plexus has 33.4% share of sales to the U.S. versus the EMS industry average of 26%, the reason behind Plexus and its peers having the same correlation and R^2 is likely due to their product segments. Appendix 10 shows that Plexus has more exposure to healthcare/life sciences and aerospace/defense markets, which tend to grow independently

PLXS's competitors are more dependent on cyclical industries that have showed little opportunities to grow, while PLXS is dependent upon industries that grow independent of the economic cycle.

of the economy, while its average competitor has more exposure to industrials and automotive/transportation which is more cyclical and dependent on the economy.

Figure 5: U.S. Industrial Production (Levels, March 2012 = 100)



Source: FactSet/Federal Reserve System

Figure 5 plots 15 years of the industrial production levels for transportation, industrial and other equipment, durable machinery and, motor vehicles and parts. If one assumes that the Great Recession lasted from December 2007 to June 2009, then it can be said that June 2012 marks when production recovered to pre-recession levels. Since that point, production levels of machinery, along with industrial and other equipment, have continued to decline, and even though there was a slight increase between roughly December 2016 and September 2018, neither have hit their pre-recession levels. On the other hand, production levels for transportation equipment and, motor vehicles and parts, continued to increase after June 2012 until about June 2015. After that point, production levels for both categories have relatively stagnated. I believe that this paints a rather bleak picture. While it's obvious that transportation industry has recovered since the recession, the relative stagnation of production over the last four years, in conjunction with the decrease in production levels for machinery and industrial equipment, could be indicative of a weakening in demand.

Looking into the near future, there are essentially three possible states for the U.S. economy: continued growth, stagnation, or it could decline. I believe that if the economy continues to grow, then industrial production for these products should stay on its sideways trend. If economic growth stagnates, then industrial production may either stay on trend or pull back. If the economy shrinks, then industrial production could see a drop like what was seen during the Great Recession. This leads me to believe Plexus's competitors that serve the industrial and automotive/transportation markets have little potential upside and a very large downside. Also, even though Plexus is also exposed to the industrial market, it is smaller than its competitors, and the growth in its healthcare/life sciences and aerospace/defense segments should be able to make up for any lost sales. Overall, I believe that future performance in the U.S. for EMS companies is dependent upon what product markets it serves and, in relation to its competitors, Plexus is far better suited to grow sales in the U.S. irrespective of what point in the economic cycle the country is at.

Healthcare Equipment Spending

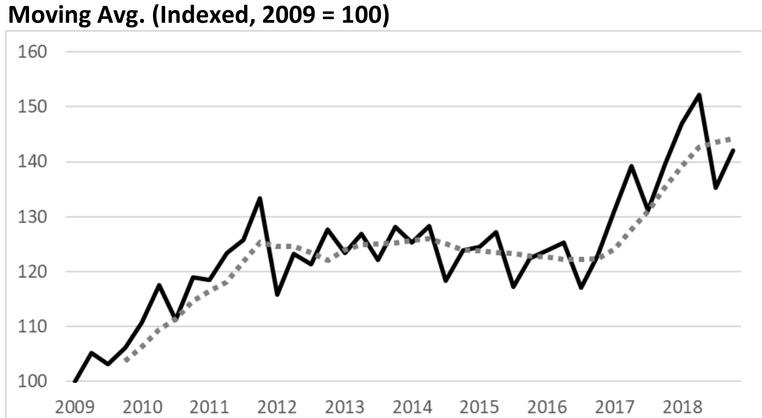
Much like emerging markets in the geographical sense, healthcare is one of the quickly growing sectors in which the EMS industry has been attempting to break into. So far, there are currently only four U.S. based EMS companies have reported exposure to this sector. Those companies are Methode Electronics, Benchmark Electronics, CTS Corporation and Plexus with 0.1%, 15%, 8.6%, and 36.2% share of sales respectively. This gives Plexus 11.2% more exposure than its closest competitor and 28.3% more than the average (0.362 - [(0.001 + 0.15 + 0.086) / 3]).

PLXS can bring new healthcare equipment to market in as little 18 months versus the average of 3-7 years.

Compared to its competitors, only Methode Electronics has had sales in this industry for as long as Plexus. The difference is that Plexus has kept its share of total sales in healthcare above 20% over the last ten years while Methode Electronics peaked at 3.2% in 2013 and subsequently dropped since then to its current 0.1% share of sales. The other two companies in this space are relative newcomers with Benchmark Services entering in 2013 and CTS Corporation in 2018. Yet, both have been more successful than Methode Electronics, with healthcare representing 15% of sales for Benchmark Electronics and 8.6% for CTS Corporation.

While the healthcare industry is very diverse in the services and products they provide to consumers, Plexus's products in this space, I believe, can be represented by electromedical equipment. Looking at figure 6, the growth of new orders over the last ten years averaged approximately 4% per year, but between 2009 and 2016, growth averaged about 2.8% a year, and then new order growth averaged about 8.3% a year until 2019. I believe that the recent acceleration in growth of instruments is due to a build up of demand which could have occurred between 2012 and 2016 where new orders stayed relatively flat. If growth stayed on trend from 2012 until 2019, then the index would have ended 2016 with a value of 146 and would now approximately be around 160. Instead, the index is currently sitting at 142, which would mean that there is still a 12.7% upside that has yet to be realized as there haven't been any shifts in the population distribution of the United States that could explain why there would be decreased demand than projected.

Figure 6: New Orders of Electromedical Instruments and Four-Year Moving Avg. (Indexed, 2009 = 100)



Source: FactSet

The last way that Plexus can capture growth in this market space, is that Plexus has the regulatory certifications and experience to bring products to market with FDA approval in as little as 18 months. In the fast-paced world of innovation and introduction of new technologies into the healthcare equipment and the healthcare industry in general, this fast track towards FDA approval is enticing for current and would-be Plexus customers as bringing a new medical device to market takes an average of three to seven years. I believe that this is one of Plexus's biggest competitive advantage in healthcare. Being able to bring products to life and pass FDA approval in at least half the time of the average, I believe, signals to potential customers that Plexus is one of, if not the, best EMS company serving the healthcare industry. There are many opportunities in healthcare and medicine over the next decade, from dealing with an aging population to the widespread adoption of robotic surgery to the breakthroughs that people haven't thought of yet, there will always be a need for inventing and improving healthcare technology and Plexus will be there to serve those needs.

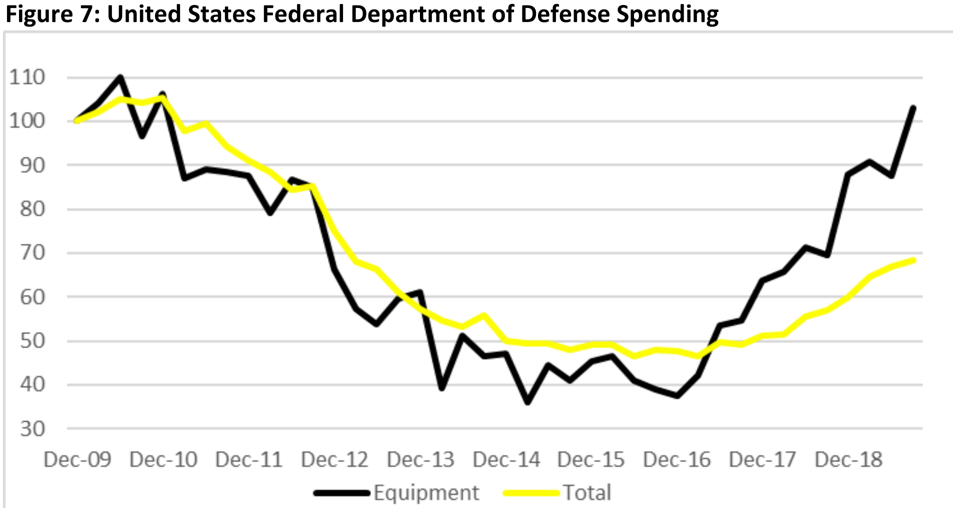
Aerospace/Defense

PLXS is deeply entrenched in the aerospace/defense industry with its customers being among the largest.

This market represents a significant opportunity for the EMS industry. Asia-based EMS companies are unable to penetrate this market in western countries for two reasons. As mentioned earlier, Asia-based EMS companies are focused on non-complex products with high volume. The other reason is due to fears from western governments that Chinese companies have been reproducing/stealing foreign technology and, as seen in the recent case of Huawei and the U.S. government, possibly letting its products be used by its own government to commit acts of espionage. This has forced the western aerospace/defense industry to work nearly exclusively with suppliers from trusted countries and fortunately for Plexus, only two other competitors are in this sector. Benchmark Services' and CTS Corporation's aerospace/defense segments share of sales equal 16% and 5%, compared to 15.5% with Plexus. Benchmark's known customers are small, and more satellite communication focused. On the other hand, Plexus serves large firms such as, General Electric United Technologies, Lockheed Martin and Boeing. Overall, Plexus is more diversified in its products and has stronger ties towards working with the Department of Defense.

Plexus is one of the only EMS companies in this market and its customers are some of the largest players in the industry, so it has a widely varied service and product space. Its parts and services are found on a majority of active commercial and military aircraft today. Every Boeing 700 series and Airbus A300 series airplane (except the A340), various Gulfstream jet models, Comac's C919, Lockheed's C-5, C-17, and C-130, the F-16, -18, and -35, Rockwell's B-1 Lancer, the P-8 Poseidon, and the UH-60, AH-64, and CH-47 helicopters all contain Plexus's mark in one way or another.

