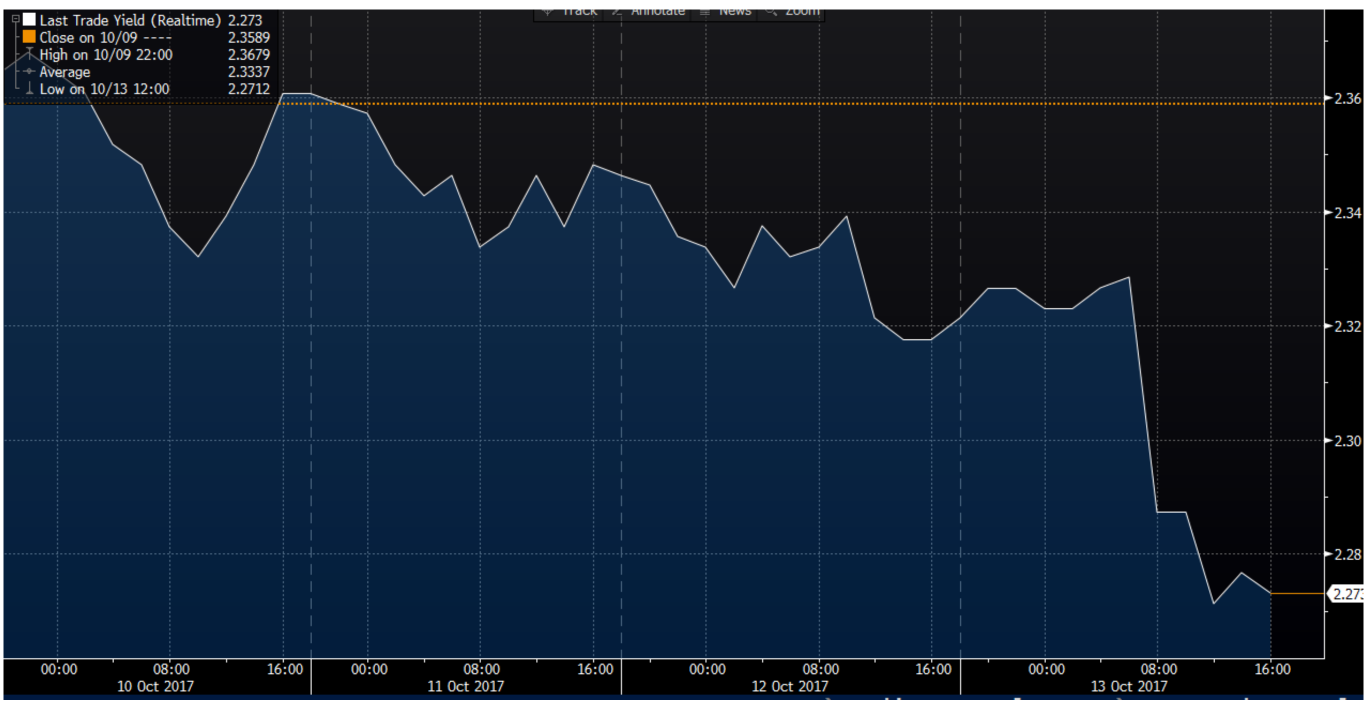
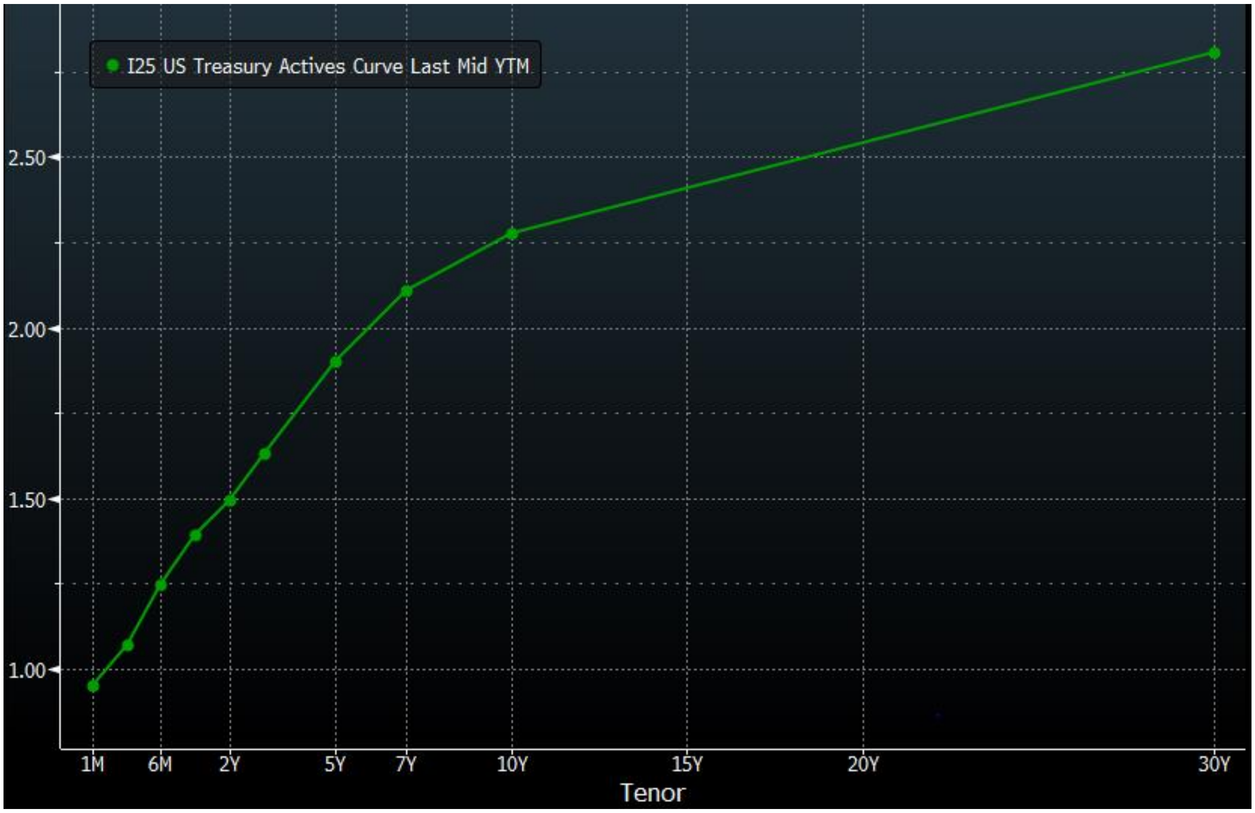
# Bond Report

This week's bond trading saw a skid dragging yields down. The main drivers of this skid were the inability of the FED to define a concise correlation between the rate hikes and expected inflation increases. The soft definition comes from the splinter within the FED of whether or not the same rate of inflation is even achievable and/or is still the goal. Many within the FED are still aiming for a 2% inflation, while some have made comments that lead investors to believe that this level of inflation is no longer achievable. The CPI numbers were also released this week; the numbers here were below expected. Investors were expecting a .6% jump and .2% jump in core CPI according to MarketWatch. Investors, instead received .5% and .1% respectively. The disappointement of CPI was a main driver in the inflation slumps. There was also more macro events that affected bonds more generally. Trump received an uncommon boost in approval ratings making his way back to 38.5% approval. The approval ratings coupled with the absence of any large threats from other countries seemed to ease the pain of inflation issues. 2 Year T-Bills closed at 1.489%, 10 Year Notes closed at 2.282%, 30 Year Bonds closed at 2.822%.






### What's next and key events

In the week to come we will receive the Treasury budget on Monday. The treasury budget should move the market as it will have a large impact on inflation and it will also steer institutional investor either in or out of bond markets depending on perceived macro-impact from the budget. The next noteworthy event will happen on Wednesday when housing starts are released. Housing starts affects the core inflation which was a major detracting facto of this week's outlook. On Thursday the Jobless claims will be released. Jobless claims can be an indicator for unemployment, which can signal a general direction of wage movement, and wage movement is tied to inflation. A strong report from the jobless earnings should restore faith to the market that the promise of inflation returning to normal levels still exists. On Thursday we also will get the FED Balance Sheet, this will be key on getting a pulse of how aggressive the unwinding will be. On Friday Janet Yellen speaks, this is going to be closely followed as it will directly affect the current battle for chairman of the FED. During the day we will also receive the existing home sales which are import for many of the reasons that housing starts are important.

SIENA college

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October, 13, 2017

## Axon Enterprise Inc.: AAXN

**Connor Morelli**

**Sector: Industrials/Information Technology**
**Industry: Capital Goods**
**Current Price: $23.86**
**Target Price: $30.49**

**Axon Enterprises, formally known as TASER International, develops, manufactures and distributes conducted electrical weapons. The company operates in two distinct business segments, the TASER Weapons segment which sells CEWs, accessories to those non-lethal weapons, and other products used by law enforcement agencies, self defense contractors and the military. In addition, the Axon business segment focuses on cloud based technology and software and sensors solutions, which are implemented through technological advancements in wearable body cameras, digital evidence management applications, and other technology based solutions. These solutions are aimed to increase efficiency in retrieving and analyzing data, eliminate discrepancies and deescalate altercations among officers and the public, as well as reduction of costs for law enforcement agencies across the United States and abroad.**

## BUY

| | |
|---|---|
| Current Price: | $23.86 |
| Target Price: | $30.49 |
| Market Cap: | 1.258B |
| Average Vol. | 566,177 |
| EBITDA Margin | 13.7% |
| Sales Growth LTM | 35.55% |
| ROE | 11.90% |
| ROIC | 10.89% |
| WACC | 13.02% |
| 52 Week Range | $21.18-28.49 |


## Thesis:

Axon Enterprises is a nationwide leader in the design, production, and distribution of conducted electrical weapons as well as an emerging presence in cloud based software and systems solutions used by law enforcement agencies, self-defense contractors, and the military. Through their two business segments, TASER weapons and Axon, Axon Enterprises continues to be the market leader in conducted electrical weapons and hardware while expanding their reach into software and systems solution technologies. As the demand for cloud based IT solutions increases in law enforcement and the adaptations of body and patrol car cameras becomes standard in America, Axon Enterprises can expect to see continued double digit revenue growth and in turn, become the market leader in this space. Over the long term, Axon Enterprises is in a position to see value creation due to growth in their software and solutions segment, expansion into international spaces, and through innovation in new technologies.

## Catalysts:

- Short Term (within the year): Announcement of third quarter earnings on November 8th, 2017.
- Mid Term (1-2 years): Continued revenue growth within the Axon Platform business segment through bookings of wearable body cameras and Evidence.com. Trend of law enforcement agencies demanding wearable body cameras and cloud based services.
- Long Term (3+): Continued product innovation through research and development. Transforming business portfolio from hardware products to a more cloud and software based business model.

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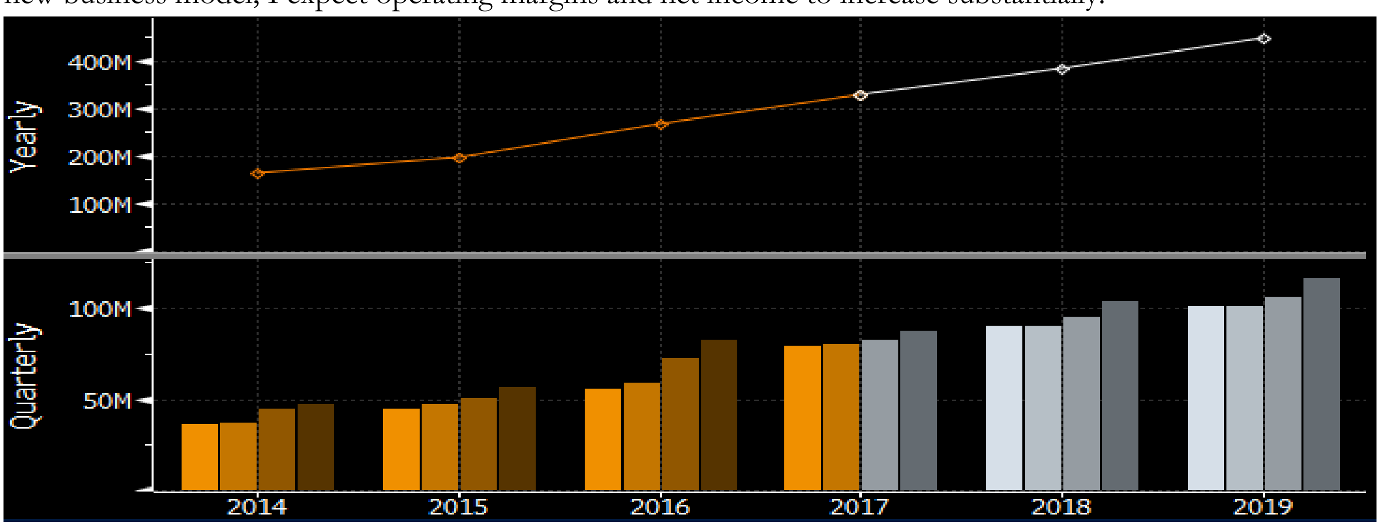
## Second Quarter

## Earnings Performance and Analysis:

Axon Enterprises continued to see double digit revenue growth as sales increased from $58.76M in 2Q 2016 to $79.64M in 2Q 2017, an increase of 36% year over year. During the second quarter of 2017, Axon Enterprises reached bookings of $82M, approximately $10M higher than any other previous period and an increase of nearly 14% from the LTM and an increase of 36% from the prior quarter in 2017. Annual recurring revenues, revenues brought in from contracts and subscriptions stemming from Axon's cloud based software and solutions segment, increased 18% from the previous quarter and 159% over the LTM to $54.7M. Axon enterprises reported a 33.2% operating margin for their Taser Weapons segment, with revenues increasing $15.1 from 2Q 2016. The growth in the Taser Weapons segment was driven by a 10% increase in weapons sold as well as 40% increase in cartridge units, however, some of this growth was offset by higher selling, general, and administrative expenses. The software and solutions segment, which includes body cameras and sensors, reported a doubling of revenue growth from $13.4M in the prior year's period to $26.6M in 2Q 2017. Service revenue in this segment increased 161% while hardware, the tangible cameras and sensors, reported a 66% increase in revenue. While Axon continued to beat analyst estimates in revenue and EPS in the 2Q 2016, shares fell 10% on the announcement of their earnings. This was attributable to continued net income decreases year over year. Year over year net income decreased 37.6% year over year while gross margins dropped from 63% to 57%. This was attributable to increased expenditures in SG&A as well as R&D. Overall, as the company transitions into its new business model; I expect operating margins and net income to increase substantially.



## Business Model Overview:

In April 2017, the company formally known as TASER International rebranded and changed its name to Axon Enterprises. According to CEO and founder of the company Rick Smith, the rebranding was necessary as the business shifts and begins to focus more on the software and service side of law enforcement technology. Axon Enterprises now operates in two segments, Taser Weapons and Axon. Taser Weapons focuses on the design, manufacture, and distribution of conducted electrical weapons and delivers those to law enforcement agencies, security contractors, as well as the military. For FY 2016, this segment generated 75.5% of revenues for Axon Enterprises at $202.6M. Conducted electrical weapons, commonly known as stun guns or Tasers, send electrical signals throughout the targets body through strong electrical voltage. As these electrical signals flow through the central nervous system, they cause strong muscle contractions and severe pain, resulting in incapacitation of the target. The Taser Weapons segment of Axon Enterprises currently has a number of models out on market, all of which are designed as non-lethal weapons and to protect life. These models include the Taser X2 and the Taser X26P. The Taser Weapons segment sells directly to law enforcement agencies through a network of distribution channels that Axon has developed for selling and marketing their Taser weapons. Taser weapons are used by more than 17,000 law enforcement agencies and in nearly 150 counties throughout the world. Approximately 600,000 domestic officers currently carry a Taser smart weapon while approximately 95% of all agencies in the United States are affiliated with Axon Enterprises through Taser Weaponry. Approximately 33% of the Taser weapons segment's revenue stems from recurring revenue streams such cartridge replacements, warranty, and battery replacements. Taser weapons offers plans for law enforcement agencies at fixed rates paid each month. This offers Axon Enterprises the chance to significantly shorten the upgrade cycle of Taser weapons, which results in small, short-term cash flow impacts. These plans also allows law enforcement agencies to avoid large capital expenditures over the length of the contract.