Figure 7: United States Federal Department of Defense Spending



Source: Dept. of Defense, FactSet

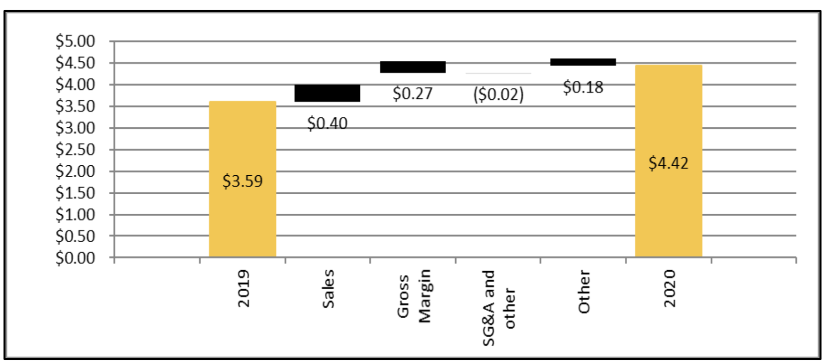
The 2019 and 2020 National Defense Authorization Acts and Department of Defense budgets suggests that new orders for the AH-64, UH-60, and P-8 Poseidon will remain flat. However, orders for the CH-47 helicopters will increase by 29%, and funding for the ongoing F-35 testing and procurement program will get a roughly 20%, or $1.5B, increase. As seen in figure 7, federal defense spending overall and on equipment (i.e. non-structural spending) has risen significantly since seeing sharp cuts of funding during the Obama Presidency. Spending on equipment has risen roughly 175% since December of 2016, but that only brought it back to early 2010 levels. Considering that Plexus's sales to the aerospace/defense industry has grown 126% since 2009, this implies that Plexus has grown in the commercial aerospace/defense industry. While growth in the DoD's budget/spending levels can help Plexus achieve greater than average growth in this segment over the short term, there is also another opportunity on the horizon that can propel growth throughout the 2020's and beyond.

Although NASA's budget no longer at the forefront of government spending, the military's budget certainly is, and with the United States Space Corps soon to become the sixth branch of the U.S. Armed Forces, this presents a fantastic opportunity for PLXS. Currently there is a five-year plan to transfer assets and build up the capabilities of the Space Corps with further congressional funding to be awarded in the 2021 National Defense Authorization Act. Granted it is unknown what level of funding this branch will receive, it is not out of the realm of possibility to conclude that this will become one of the, if not the, biggest branches of the military over the coming decades. With China investing heavily in its own space-based technologies whether they be for exploration, commercial, or military applications, I firmly believe that the United States government will respond in kind, possibly leading to a second space race. Considering that Plexus's products are found in products manufactured by General Electric, United Technologies, Lockheed Martin, and Boeing, I believe that the U.S. Space Corps can provide steady growth opportunities for Plexus throughout the 2020s and beyond.

Financial Analysis

I believe that over the next two years, Plexus's EPS will grow to $4.42 by the fiscal year-end of 2020 and to $5.51 by 2021. In 2020, I expect the $0.83 increase in EPS to come from two main sources: sales and gross margin. Sales should contribute a little under half of total growth at $0.40. Gross margin improvements should contribute an additional $0.27, or about 31.8% of total growth. SG&A and other expenses, as a percent of sales, are set to grow as well, which translates to a $0.02 decrease in EPS. While miscellaneous (interest and tax expenses along with PLXS's share count) will contribute the rest of the expected EPS growth with an $0.18 increase.

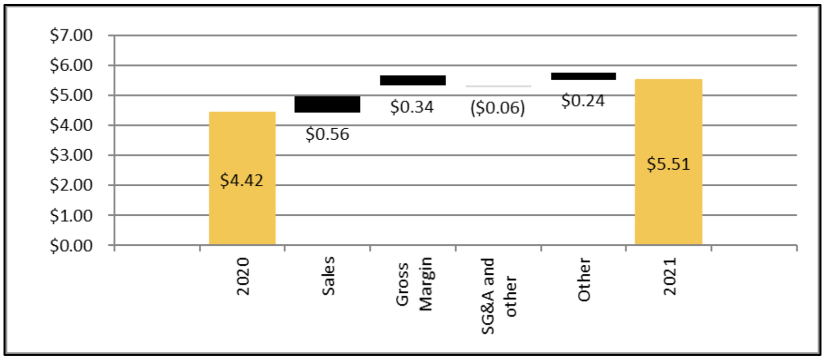
Figure 8: Quantification of 2020 EPS drivers



Source: Company Reports, IMCP

In 2021, I expect that there will be a $1.09 increase in EPS to $5.51. Much like in 2020, sales and improving gross margin will still contribute the most towards this growth with $0.56 and $0.34, or approx. 50% and 30% of growth, respectively. SG&A and other expenses should continue to rise, this time providing a $0.06 decrease to EPS. Miscellaneous should play a larger role during 2021, growing to contribute $0.24, or roughly 21% of EPS growth.

Figure 9: Quantification of 2021 EPS drivers



Source: Company Reports, IMCP

Over both years, sales are expected to grow as Plexus continues to expand in the healthcare/life sciences and aerospace/defense markets, and the EMEA region. Gross margin is set to grow as the company continues to shrink its less profitable communications segment. I believe miscellaneous will grow in its contribution due to a slight reduction in its interest and tax burden, along with the assumption that Plexus continues to buy back $50 million worth of stock per year in 2020 and 2021, as the firm did in 2019.

According to FactSet Earnings Insight, in 3Q19, 76% of S&P 500 companies beat EPS estimates with an average of 3.8% above estimates, while 61% beat sales estimates with an average of 0.9% above, all of which are above the five-year average. Over the last five years, PLXS beat EPS estimates 75% of the time with an average of being 2.48% above estimates, and sales estimates were beaten 70% of the time with an average of being 0.49% above estimates. If we take the S&P 500 to be representative of an "average public company," then I believe that the estimates for Plexus are slightly pessimistic relative to an average company.

Plexus's 2020 EPS estimates had a mean of $4.09 with a low of $4.04 and high $4.16. For 2021, the mean is $4.66 with a low of $4.45 and high of $4.92. It does seem that I am being overly optimistic relative to the brokers' estimates; but, according to FactSet's estimate history for Plexus, there seems to be a trend of brokers upgrading their estimates in the months leading up to Plexus's earnings release dates. This leads me to conclude that brokers' estimates tend to start overly pessimistic and considering that their estimates end up being slightly pessimistic come PLXS's earnings release date, I believe that my estimates, as optimistic as they are, aren't out of the realm of possibility.

Figure 10: EPS and YoY growth estimates by quarter

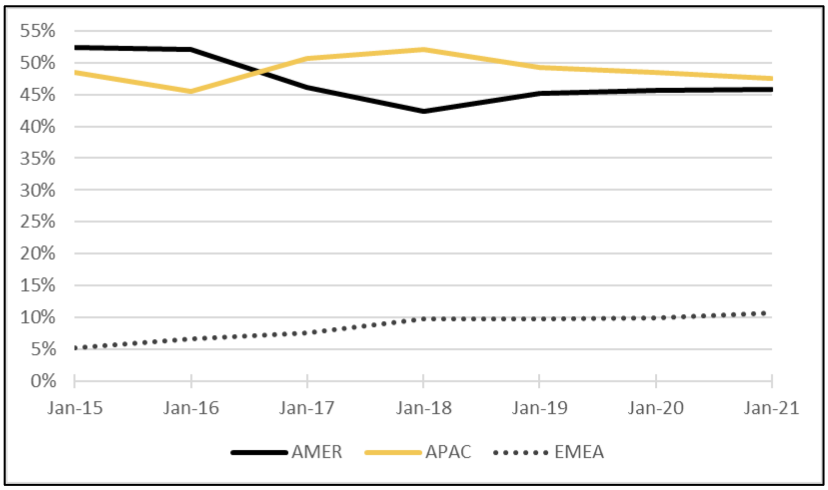
Fiscal Year	2015	2016	2017	2018	2019
Sales - Quarters Beat	3	3	2	3	3
Avg Quarterly Sales Surprise	0.90%	0.28%	-1.10%	0.50%	1.85%
EPS - Quarters Beat	3	4	4	2	2
Avg Quarterly EPS Surprise	0.70%	5.08%	5.68%	0.03%	0.93%
				Sales	EPS
	% of Quarters Beat over Period			70%	75%
	Avg Surprise over Period			0.49%	2.48%

Source: FactSet

Sales/Revenues

Plexus's total sales seem to have hit speedbumps in 2016 and 2017, while growth rapidly picked up in 2018 and 2019. However, this can be misleading as Plexus has been working on shrinking its lower-margin communications segment, which posted a 29.7% decline in 2016 and 20% decline in 2017. Controlling for that segment, combined sales to the other three segments grew by roughly 8.5% and 4.7% in 2016 and 2017 respectively, with the slower growth in 2017 attributed to sluggish demand in its industrial products and service. Considering that its communications segment was 32% of total sales in 2015 and 11.8% in 2019, I believe that this segment will see more modest declines over the next two years, equating to roughly 10% per year, which should have a relatively negligible impact on total sales growth growing forward.

Figure 11: PLXS Geographic Share of Total Sales



Source: Company Reports, IMCP

Geographically, as seen in figure 11, the share of sales for the AMER region decreased by nearly 10% between 2015 and 2018 as APAC and EMEA grew by 3.7% and 4.5% respectively. 2018 is an important year as the U.S. – China trade war was initiated on July 6th. Due to this, growth of sales in the APAC region decreased from 17.1% growth in 2018 to a modest 4% in 2019. Luckily, Plexus saw excellent sales growth of 17.3% in 2019 for the AMER region along with the continuation of double-digit growth in the EMEA region. While the AMER and APAC regions have been vying to be PLXS' largest geographic segment, the EMEA region has steadily grown its sales, a little over doubling it by 2018 and ending with a share of sales equal to 9.8%. Lastly, the elimination of inter-segment sales has had a relatively small impact on total sales. Its share of sales has stayed in the -4% to -4.5% range over the past four years after falling from -6.1% in 2015. This rises from companies with multi-national sales naturally transferring products between locations as needed and this category essentially falls under the materiality and full disclosure accounting conventions.