**LONG-TERM MODEL - Weapons**

Projected 40%+ normalized Weapons Segment Margins

| | 2015 | 2016 | GAAP Long Term Model |
|---|---|---|---|
| Gross Margin % | 70% | 69% | 72% |
| SG&A as % of Revenue | 29% | 31% | 27% |
| R&D as % of Revenue | 3% | 3% | 5% |
| Operating Margin % | 38% | 35% | 40% |

The second segment of the Axon Enterprises business model is the Axon segment. This segment of the business includes hardware in the form of wearable body cameras, Axon fleet, which connects an in-car video system to mobile devices and cloud based technologies, and the digital evidence management system, Evidence.com. This segment also designs software for mobile applications that connect to secure platforms that allow for easy recording and management of evidence in the field. A small part of this segment also includes forensic tools that offer greater clarity in photo and video evidence that can be used in a courtroom setting. Revenues for this segment of Axon's business have increased from $5.7M for FY 2012 to $65.6M in FY 2016, an increase of 1050.87% in just five fiscal years. Gross margins for the Axon segment were 32.7%, which were negatively impacted by shipments on multiyear contracts with heavily discounted upfront cameras and docks per the CFO, Jawad Ahsan. Bookings on the Axon platform were $81.9M in the second quarter, a record for the company. A major revenue driver of the Axon segment stems from evidence.com. Cumulative total booked seats have increased to 169,000 subscribers for the evidence.com service, which represents an increase of 14% sequentially. Currently 80% of major cities in the United States that employ body cameras are on the Axon platform which results in $54.7M of annual recurring service revenue. Ultimately, the Axon platform allows users to manage data and devices, share information and integrate across systems through cloud based technology through subscriptions, contracts, and direct purchases.

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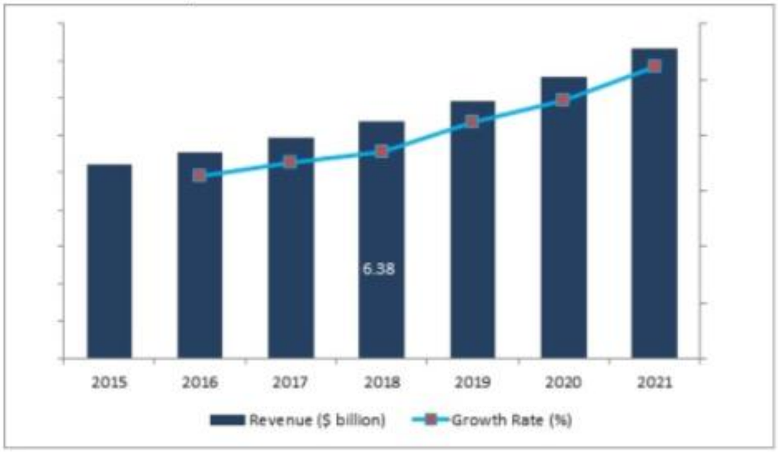
## Industry Analysis:

The Industrial sector, and in particular the defense, small arms, and police and law enforcement equipment markets continue to see continued growth and expansion. Key economic drivers of the small arms and munitions segment include local and state government investment, which is key specifically to Axon Enterprises as a majority of revenues come from major urban law enforcement agencies and other local governments. However, the majority of Axon Enterprises operations exist in the law-enforcement equipment market. As events such as Ferguson, Missouri and other incidences where officers under questionable circumstances used lethal force have dominated headlines over the recent years, the momentum of this market is shifting towards the use of non-lethal weapons. This trend is mostly seen in North American, European, and Australia, three regions Axon Enterprises has significant exposure to. This market has also seen an increase in the use of intelligence and information systems as cities now must adjust to the trend away from lethal force. The police and law enforcement market is expected to grow at a CAGR of approximately 4% over the next three years where North America commands around 44% of the market share in this market. By 2019, revenues for this market are expected to reach $8.5B as the demand for non-lethal weapons rises as well as the need for surveillance systems and communication systems in urban locations.

Non-Lethal Weapons Market ($ billion), 2016-2021



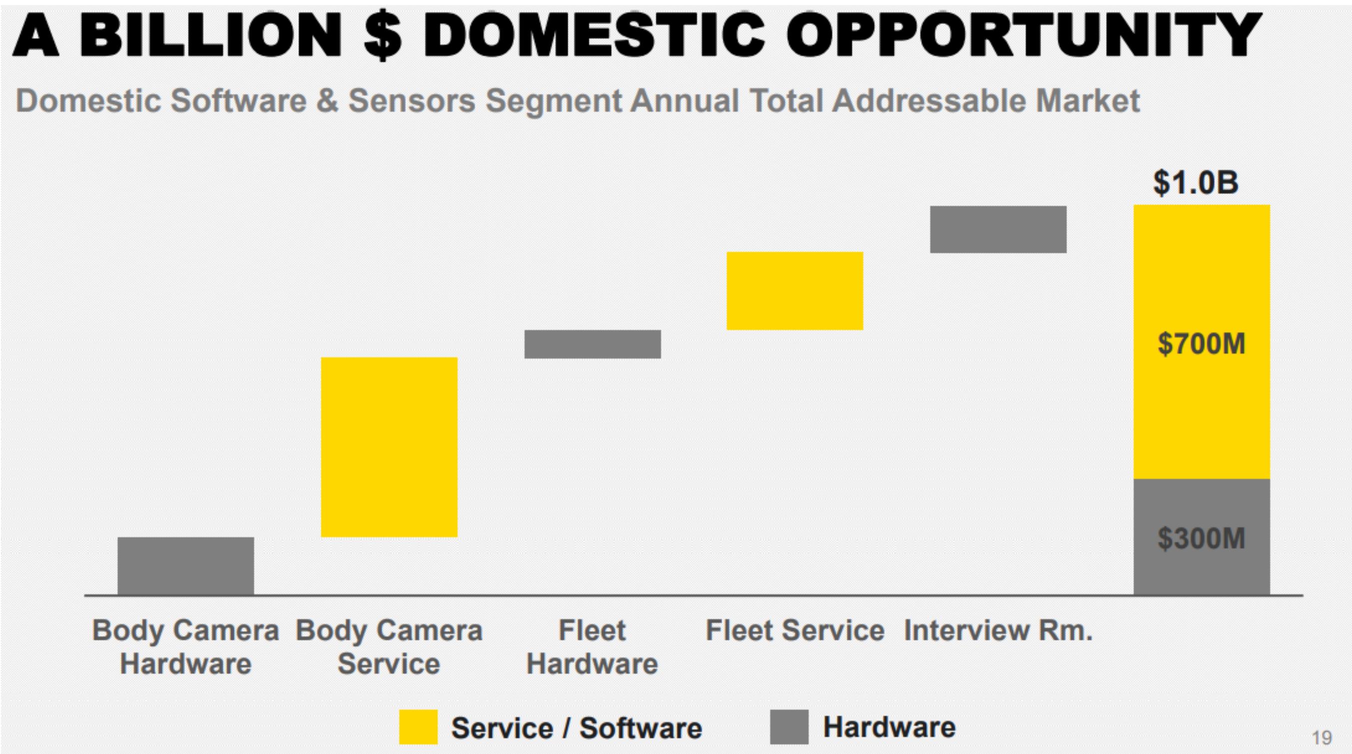

Axon Enterprises also operates in the Information Technology sector through their cloud based technologies and software available through the Axon Platform, which also continues to see expansion and growth. 53% of companies surveyed by Evercore ISI anticipate increasing their spending on technology while small business and organization optimism has stayed at an elevated level of 105.2, which according to the National Federation of Independent Businesses, indicates an opportunity for growth in the IT sector. Cloud based services are beginning to be adopted which will allow for more usage based consumption. This development will all small and medium sized enterprises the ability to access sophisticated solutions. Companies are now using combinations of hardware, software, storage, and analytics to develop a deep expertise of their field and offerings unique to their customers per Delloite. As Axon Enterprises is remodeling their business portfolio and placing more emphasis on expansion and growth of Axon Platform segment, the company is exposed to both macro trends in Defense and IT sectors.

## Growth Potential of the Axon Platform:

While a majority of revenues occur within the Taser Weapons segment of Axon Enterprise's business model, there majority of the growth potential lies within the Axon Platform. Taser Weapons will continue to grow organically as law enforcement agencies continue to adopt to the use of non-lethal weapons however, the Axon Platform has grown at exponentially and the recent rebranding of the company reinforces analyst and management belief that this segment will eventually surpass the weapons segment. Growth within the Axon Platform is dependent on bookings and contracts being delivered to law enforcement agencies. Axon body cameras and Evidence.com have been particularly strong growth drivers over the last two years reaching contracted revenues of $390M up from $71.1M just two years ago and 94% of new orders over the last two years include multi-year contracts. Evidence.com also has the strongest gross margins in the company's two segments at 70.2% gross margin. Over the existence of Axon Enterprises, they have become the industry leader in both conducted electrical weapons as well as body cameras for use by law enforcement officers. Over the last few years, research and development expenses have increased substantially and FY 2016 saw R&D expenditures of $142M, which was approximately 36% of sales for the company as a whole. One of these innovations that would be key to the growth of the Axon Platform would be in the next few years the company expects to roll out a records management system that would automate the collection and analysis of data available to law enforcement agencies. This development continues to show the desire of management to become the preeminent service company for law enforcement. Axon Enterprises will look to grow the Axon Platform through building their network of services and users, driving utilization of their services, integration into the workflow of agencies to create long-term value, as well as providing agencies with advanced analytics and value features in their software products. As these goals are met, the Axon Platform will see higher user and retention rates along with renewals of existing contracts and new subscriptions. The trend in body camera usage by law enforcement continues to be positive for Axon Enterprises. Many local, state and federal agencies have become to mandate that all officers wear body cameras when on duty which would fuel rapid adoption of Axon body cameras. In six major urban areas, the use of force by officers wearing Axon body cameras has decreased by an average 51.33% and complaints are down 56%, which provides evidence for the continued shift in body camera usage. However, the services and software that the Axon Platform integrates into these cameras will drive future growth. The Axon fleet, for example, takes real time visual and audio data and directly uploads this data into the Axon cloud, which can be instantly accessed by law enforcement on site. Agencies will pay for the hardware itself but recurring revenues stemming from the services the Axon Platform provides will drive growth and create value for the company.

| | COMPETITIVE PRODUCTS | AXON CAMERAS |
|---|---|---|
| SOLUTION | Isolated and costly product workflows | Comprehensive capture suite with workflow efficiency |
| PURPOSE BUILT | Poor battery life and first generation hardware | Intuitive and built for law enforcement |
| SMART AND CONNECTED | Disconnected and hard to manage | Advanced field connectivity and robust device management and monitoring |
| WEARABLE | Heavy and limited mounting options | Unmatched durability and comprehensive mounting options |

Axon Enterprises sees a potential $1B market opportunity in its domestic software, sensors, and services segment, which would far surpass the Taser weapons segment of the business. A majority of these revenues, approximately $700M, would come from software and services, the space the company is currently rapidly expanding in. Currently the company generates $81.9M of revenue from bookings of axon and evidence.com and $54.7M of revenue is recurring. Another key growth driver for Axon Enterprises' Axon Platform is the continued growth of evidence.com. Currently, evidence.com has about 169,000 licences throughout the United States and Axon Enterprises projects this market to have 1 million potential licenses domestically. Currently EBITDA margin and net income margin have decreased over the LTM to 10.9% and 5.7% respectively for the company as a whole, while EBITDA margin in 2016 was (60) %. This is again due to the high R&D expenses that Axon Enterprises is reinvesting into the company to grow this segment and innovate new technologies in order to reach their goals of $1B in revenues stemming from the Axon Platform and grow licenses of Evidence.com to over 1M users. The company's long-term projections in this segment show R&D expenses dropping to 15% of sales, which in turn would allow the Axon Platform to reach its target of 20% EBITDA margin. Along with developing domestically the Axon Platform, the company is also seeking to expand internationally. Currently, Axon Enterprises is exposed to Tier 1 markets such as the UK, Canada, and Australia. Through the successes of these segments, the company is analyzing ways to expand into broader international markets such as EMEA and Asia. International policing models are very different from ours in the United States so expansion into international spaces has been slower than anticipated. However, revenues grew 31.12% from FY 2015 to FY 2016 internationally. Axon Enterprises is poised to become the industry leader in not just hardware but also software and systems solutions as they continued to generate double digit organic growth in both segments and create value for law enforcement agencies domestically and abroad.




## Ownership Summary:

| Ownership Type | 10/08/17 | Curr | Change |
|---|---|---|---|
| 11) Investment Advisor | 82.96 | 82.94 | -0.02 |
| 12) Hedge Fund Manager | 10.38 | 10.37 | -0.01 |
| 13) Individual | 2.70 | 2.70 | 0.00 |
| 14) Pension Fund | 2.21 | 2.20 | -0.01 |
| 15) Insurance Company | 0.56 | 0.60 | +0.04 |
| 16) Bank | 0.43 | 0.43 | 0.00 |
| 17) Sovereign Wealth Fund | 0.40 | 0.40 | 0.00 |
| 18) Government | 0.22 | 0.22 | 0.00 |
| 19) Endowment | 0.06 | 0.06 | 0.00 |
| 20) Brokerage | 0.06 | 0.06 | 0.00 |
| 21) Foundation | 0.01 | 0.01 | 0.00 |

The ownership of Axon Enterprises primarily consists of Investment Advisors, and Hedge fund managers. Respectively, these two groups make up 82.94% and 10.37% of the ownership of Axon Enterprises. The float of shares available for purchase is currently 96.87% indicating this stock is liquid in the market. Over the last six months, insiders within the company have been individually purchasing shares. CEO Rick Smith recently increased his individual positon within the company by 9.23%, this indicates that management currently believes the stock to be undervalued. Currently the company is instituting a share repurchase program. In 2016, alone Axon Enterprises bought back $33.8M worth of common stock. This signals that the company believes in the growth potential of their business and later will be able to reissue shares at a premium to at what they bought back the shares. This effectively allows investors in the company to own a larger portion of the company and greater access to cash flows. Currently the short interest ratio is 33.63% of float with days to cover averaging 35.0. In the event that the stock price increases, short sellers will have to sell off their positions to avoid losses, further increasing the per share price of Axon Enterprises stock.

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## Capital Structure Breakdown:

| Name | Mkt Cap (USD) | Rev - 1 Yr Gr:Y | ROE | WACC | ROIC/WACC↑ Ratio | WACC Cost of Equity | T12M EBITDA Mrgn:Q | ROIC:Y |
|---|---|---|---|---|---|---|---|---|
| Median | 760.06M | 1.97% | 10.98% | 6.97% | 1.26 | 9.50% | 11.19% | 8.54% |
| 100) AXON ENTERPRISE INC | 1.29B | 35.55% | 11.90% | 13.02% | 2.29 | 13.04% | 10.94% | 10.89% |
| 101) DIGITAL ALLY INC | 14.10M | -17.25% | -128.42% | 5.06% | -26.47 | 5.79% | -66.34% | -81.83% |
| 102) EVERBRIDGE INC | 757.81M | 30.87% | -- | 9.50% | -3.29 | 9.50% | -6.14% | -55.88% |
| 103) VISTA OUTDOOR INC | 1.21B | 12.16% | 6.55% | 5.29% | -1.93 | 8.18% | 11.43% | 6.19% |
| 104) ORBITAL ATK INC | 7.69B | 1.97% | 16.80% | 7.99% | 0.38 | 9.42% | 14.48% | 13.05% |
| 105) NATIONAL PRESTO INDS ... | 762.32M | -3.86% | 10.98% | 11.42% | 1.26 | 11.42% | 20.31% | 11.70% |
| 106) DEFENSE TECHNOLOGY SY... | -- | -26.92% | -- | 6.44% | 3.75 | 9.50% | -- | -- |
| 107) APPLIED ENERGETICS INC | 4.79M | -- | -- | 6.97% | 15.80 | 6.85% | -- | -- |
| 108) GUARDIAN 8 HOLDINGS | 193.20k | -- | -- | 4.04% | 410.07 | 9.50% | -- | -- |

Axon Enterprises currently has no long-term debt obligations and over the last three months has paid off its capital leases obligations resulting in a highly liquid company. Because Axon Enterprises has no debt, management can focus on using their cash flows to reinvest in their business through research and development and will allow Axon Enterprises to take advantage of future growth opportunities. While Axon Enterprises WACC is higher than its competitors at 13.02%, their ROIC/WACC ratio is significantly better than most of their closest competitors. The current ROIC/WACC ratio for Axon Enterprises is 2.29, which shows that they are efficient at generating value with the use of their assets. Axon Enterprises has been increasing their cash holdings over the last five years and for FY 2016 saw cash and other equivalents decrease 18.85% due to a $10M cash acquisition to acquire Dextro Inc., the first computer-vision and deep learning system, which will allow Axon Enterprises to continue their development of artificial intelligence capabilities for their software. Overall, Axon Enterprises is in stable financial health and because the company carries no long-term debt, they have the financial freedom to use capital as they see fit to grow their business organically and make acquisitions where management sees fit.

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## Conclusion:

I believe that Axon Enterprises is a buy at their current price level even though there is some concern in the market over earnings decreasing over first two quarters of Q2 2017. I believe that the market is currently not pricing the Axon Platform properly and is not taking into account the potential growth this segment of the business has. As Axon Enterprises continues to grow their Axon Platform organically, revenues will continue to increase at industry leading levels and Axon Enterprises will not only be the industry leader in conducted electrical weapons but also the leading technology services provider for law enforcement agencies around the country. Currently, trends in law enforcement show an increased focus on safety, responsibility, and technology, all of which Axon Enterprises is poised to capitalize on. Because the Axon Platform is currently in its growth phase a majority of their revenues are being used to foster innovation through research and development expenditures. Over the long-term, these expenses will decrease and earnings will increase, pushing the stock price higher. Overall, continued double-digit revenue growth, the expansion of the services offered through the Axon Platform, and the move from a hardware company into a software and solutions based company will push the stock price higher.

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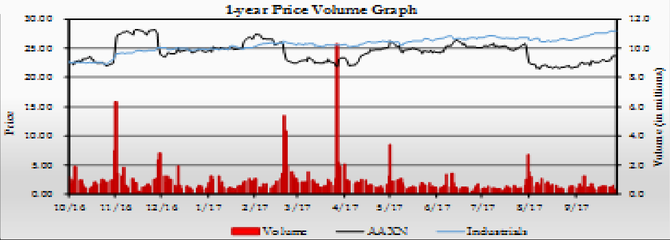
# Axon Enterprise, Inc. (AAXN)

# CENTER FOR GLOBAL FINANCIAL STUDIES

**BULLISH**

| | | | | |
|---|---|---|---|---|
| Analysis by Connor Morelli | Current Price: | $23.82 | Intrinsic Value | $26.20 | Target 1 year Return: 28.55% |
| 10/12/2017 | Divident Yield: | 0.0% | Target Price | $30.62 | Probability of Price Increase: 99% |

1-year Price Volume Graph




**Description**

Axon Enterprise, Inc. develops, manufactures, and sells conducted electrical weapons (CEWs) worldwide.

**General Information**

| | |
|---|---|
| Sector | Industrials |
| Industry | Aerospace and Defense |
| Last Guidance | November 3, 2015 |
| Next earnings date | November 8, 2017 |
| Estimated Country Risk Premium | 5.69% |
| Effective Tax rate | 25% |
| Effective Operating Tax rate | 27% |

**Market Data**

| | |
|---|---|
| Market Capitalization | $1,258.49 |
| Daily volume (mil) | 0.51 |
| Shares outstanding (mil) | 52.83 |
| Diluted shares outstanding (mil) | 53.45 |
| % shares held by institutions | 84% |
| % shares held by investments Managers | 81% |
| % shares held by hedge funds | 11% |
| % shares held by insiders | 2.40% |
| Short interest | 32.57% |
| Days to cover short interest | 30.53 |
| 52 week high | $28.49 |
| 52-week low | $21.18 |
| Volatility | 47.57% |

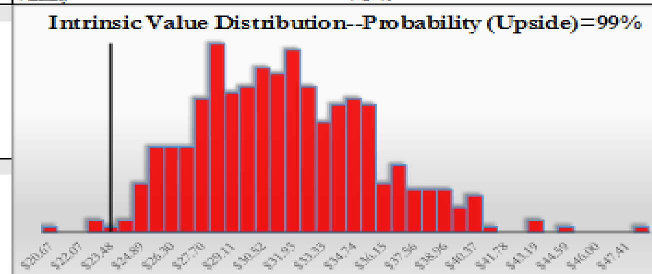
**Past Earning Surprises**

| Quarter ending | Revenue | EBITDA |
|---|---|---|
| 6/30/2016 | 3.08% | 0.73% |
| 9/30/2016 | 19.80% | 47.99% |
| 12/31/2016 | 10.77% | -10.77% |
| 3/31/2017 | 9.87% | 139.79% |
| 6/30/2017 | 3.85% | -46.53% |
| Mean | 9.47% | 26.24% |
| Standard error | 3.0% | 32.2% |

**Peers**

Raytheon Company
Everbridge, Inc.
Digital Ally, Inc.
ShotSpotter, Inc.

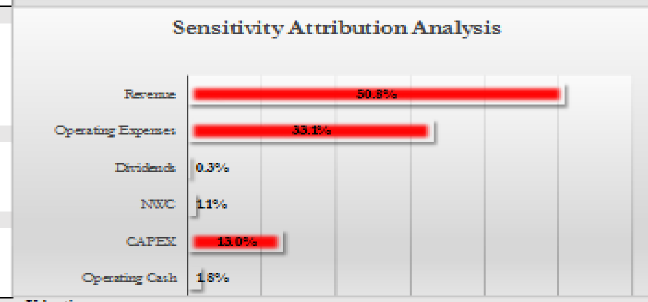
Intrinsic Value Distribution--Probability (Upside)=99%



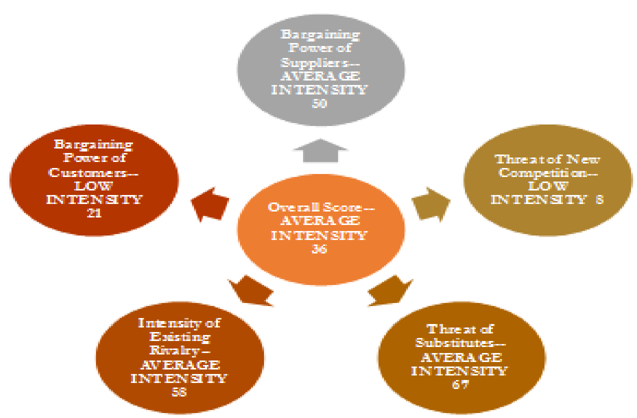

| Management | Position | Total compensations growth | Total return to shareholders |
|---|---|---|---|
| Smith, Patrick | Co-Founder, Chief Executive | 41.01% per annum over 5y | 15.95% per annum over 5y |
| Larson, Luke | President | 94.62% per annum over 2y | -4.32% per annum over 2y |
| Kunz, Douglas | Executive Vice President, Ge | 2.11% per annum over 5y | 15.95% per annum over 5y |
| Isner, Joshua | Executive Vice President of | 7.7% per annum over 1y | 40.2% per annum over 1y |
| Womack, Marcus | Advisor | -17.24% per annum over 3y | 16.85% per annum over 3y |
| Ahsan, Jawad | Chief Financial Officer | N/M | N/M |

| Profitability | AAXN (LTM) | AAXN (5 years historical average) | Peers' Median (LTM) |
|---|---|---|---|
| Return on Capital (GAAP) | 37.3% | 47.05% | -11.46% |
| Operating Margin | 7% | 13.69% | -187.01% |
| Revenue/Capital (GAAP) | 5.05 | 3.44 | 0.06 |
| ROE (GAAP) | 11.3% | 17.9% | 0.9% |
| Net margin | 5.4% | 12.1% | 44.1% |
| Revenue/Book Value (GAAP) | 2.07 | 1.48 | 0.02 |
| **Invested Funds** | **AAXN (LTM)** | **AAXN (5 years historical average)** | **Peers' Median (LTM)** |
| Cash/Capital | 37.8% | 53.2% | 37.8% |
| NWC/Capital | 21.0% | 19.0% | 21.7% |
| Operating Assets/Capital | 33.1% | 28.4% | 16.3% |
| Goodwill/Capital | 8.1% | 1.9% | 24.2% |
| **Capital Structure** | **AAXN (LTM)** | **AAXN (5 years historical average)** | **Peers' Median (LTM)** |
| Total Debt/Market Capitalization | 0.00 | 0.00 | 0.08 |
| Cost of Existing Debt | 4.0% | 4.0% | 15.2% |
| CGFS Rating (F-score, Z-score, and default Probability) | BB | BBB | BB |
| WACC | 16.5% | 9.7% | 17.6% |

Sensitivity Attribution Analysis




**Porter's 5 forces (scores are out of 100)**




**Valuation**

| Period | Revenue Growth Forecast | NOPAT Margin Forecast | Revenue to Capital Forecast |
|---|---|---|---|
| Base Year | 42% | 15.5% | 1.41 |
| 6/30/2018 | 15% | 13.3% | 1.32 |
| 6/30/2019 | 15% | 19.6% | 1.12 |
| 6/30/2020 | 33% | 19.9% | 1.10 |
| 6/30/2021 | 29% | 19.8% | 1.06 |
| 6/30/2022 | 25% | 19.6% | 1.01 |
| 6/30/2023 | 22% | 19.3% | 0.94 |
| 6/30/2024 | 18% | 19.0% | 0.87 |
| 6/30/2025 | 15% | 18.6% | 0.80 |
| 6/30/2026 | 11% | 17.9% | 0.73 |
| 6/30/2027 | 7% | 17.1% | 0.66 |
| Continuing Period | 4% | 16.2% | 0.60 |

| Period | Return on Capital Forecast | WACC Forecast | Price per share Forecast |
|---|---|---|---|
| Base Year | 21.8% | 16.5% | $25.60 |
| 6/30/2018 | 17.3% | 11.7% | $29.36 |
| 6/30/2019 | 22.0% | 11.2% | $33.53 |
| 6/30/2020 | 21.9% | 10.8% | $38.43 |
| 6/30/2021 | 21.0% | 10.8% | $43.61 |
| 6/30/2022 | 19.7% | 10.5% | $49.35 |
| 6/30/2023 | 18.2% | 10.3% | $55.69 |
| 6/30/2024 | 16.6% | 10.2% | $62.62 |
| 6/30/2025 | 15.0% | 10.1% | $70.09 |
| 6/30/2026 | 13.1% | 10.1% | $77.96 |
| 6/30/2027 | 11.3% | 10.1% | $86.10 |
| Continuing Period | 9.6% | 10.0% | |

October 14, 2017

# Cooper Standard Holdings Inc: CPS

**Michael Vitale**

**Sector: Consumer Discretionary**
**Industry: Auto Components**
**Current Price: $114.77**
**Target Price: $125.87**

**Company Description: Cooper Standard, headquartered in Novi, Mich. USA, is a leading global supplier of systems and components for the automotive industry. Cooper Standard operates as a holding company and through its subsidiaries, produces rubber and plastic sealing, fuel and brake lines, fluid transfer hoses and anti-vibration systems. Their operations are divided into four divisions: North America, Europe, South America, and Asia Pacific.**


## BUY

| | | | |
|---|---|---|---|
| Current Price: | $114.77 | ROIC: | 12.78% |
| Target Price: | $125.87 | WACC: | 8.32% |
| Market Cap: | 2.04B | ROE: | 21.37% |
| P/E: | 13.5% | EBITA Margin: | 12.2% |

## Thesis:

CPS has strong growth factors due to their leading market positions across all product lines. They have significant organic growth opportunities via increasing their content per vehicle (CPV), through the increasing trend of global lightweight vehicle production. Their adjacent market strategy, coupled with their global manufacturing footprint will allow them to diversify their revenue/profit base, as well as improve capacity utilization and overhead absorption.

## Catalysts:

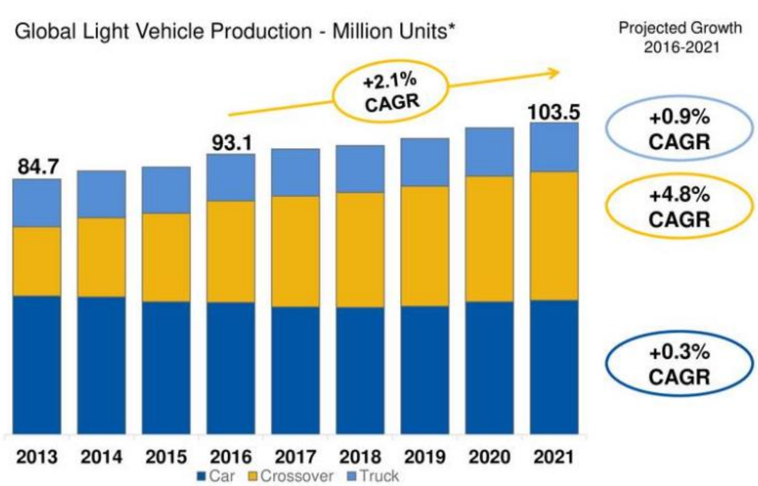
- Short Term(within the year): Increasing their industry leading content per vehicle following increasing CAGR trends.
- Mid Term(1-2 years): Leveraging innovative products and technology in automotive and adjacent markets
- Long Term(3+): Aggressive growth and improving capacity in China

## Business Description/ Product overview:

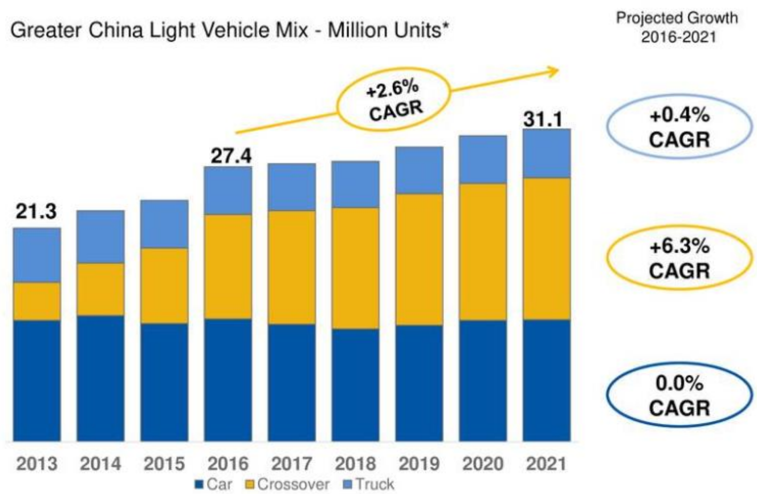
Cooper Standard believes that to innovate, you must establish new pathways to success. That is why they created the $i^3$ Process, which has enabled Cooper Standard to reinvent areas of the automobile that have not been touched in decades. To more effectively harness and explore employees' valuable insight and innovative ideas, the i Process consists of three basic steps: imagine, initiate, and innovate. Their large fragmented markets represent significant growth potential. Their sealing systems controls $1.8 billion dollars (24%) of an 8.3 billion dollar global market They are the #1 global supplier of sealing systems, and it occupies 52% of their revenue. Their fuel & brake delivery systems controls $.7 billion dollars (9%) of a $6.3 billion dollar global market. CPS is the #2 global supplier of fuel & brake delivery systems, and it occupies 21% of their revenues.. Their fluid transfer systems, and anti-vibration systems occupy 23% of their revenue combined with a total of 10% global market share (7%- 3% respectively), of which they are #3 globally and the leading north American supplier.


Cooper Standard provides customer solutions through their innovation. Their products drive sustainable competitive advantages against their competitors. Their Fortrex Sealing reduces weight, improves performance, and offers appearance options. ArmorHose I, II, and III all eliminate the requirement for protective sleeves and hoses, elevating any future costs for consumers. Their MagAlloy coating improves corrosion performance and product life utilizing proprietary technology. Lastly, their GenII Posi-Lock Quick Connector simplifies systems by reducing mass and complexity. All of these breakthrough innovations to the market yielded a total contract award (annualized revenue) of $385 million.

## Industry Outlook:




Worldwide sales reached a record 88 million autos in 2016, up 4.8 percent from a year earlier, and profit margins for suppliers and auto makers (also known as original equipment manufacturers, or OEMs) are at a 10-year high. Various performance indicators have shown that the industry as a whole may not be as healthy as it seems. Rates of return on capital have been a problem endemic to the auto industry for years, which is one reason for the many bankruptcies or near liquidations among



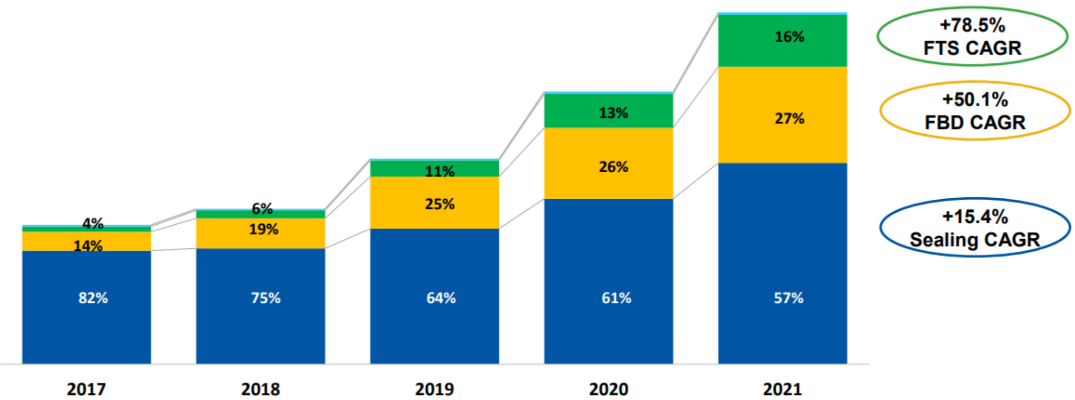

OEMs and suppliers, particularly in the past decade or so. This is not the case for Cooper Standard. Their ROIC has experienced an average annual growth of 30% since year-end of 2013. At year-end of 2016 their ROIC posted a strong, industry leading 12.78%. They have been able to achieve this through their recent M&A ventures, and their consolidation of facilities specifically in Canada. One of Cooper Standard's growth vehicles will be their increase in content per vehicle. 62% of CPS's global revenue has come from supplying light vehicles production with their industry leading products. The bulk of CPS's earnings come from crossovers and light trucks. Their content per vehicle (CPV) on crossovers and light trucks is 26% and 120% higher than on cars respectfully. Based on industry analysis, crossovers and light trucks are to comprise 57% of the global market by 2021. As for their North American business, 77% of their North American revenue comes from light vehicles. Crossover and trucks will comprise 66% of the N. Am. Market by 2021. Cooper Standard's CPV on crossovers and trucks are 42% and 260% respectively higher than on cars. Another area for growth for CPS is their increasing expansion in China. Greater China light vehicle mix is expected to have a 2.6% positive CAGR into 2021. Cooper Standard average CPV in china is expected to double by that year. The growth in CPV for Cooper Standard will be a result of the +6.3% CAGR of crossover vehicles.