Figure 12: Disaggregated Revenues (Percent of Sales to Region)

	1Q19			2Q19			3Q19			4Q19		
	AMER	APAC	EMEA	AMER	APAC	EMEA	AMER	APAC	EMEA	AMER	APAC	EMEA
Healthcare/Life Sciences	33%	45%	46%	35%	40%	44%	35%	42%	40%	35%	41%	39%
Industrial/Commercial	24%	34%	27%	26%	38%	32%	25%	37%	29%	26%	40%	26%
Aerospace/Defense	18%	12%	25%	21%	14%	23%	22%	13%	30%	21%	16%	53%
Communications	26%	9%	3%	19%	9%	1%	18%	7%	1%	18%	4%	2%

Source: Company Reports

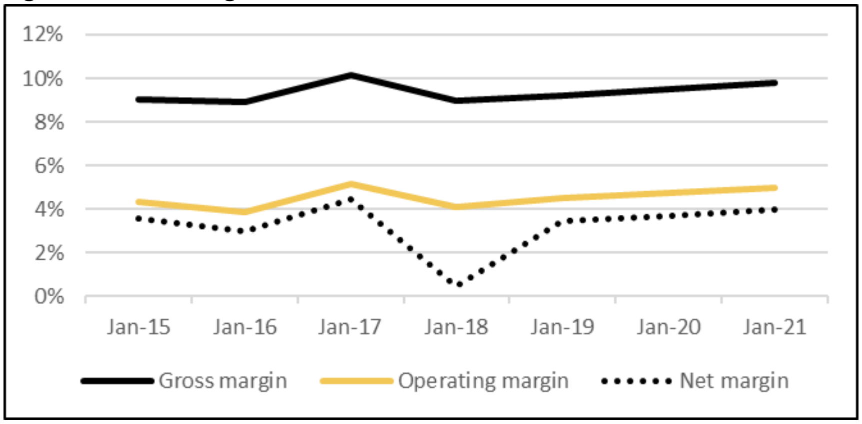
Starting in the first quarter for fiscal year 2019, Plexus reported disaggregated revenues by geographic and market segment, which is shown in figure 12. Although this isn't a long enough time period to be able to extrapolate the trends seen into the future, it does give a rough look at what market segments its geographic regions depend on most. Overall, the healthcare/life sciences segment are the biggest source of sales across all regions, APAC is more dependent on sales to the industrial/commercial segment relative to AMER and EMEA, and AMER has a strong, albeit weakening, dependence on the communications segment. It is important to note that total sales in the EMEA region is roughly between a fifth to a fourth of the total sales relative to the AMER and APAC regions, which is why one sees rapid growth in the aerospace/defense segment's share of sales between the third and fourth quarters. Taking that into account, I believe that it is reasonable to conclude that sales in the AMER and EMEA regions are relatively diversified, while the APAC region is dependent on the healthcare/life sciences and industrial/commercial segments.

Growth in the AMER region will come mainly from an increase in the DoD's budget and the funding for its F-35 program, with the rest being made up of a mix between commercial aerospace along with its industrial/commercial and healthcare/life science segments. The APAC region will see some growth in the next two years, although I believe it will be hampered by a lack of sales growth in China, whether the trade war is fully resolved or not, as Plexus plans to continue to shift some of its current manufacturing capacity out of China and into Malaysia and Mexico according to the 2019 analyst day transcript. The EMEA region has seen the most growth in the last five years as Plexus has steadily built up its capabilities and manufacturing wins. I expect this trend to continue as its Romania facility is currently slated to add on a large manufacturing program for its industrial/commercial segment, which I believe is a good indicator of an increase in opportunities for the region.

Operating Income and Margins

Due to having a variety of products and limited facilities, this means a significant portion of Plexus's costs are associated with having to ramp up/prepare manufacturing space in order to make a product (i.e. change production line layouts, get equipment ready, purchase and move raw materials into place, etc.). As seen in figure 13, over the past five years gross margin has stayed relatively stable around 9%, except for 2017 when it was 10.1%.

Figure 13: PLXS Margins



Source: Company Reports, IMCP

While margins are expected to increase for PLXS, they are limited by having a diverse product space.

Operating margins fell in 2018 due to the drop in gross margin. The company's 'SG&A and other' expense category stayed relatively flat between 2015 and 2017 before growing by 10.6% in 2018 and 7.5% in 2019, which lagged sales growth by roughly 3% for both years. Net margins move nearly in lockstep with operating margins as Plexus's interest and tax expenses have each stayed between 0.3% and 0.5% of total sales. The exception to this is in 2018, and this is because Plexus had a black swan event and its tax expense increase by approx. 850% from a combination of changes in U.S. tax law, repatriation of cash, and expiration of deferred tax credits.

Figure 14: PLXS Operating Margins, 2015 – 2021E

	2015	2016	2017	2018	2019	2020E	2021E
Sales	$ 2,654,200	2,556,000	2,528,100	2,873,500	3,164,434	3,476,760	3,878,163
Sales Growth		-3.7%	-1.1%	13.7%	10.1%	9.9%	11.5%
Direct costs	$ 2,414,650	2,328,641	2,272,245	2,615,900	2,872,596	3,146,468	3,498,103
Gross Income	$ 239,550	227,359	255,855	257,600	291,838	330,292	380,060
Gross Margin	*9.0%*	*8.9%*	*10.1%*	*9.0%*	*9.2%*	*9.5%*	*9.8%*
Operating Expenses							
SG&A and Other	$ 124,114	127,920	125,947	139,317	149,783	165,146	186,152
Growth		*3.1%*	*-1.5%*	*10.6%*	*7.5%*	*10.3%*	*12.7%*
Operating Income	$ 115,436	99,439	129,908	118,283	142,055	165,146	193,908
Operating Margin	4.3%	3.9%	5.1%	4.1%	4.5%	4.8%	5.0%

Source: Company Reports, IMCP

Looking to the future, I foresee Plexus will increase its gross margins by 0.3% a year to 9.5% in 2020 and 9.8% in 2021, which will come mainly from a decrease in sales to its communications segment and increase in sales in its higher margin healthcare/life science and aerospace/defense segments. I believe that operating and net margins will move in a similar fashion over the next two years as I expect Plexus's SG&A and other expenses to stay at 4.8% of sales, interest at 0.5% of sales in 2020 and 0.4% in 2021, and taxes should stay at roughly 14%, or 0.6% of sales.

Return on Equity

The 3-stage DuPont analysis in figure 15 shows, apart from 2018 due to the tax expense discussed earlier, that Plexus has been able to grow its return on equity by roughly 40% from 8.7% in 2016 to 12.2% in 2019. There was a dip in sales / average assets and average assets / equity ratios in 2017, but the ratios grew by roughly 9.5% and 12% respectively, between 2016 and 2019.

Figure 15: ROE breakdown, 2016 – 2021E

3-stage DuPont	2016	2017	2018	2019	2020E	2021E
Net income / sales	3.0%	4.4%	0.5%	3.4%	3.7%	4.0%
Sales / avg assets	1.47	1.35	1.47	1.61	1.69	1.77
ROA	4.4%	6.0%	0.7%	5.5%	6.2%	7.1%
Avg assets / avg equity	1.97	1.93	2.01	2.20	2.27	2.20
ROE	8.7%	11.5%	1.3%	12.2%	14.2%	15.5%

Source: Company Reports, IMCP

Over the entire time period, this shows that Plexus has been successful in increasing the efficiency of its assets to produce sales, and in increasing its assets while buying back shares. Looking forward, I expect Plexus to continue to find ways to use its assets to produce more sales, which will translate to a higher return on assets. I also expect average assets / equity to increase to 2.27 in 2020 before decreasing to 2.20 in 2021 mainly due to equity growing slightly more than assets and share buybacks being reduced to $50 million from $100-150 million in 2018-19. This combination should allow continued growth in Plexus's return on equity, reaching 14.2% in 2020 and 15.5% in 2021.

Free Cash Flow

Figure 16: Free cash flow calculations

Free Cash Flow	2015	2016	2017	2018	2019	2020E	2021E
NOPAT	102,444	86,960	119,499	14,333	122,500	143,677	168,700
Growth		-15.1%	37.4%	-88.0%	754.6%	17.3%	17.4%
NWC*	452,146	428,454	427,938	487,751	549,739	608,433	698,069
Net fixed assets	317,351	332,472	358,727	415,481	462,592	409,031	445,766
Total net operating capital*	769,497	760,926	786,665	903,232	1,012,331	1,017,464	1,143,835
Growth		-1.1%	3.4%	14.8%	12.1%	0.5%	12.4%
- Change in NWC*		(23,692)	(516)	59,813	61,988	58,694	89,636
- Change in NFA		15,121	26,255	56,754	47,111	(53,561)	36,735
FCFF*		95,531	93,760	(102,234)	13,401	138,545	42,328
Growth			-1.9%	-209.0%	-113.1%	933.9%	-69.4%
- After-tax interest expense	8,112	10,533	7,437	1,293	13,884	13,392	10,408
FCFE**		84,998	86,323	(103,527)	(483)	125,153	31,920
Growth			1.6%	-219.9%	-99.5%	-26011.6%	-74.5%
+ Net new debt/other cap		(9,925)	50,598	(53,984)	93,734	(90,000)	6,000
Sources of cash		75,073	136,921	(157,511)	93,251	35,153	37,920
Uses of cash							
Increase cash and mkt sec		75,858	135,896	*(271,591)*	*(73,508)*	*(12,347)*	*(10,080)*
Change in other equity		1,902	2,920	117,836	164,183	50,000	50,000
		77,760	138,816	(153,755)	90,675	37,653	39,920
Change in other liab		2,687	1,895	3,756	(2,586)	2,500	2,000
Total		75,073	136,921	*(157,511)*	*93,261*	*35,153*	*37,920*
* NWC excludes cash ** No adjustment is made for debt							

Source: Company Reports, IMCP

Plexus's historical free cash flow has a few anomalies that makes it volatile. In 2016 sales to its communications segment contracted quicker than its other segments could grow, and in 2018 Plexus had a relatively large tax expense, both causing NOPAT to decline those years.