## Growth Strategy:

Cooper Standard's growth continues to outpace the industry. The illustration to the right shows CPS's 2017-second quarter YOY change. They plan on continuing growth through their organic channels by increasing their CPV, following the increasing global industry CAGR trends of their most profitable products (crossovers and trucks). Other areas that signify promising growth is their entrance into adjacent markets. The non-automotive rubber market is a $76 billion dollar market opportunity. There is a $59B opportunity in industrial equipment/ wire & cable/ consumer/ medical, $10B opportunity in defense and $7B in building/ construction. Cooper Standard signed their first license agreement of their Fortrex technology for outside the automotive industry during Q2 of 2017. They signed 1.75B lbs. for building / construction, 1.5B lbs. for

| | LV Production Growth[1] | CS Sales Growth | CS Adj. Sales Growth[2] | Adj. Sales Growth vs Market |
|---|---|---|---|---|
| North America | (3.0%) | 4.5% | 1.3% | ↑ |
| Europe | (3.0%) | (7.7%) | (3.6%) | ↓ |
| Asia Pacific (ex. Japan) | (0.5%) | 21.2% | 12.0% | ↑ |
| South America | 15.9% | 30.7% | 19.7% | ↑ |
| Global (ex. Japan) | (1.1%) | 3.4% | 1.6% | ↑ |

wire/ cable, and 1.5B lbs. for footwear. They also plan to look into leveraging core technologies in the immediate adjacent markets, which is a $2.2B addressable market. The primary adjacent segment is the electric vehicle market. The global light vehicle production by powertrain trends has hybrids and all electric vehicles boasting a 14/3% increase respectively by 2021 with 39/40% CAGR. All of Cooper Standards innovative niche products are used at the same capacity across all powertrains, giving them a superior growth advantage in this adjacent market.

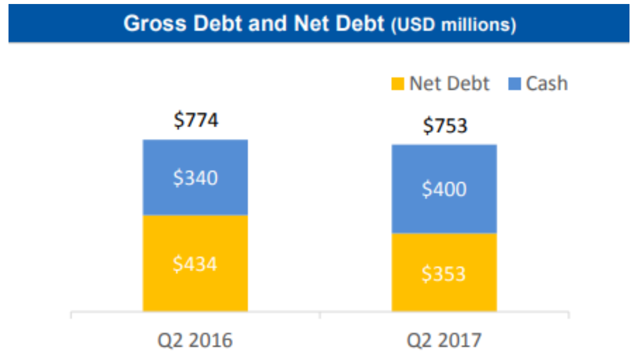


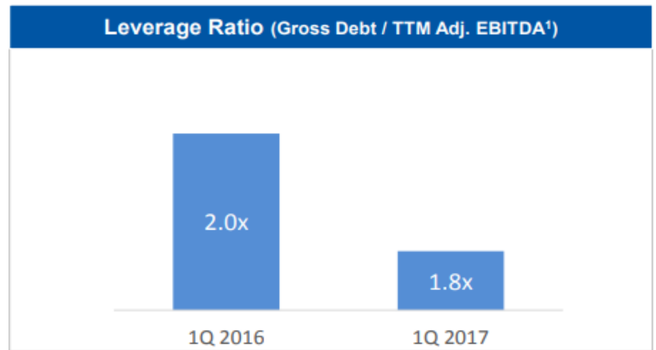

Cooper Standard's next endeavor for growth is the expansion of their Asian Pacific market share. This market is a part of their global manufacturing footprint. This market provides access to high-volume growth. As of 2016, it consisted of 16% of their total revenue, where they have 29 manufacturing facilities, 5 R&D, 4 admin/ sales. Their revenue in China is expected to grow faster than the market with a +21.1% CAGR through 2021. Increasing production will improve capacity utilization and overhead absorption. Increasing localization of technical capabilities and vertical integration of key components is expected to further drive higher margins and ROIC. CPS plans to expand their product portfolio in china with a 79.5% CAGR increase of their fluid transport systems, a 50.1% increase in fuel & brake delivery systems, and a 15.4% increase of their sealing systems. Concerning their capacity utilization, it is to increase from 70% to greater than 90%. This calls for eight plants in China with more than $100m in revenue by 2021 vs two plants in 2017. Planned launches are up nearly 8% vs. 2016, majority of which are on global platforms including China. Newly launched business, continued improvements in operating efficiency and restructuring savings is expected to drive higher margins in the second half of 2017. Third quarter margins are subject to industry seasonality, where 4th quarter margins are to benefit most from the ramp up of new launches, and operating efficiencies.

| | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| North America | 7 | 18 | 12 | 7 | 44 |
| Europe | 14 | 20 | 19 | 21 | 74 |
| Asia Pacific | 5 | 15 | 13 | 17 | 50 |
| South America | 0 | 1 | 4 | 0 | 5 |
| **Total** | **26** | **54** | **48** | **45** | **173** |

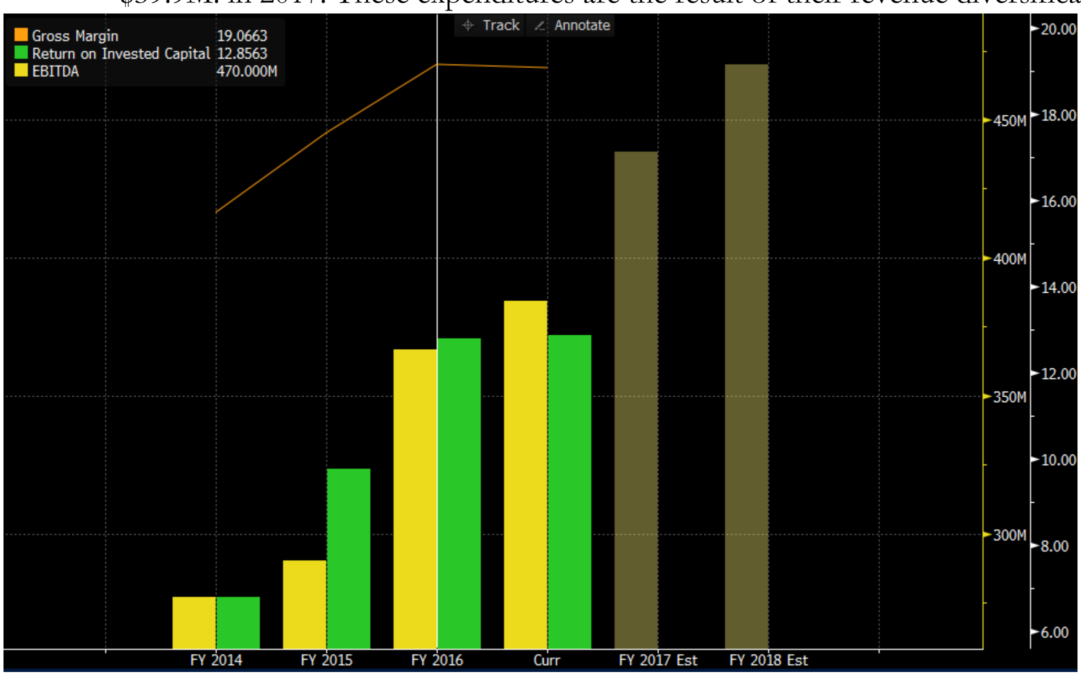
2017 Planned New Product/ Plant Launches

## Financial Overview:




Cooper Standard, has strong financials moving forward to help allow them take on future endeavors. They have freed up a significant amount of cash to help fund their new product launches, while elevating some of their long term and short-term debt. Their net income, EBITA, and revenue have all increased over the past 5 years, substantially. Their trailing twelve-month EBITA margin for Q1 of 2017 is currently at 12.1%, considerably higher than Q1 of 2015, which was 9.7%. Long term and short term debts have decreased over the last 2 years from 45.5M-33.4M and 732.4M- 729.5M respectively. Their net debt to EBITA margin has been decreasing significantly over the past three years helping them delever the company, allowing them to borrow at a lower rate in the future. Through their delevering process, they have also freed up more capital. This newly freed up capital allows them to increase their capital expenditures (CAPEX) from $26.3M in 2016 to $39.9M. in 2017. These expenditures are the result of their revenue diversification by region campaign. They have been increasing, and will continue to increase their global manufacturing footprint especially as it pertains to China's high volume opportunity. Cooper Standard's YOY for EBITA, ROIC, and gross margin have all been steadily increasing since 2014. Their current ROIC has leveled since 2016 due to their continuing advancements in expanding Chinese production.



## Ownership:

| Compare Current Stats Against 09/08/17 | | | |
|---|---|---|---|
| Ownership Type | 09/03/17 | Curr | Change |
| 11) Investment Advisor | 80.23 | 80.57 | +0.34 |
| 12) Hedge Fund Manager | 12.75 | 12.30 | -0.45 |
| 13) Sovereign Wealth Fund | 1.56 | 1.57 | +0.01 |
| 14) Insurance Company | 1.32 | 1.41 | +0.09 |
| 15) Pension Fund | 1.17 | 1.18 | +0.01 |

Cooper Standard's change in ownership from the last month has been favorable from Investment Advisors. Of those investors, the Vanguard Group Inc. and Blackrock hold the largest positions. Vanguard has a position of 2,036,130 shares and Blackrock holds 1,527,392. Both investors have been increasing their shares over the last month considerably. Vanguard has increased holdings by 68,126, while Blackrock has increased by 78,670. These industry-leading investors' confidence hasn't just started in the last month.

BLACKROCK FUND ADVISORS — USD

| | | | |
|---|---|---|---|
| Est. Holding Period (yrs) | 3.75 | Cost Basis/Share (LIFO) | 89.89 |
| Current Mkt Val | 175.73M | Cost Basis/Share (FIFO) | 89.68 |
| First Holding Date | 03/31/14 | Cost Basis/Share (Average) | 89.72 |

1) Chart 2) Table

| | Holding Period | Position | Position Change | Average VWAP |
|---|---|---|---|---|
| 8. | 2015 Q4 | 323,782 | 17,574 | 72.60 |
| 9. | 2016 Q1 | 316,305 | -7,477 | 71.34 |
| 10. | 2016 Q2 | 365,065 | 48,760 | 80.85 |
| 11. | 2016 Q3 | 1,149,618 | 784,553 | 94.22 |
| 12. | 2016 Q4 | 1,340,491 | 190,873 | 96.03 |
| 13. | 2017 Q1 | 1,448,722 | 108,231 | 109.19 |
| 14. | 2017 Q2 | 1,527,392 | 78,670 | 106.54 |

VANGUARD GROUP INC — USD

| | | | |
|---|---|---|---|
| Est. Holding Period (yrs) | 4.00 | Cost Basis/Share (LIFO) | 76.24 |
| Current Mkt Val | 234.26M | Cost Basis/Share (FIFO) | 76.24 |
| First Holding Date | 12/31/13 | Cost Basis/Share (Average) | 76.24 |

1) Chart 2) Table

| | Holding Period | Position | Position Change | Average VWAP |
|---|---|---|---|---|
| 9. | 2015 Q4 | 996,828 | 38,262 | 72.60 |
| 10. | 2016 Q1 | 1,234,693 | 237,865 | 71.34 |
| 11. | 2016 Q2 | 1,345,386 | 110,693 | 80.85 |
| 12. | 2016 Q3 | 1,645,697 | 300,311 | 94.22 |
| 13. | 2016 Q4 | 1,838,780 | 193,083 | 96.03 |
| 14. | 2017 Q1 | 1,968,004 | 129,224 | 109.19 |
| 15. | 2017 Q2 | 2,036,130 | 68,126 | 106.54 |

They have been increasing their shares considerably each quarter since 2015. This type of consistent investing signifies that the management of CPS has a strong hold on their vision, as well as their strategies for moving forward. Vanguard, and Blackrock showing this level of confidence in CPS illustrates that the company holds value and will create new value moving forward.

## Conclusion:

Cooper Standard Holdings' organic growth opportunities via increasing their content per vehicle (CPV) is evident. Their innovative industry leading products will continue to increase in sales as the current global market trend for light vehicles continues to grow. Their adjacent market strategy, coupled with their global manufacturing footprint will allow them to diversify their revenue/profit base, mitigating any future nonsystematic risk. Increasing their production in their Asian Pacific market will improve capacity utilization and overhead absorption as they continue to outpace the Chinese market. Their current financial standing is stable and ready to take on any future investments, as well as sustain any costs that arise from their on pace new product/ plant launches. The confidence industry leading investors have in the value of CPS only enhances my reasoning for why I believe CPS is a strong, value driven company that we should buy.

# Cooper-Standard Holdings Inc. (CPS)

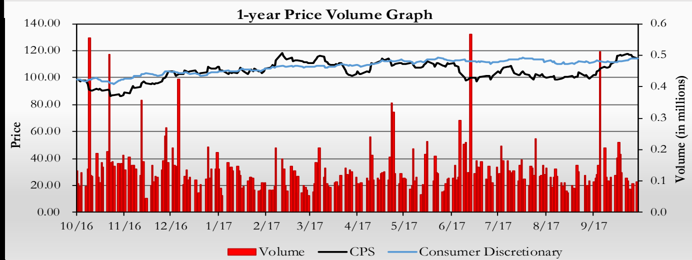
# CENTER FOR GLOBAL FINANCIAL STUDIES

**BULLISH**

| | | | | |
|---|---|---|---|---|
| Analysis by Michael Vitale | Current Price: | $114.77 | Intrinsic Value | $125.27 |
| 10/13/2017 | Divident Yield: | 0.0% | Target Price | $146.58 |

Target 1 year Return: 27.71%

Probability of Price Increase: 93.2%




**Description**

Cooper-Standard Holdings Inc., through its subsidiary, Cooper-Standard Automotive Inc., designs, manufactures, and sells sealing, fuel and brake delivery, fluid transfer, and anti-vibration systems worldwide.

**General Information**

| | |
|---|---|
| Sector | Consumer Discretionary |
| Industry | Auto Components |
| Last Guidance | November 3, 2015 |
| Next earnings date | October 31, 2017 |
| Estimated Country Risk Premium | 6.83% |
| Effective Tax rate | 29% |
| Effective Operating Tax rate | 28% |

**Market Data**

| | |
|---|---|
| Market Capitalization | $2,035.35 |
| Daily volume (mil) | 0.09 |
| Shares outstanding (mil) | 17.73 |
| Diluted shares outstanding (mil) | 18.86 |
| % shares held by institutions | 84% |
| % shares held by investments Managers | 83% |
| % shares held by hedge funds | 13% |
| % shares held by insiders | 1.80% |
| Short interest | 2.11% |
| Days to cover short interest | 2.96 |
| 52 week high | $118.60 |
| 52-week low | $82.50 |
| Volatility | 26.48% |

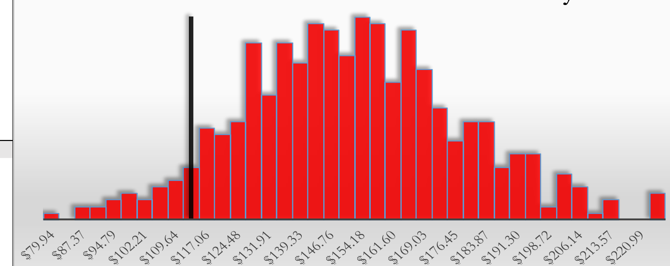
**Past Earning Surprises**

| Quarter ending | Revenue | EBITDA |
|---|---|---|
| 6/30/2016 | -1.25% | 2.13% |
| 9/30/2016 | 0.08% | -0.62% |
| 12/31/2016 | 1.95% | -0.06% |
| 3/31/2017 | 0.90% | 0.37% |
| 6/30/2017 | 0.64% | 4.31% |
| Mean | 0.46% | 1.23% |
| Standard error | 0.5% | 0.9% |

**Peers**

Dana Incorporated
BorgWarner Inc.
American Axle & Manufacturing Holdings, Inc.
Visteon Corporation
Gentex Corporation
Lear Corporation
Delphi Automotive PLC

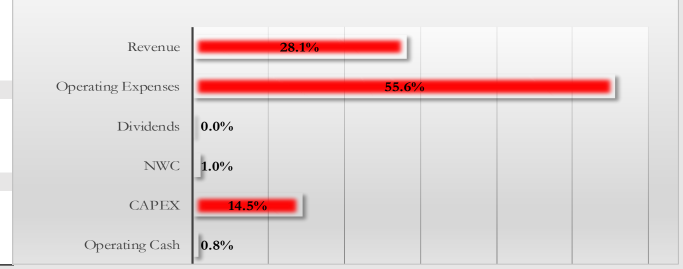
**Intrinsic Value Distribution--Probability**



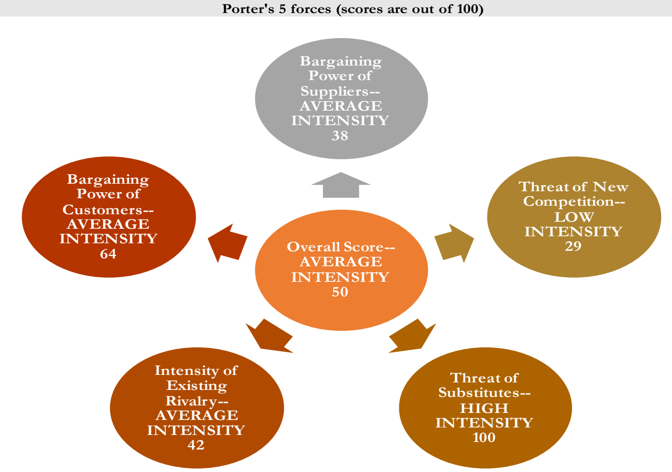

| Management | Position | Total compensations growth | Total return to shareholders |
|---|---|---|---|
| Edwards, Jeffrey | Chairman & CEO | 6.22% per annum over 4y | 10.74% per annum over 4y |
| Stephenson, Keith | Executive VP & COO | 5.22% per annum over 5y | 4.05% per annum over 5y |
| Lee, Song | Senior VP & President of Asi | 27.67% per annum over 3y | 16.35% per annum over 3y |
| Banas, Jonathan | Executive VP & CFO | N/M | N/M |
| Brusate, Peter | Chief Accounting Officer, VP | N/M | N/M |
| Kampe, Susan | VP & Chief Information Offic | N/M | N/M |

| Profitability | CPS (LTM) | CPS (5 years historical average) | Peers' Median (LTM) |
|---|---|---|---|
| Return on Capital (GAAP) | 22.5% | 13.21% | 48.66% |
| Operating Margin | 6% | 4.69% | 9.97% |
| Revenue/Capital (GAAP) | 3.52 | 2.81 | 4.88 |
| ROE (GAAP) | 20.7% | 13.9% | 29.8% |
| Net margin | 4.2% | 3.3% | 8.5% |
| Revenue/Book Value (GAAP) | 4.91 | 4.14 | 3.49 |
| **Invested Funds** | **CPS (LTM)** | **CPS (5 years historical average)** | **Peers' Median (LTM)** |
| Cash/Capital | 25.5% | 24.4% | 27.1% |
| NWC/Capital | 13.9% | 18.2% | 11.0% |
| Operating Assets/Capital | 49.9% | 48.6% | 45.6% |
| Goodwill/Capital | 10.8% | 10.7% | 16.3% |
| **Capital Structure** | **CPS (LTM)** | **CPS (5 years historical average)** | **Peers' Median (LTM)** |
| Total Debt/Market Capitalization | 0.48 | 0.52 | 0.37 |
| Cost of Existing Debt | 5.6% | 7.7% | 4.8% |
| CGFS Rating (F-score, Z-score, and default Probability) | BBB | BBB | AAA |
| WACC | 9.6% | 10.5% | 10.3% |

**Sensitivity Attribution Analysis**




**Porter's 5 forces (scores are out of 100)**




**Valuation**

| Period | Revenue Growth Forecast | NOPAT Margin Forecast | Revenue to Capital Forecast |
|---|---|---|---|
| Base Year | 3% | 8.5% | 1.66 |
| 6/30/2018 | 0% | 7.5% | 1.50 |
| 6/30/2019 | 4% | 7.7% | 1.35 |
| 6/30/2020 | 6% | 8.1% | 1.24 |
| 6/30/2021 | 6% | 7.8% | 1.14 |
| 6/30/2022 | 5% | 7.5% | 1.06 |
| 6/30/2023 | 5% | 7.2% | 0.99 |
| 6/30/2024 | 4% | 6.9% | 0.94 |
| 6/30/2025 | 4% | 7.2% | 0.89 |
| 6/30/2026 | 3% | 6.9% | 0.84 |
| 6/30/2027 | 2% | 6.7% | 0.80 |
| Continuing Period | 2% | 6.5% | 0.76 |

| Period | Return on Capital Forecast | WACC Forecast | Price per share Forecast |
|---|---|---|---|
| Base Year | 14.1% | 9.6% | $119.86 |
| 6/30/2018 | 11.2% | 9.9% | $141.09 |
| 6/30/2019 | 10.5% | 9.6% | $163.92 |
| 6/30/2020 | 10.0% | 9.5% | $187.13 |
| 6/30/2021 | 8.9% | 9.4% | $210.59 |
| 6/30/2022 | 7.9% | 9.3% | $234.30 |
| 6/30/2023 | 7.2% | 9.2% | $258.23 |
| 6/30/2024 | 6.5% | 9.2% | $282.24 |
| 6/30/2025 | 6.4% | 9.1% | $308.04 |
| 6/30/2026 | 5.8% | 9.0% | $331.72 |
| 6/30/2027 | 5.3% | 9.0% | $355.27 |
| Continuing Period | 4.9% | 8.9% | |

October 11th, 2017

# Eagle Materials Inc.: EXP

**Paul Martinez**

**Sector: Industrial Goods**
**Industry: Cement**
**Current Price: $107.25**
**Target Price: $144.04**

## BUY

| | |
|---|---|
| Current Price: | $107.25 |
| Target Price: | $144.04 |
| Market Cap: | 5.2B |
| Average Volume: | .610M |
| ROE: | 18.05% |
| Ke: | 9.7% |

**Company Description: Eagle Materials Inc. operates in 5 different segments exclusively in the United States. Eagle Materials Inc. manufactures and distributes Cement, Gypsum Wallboard, Recycled Paperboard, Concrete and Aggregates, and Oil and Gas Proppants from 40 facilities across the United States.**

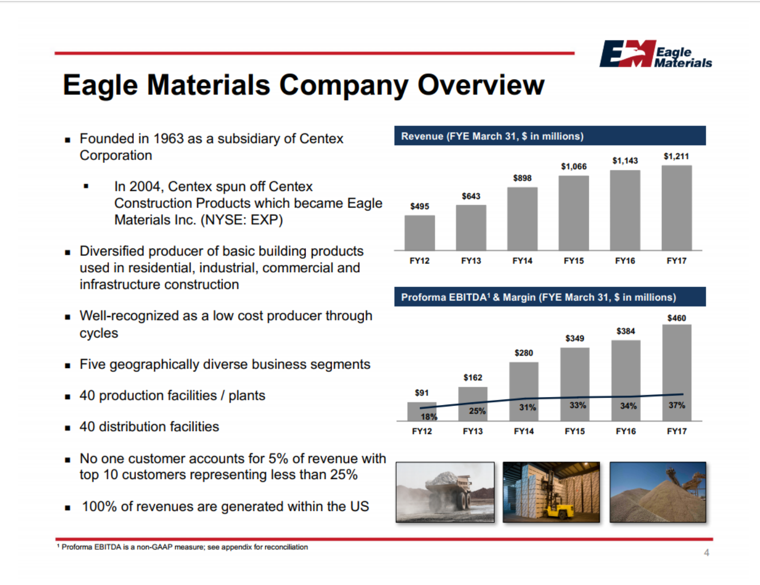

## Thesis:
Eagle Materials Inc. is an industry leader in manufacturing and distributing cement and other goods and services throughout the U.S. Currently Eagle Materials Inc. is experiencing large double-digit growth in a booming industry. Eagle Materials Inc. generates value through their large growth in majority of their segments, and by continuously striving to be the lowest cost producer. Eagle Materials Inc. consistently has had acquisitions and has continuously gained value and synergies from them. This platform is allowing Eagle Materials Inc. to excel past all of their competitors and benchmarks.

## Catalysts:

- **Short Term (within the year):** Acquisition and integration of Fairborn Cement Company allows for new exposure in a different geographic market while increasing revenues and synergies.
- **Mid Term (1-2 years):** President Donald Trump's $1 Trillion infrastructure plan will bring a large amount of construction projects, which will bring business to Eagle Materials Inc.
- **Long Term (3+):** Expanding distribution channels, by increasing number of factories and plants. Therefore decreasing freight cost and overall operating costs and increasing margins.

## Business Description:

Eagle Materials Inc. is a leading supplier of construction products, building materials, and materials used for oil and gas extraction in the United States. Construction products are used primarily in residential, industrial, commercial, and infrastructure projects. Eagle Materials Inc. only operates in the United States and is currently headquartered in Dallas, Texas. Eagle Materials Inc. produces majority of their revenue from their cement segment in which they operate 24 facilities in geographically diverse locations. In addition to this segment, Eagle Materials Inc. also operates in the segments of Gypsum Wallboard, Recycled Paperboard, Concrete and Aggregates, and Oil and Gas Proppants. Eagle Materials Inc. is well known across the industry as a low cost producer and continues to uphold this strategy going forward. To continue to implement this strategy, management plans to take advantage of their geographically diverse production, and distribution facilities. Currently Eagle Materials Inc. operates through more than 40 production and distribution facilities. This strategy is supported by the fact that no one account contributes more than 5% of revenue. Furthermore, out of the top 10 accounts, these accounts contribute to less than 25% of total revenue. This shows that there is a wide range of consumers that are continuously choosing Eagle Materials Inc. due to their low cost compared to competitors. This also shows that Eagle is not dependent upon any one major account and is continuing to grow and drive revenues with their current platform.




## Company Performance:

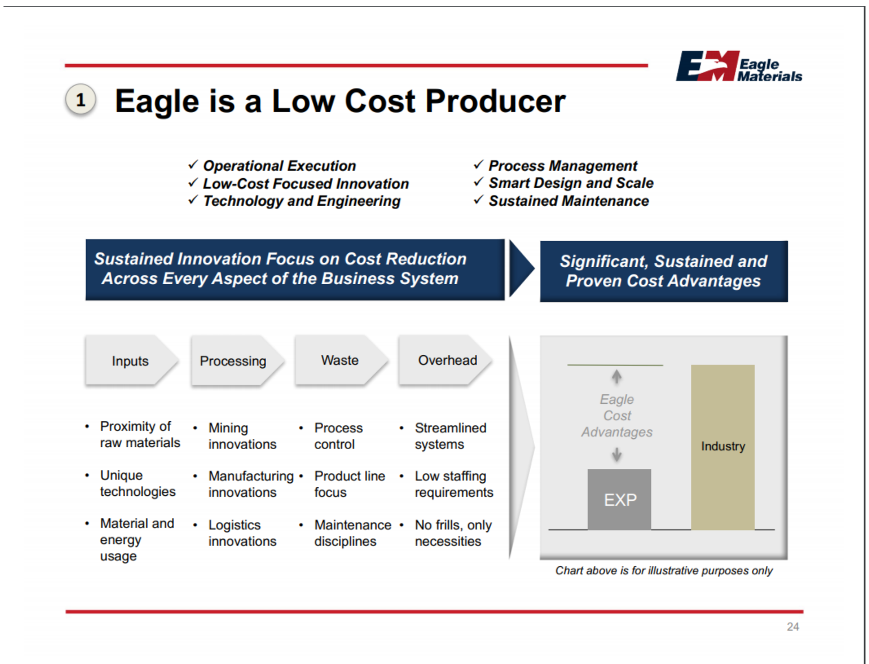
Eagle Materials Inc. as well as some other industrial companies experience some seasonality due to weather conditions and other factors that do not allow for construction and overall production. With this being said, Eagle Materials Inc. has laid down a platform to allow them to mitigate these seasonality slopes and perform well. By expanding across the United States and increasing distribution and production facilities, Eagle Materials Inc. has allowed hedging against these factors and perform consistently throughout the year. This platform has been working extremely well so far with overall revenue increases of about 23% LTM. Quarterly earnings per share also improved 22% to raise EPS to $1.13. Most importantly, Eagle Materials Inc. has seen very positive signs in their largest segments, with revenue growth of approximately 30% in their cement, concrete, and aggregates segment. This segment drives about 52% of total revenue. Furthermore, in this

| | Measure | Q2/18 Est | 4Wk Chg | YoY Gr | Growth vs Comps | Past Surprise |
|---|---|---|---|---|---|---|
| 11) | EPS, Adj+ | 1.571 | 0.07% | 25.7% | Stronger | Beat 4 of 8 |
| 12) | EPS, GAAP | 1.586 | 0.70% | 26.9% | Stronger | Missed 5 of 8 |
| 13) | Revenue | 413.571M | 0.07% | 24.3% | Stronger | Missed 6 of 8 |
| 14) | Net Income, Adj+ | 76.167M | 0.46% | 26.4% | Stronger | Beat 4 of 8 |
| 15) | Operating Profit | 116.000M | 0.43% | -- | -- | -- |
| 16) | EBITDA | 149.400M | -0.27% | 27.2% | Stronger | Beat 4 of 8 |

segment, operating income has increased 40% LTM. Eagle Materials Inc. has also been able to increase their margins in this successful segment as well as overall in the company to blow past their competitors. Eagle Materials Inc. currently has an EBITDA margin of approximately 31% compared to its competitor's average which is around 19%. This is due to their cost savings that were gained through some key acquisitions that will be explained further on. As mentioned Eagle Materials Inc. operates in five different segments and is currently seeing large growth in each segment. Their largest growth is currently in their oil and gas proppant segment. Oil and gas proppants saw an increase of revenue of 271% from same quarter last fiscal year. Revenues increasing from 5 million to 19 million in this segment, and is expecting to see larger growth with new facilities acquired.

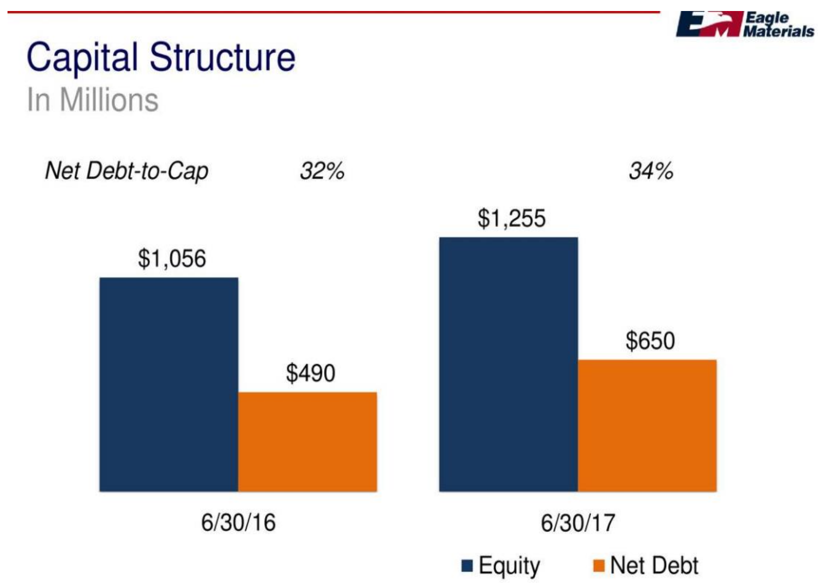
## Low Cost Producer:

As stated in their annual report, Eagle Materials' strategy is the following, "Through continuous improvement to be the lowest cost producer in each of the markets that we compete". This is evident through their current organizational strategy. Eagle Materials Inc. has realized where their costs have been coming from and have been pursuing solutions to reduce these costs. In example, Eagle Materials Inc. realizes that they are in a business where it is a "low-value-to-weight". This means that their product/service that they are producing and shipping is relatively cheap compared to the weight of the product. Expenses from this dilemma come in the form of freight and long travelling distances. Eagle Materials Inc. has strategically acquired companies with facilities and plants in new geographical locations to cut these freight costs by not having to ship products as far. Another prime example of their cost savings efforts comes into place in one of their larger plants, their cement plant in Nevada. This Nevada plant recently installed new pollution control equipment that allows certain waste from the plant to be eliminated, this therefore will reduce future costs drastically in cement produced in Nevada and will drive their margins up in this successful segment more. These are just two examples of cost savings efforts and strategies that have been implemented. Overall, the company is realizing these cost savings efforts and seeing real results going forward.