Going into 2018, the company was holding nearly $570 million in cash, and due to the unforeseen tax expense and buying back $117 million in stock, this was reduced to $297 million by the year end. Besides investing back into the company, Plexus's main uses of its cash has been to buy back shares.

Using 2015 and 2019's NOPAT figures, Plexus was still able to achieve a simple straight-line growth rate of approx. 4% per year. I predict that NOPAT should be less volatile over the next two years and grow at a much quicker rate of over 17% mostly due to growth of sales in its higher margin segments.

FCFF and FCFE should increase in 2020 is because of a decrease in net fixed assets. I am assuming NFA investment will be less because major projects to expand and update facilities were completed in the last year, and there is little indication that any more are currently scheduled to start in the next year. I believe that this will mean 2020 will act as a sort of buffer year where Plexus's facilities will be allowed reach near manufacturing capacity before management will have to increase investments in NFA in 2021. This means that an increase in spending on NFA and NWC in 2021 should be reflected in a sharp decrease in FCFF and FCFE.

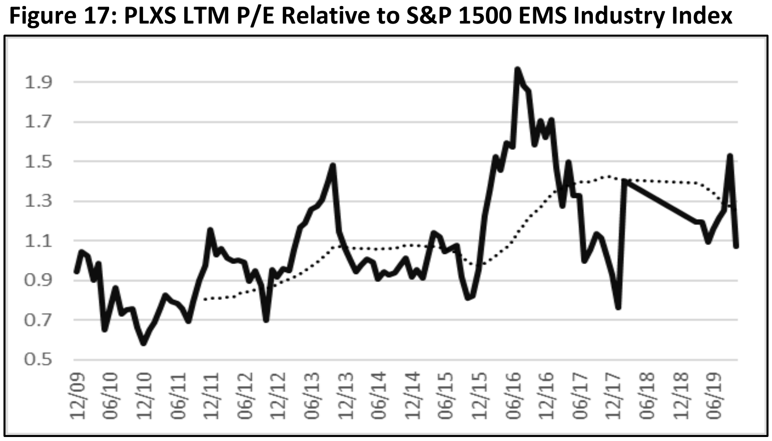
Valuation

PLXS was valued using multiples and a 3-stage discounting cash flow model. Based on earnings multiples, the stock is slightly expensive relative to the EMS industry benchmark and is worth $76. Relative valuation shows that PLXS trades at a slight premium relative to the industry average based on P/B and fairly valued based on P/E, however largely undervalued based on its P/S, although this is for a good reason as margins are below average. Using a price to earnings valuation yielded a price of $77. A detailed DCF analysis values Plexus at $79. And finally, a scenario analysis yields a price of $66. As a result of these valuations, I concluded that value the stock is $75.

Trading History

PLXS is currently at a P/E of 1.07 relative to the S&P 1500 EMS index (SPT45 on FactSet). I discard the data between March 2018 and February 2019, due to PLXS reporting negative earnings for the two quarters between March 2018 and September 2018, and lower earnings than usual in the two quarters between October 2018 and February 2019. Taking out these outliers and adding a 24-month moving average to show longer-term trends, provides a more accurate representation of how the market values PLXS relative to the industry. Calculating the average P/E from January 2014 to November 2019 (I add 11 months onto the back end to compensate for the outlier months in 2018 and 2019), I get a value of 1.2.

Figure 17: PLXS LTM P/E Relative to S&P 1500 EMS Industry Index



Source: FactSet

PLXS consistently commands a premium for its P/E relative to the EMS industry

Following the trendline, one can see that Plexus has gone through two periods of growth in relative P/E followed by periods of stagnation and all spikes in relative P/E were during economic slowdowns. The most recent period of stagnation in P/E growth had PLXS pegged at relative P/E of 1.4. Interestingly, since about February of 2019, the trend has started to reverse course and shrink, equal to a roughly 23.6% decrease, which is a sharper contraction than seen in 2015 before it saw another period of growth. This leads me to believe that the market was overly optimistic in PLXS's future growth prospects between late 2015 and early 2017, and the market is now correcting itself. Assuming the market brings Plexus's relative P/E back to its five-year average of 1.2 by the end of 2020 and the EMS industry's P/E stays at its current value of 16.16 at the end of 2020, this gives Plexus a P/E of 19.4.

Assuming Plexus arrives at a P/E equal to 19.4 by the end of 2020, it should trade at $85.75.

- Price = P/E x EPS = 19.4 x $4.42 = $85.75

Discounting $85.75 back to today at a 13.3% cost of equity (explained in the Discounted Cash Flow section) yields a price of $75.68. Given that PLXS has come to command a premium relative to the industry over the last 10 years, due to more exposure to healthcare and less to cyclical industries, I believe that this is an accurate price point as Plexus's valuation should normalize over the near future.

Relative Valuation

Compared to the average EMS company (turn to appendix 3 for a detailed table), Plexus trades at a 9.8% premium for NTM P/E, 17% premium for 2020, and a 21% premium for 2021, while its NTM earnings growth is 9% lower than the average, 2020 earnings growth is 115% above average, and 3% lower than average for 2021. Plexus's P/B is at an 8.6% premium, even though it has a ROE 35% lower than industry average. The only metric that has PLXS at a discount is P/S, which is almost 52% lower than average. As seen in figure 18, Plexus has roughly 5.4% lower net profit and operating margins than average, warranting such a discount for its P/S ratio. Also, I believe it is relatively safe to conclude that PLXS's ROE will grow in the future, and the P/B premium reflects that the market's expectations are in line with my own. This has led me to conclude that the best ratio to use when trying to estimate Plexus's future stock price is P/E.

Figure 18: PLXS Valuation Relative to Industry Average

	P/E			Earnings Growth							
	NTM	2020	2021	NTM	2020	2021	P/B	ROE	P/S	Net Margin	Op. Margin
PLXS	18.9	18.9	16.6	16.4%	19.2%	13.9%	2.65	11.7%	0.72	3.4%	4.60%
Industry Avg.	17.23	16.16	13.67	25.0%	8.0%	17.0%	2.44	15.0%	1.49	8.8%	11.10%
Difference (PLXS - Ind. Avg.)	1.67	2.74	2.93	-8.6%	11.2%	-3.1%	0.21	-3.3%	-0.77	-5.4%	-6.5%
Premium/Discount*	9.7%	17.0%	21.4%	-34.4%	140.0%	-18.2%	8.6%	-22.0%	-51.7%	-61.4%	-58.6%
*(PLXS/Industry Avg.) - 1											

Source: FactSet, Company Reports

I will assume that Plexus keeps its 9.7% P/E premium, the industry's P/E decreases to 16.16 in 2020, and that PLXS's EPS grows to $4.42 over 2020. With a TTM P/E of 17.73, this translates to a target price of $78 at the end of 2020.

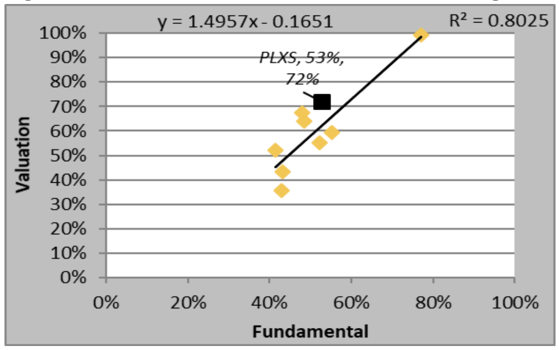
Composite Valuation

For a final comparison, I created a composite ranking of a couple valuation and fundamental metrics. Each metric was converted to a percentile of the max so we can include all of the firms in a composite. After much tinkering and tweaking, I have arrived at a composition that provides a regression of the fundamental versus valuation metrics, that is reasonably accurate according to the R^2. The market appears to be overwhelmingly growth focused. I weighted TTM and 2020 P/E at 37.5% each and P/B at

25% for the valuation metrics, and I weighted 2021 earnings growth at 30%, 1/Beta and 1 – (LTD/Equity) at 10% each, both 2019 ROE and NPM at 15%, and finally second twelve-month sales at 20% for the fundamental metrics. The regression between the fundamental versus valuation gives an R^2 of 0.8025.

Many companies in the U.S. based EMS industry are overvalued based on their fundamentals.

Figure 19: Fundamental versus Valuation Regression for EMS Industry



Source: IMCP

While this is only an estimate for how EMS companies are valued, if we take it at face value, figures 19 and 20 show that Plexus is overvalued based on its fundamentals relative to its current valuation.

Figure 20: Composite valuation, % of range

			Fundamental						Valuation		
		Weight	30.0%	10.0%	10.0%	15.0%	15.0%	20.0%	37.5%	37.5%	25.0%
	Weighted		Earn Grow	1/	1-(LTD/	2019	2019	Sales	P/E		
Name	Fund	Value	-th 2021	Beta	Equity)	ROE	NPM	STM	TTM	2020	P/B
PLEXUS CORP	53%	72%	28%	78%	12%	37%	83%	88%	70%	67%	83%
BENCHMARK ELECTRONICS INC	54%	67%	55%	83%	12%	16%	40%	100%	77%	75%	40%
CTS CORP	49%	64%	30%	78%	7%	37%	71%	75%	60%	64%	71%
FABRINET	55%	59%	26%	100%	42%	51%	80%	67%	48%	57%	80%
IPG PHOTONICS CORP	77%	99%	100%	45%	100%	30%	97%	67%	100%	100%	97%
JABIL INC	52%	55%	31%	91%	2%	77%	100%	35%	40%	40%	100%
METHODE ELECTRONICS INC	43%	43%	-13%	66%	5%	100%	76%	67%	24%	41%	76%
SANMINA CORP	41%	52%	17%	62%	7%	39%	66%	67%	52%	44%	66%
TE CONNECTIVITY LTD	43%	36%	25%	76%	12%	45%	42%	67%	29%	38%	42%
TTM TECHNOLOGIES INC	48%	67%	26%	91%	8%	59%	97%	35%	51%	64%	97%

Source: FactSet, IMCP

Discounted Cash Flow Analysis

A three stage discounted cash flow model was used to value PLXS.