## Growth Strategy:

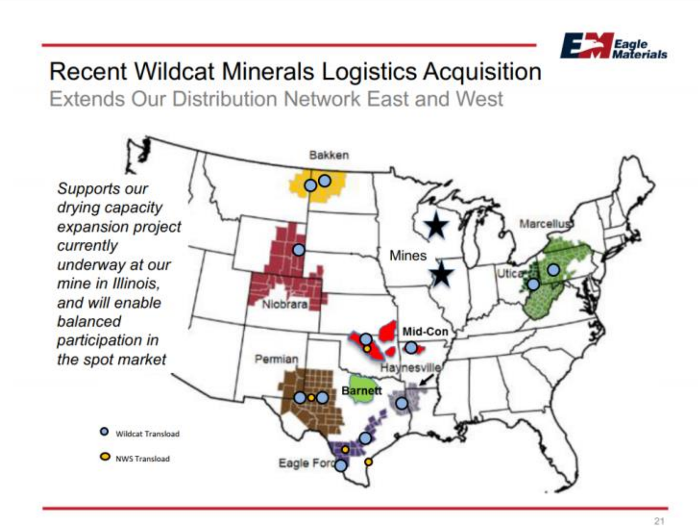
Eagle Materials Inc. has a strong grip on their growth strategy and is currently implementing it very efficiently. In a recent report, CEO, Dave Powers said, "We are a fiscally conservative company. Allowing us to be profitable in protracted downturns and even more profitable in industry up cycles, such as the ones we are enjoying today". Eagle Materials Inc. has seen a lot of its growth through successful acquisitions of small and large companies, as well as through strong organic growth across all segments. Eagle Materials Inc. acquired Fairborn Cement Company in February of this year, and has seen large synergies throughout the year so far, and is expecting much more to come in the future. This acquisition was to further develop and expand their strongest segment, cement. Eagle Materials Inc. growth strategy is broken down into three main pillars. The first one being to continue to implement cost savings efforts to remain the lowest cost producer in the industry. Secondly, to increase organic growth in all segments and begin to see larger margins due to these cost savings. Finally, to increase and expand synergies through acquisitions of other companies and integrate them into their already successful business plan. Eagle Materials Inc. growth and sustainability has been recognized in the business world as of recent when Moody's upgraded their debt rating to BBB, investment grade. This will lower their interest expense going forward, which would allow for more savings if they were to restructure their debt breakdown since they have recently taken on more debt for key acquisitions. Expressed in the diagram below, Eagle Materials Inc. has been successful in growing revenue in all of their segments and is experiencing very appealing growth rates in those respected segments.




| 9) Prod Seg \| FA PROD » | 2017 Rev | 3Yr Gr |
|---|---|---|
| Cement | 566.3M | 8.92% |
| Gypsum Wallboard | 473.7M | 6.97% |
| Paperboard | 167.1M | 8.67% |
| Concrete & Aggregates | 154.6M | 16.84% |
| Oil and Gas Proppants | 34.6M | 20.97% |

## Acquisitions and Expansion:

Eagle Materials Inc. has been consecutively expanding their business. In the past year, Eagle Materials Inc. has made two major acquisitions that have been producing massive results and are expecting to continue to produce going forward. As of February 2017, Eagle Materials Inc. completed their acquisition of Fairborn Cement Company. Majority of Fairborn's business was focused in Ohio, an area where Eagle Materials had little to no presence. The acquisition was for approximately 400 million dollars, which was funded through cash as well as long-term notes as mentioned earlier. This acquisition was said to have an approximate NPV of 50 million, and would increase Eagle's cement capacity by about 20%. The market had a positive reaction to this acquisition. Announcement was made in mid-September when stock price was around 78 dollars, and by mid-November stock prices were up to about 95 dollars. Eagle Materials Inc. also recently announced a definitive agreement to acquire Wildcat Minerals, a well-established frac sand distribution company. During Eagle's last earnings call, CEO, Dave Powers said, "This acquisition reflects our continued commitment to invest in building out our network of low-cost reach to all strategically shale plays". Eagle Materials Inc. made the purchase of Wildcat Minerals, with all distribution terminals for approximately 37 million dollars. Again, the market reacted favorably to this acquisition with the announcement being made in late August; stock price was around 93 dollars. By the next month, stock price reached triple digits at approximately 103 dollars. Dave Powers when talking about the acquisition stated, "an additional benefit of this distribution system, as it will help us meet our customers growing needs for cement and slag products". Eagle Materials Inc. is very successful in their acquisitions and plans to continue to acquire companies to increase their distribution channels and cut costs to growth their company further.

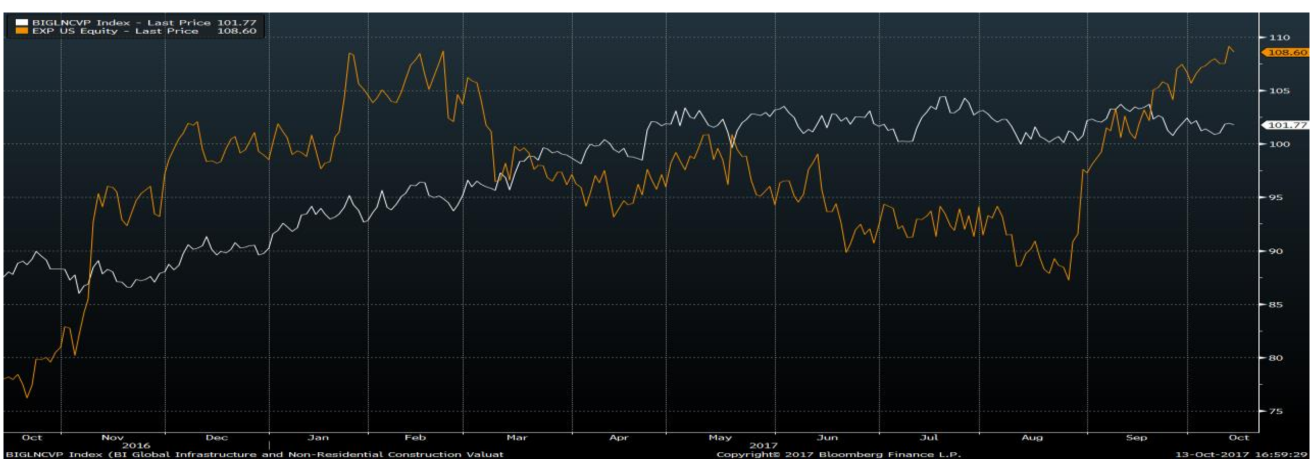



**WILDCAT MINERALS**

**FAIRBORN CEMENT COMPANY**

## Industry Outlook:

The industrial goods industry is currently a thriving industry due to many macroeconomic events that have been occurring. Many of these events both good and bad will have a positive impact on Eagle Materials Inc. One of the largest catalyst for Eagle as well as the industry as a whole is President Donald Trump's strive to revamp infrastructure, with plans of injecting 1 trillion dollars into infrastructure projects across the United States. Eagle Materials Inc. produces cement and concrete in various areas both of which are key components in infrastructure construction projects. Being the lowest cost producer, Eagle Materials Inc. has a great opportunity of successfully getting many of these jobs going forward. The recent hurricanes and natural disasters have left destruction and damage throughout many states, but has significantly damaged Texas. With this being said, Eagle Materials Inc. as mentioned is headquartered in Dallas and is very capable of supplying the two major components that go into reconstruction and remodeling. Gypsum Wallboard is one of the key components in reconstruction and is currently Eagle's second largest operating segment. Furthermore, Eagle recently has created a new low-cost ready-mix concrete that is used for nearly all construction projects. In addition to this, Eagle Materials' fastest growing segment of Oil and Gas Proppants have a strong segment outlook, which could allow for unexpected gains. John England from Deloitte said recently, "The oil and gas industry is incredibly resilient and has some of the brightest, most innovative people I have ever met. This is clearly what leads to my overall optimism about the industry for 2017 and beyond". As per Eagle Materials Inc. last earnings call, senior executives said, "There is huge upside with household formation trends, combined with the economic environment, low unemployment, healthy job growth, and low interest rates". Overall, the industry outlook is strong and even stronger for Eagle, more houses, more construction jobs, and more business for Eagle.



## Ownership Summary:

Primarily Investment Advisors currently hold Eagle Materials Inc., at about 77% ownership. Out of this 77%, Vanguard, Fidelity, and JP Morgan Chase own cumulative approximately 20%. Hedge Fund Managers then follow in percentage of ownership at approximately 14%. I believe that this is a good indication because it shows that there is an interest in holding Eagle Materials Inc. for the long term. Another positive indication in regards to the ownership of Eagle is the fact that the percentage of short interest is below 5%. This shows that majority of owners believe that there is value in this stock and that they expect it to grow going forward. With this being said, management has been implementing a share repurchase of 100,000 shares a month. This plan is to buy back 1.2 million shares throughout the fiscal year. This is an indicator that internally management believes their company is undervalued. This is a positive for investors because this means that shares are now worth more and are less likely to be impacted by dilution.

Compare Current Stats Against 10/08/17

| Ownership Type | 10/08/17 | Curr↓ | Change |
|---|---|---|---|
| 11) Investment Advisor | 77.31 | 77.34 | +0.03 |
| 12) Hedge Fund Manager | 14.06 | 14.06 | 0.00 |
| 13) Pension Fund | 3.00 | 3.00 | 0.00 |
| 14) Individual | 1.75 | 1.75 | 0.00 |
| 15) Bank | 1.26 | 1.26 | 0.00 |
| 16) Insurance Company | 1.09 | 1.06 | -0.03 |
| 17) Sovereign Wealth Fund | 0.75 | 0.75 | 0.00 |
| 18) Brokerage | 0.39 | 0.39 | 0.00 |
| 19) Government | 0.28 | 0.28 | 0.00 |
| 20) Endowment | 0.07 | 0.07 | 0.00 |
| 21) Holding Company | 0.02 | 0.02 | 0.00 |

## Conclusion:

Eagle Materials Inc. has huge upside potential based on their operating position. Eagle is by far a "best in class" company and will continue to be looking forward. By continuing to implement initiatives to increase revenues, cut costs, and widen margins. With the recent acquisitions and the implementation of new distribution costs, Eagle Materials Inc. will be able to cut costs more and will widen their margins and see even more profitability going forward. Eagle Materials Inc. is a buy and hold for the long term, we may have missed some of the gains, but there is a lot more room for growth and we should get on board sooner rather than later.

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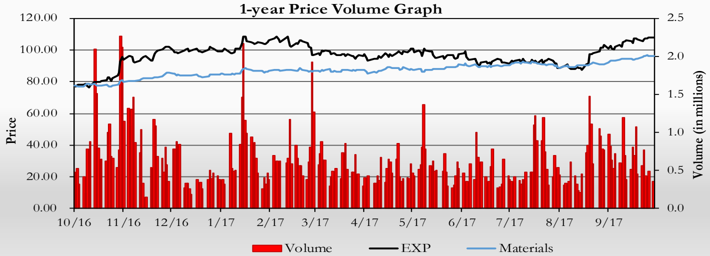
# Eagle Materials Inc. (EXP) — CENTER FOR GLOBAL FINANCIAL STUDIES — BULLISH

| | | | | | |
|---|---|---|---|---|---|
| Analysis by Paul Martinez | Current Price: | $107.56 | Intrinsic Value | $133.95 | Target 1 year Return: 34.34% |
| 10/13/2017 | Divident Yield: | 0.4% | Target Price | $144.04 | Probability of Price Increase: 100% |

1-year Price Volume Graph




**Description**

Eagle Materials Inc. produces and sells construction products and building materials for use in residential, industrial, commercial, and infrastructure construction in the United States.

**General Information**

| | |
|---|---|
| Sector | Materials |
| Industry | Construction Materials |
| Last Guidance | November 3, 2015 |
| Next earnings date | October 27, 2017 |
| Estimated Country Risk Premium | 5.69% |
| Effective Tax rate | 25% |
| Effective Operating Tax rate | 26% |

**Market Data**

| | |
|---|---|
| Market Capitalization | $5,216.44 |
| Daily volume (mil) | 0.37 |
| Shares outstanding (mil) | 48.50 |
| Diluted shares outstanding (mil) | 48.39 |
| % shares held by institutions | 97% |
| % shares held by investments Managers | 78% |
| % shares held by hedge funds | 10% |
| % shares held by insiders | 1.22% |
| Short interest | 4.80% |
| Days to cover short interest | 3.81 |
| 52 week high | $110.64 |
| 52-week low | $73.83 |
| Volatility | 29.41% |

**Past Earning Surprises**

| Quarter ending | Revenue | EBITDA |
|---|---|---|
| 6/30/2016 | -1.88% | -8.48% |
| 9/30/2016 | -4.99% | -16.39% |
| 12/31/2016 | -1.69% | -11.53% |
| 3/31/2017 | -7.85% | -10.76% |
| 6/30/2017 | -10.48% | -11.35% |
| Mean | -5.38% | -11.70% |
| Standard error | 1.7% | 1.3% |

**Peers**

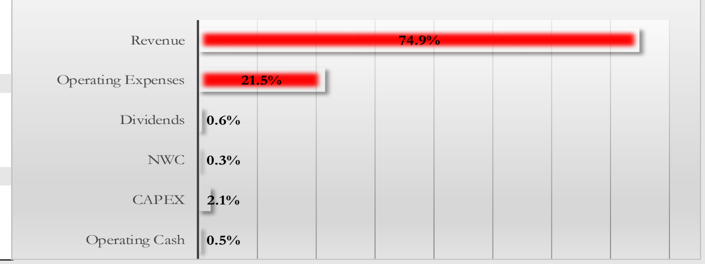
- U.S. Concrete, Inc.
- Summit Materials, Inc.
- Vulcan Materials Company
- Martin Marietta Materials, Inc.
- USG Corporation
- Forterra, Inc.
- United States Lime & Minerals, Inc.

| Management | Position | Total compensations growth | Total return to shareholders |
|---|---|---|---|
| Powers, David | CEO, President & Director | 17.88% per annum over 6y | 12.6% per annum over 6y |
| Kesler, D. | Executive VP of Finance & Ad | 4.19% per annum over 6y | 12.6% per annum over 6y |
| Haack, Michael | Executive VP & COO | -8.67% per annum over 3y | -0.91% per annum over 3y |
| Graass, James | Executive VP, General Counse | -100% per annum over 4y | -1.58% per annum over 4y |
| Stewart, Robert | Executive Vice President of | N/M | -4.45% per annum over 1y |
| Devlin, William | Senior VP, Controller & Chie | N/M | N/M |

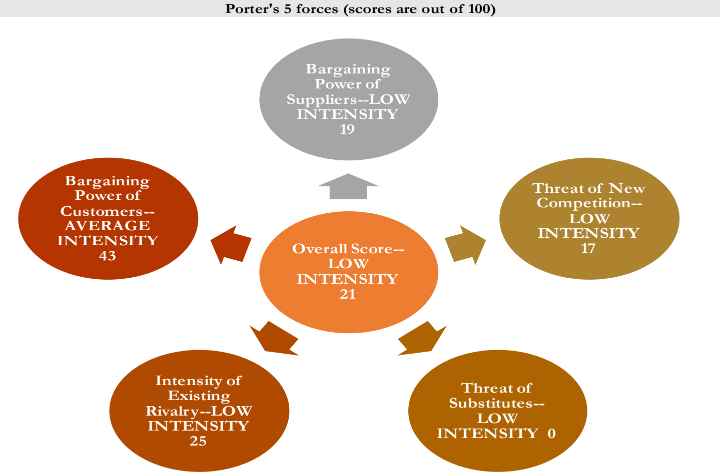
| Profitability | EXP (LTM) | EXP (5 years historical average) | Peers' Median (LTM) |
|---|---|---|---|
| Return on Capital (GAAP) | 12.0% | 12.11% | 14.40% |
| Operating Margin | 18% | 14.87% | 10.27% |
| Revenue/Capital (GAAP) | 0.68 | 0.81 | 1.40 |
| ROE (GAAP) | 17.3% | 17.8% | 11.8% |
| Net margin | 16.2% | 13.8% | 9.2% |
| Revenue/Book Value (GAAP) | 1.06 | 1.29 | 1.29 |
| **Invested Funds** | **EXP (LTM)** | **EXP (5 years historical average)** | **Peers' Median (LTM)** |
| Cash/Capital | 0.6% | 0.4% | 15.9% |
| NWC/Capital | 14.1% | 15.2% | 10.6% |
| Operating Assets/Capital | 74.9% | 74.7% | 54.4% |
| Goodwill/Capital | 10.3% | 10.7% | 19.0% |
| **Capital Structure** | **EXP (LTM)** | **EXP (5 years historical average)** | **Peers' Median (LTM)** |
| Total Debt/Market Capitalization | 0.35 | 0.35 | 0.45 |
| Cost of Existing Debt | 4.3% | 4.0% | 5.6% |
| CGFS Rating (F-score, Z-score, and default Probability) | BBB | A | A |
| WACC | 7.5% | 8.9% | 9.4% |

Intrinsic Value Distribution--Probability (Upside)=100%


Sensitivity Attribution Analysis




Porter's 5 forces (scores are out of 100)




**Valuation**

| Period | Revenue Growth Forecast | NOPAT Margin Forecast | Revenue to Capital Forecast |
|---|---|---|---|
| Base Year | 11% | 18.5% | 0.63 |
| 6/30/2018 | 15% | 18.1% | 0.71 |
| 6/30/2019 | 10% | 18.6% | 0.71 |
| 6/30/2020 | 9% | 17.9% | 0.69 |
| 6/30/2021 | 8% | 17.5% | 0.68 |
| 6/30/2022 | 7% | 17.2% | 0.66 |
| 6/30/2023 | 7% | 18.8% | 0.64 |
| 6/30/2024 | 6% | 18.9% | 0.61 |
| 6/30/2025 | 5% | 19.2% | 0.58 |
| 6/30/2026 | 4% | 19.8% | 0.55 |
| 6/30/2027 | 3% | 20.7% | 0.51 |
| Continuing Period | 2% | 21.8% | 0.48 |

| Period | Return on Capital Forecast | WACC Forecast | Price per share Forecast |
|---|---|---|---|
| Base Year | 11.6% | 7.5% | $133.56 |
| 6/30/2018 | 13.0% | 7.7% | $144.00 |
| 6/30/2019 | 13.1% | 7.7% | $155.18 |
| 6/30/2020 | 12.4% | 7.7% | $166.73 |
| 6/30/2021 | 11.8% | 7.6% | $178.59 |
| 6/30/2022 | 11.3% | 7.8% | $190.98 |
| 6/30/2023 | 12.0% | 7.9% | $203.89 |
| 6/30/2024 | 11.5% | 7.9% | $217.98 |
| 6/30/2025 | 11.1% | 8.0% | $231.38 |
| 6/30/2026 | 10.8% | 8.2% | $245.13 |
| 6/30/2027 | 10.6% | 8.3% | $259.17 |
| Continuing Period | 10.5% | 8.5% | |

October 13, 2017

## Innospec Inc.: IOSP

**John Jennings**

**Sector: Materials**
**Industry: Specialty Chemicals**
**Current Price: $62.95**
**Target Price: $75.80**

**Company Description:** **Innospec Inc. is a global specialty chemicals company that focuses on bringing innovative new technologies to the market. They specialize in three featured segments: Fuel Specialties, Performance Chemicals and Oilfield Services. Innospec is headquartered in Englewood Colorado, and currently conducts business in 23 countries employing approximately 1,800 people.**

## BUY

| | |
|---|---|
| Current Price: | $62.95 |
| Target Price: | $75.80 |
| Market Cap: | $1.52 B |
| EBITDA Margin: | 14.6% |
| Gross Margin: | 34.46% |
| PE Ratio | 19.3% |

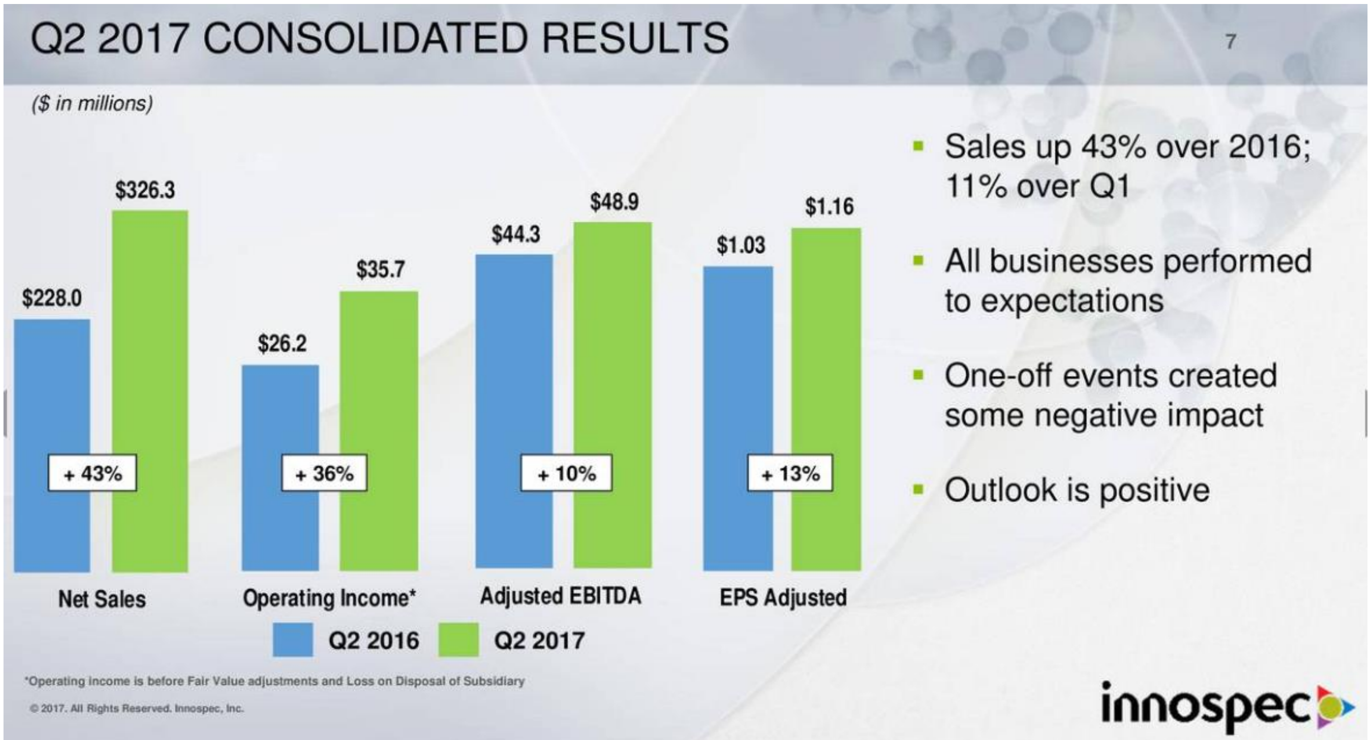

## Thesis:

Innospec Inc. has strong growth factors due to their ability to trademark new chemicals, and acquire industry-leading competitors. Their newly established enterprise in the Chinese market will help grow revenues in the future. These factors will allow Innospec the ability to increase sales and revenue in the specialty chemical industry.

## Catalysts:

- **Short Term(within the year):** Huntsman acquisition of European personal care and home care
- **Mid Term(1-2 years):** Trademarked breakthrough chemicals Iselux and Statsafe
- **Long Term(3+):** New wholly owned enterprise in China (9/11/17) target country

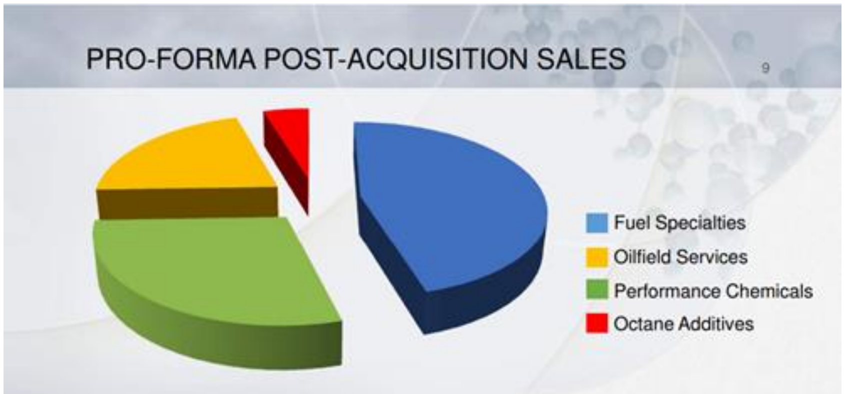
## Earnings Performance:




Innospec has had a promising first two quarters in 2017. Which is a good sign considering the acquisition of Huntsman had a large impact on their 2016 revenue and debt accumulation. They are generating revenues that will not only allow them to recover from their drop of total revenue, but actually generate the largest total revenue in the company's history. Additionally in regard to the graph above, the first two quarters for Innospec prove that their strategy has generated reliable returns for shareholders. With the acquisition of Huntsman a fellow specialty chemical company, Innospec's sales have hit a record number in the second quarter of 2017 reaching $326.3M, which accounts for a 43% growth compared to 2016. It is also an 11% growth over quarter one, and should continue to grow throughout the rest of 2017. Furthermore, despite the fuel specialty segment, the oilfield services, performance chemicals and octane additives have all seen an increase in sales. This is extremely important to Innospec due to its sensitivity to revenue. If current trends continue, they are forecasted to generate $1.0639B in 2017, as mentioned before this would be the largest in the company's history. An additional positive outlook for Innospec was the increase on EBITDA of 10% when compared to 2016. They were also able to increase their EPS by $1.06, which is a favorable sign for shareholders, proving that company can handle a sizeable acquisition and still maintain positive growth.

## Business Description:

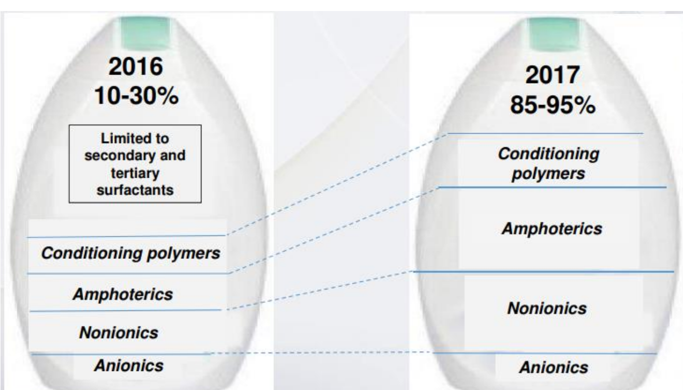
Innospec Inc. manufactures, blends and supplies specialty chemicals for the use as fuel additives, ingredients for personal and home care, gas and oil extraction as well as any other application for oilfield chemicals. Innospec divides its business approach into three segments: Fuel Specialties, Oilfield Services and Performance Chemicals. This allows them to have a diverse share of a specialized market. Their fuel additives aim to improve fuel efficiency, boost engine performance and reduce harmful emissions. Their Oilfield Services supply drilling, completion and production chemicals that allow oil companies to conduct business in the most cost efficient and eco-friendly manner. Finally, their third segment, Performance Chemicals, provides technology-based solutions for products focused in personal/home care, agrochemical and mining markets. Innospec also conducts some business in the fuel additive market that allows for fuel efficiency and greater engine performance, however due to the regulations against TEL (Tetra Ethyl Lead) they have been phasing this segment out of their business.




The graph to the side depicts the segment breakdown according to sales for 2016. The segment breakdown financially is as follows: Fuel Specialties sales were $510M, the Oilfield Services were $192M, the Performance Chemicals were $139M and Octane additives were $43M.

## Acquisition of Huntsman Corporation.

On August 3rd, 2016 Innospec Inc. completed the acquisition of Huntsman Corporation's European Differentiated Surfactants business. Innospec has integrated the acquisition into its Performance Chemicals segment that has shown promising sales revenue throughout the first two quarters of 2017. Although the acquisition was financed through debt, this will not be a significant problem due to the growth and projected sales done through this agreement. The acquisition has produced an estimated $230M in added sales and a gain of $24M in EBITDA for Innospec. Primary surfactants are becoming a greater composition of the Home and Personal care products. Due to Innospec's innovative technology, their trademarked chemical Iselux, which is a compound that lowers the surface tension between two liquids, has improved the overall quality of many brand name consumer staple products.




The European Personal and Home Care products is a Billion dollar industry that Innospec has now become a key player in. The example on the side shows the increase in body wash products that require the use of Iseulex. Innospec has positioned themselves as a major player in the development of brand name soaps, shampoos, conditioners and lotions. Brand name products such as Olay, Nivea, Dove and Body Clear will now feature performance chemicals that are manufactured by Innospec. As mentioned before due to this acquisition the Performance Chemicals segment has risen 43% in sales compared to 2016. Below are several products that are household staples containing the chemical Iselux.


## Entering the Chinese Market:

The current geographic breakdown of sales is dominated by Europe and North America, accounting for over 80% of all sales. On September 8th, 2017 Innospec concluded the registration of its new wholly-owned enterprise in Beijing, China. The enterprise will be fully operational in October of 2017, replacing Innospec's representative office. The Chinese market has been a target for Innospec for obvious reasons, mainly due to the large amount of potential sales that the Chinese consumer market accounts for. Additionally, the expansion into the Asian-Pacific market further diversifies the market share of Innospec products. Sean Pang, regional director for Innospec says, "We are delighted that we will be able to improve our service to customers across all of our businesses in China – for Fuel Specialties, Performance Chemicals and Oilfield Services. We look forward to working with our customers to create profitable solutions for the long-term growth of their business." The Chinese market will inevitably produce a large amount of sales for Innospec both in the short and long term. This is a promising sign for large potential growth in revenues Innospec. Currently there are only five regional offices in the Asian markets. Because of this wholly-owned enterprise that will be established in Beijing, there will be potential for additional growth in the Asian-Pacific market. President and CEO of Innospec, Patrick S. Williams claims, China has long been a target market for Innospec. Both their newly trademarked specialty chemicals Iselux (as mentioned before) and Statsafe, which is a static dissipater that reduces the chances of a static charge in combustible solvents will be featured in the Chinese market. Statsafe is a chemical that will transcend the oil extraction process allowing it to be more reliant and undoubtedly more safe. With growing global concerns for carbon footprint and increase in regulations, Innospec believes that this product will soon be mandated for future oil extraction, transportation and containment. Below is a picture showing the regional offices associated with Innospec. There is an abundant amount of geographical area that can be developed by Innospec to increase their global presence.


## Financial Analysis:

| In Millions of USD except Per Share | FY 2014 | FY 2015 | FY 2016 | Current/LTM | FY 2017 Est | FY 2018 Est |
|---|---|---|---|---|---|---|
| 12 Months Ending | 12/31/2014 | 12/31/2015 | 12/31/2016 | 06/30/2017 | 12/31/2017 | 12/31/2018 |
| Gross Margin | 31.43 | 34.18 | 37.62 | 34.46 | | |
| Gross Profit | 302.0 | 346.0 | 332.3 | 366.6 | 395.7 | 401.6 |
| EBITDA | 141.6 | 191.5 | 143.5 | 156.0 | 171.0 | 172.5 |
| Revenue | 960.9 | 1,012.3 | 883.4 | 1,063.9 | 1,249.7 | 1,284.3 |
| Operating Margin | 11.71 | 15.44 | 11.93 | 10.56 | 9.56 | 9.97 |

Innospec has had strong growth as shown in the chart above. Their gross margins have continued to grow over the years, except for 2017. This is due to the one-off event that occurred during the acquisition of Huntsman, where there was an unplanned plant outage due to some raw materials purchasing and pricing issues. That issue has since been resolved, and will not have any effect on the future success of Innospec. Innospec has received steady increases in gross profit as well, except for 2016 where once again the acquisition of Huntsman had caused problems, which indirectly effected their profit. EBITDA has also seen growth. As for 2016 in EBITDA they took a hit in unexpected costs, that they were then able to recover from in the first two quarters of 2017. The projected revenue for 2017 is the where they compensate for their faults in the acquisition of Huntsman. As depicted by the chart above, the projected revenue for Innospec shows a large increase due to the spike in sales that directly correlates to the amount of revenue accumulated. The amount of sales increased because of the large growth seen in their Performance Chemicals segment. The revenues should continue to see growth as they expand into the Asia-Pacific market. As the oil and gas industry rebounds, Innospec should expect to see exponential growth in revenue and profit margin.

## Conclusion:

In the end, there are three drivers of this stock price in the immediate future. First, Innospec has seen a 43% increase in sales revenue in their Performance Chemicals segment, due to the acquisition of Huntsman European Personal and Home care sector. Although they took a considerable amount of debt to finance this acquisition, the projected revenues based on sales will allow them to recover and generate future revenues to compensate for the loss. Secondly, the research and development department for Innospec is second to none in their respective industry. They have the capability and capital to establish groundbreaking chemicals that are necessary for a wide variety of companies to utilize in their products. Essentially Innospec has created their own niche within the specialty chemicals industry that they will continue to exploit. Lastly, Innospec has established their first wholly-owned enterprise in China. This will allow them gain exposure to the Asia-Pacific market, therefore creating a large growth in sales as well as brand recognition. Furthermore, I would encourage any investor to buy IOSP due to the fact that they have positioned themselves extremely well to generate long term growth in their respective industry.