Using CAPM, Plexus's cost of equity was calculated to be 13.3%. To reach this calculation I used the following assumptions:

- The risk free rate, as represented by the ten year Treasury bond yield, is 1.75%.
- A ten year beta of 1.4 was utilized since the company has higher risk than the market.
- A long term market rate of return of 10% was assumed, since historically, the market has generated an annual return of about 10%.

Using these assumptions, the cost of equity is 13.3% (1.75 + 1.4 (10 – 1.75)).

Stage One – The model's first stage discounts fiscal years 2020 and 2021 free cash flow to equity. These per share cash flows are forecasted to be \$1.61 and \$1.67, respectively. Using the cost of equity from above to discount these cash flows, results in a total value of \$2.72 per share.

Stage Two - The second stage focuses on fiscal years 2022 to 2026. During this period, FCFE is calculated based on revenue growth, NOPAT margin and capital growth assumptions. The resulting cash flows are then discounted using the company's 13.3% cost of equity. I assume that sales will grow at a rate of 10% per year, NOPAT margin will grow to be 5% in 2026 from 4.4% in 2021. Also, I assume sales to NOWC, NFA turnover, and shares will remain at 2021 levels, equating to 0% growth. I expect no new debt to be issued with the exception of $100M in 2025, as $100M in long-term debt matures that year and PLXS's management has a track record of only issuing long-term debt when its other long-term debt matures. This equates to a total present value of $8.16 in the second stage.

Figure 21: FCFE and discounted FCFE, 2020 – 2026

	2020	2021	2022	2023	2024	2025	2026
FCFE	$ 1.61	$ 1.67	$ 1.61	$ 2.02	$ 2.49	$ 6.38	$ 3.52
Discounted FCFE	$ 1.42	$ 1.30	$ 1.11	$ 1.23	$ 1.33	$ 3.02	$ 1.47

Source: IMCP

Stage Three – Net income for the years 2022-2026 is calculated based upon the same margin and growth assumptions used to determine FCFE in stage two. EPS is expected to grow from $4.42 in 2020 to $10.38 in 2026.

Figure 22: EPS estimates for 2020 – 2026

	2020	2021	2022	2023	2024	2025	2026
EPS	$4.42	$5.51	$6.30	$7.17	$8.16	$9.14	$10.38

Source: IMCP

Stage three of the model requires an assumption regarding the company's terminal price-to-earnings ratio. For the purpose of this analysis, I took the average of the average industry P/E for the period between 2017 and 2021, and I will assume that Plexus's P/E ratio will converge to that value over the long term. Therefore, a P/E ratio of 15.81 ((19.14 + 12.47 + 17.59 + 16.17 + 13.66) / 5) will be used as PLXS's terminal P/E. While this is lower than the current P/E, by 2026 some of Plexus's growth opportunities may be exhausted, so a lower P/E is likely appropriate. Using the assumed terminal earnings-per-share of $10.38 and price-to-earnings ratio of slightly less than 16, a terminal value of $164.14 per share is calculated. Using the 13.3% cost of equity, this number is discounted back to a present value of $68.48.

Total Present Value – given the above assumptions and utilizing a three stage discounted cash flow model, an intrinsic value of $79.36 is calculated (2.72 + 8.16 + 68.48). Given PLXS's current price of roughly $79, this model indicates that the stock is fairly valued.

Scenario Analysis

Plexus, along with many companies in the EMS industry, is difficult to value because much of its sales come from open-ended manufacturing contracts that highly depend on the conditions surrounding its customers' business and end-market demand for the its products. Luckily, Plexus serves two of the fastest growing industries in the U.S. and abroad, along with customers that are leaders in its marketplace, and the firm has very competent and long-standing management. I have valued Plexus under two scenarios. The first is my bull case, the second is my bear case, and the difference between the two stems from assumptions in sales growth, operating profit margin, operating efficiency, and terminal long-term growth. Also, for both scenarios I continue to assume that management continues to stay disciplined when it comes to only issuing new debt when old debt matures and pays off its revolving line of credit before the end of the year, which will translate to no new net debt, and that PLXS's share count stays flat in the second stage.

Sales Growth – For my bull scenario, I foresee sales to grow to $4.1 billion by 2021, and then double to $8.2 billion by 2026. This assumes that Plexus has greater than average sales in the healthcare/life sciences and aerospace/defense product segments. Geographically, it assumes that sales growth in its APAC region return to its pre-U.S. – China trade war levels, mid-teens sales growth in its AMER region is fueled by growth in its aerospace/defense product segment, and average growth in its EMEA region. For my bear scenario, I peg sales to grow to $3.2 billion by 2021 and $4.2 billion by 2026. This assumes that sales in the APAC region stagnate due to a poor outcome or continuation of the trade war, demand in EMEA weakens due to a regional economic contraction following Brexit, and modest growth in the AMER region mainly due to healthcare/life sciences and aerospace/defense sectors still growing albeit at a reduced rate.

Operating Profit Margin – Both my bull and bear scenarios assume that PLXS's OPM reaches 4.4% in 2021 due to the elimination of sales to its communications segment. In the bull scenario, I assume that the OPM further increases to 6% by 2026 and for the bear scenario, I assume that the OPM increase is short-lived and it reverts to 4% in 2026.

Operating Efficiency – Defined as sales/net fixed assets, I assume for both scenarios that it hits 8.7 in 2021. In the bear scenario I assume that it is short lived and decreases back to a pre-2020 level of 8 and in the bull scenario I assume Plexus's management continues to increase its efficiency and reaches a S/NFA of 9 in 2026.

A valuation of PLXS stock was reached using the same discounted cash flow method outlined in the previous section, along with using the same technique to arrive at a terminal P/E ratio for Plexus. This gives us a value of $37.05 and $94.95 per share of PLXS stock for the bear and bull scenarios respectively.

Figure 23: Scenario analysis

	Bull Case	Bear Case
Stage One	$2.85	$2.85
Stage Two	$5.43	$7.07
Stage Three	$86.66	$27.12
Total Value	$94.95	$37.05

Source: IMCP

I believe that neither valuation nor scenario are out of the realm of possibility for Plexus. All the values used for sales growth, OPM, and operating efficiency are within the normal range that Plexus has operated in over the last ten years. I do acknowledge that in my bull scenario, doubling sales over 5 years for an overwhelmingly manufacturing based company may be overly optimistic as it would require explosive growth in its NFA to keep pace. But I posit that as operating efficiency increases, along with sales to higher margin product segments, this would mean that Plexus would have to invest less in NFA than one would think. I acknowledge that it is very difficult to predict events that are so far into the future, and because of this, I will assume that both scenarios are equally likely to happen. Taking the average of the values the scenarios give, I arrive at a price of $66.

I recommend paying attention to PLXS's gross margin and operating efficiency metrics as time progresses. As PLXS's gross margin is already low, roughly between 9% and 10%, any increase in gross margins could have a great impact on EPS. For example, if PLXS's gross margin increases by 2% and all costs stay the same, then it will increase earnings by approx. 20%. The same logic holds true if margins decrease. I would keep an eye on the trends for PLXS's gross margin and if it starts to slip, look towards management to see if they discuss any reasons why and if they have any solutions to fix it. I also recommend keeping track of operating efficiency because if PLXS is able to permanently increase it, then it will have to invest less into expanding its manufacturing capacity. This, in turn, will enable the company to expand its business in other ways, buy back more shares, pay down debt, etc. and improve its overall position.

Business Risks

Although I have many reasons to be optimistic about Plexus there are several good reasons why I find the stock to be fairly, if not slight overvalued at its current price of $78.

Political Risk:

I believe that this is Plexus's biggest risk going forward. First off, even though Plexus has been able to weather the U.S. – China trade war so far, I believe that its impact hasn't had enough time to take its full effect. As discussed earlier, management has started to shift manufacturing capacity out of China. If the trade war comes to an amiable conclusion after the signing of the phase one trade deal, then Plexus could lose customers to its competitors who kept capacity in China. But, if the trade war isn't fully resolved in the next two years or if the deal sours relations, Plexus could still lose customers and/or face additional regulatory hurdles to stay there. There is a similar situation going on with Brexit and Plexus. With Boris Johnson and his Conservative Party winning the general election and a majority in parliament, Brexit is almost certainly going to happen. The only problem is that the type of Brexit and the effects of which, are heretofore unknown. One thing is nearly certain though. Until the UK works out trade deals with the rest of the countries that occupy Europe, Plexus may have pay more in taxes/tariffs for that time period. Lastly, the renegotiation of NAFTA between the U.S., Canada and Mexico could mean that Plexus will either move its current facilities in Mexico elsewhere, or pay more in taxes/duties to import its products to the United States.

Exposure to currency fluctuations:

According to PLXS's quarterly and yearly SEC filings, approximately 63.7% of PLXS's revenues come from countries outside of the United States, and the firm's policy towards foreign exchange risk is, "to selectively hedge our foreign currency denominated transactions in a manner that partially offsets the effects of changes in foreign currency exchange rates." Although the firm is proactive in hedging its risk, it deals with a variety of currencies to receive and send payments. The major risks come from the possibility that one or more currencies becoming extremely volatile, and from Malaysia, where 34.5% of revenues come from. Overall, changes in the strength of the dollar against the Euro, Ringgit, Peso, and Yuan could have a serious impact on gross margins.

Dependence on Major Customers:

According to PLXS's 10-K for FY 2019, its top 10 customers accounted for 54.6% of total sales. On top of that, its largest customer, General Electric, represents 10% or more of total sales. While there is something to say about customer loyalty, if Plexus loses any of its biggest non-GE customers it could lead to approx. 5% drop in total sales.

Appendix 1: Porter's 5 Forces

Threat of New Entrants – Low

In order to successfully break into the EMS industry, new companies require high amounts of capital, technological expertise, regulatory expertise, in addition to securing contracts from companies willing to take on the risk of working with a company with no track record.

Threat of Substitutes – Low to Moderate

The only tangible alternative to working with EMS companies is for its customers to design, manufacture and service products in-house. In order to do so, companies would have to significantly invest in personnel and infrastructure if they don't already have those and many companies would rather outsource this process to cut costs. Lower volume products are relatively safe from this threat, while higher volume products are more exposed as companies may find that producing such products in-house more cost-effective.

Supplier Power – Moderate

Overall, there is a plethora of electronic component suppliers and relatively few EMS companies. But, as EMS companies specialize in certain products, electronic component suppliers do so as well. Switching suppliers can cause delays that can lose EMS companies money and even customers if the new supplier is subpar compared to the previous supplier. Even though EMS companies could transition to a new supplier, it could be difficult to successfully execute, giving suppliers a moderate amount of leverage over its EMS customers.

Buyer Power – Moderate to High

Customers to the EMS industry appear to have a substantial amount of power. Considering that EMS companies have little to no overlap in the industries/product segments they serve, this can whittle down the buyer's power to switch to a competitor. The real source of buyer power comes from using an EMS company to design its product, and since there is no guarantee that the buyer will use the EMS company to manufacture that product, it may have to provide concessions to the buyer in order to secure the manufacturing contract.

Rivalry Among Existing Firms – Low to Moderate

While some EMS companies serve overlapping product segments, compared to the number of potential customers there is a relatively low number of EMS companies. This has equated to many EMS companies finding and serving a specified niche of products and industries. While there is a history of EMS companies pivoting from one product segment to another, I believe that customers tend to stay loyal which protects EMS companies over the short term. But, as time goes on the EMS industry evolves to serve the industries with the most demand for its services, which means that over the mid to long term rivalry can increase to moderate levels.

Appendix 2: SWOT Analysis

Strengths	Weaknesses
Excellent reputation Regulation/technical expertise Established in high growth markets	Low margins Dependence on Asia as a manufacturing base and source of sales Competitors encroaching on its market space
Opportunities	**Threats**
Continued penetration into high growth markets Automation of its manufacturing proces Expansion into the EMEA Region	Improving technical capabilities from rivals in Asia Foreign currency and political risk Rapidly changing technological landscape

Appendix 3: Plexus Corps. Comparable Companies

	Current	Market	Price Change						Earnings Growth								LT Debt/	S&P	LTM Dividend	
Ticker	Price	Value	1 day	1 Mo	3 Mo	6 Mo	52 Wk	YTD	LTG	NTM	2018	2019	2020	2021	Pst 5yr	Beta	Equity	Rating	Yield	Payout
PLXS	$77.51	$2,262	1.5	2.9	27.0	48.5	30.8	51.7		16.4%	0.3%	6.2%	19.2%	13.9%		1.40	21.6%	B	0.00%	0.0%
BHE	$35.26	$1,327	1.4	3.7	28.4	54.0	55.1	66.5		9.5%	11.5%	-2.1%	17.6%	27.5%	-23.1%	1.32	20.5%	B	1.74%	42.5%
CTS	$27.77	$905	2.2	3.9	(4.3)	1.9	(1.0)	7.3		12.6%	57.7%	-6.5%	7.7%	14.9%		1.40	34.8%	B	0.58%	12.2%
FN	$60.38	$2,234	1.1	5.5	12.2	30.7	24.0	17.7		21.4%	-11.6%	27.9%	-1.6%	13.3%	4.6%	1.09	6.0%		0.00%	0.0%
IPGP	$141.98	$7,535	1.3	(4.4)	6.3	8.7	8.1	25.3	4.0	-12.5%	1.7%	-42.3%	15.5%	50.4%	19.9%	2.45	2.5%	B+	0.00%	
JBL	$39.24	$5,990	0.2	0.3	30.8	49.3	60.9	58.3	12.0	90.8%	24.2%	13.7%	15.8%	15.7%		1.20	112.4%	B	0.82%	17.8%
KEM	$26.81	$1,557	(0.4)	15.3	49.1	55.9	36.7	52.9		-37.5%	307.0%	102.3%	-33.6%	-6.4%		1.66	46.1%	B-	0.75%	7.4%
MEI	$40.96	$1,519	7.6	12.8	20.0	61.5	63.8	75.9	15.0	31.2%	19.0%	-17.6%	37.0%	8.7%		1.76	38.6%	B	1.18%	15.7%
SANM	$32.32	$2,262	2.0	0.7	8.2	15.2	24.9	34.3	12.0	49.5%	-23.0%	53.8%	-11.8%	12.7%		1.44	21.1%	B-	0.00%	0.0%
TEL	$92.15	$30,822	1.1	(1.9)	(2.8)	2.8	21.7	21.8	10.9	-10.4%	16.1%	-1.1%	-7.4%	13.2%		1.20	32.1%		1.96%	31.7%
TTMI	$13.80	$1,456	1.9	10.8	20.3	52.0	27.7	41.8		98.8%	12.1%	-43.2%	25.0%	19.2%	38.5%	2.74	119.4%	B-	0.00%	0.0%
Average	$53	$5,261	1.8	4.5	17.7	34.6	32.1	41.2	10.8	25%	38%	8%	8%	17%	10%	1.61	41%		0.64%	12.7%
Median	$39	$2,234	1.4	3.7	20.0	48.5	27.7	41.8	12.0	16%	12%	-1%	15%	14%	12%	1.40	32%		0.58%	9.8%
SPT45	$282		1.2	(0.1)	5.4	13.9	25.6	29.4			12.5%	-2.4%	2.2%	15.8%						

	2019		P/E							2019	2019				EV/	P/CF	Sales Growth			Book
Ticker	ROE	P/B	2017	2018	2019	TTM	NTM	2020	2021	NPM	P/S	NM	OM	ROIC	EBIT	Current	NTM	STM	Pst 5yr	Equity
PLXS	11.7%	2.65	18.9	15.8	22.6	22.1	18.9	18.9	16.6	3.2%	0.71	3.4%	4.6%	10.1%	13.8		5.6%	9.5%		$29.19
BHE	5.1%	1.27	22.4	14.6	24.8	25.0	22.8	21.1	16.6	2.3%	0.58	0.9%	2.6%	1.6%	10.1		-7.3%	10.8%	0.5%	$27.74
CTS	11.8%	2.29	26.5	16.9	19.4	21.2	18.8	18.0	15.7	10.1%	1.96	9.9%	14.9%	11.0%	11.7		-4.2%	8.1%	2.8%	$12.12
FN	16.3%	2.58	8.5	17.2	15.8	18.7	15.4	16.1	14.2	8.9%	1.41	7.6%	7.8%	14.0%	11.9		6.6%		18.5%	$23.43
IPGP	9.6%	3.19	29.5	15.4	33.3	29.4	33.6	28.9	19.2	17.4%	5.81	27.7%	35.4%	18.7%	10.1	28.6	-6.3%		17.6%	$44.50
JBL	24.6%	3.24	12.4	9.5	13.2	21.8	11.4	11.4	9.8	1.8%	0.24	1.1%	3.0%	6.8%	7.7	4.6	3.5%	3.8%		$12.13
KEM	32.0%	2.42	35.0	10.0	7.6	9.9	15.9	11.4	12.2	14.9%	1.13	14.9%	15.3%	24.7%	5.1		-12.6%		10.7%	$11.06
MEI	12.3%	2.07	16.2	7.9	16.9	14.6	11.2	12.3	11.3	9.0%	1.52	9.2%	12.6%	11.1%	10.5		12.3%		5.3%	$19.75
SANM	14.4%	1.37	11.5	10.9	9.5	16.3	10.9	10.8	9.6	2.9%	0.27	1.7%	3.6%	8.1%	7.4	7.4	-11.8%			$23.56
TEL	18.7%	3.11	19.7	13.5	16.6	16.2	18.1	17.9	15.8	13.8%	2.29	14.5%	16.3%	14.0%	15.8	12.6	-3.3%	3.8%		$29.63
TTMI	8.6%	1.18	10.0	5.5	13.8	25.1	12.6	11.0	9.3	4.0%	0.55	6.1%	6.3%	7.4%	14.3	5.4	-1.8%		15.8%	$11.65
Average	0.15	2.31	19.14	12.47	17.59	20.04	17.25	16.17	13.66	8.0%	1.50	8.8%	11.1%	0.12	10.76	11.72	-1.8%	7.2%	10.2%	22.25
Median	0.12	2.42	18.86	13.48	16.60	21.22	15.90	16.10	14.21	8.9%	1.13	7.6%	7.8%	0.11	10.46	7.36	-3.3%	8.1%	10.7%	23.43
SPT45			17.8	12.4	16.3			16.1	13.9											

Appendix 4: Income Statement

Income Statement (in thousands)							
Items	**2015**	**2016**	**2017**	**2018**	**2019**	**2020E**	**2021E**
Sales	2,654,200	2,556,000	2,528,100	2,873,500	3,164,434	$3,476,760	$3,878,163
Direct Costs	2,414,650	2,328,641	2,272,245	2,615,900	2,872,596	3,146,468	3,498,103
Gross Profit	239,550	227,359	255,855	257,600	291,838	330,292	380,060
SG&A and other expenses	124,114	127,920	125,947	139,317	149,783	165,146	186,152
Earnings before Interest & Tax	115,436	99,439	129,908	118,283	142,055	165,146	193,908
Interest expense	9,141	12,045	8,085	10,673	16,100	17,643	15,879
Earnings Before Tax	106,295	87,394	121,823	107,610	125,955	147,503	178,030
Taxes	11,963	10,967	9,761	94,570	17,339	19,175	23,144
Net Operating Profit After Tax	94,332	76,427	112,062	13,040	108,616	128,328	154,886
Net Income	94,332	76,427	112,062	13,040	108,616	128,328	154,886
Basic Shares	33,618.0	33,374.0	33,612.0	33,003.0	30,271.0	29,464.5	28,705.2
Fully Diluted Shares	34,379.0	34,098.0	34,553.0	33,919.0	31,074.0	30,267.5	29,508.2
EPS	$2.81	$2.29	$3.33	$0.40	$3.59	$4.36	$5.40
EPS Fully Diluted	$2.74	$2.24	$3.24	$0.38	$3.50	$4.24	$5.25

Appendix 5: Cash Flow Statement

Cash Flow Statement (in thousands)						
	2016	2017	2018	2019	2020E	2021E
Cash from Operatings (understated - depr'n added to net assets)						
Net income	76,427	112,062	13,040	108,616	130,285	158,292
Change in Net Working Capital ex cash	23,692	516	(59,813)	(61,988)	(58,694)	(89,636)
Cash from operations	$ 100,119	$ 112,578	$ (46,773)	$ 46,628	$ 71,591	$ 68,655
Cash from Investing (understated - depr'n added to net assets)						
Change in NFA	(15,121)	(26,255)	(56,754)	(47,111)	53,561	(36,735)
Cash from investing	$ (15,121)	$ (26,255)	$ (56,754)	$ (47,111)	$ 53,561	$ (36,735)
Cash from Financing						
Change in Short-Term and Long-Term Debt	(9,925)	50,598	(53,984)	93,734	(90,000)	6,000
Change in Other liabilities	2,687	1,895	3,756	(2,586)	2,500	2,000
Change in Equity ex NI and Dividends	(1,902)	(2,920)	(117,836)	(164,183)	(50,000)	(50,000)
Cash from financing	$ (9,140)	$ 49,573	$ (168,064)	$ (73,035)	$ (187,500)	$ (42,000)
Change in Cash	75,858	135,896	(271,591)	(73,518)	(12,347)	(10,080)
Beginning Cash	357,106	432,964	568,860	297,269	223,761	296,956
Ending Cash	$ 432,964	$ 568,860	$ 297,269	$ 223,751	$ 211,414	$ 201,334

Appendix 6: Balance Sheets

Balance Sheets (In Thousands)								
Items	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020E**	**2021E**
ASSETS								
Current Assets								
Cash and Cash Equivalents	346,591	357,106	432,964	568,860	297,269	223,761	211,414	201,334
Account Receivable, Net of Allowances	324,072	384,680	416,888	365,513	394,827	488,284	522,952	576,293
Inventories	525,970	569,371	564,131	654,642	794,346	700,938	750,705	827,276
Deferred Tax Income	6,449	10,686	-	-	-	-	-	-
Contract Assets	-	-	-	-	-	90,841	97,291	107,214
Prepaid Expenses and Other	27,757	22,882	19,364	28,440	30,719	34,467	36,914	40,679
Total Current Assets	$ 1,230,839	$ 1,344,725	$ 1,433,347	$ 1,617,455	$ 1,517,161	$ 1,538,291	$ 1,619,276	$ 1,752,798
Property, Plant and Equipment, Net	334,926	317,351	291,225	314,665	341,306	384,224	339,737	370,249
Deferred Income Tax	3,675	3,635	4,834	5,292	10,825	13,654	12,073	13,157
Other	39,586	36,677	36,413	38,770	63,350	64,714	57,221	62,360
Total Non-Current Assets	378,187	357,663	332,472	358,727	415,481	462,592	409,031	445,766
Total Assets	$ 1,609,026	$ 1,702,388	$ 1,765,819	$ 1,976,182	$ 1,932,642	$ 2,000,883	$ 2,028,307	$ 2,198,564
LIABILITIES AND SHAREHOLDERS' EQUITY								
Current Liabilities								
Current Portion, L-T Debt & Cap. Lease Obligations	4,368	3,513	78,507	286,934	5,532	100,702	75,023	76,749
Accounts Payable	396,363	400,710	397,200	413,999	506,322	444,944	465,411	496,594
Customer Deposits	56,155	81,359	84,637	107,837	90,782	139,841	146,274	156,074
Deferred Income Tax	647	-	-	-	-	-	-	-
Accrued Liabilites								
Salaries and Wages	52,043	49,270	41,806	49,376	66,874	73,555	76,939	82,093
Other	37,739	44,446	48,286	49,445	68,163	106,461	111,358	118,819
Total Current Liabilities	547,315	579,298	650,436	907,591	737,673	865,503	875,005	930,329
Long-Term Debt and Cap. Lease Obligation, Net	262,046	259,257	184,002	26,173	183,085	187,278	139,522	142,731
Deferred Income Tax	5,191	9,664	-	-	70,506	64,877	47,770	49,202
Other Liabilities	13,341	11,897	14,584	16,479	20,235	17,649	20,149	22,149
Total Non-Current Liabilities	280,578	280,818	198,586	42,652	273,826	269,804	207,441	214,082
Total Liabilities	827,893	860,116	849,022	950,243	1,011,499	1,135,307	1,082,446	1,144,411
Shareholder's Equity								
Common Stock	500	506	513	519	526	529	578	644
Additional Paid-in Captial	475,634	497,488	530,647	555,297	581,488	597,401	652,812	727,553
Common Stock Held in Treasury (At Cost)	(479,968)	(509,968)	(539,968)	(574,104)	(711,138)	(893,247)	(976,099)	(1,087,852)
Retained Earnings	766,385	860,717	937,144	1,049,206	1,062,246	1,178,677	1,288,003	1,435,467
Accumulated Other Comprehensive Income	18,582	(6,471)	(11,539)	(4,979)	(11,979)	(17,784)	(19,434)	(21,658)
Total Shareholders' Equity	781,133	842,272	916,797	1,025,939	921,143	865,576	945,861	1,054,153
Total Liabilities and Shareholders' Equity	$ 1,609,026	$ 1,702,388	$ 1,765,819	$ 1,976,182	$ 1,932,642	$ 2,000,883	$ 2,028,307	$ 2,198,564

Appendix 7: Ratios

Ratios Items	2015	2016	2017	2018	2019	2020E	2021E
Profitability							
Gross margin	9.0%	8.9%	10.1%	9.0%	9.2%	9.5%	9.8%
Operating (EBIT) margin	4.3%	3.9%	5.1%	4.1%	4.5%	4.8%	5.0%
Net profit margin	3.6%	3.0%	4.4%	0.5%	3.4%	3.7%	4.0%
Activity							
NFA (gross) turnover		7.87	7.32	7.42	7.21	7.98	9.07
Total asset turnover		1.47	1.35	1.47	1.61	1.69	1.77
Liquidity							
Op asset / op liab	2.41	2.51	2.61	2.07	2.01	2.13	2.14
NOWC Percent of sales		0.33	0.37	0.31	0.25	0.24	0.24
Solvency							
Debt to assets	16.0%	14.9%	15.8%	13.4%	17.6%	16.7%	15.5%
Debt to equity	32.3%	28.6%	30.5%	28.1%	40.8%	37.4%	33.6%
Other liab to assets	0.7%	0.8%	0.8%	1.0%	0.9%	0.8%	0.8%
Total debt to assets	16.7%	15.7%	16.7%	14.5%	18.5%	17.5%	16.3%
Total liabilities to assets	50.5%	48.1%	48.1%	52.3%	56.7%	55.4%	53.8%
Debt to EBIT	2.36	2.64	2.41	2.19	2.48	2.14	1.82
EBIT/interest	12.63	8.26	16.07	11.08	8.82	9.36	12.21
Debt to total net op capital	24.2%	22.0%	23.1%	21.6%	28.5%	26.8%	24.9%
ROIC							
NOPAT to sales	3.9%	3.4%	4.7%	0.5%	3.9%	4.1%	4.4%
Sales to NWC		5.81	5.90	6.28	6.10	6.00	5.94
Sales to NFA		7.87	7.32	7.42	7.21	7.98	9.07
Sales to IC ex cash		3.34	3.27	3.40	3.30	3.43	3.59
Total ROIC ex cash		11.4%	15.4%	1.7%	12.8%	14.2%	15.6%
NOPAT to sales	3.9%	3.4%	4.7%	0.5%	3.9%	4.1%	4.4%
Sales to NOWC		3.06	2.72	3.23	4.06	4.14	4.13
Sales to NFA		7.87	7.32	7.42	7.21	7.98	9.07
Sales to IC		2.20	1.98	2.25	2.60	2.73	2.84
Total ROIC		7.5%	9.4%	1.1%	10.1%	11.3%	12.3%
NOPAT to sales	3.9%	3.4%	4.7%	0.5%	3.9%	4.1%	4.4%
Sales to EOY NWC	5.87	5.97	5.91	5.89	5.76	5.71	5.56
Sales to EOY NFA	8.36	7.69	7.05	6.92	6.84	8.50	8.70
Sales to EOY IC ex cash	3.45	3.36	3.21	3.18	3.13	3.42	3.39
Total ROIC using EOY IC ex	13.3%	11.4%	15.2%	1.6%	12.1%	14.1%	14.7%
NOPAT to sales	3.9%	3.4%	4.7%	0.5%	3.9%	4.1%	4.4%
Sales to EOY NOWC	3.28	2.97	2.54	3.66	4.09	3.84	3.98
Sales to EOY NFA	8.36	7.69	7.05	6.92	6.84	8.50	8.70
Sales to EOY IC	2.36	2.14	1.87	2.39	2.56	2.65	2.73
Total ROIC using EOY IC	9.1%	7.3%	8.8%	1.2%	9.9%	10.9%	11.9%
ROE							
5-stage							
EBIT / sales		3.9%	5.1%	4.1%	4.5%	4.8%	5.0%
Sales / avg assets		1.47	1.35	1.47	1.61	1.69	1.77
EBT / EBIT		87.9%	93.8%	91.0%	88.7%	89.3%	91.8%
Net income /EBT		87.5%	92.0%	12.1%	86.2%	87.0%	87.0%
ROA		4.4%	6.0%	0.7%	5.5%	6.2%	7.1%
Avg assets / avg equity		1.97	1.93	2.01	2.20	2.27	2.20
ROE		8.7%	11.5%	1.3%	12.2%	14.2%	15.5%
3-stage							
Net income / sales		3.0%	4.4%	0.5%	3.4%	3.7%	4.0%
Sales / avg assets		1.47	1.35	1.47	1.61	1.69	1.77
ROA		4.4%	6.0%	0.7%	5.5%	6.2%	7.1%
Avg assets / avg equity		1.97	1.93	2.01	2.20	2.27	2.20
ROE		8.7%	11.5%	1.3%	12.2%	14.2%	15.5%
Retention Ratio		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Sustainable Growth Rate		8.7%	11.5%	1.3%	12.2%	14.2%	15.5%

Appendix 8: Cash Flow Statement

Cash Flow Statement	2011	2012	2013	2014	2015E	2016E
Cash from Operatings (understated - depr'n added to net assets)						
Net income	143,138	237,011	54,628	51,821	52,793	76,832
Change in Net Working Capital ex cash	(67,213)	141,759	(193,710)	6,818	25,272	7,859
Cash from operations	$75,925	$378,770	($139,082)	$58,639	$78,066	$84,691
Cash from Investing (understated - depr'n added to net assets)						
Change in Net PP&E	(130,420)	(135,057)	149,146	190,236	(43,561)	164,613
Change in Marketable Securities	1,026	99,508	0	0	0	0
Cash from investing	($129,394)	($35,549)	$149,146	$190,236	($43,561)	$164,613
Cash from Financing						
Change in Debt	(10,715)	(57,851)	135,000	158,412	160,000	(40,000)
Change in Other liabilities	2,389	70,464	(17,452)	(60,676)	0	0
Change in Par and Paid in Capital	19,913	34,100	30,349	517	0	0
Change in Other Equity	12,971	(19,743)	(7,629)	(62,663)	0	0
Share Buyback	(109,466)	(305,235)	(100,504)	(272,049)	(150,000)	(90,000)
Dividends	(60,956)	(57,634)	(61,923)	(57,362)	(51,973)	(49,093)
Change in RE ex NI and Dividends	(33,928)	67,313	(3,696)	(56)	0	(0)
Cash from financing	($179,792)	($268,586)	($25,855)	($293,877)	($41,973)	($179,093)
Change in Cash	(233,261)	74,635	(15,791)	(45,002)	(7,469)	70,210
Beginning Cash	826,353	583,495	643,505	600,116	520,708	513,239
Ending Cash	$593,092	$658,130	$627,714	$555,114	$513,239	$583,450

Appendix 9: 3-stage DCF Model

3 Stage Discounted Cash Flow							
	First Stage		Second Stage				
Year ending January	2020	2021	2022	2023	2024	2025	2026
Sales Growth	9.87%	11.55%	10.00%	10.00%	10.00%	10.00%	10.00%
NOPAT / S	4.13%	4.35%	4.48%	4.61%	4.74%	4.87%	5.00%
S / NOWC	4.24	4.31	4.31	4.31	4.31	4.31	4.31
S / NFA (EOY)	8.50	8.70	8.70	8.70	8.70	8.70	8.70
S / IC (EOY)	2.83	2.88	2.88	2.88	2.88	2.88	2.88
ROIC (EOY)	11.69%	12.54%	12.92%	13.29%	13.67%	14.04%	14.42%
ROIC (BOY)		13.73%	14.21%	14.62%	15.03%	15.44%	15.86%
Sales	$ 3,476,760	$ 3,878,163	$ 4,265,979	$ 4,692,577	$ 5,161,835	$ 5,678,019	$ 6,245,821
Sales Growth	*9.9%*	*11.5%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*
NOPAT	143,677	168,700	191,116	216,328	244,671	276,520	312,291
Growth		17.4%	13.3%	13.2%	13.1%	13.0%	12.9%
- Change in NOWC	46,347	79,556	89,940	98,934	108,828	119,711	131,682
NOWC EOY	819,847	899,403	989,344	1,088,278	1,197,106	1,316,816	1,448,498
Growth NOWC		9.7%	10.0%	10.0%	10.0%	10.0%	10.0%
- Chg NFA	(53,561)	36,735	44,577	49,034	53,938	59,331	65,265
NFA EOY	409,031	445,766	490,342	539,377	593,314	652,646	717,910
Growth NFA		9.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Total inv in op cap	(7,215)	116,292	134,517	147,969	162,765	179,042	196,946
Total net op cap	1,228,877	1,345,169	1,479,686	1,627,655	1,790,420	1,969,462	2,166,408
FCFF	150,892	52,408	56,599	68,359	81,906	97,478	115,345
% of sales	4.34%	1.4%	1.3%	1.5%	1.6%	1.7%	1.8%
Growth		-65.3%	8.0%	20.8%	19.8%	19.0%	18.3%
- Interest (1-tax rate)	13,392	10,408	10,408	10,408	10,408	14,280	14,280
Growth		-22.3%	0.0%	0.0%	0.0%	37.2%	0.0%
+ Net new debt	(90,000)	6,000	-	-	-	100,000	-
Debt	262,857	268,857	268,857	268,857	268,857	368,857	368,857
Debt / tot net op capital	0.21	0.20	0.18	0.17	0.15	0.19	0.17
FCFE w debt	47,500	48,000	46,191	57,951	71,497	183,198	101,065
% of sales	1.4%	1.2%	1.1%	1.2%	1.4%	3.2%	1.6%
Growth		1.1%	-3.8%	25.5%	23.4%	156.2%	-44.8%
/ No Shares	29,465	28,705	28,705	28,705	28,705	28,705	28,705
FCFE	1.61	1.67	1.61	2.02	2.49	6.38	3.52
Growth		3.7%	-3.8%	25.5%	23.4%	156.2%	-44.8%
* Discount factor	88.3%	77.9%	68.8%	60.7%	53.6%	47.3%	41.7%
Discounted FCFE	1.42	1.30	1.11	1.23	1.33	3.02	1.47
Third Stage							
Terminal value P/E							
Net income	130,285	158,292	180,708	205,920	234,263	262,240	298,011
% of sales	3.7%	4.1%	4.2%	4.4%	4.5%	4.6%	4.8%
EPS	4.42	5.51	6.30	7.17	8.16	9.14	10.38
Growth		24.7%	14.2%	14.0%	13.8%	11.9%	13.6%
Terminal P/E							15.81
* Terminal EPS							10.38
Terminal value							164.14
* Discount factor							0.42
Discounted terminal value							68.48

Summary (using P/E multiple for terminal value)

First stage	$2.73	Present value of first 2 year cash flow
Second stage	$8.15	Present value of year 3-7 cash flow
Third stage	$68.48	Present value of terminal value P/E
Value (P/E)	**$79.36**	

Appendix 10: EMS Industry Margins, Geographic and Market Segments

	TEL	IPGP	JBL	SANM	FN	KEM	MEI	BHE	TTMI	CTS	PLXS
Market cap	31.8B	5.1B	5.1B	2.2B	2B	1.28B	1.3B	1.2B	1.3B	0.8B	2.2B
Gross Margin	33.0%	55.5%	7.6%	7.2%	11.5%	35.1%	26.3%	9.5%	11.6%	31.8%	9.6%
EBITDA Margin	22.3%	40.9%	6.1%	6.1%	9.9%	21.9%	19.0%	5.0%	11.1%	15.8%	6.5%
EBIT Margin	17.5%	35.4%	3.0%	3.7%	8.1%	17.7%	14.6%	2.8%	2.7%	10.5%	4.8%
Net Margin	18.5%	27.7%	1.1%	1.7%	8.1%	11.7%	10.5%	1.3%	0.5%	2.4%	4.6%
Geographic Sources of Sales											
AMER	28.4%	14.0%	31.8%	51.1%	47.1%	24.4%	65.3%	69.5%	49.5%	67.1%	40.7%
APAC	34.0%	57.8%	57.0%	34.0%	38.4%	52.7%	14.3%	17.3%	30.0%	23.5%	50.0%
EMEA	37.6%	28.2%	11.2%	14.9%	13.9%	22.8%	20.4%	13.2%	20.5%	9.4%	9.4%

	TEL	IPGP	JBL *	SANM **	FN	KEM	MEI	BHE	TTMI	CTS	PLXS
Segment 1	Transport Solutions (59%)	Laser production and solutions (100%)	EMS lower-margin high volume (61%)	Integrated MFG solutions (80%)	Optical Communi-cations (75%)	Solid Capacitors (67.7%)	Automo-tive (73.4%)	Other (42%)	Printed Circuit Board (92%)	Transpor-tation (63.8%)	Healtcare/ Life Sciences (36%)
Segment 2	Industrial (25%)		Diversified MS lower-volume high margin (39%)	Componen ts, products and services (20%)	Lasers, Sensors, and Other (25%)	Electro-magnetic sensors, and actuators (17.4%)	Industrial (20.8%)	Computing (23%)	Electro-mechanical Solutions (8%)	Industrial (18.5%)	Industrial/ Commeric al (32%)
Segment 3	Communi-cations (13%)					Film and Electrolyti c (14.9%)	Interface (5.7%)	Industrials (19%)		Medical (8.6%)	Communi-cations (16%)
Segment 4							Medical (0.1%)	Aerospace and Defense (16%)		Other (9.1%)	Defense/ Aerospace (15%)

*Major industries served according to website: Automotive/ Transportation, Defense/ Aerospace, Networking/ Communications, Healthcare

**Major industries served according to website: Medical Systems, Communications, Defense/ Aerospace, Industrial, Energy, Computing, Automotive, Oil and Gas.

Source: Company Reports, FactSet