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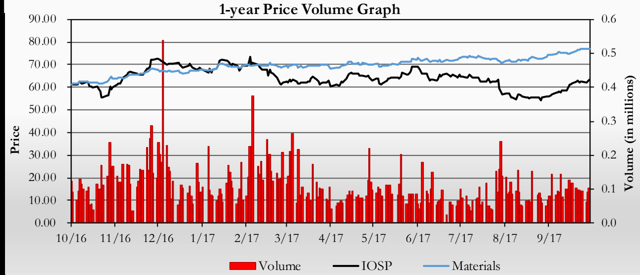
# CENTER FOR GLOBAL FINANCIAL STUDIES

**Innospec Inc. (IOSP)** | **BULLISH**

| Analysis by JT Jennings | Current Price: | $62.95 | Intrinsic Value | $67.49 | Target 1 year Return: 21.7% |
|---|---|---|---|---|---|
| 10/13/2017 | Divident Yield: | 1.3% | Target Price | $75.80 | Probability of Price Increase: 97.33% |

**1-year Price Volume Graph**




**Description**

Innospec Inc. develops, manufactures, blends, markets, and supplies fuel additives, oilfield chemicals, personal care products, and other specialty chemicals to oil and gas exploration and production, oil refinery, fuel users, personal care formulation, home care, agrochemical and mining formulation, and other chemical and industrial companies worldwide.

**General Information**

| | |
|---|---|
| Sector | Materials |
| Industry | Chemicals |
| Last Guidance | November 3, 2015 |
| Next earnings date | November 7, 2017 |
| Estimated Country Risk Premium | 7.11% |
| Effective Tax rate | 28% |
| Effective Operating Tax rate | 18% |

**Market Data**

| | |
|---|---|
| Market Capitalization | $1,519.40 |
| Daily volume (mil) | 0.09 |
| Shares outstanding (mil) | 24.14 |
| Diluted shares outstanding (mil) | 24.49 |
| % shares held by institutions | 95% |
| % shares held by investments Managers | 90% |
| % shares held by hedge funds | 1% |
| % shares held by insiders | 1.74% |
| Short interest | 1.01% |
| Days to cover short interest | 2.74 |
| 52 week high | $74.75 |
| 52-week low | $54.10 |
| Volatility | 25.48% |

**Past Earning Surprises**

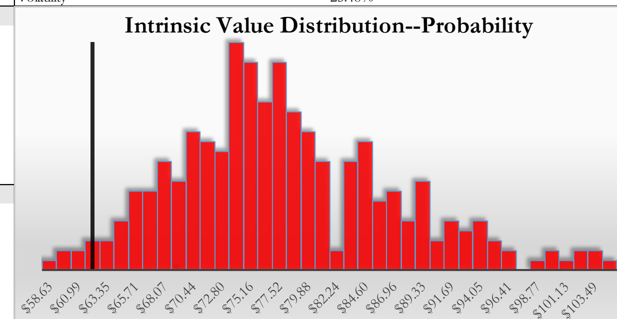
| Quarter ending | Revenue | EBITDA |
|---|---|---|
| 6/30/2016 | -1.00% | 2.41% |
| 9/30/2016 | -12.78% | -20.59% |
| 12/31/2016 | 2.63% | 29.28% |
| 3/31/2017 | 2.54% | 6.06% |
| 6/30/2017 | 4.75% | 6.24% |
| Mean | -0.77% | 4.68% |
| Standard error | 3.1% | 7.9% |

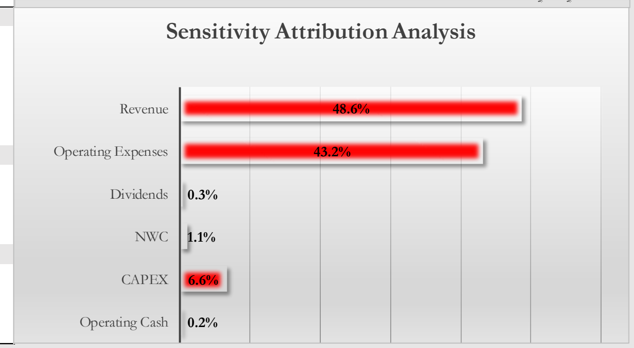
**Peers**

Koppers Holdings Inc.
Ingevity Corporation
NewMarket Corporation
Newpark Resources, Inc.
OMNOVA Solutions Inc.
Flotek Industries, Inc.
WD-40 Company
LSB Industries, Inc.

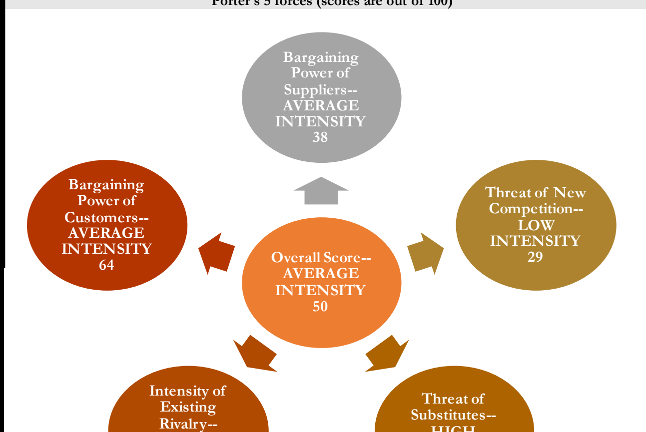
| Management | Position | Total compensations growth | Total return to shareholders |
|---|---|---|---|
| Williams, Patrick | Chief Executive Officer, Pre | 20.61% per annum over 5y | 6.12% per annum over 5y |
| Cleminson, Ian | Chief Financial Officer and | 17.95% per annum over 5y | 6.12% per annum over 5y |
| Boon, P. | Chief Operating Officer and | 26.41% per annum over 5y | 6.12% per annum over 5y |
| McRobbie, Ian | Chief Technology Officer and | 13.73% per annum over 5y | 6.12% per annum over 5y |
| Watt, Brian | Vice President of Strategic | 16.18% per annum over 5y | 6.12% per annum over 5y |
| Parsons, Christopher | Principal Accounting Officer | N/M | N/M |

| Profitability | IOSP (LTM) | IOSP (5 years historical average) | Peers' Median (LTM) |
|---|---|---|---|
| Return on Capital (GAAP) | 11.7% | 20.54% | 28.58% |
| Operating Margin | 9% | 9.88% | 9.26% |
| Revenue/Capital (GAAP) | 1.29 | 2.08 | 3.09 |
| ROE (GAAP) | 11.7% | 20.5% | 62.6% |
| Net margin | 7.2% | 9.2% | 8.5% |
| Revenue/Book Value (GAAP) | 1.63 | 2.23 | 7.35 |
| **Invested Funds** | **IOSP (LTM)** | **IOSP (5 years historical average)** | **Peers' Median (LTM)** |
| Cash/Capital | 5.1% | 13.3% | 16.7% |
| NWC/Capital | 26.6% | 24.1% | 30.3% |
| Operating Assets/Capital | 33.3% | 24.5% | 40.4% |
| Goodwill/Capital | 35.0% | 38.9% | 12.6% |
| **Capital Structure** | **IOSP (LTM)** | **IOSP (5 years historical average)** | **Peers' Median (LTM)** |
| Total Debt/Market Capitalization | 0.27 | 0.20 | 0.58 |
| Cost of Existing Debt | 4.0% | 4.0% | 5.1% |
| CGFS Rating (F-score, Z-score, and default Probability) | BBB | BB | BBB |
| WACC | 9.1% | 10.2% | 10.4% |




**Porter's 5 forces (scores are out of 100)**




**Valuation**

| Period | Revenue Growth Forecast | NOPAT Margin Forecast | Revenue to Capital Forecast |
|---|---|---|---|
| Base Year | 13% | 12.8% | 0.75 |
| 6/30/2018 | 17% | 3.8% | 0.83 |
| 6/30/2019 | 7% | 3.0% | 0.84 |
| 6/30/2020 | 6% | 3.7% | 0.86 |
| 6/30/2021 | 6% | 4.4% | 0.87 |
| 6/30/2022 | 5% | 5.1% | 0.88 |
| 6/30/2023 | 5% | 10.1% | 0.88 |
| 6/30/2024 | 4% | 10.6% | 0.83 |
| 6/30/2025 | 4% | 11.0% | 0.79 |
| 6/30/2026 | 3% | 11.5% | 0.75 |
| 6/30/2027 | 3% | 12.0% | 0.71 |
| Continuing Period | 2% | 12.5% | 0.67 |

| Period | Return on Capital Forecast | WACC Forecast | Price per share Forecast |
|---|---|---|---|
| Base Year | 9.6% | 9.1% | $66.99 |
| 6/30/2018 | 3.1% | 9.5% | $75.85 |
| 6/30/2019 | 2.5% | 9.2% | $84.34 |
| 6/30/2020 | 3.2% | 9.3% | $93.27 |
| 6/30/2021 | 3.9% | 9.4% | $102.63 |
| 6/30/2022 | 4.5% | 9.4% | $112.32 |
| 6/30/2023 | 8.8% | 9.3% | $122.19 |

SIENA college

BJORKLUND FUND

October,13, 2017

# Leidos Holdings, Inc.: LDOS

**Ryan Fuchs**

**Sector: Information Technology**
**Industry: IT Services**
**Current Price: $62.78**
**Target Price: $81.60**

**Company Description:** Leidos Holdings, Inc. is a global leader in the integration and application of information technology, engineering, and science to solve the customers' most demanding challenges. Leidos provides technology and engineering solutions in the defense, intelligence, homeland security, civil, and health markets in the United States and internationally.

## BUY

| | |
|---|---|
| Current Price: | $62.78 |
| Target Price: | $81.60 |
| Market Cap: | 9.49B |
| PE Ratio: | 20.96 |
| EBITDA Margin: | 10.03% |
| ROIC: | 9.9% |
| Book-To-Bill: | 1.0 |
| Volume: | 1,066,661 |

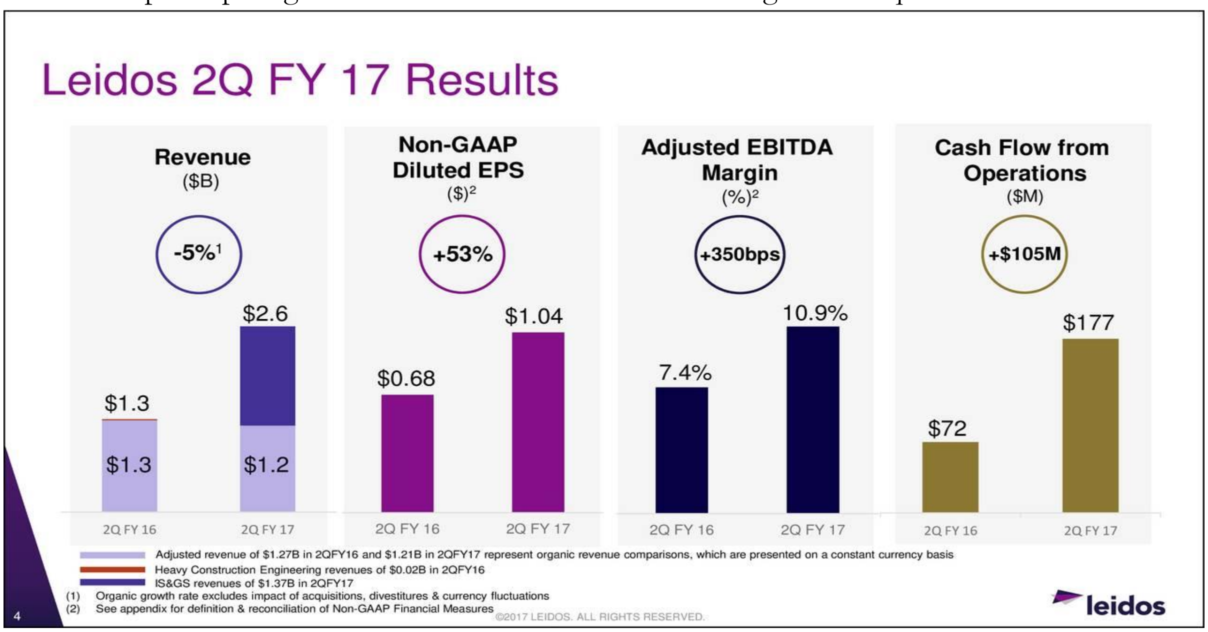
## Catalysts:

- Short Term(within the year): Increased profitability from defense segment driven by increasing global tensions
- Mid Term(1-2 years): Participation in FY 2018's increased budget proposal
- Long Term(3+): Locked in forward contracts in various segments

**Thesis:** Leidos Holdings, Inc. is a best-in-class IT services provider. The company's ability to provide services in many different industries creates value through their large customer base. With customer relationships going back over 40 years, Leidos is a reliable company with very little threat of substitutes. With the acquisition of Lockheed Martin's Information Systems and Global Solutions business, Leidos is growing faster than ever. This stock provides short-term growth from its market share and profitability in the booming defense industry. Long-term growth for Leidos is derived from its ability to lock in major forward contracts with organizations as large as the US Social Security. We must capitalize on this buy as Leidos will continue to dominate its industry.

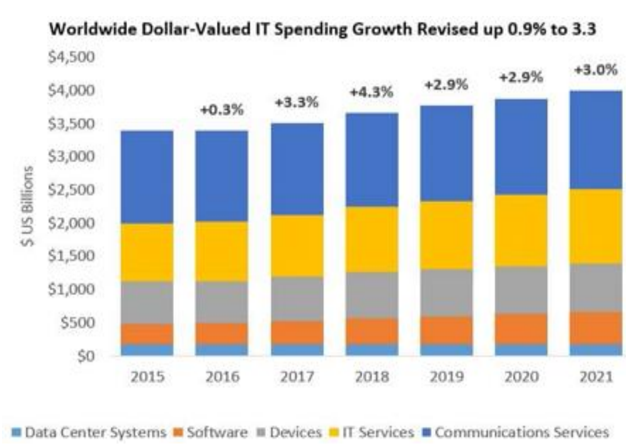
## Earnings Performance:

Revenues for the 2nd quarter of 2017 were $2.57 billion, compared to $1.29 billion in the prior year quarter. This increase was primarily due to $1.37 billion of revenue generated from the Information Systems and Global Solutions (IS&GS) business acquired from Lockheed Martin during the third quarter of FY 2016. Operating income for the 2nd quarter of 2017 was $166 million, compared to $75 million in the prior year quarter. Operating margin increased to 6.5% from 5.8% in the prior year quarter. This quarter's results include $67 million of amortization of intangible assets, $16 million of acquisition and integration costs, $9 million of amortization of equity method investments and $6 million of restructuring charges related to the acquisition of the IS&GS Business. Non-GAAP diluted EPS for the quarter was $1.04, compared to $0.68 in the prior year quarter. The weighted average diluted share count for the quarter was 153 million, up from 74 million in the prior year quarter. This increase was primarily due to the issuance of approximately 77 million shares of Leidos common stock to participating Lockheed Martin stockholders relating to the acquisition of the IS&GS business.




## Industry Outlook:

Information Technology is a growing industry from the business to consumer level. As shown in the chart below, IT spending is projected to grow 2.9-4.3% annually for the next 5 years. The need for IT scans across various industries. Innovation is the main driver of the technology industry. Digital is innovating the entire technology industry. As digital transforms technology products and services, the industry is leaning more towards cloud. Digital is effecting every industry. Because digital effects such a large scale, the best way to create value in the IT industry is now by forming partnerships and collaborating with a network of those partners. Leidos has done so by merger with Lockheed Martin. This deal combines Leidos' airport engineering



and security systems with Lockheed's planning tool for managing traffic flow, airport modernization, and air traffic management.

## Defense Solutions Segment:


Leidos defense and intelligence group provides solutions and services including enterprise and mission IT, large-scale intelligence systems, command and control, geospatial and data analytics, cybersecurity, logistics, training, and intelligence analysis and operations support. Leidos defense solutions segment revenues for the 2nd quarter of 2017 were $1,243 million increased 58% from the prior year quarter. The revenue growth was a result of the acquired IS&GS business and growth in their airborne programs. The IS&GS business allows Leidos to strengthen their market share in the defense industry. The business will add large complex IT system implementation and both federal and international IT solutions to Leidos' portfolio. As increased global tensions lead to increase in demand for defense, the industry's revenues are forecasted to grow at 3.2% this year in the US. Further growth will be driven by President Trump's emphasis on strengthening the US military. This will make the defense solutions segment even more profitable, as 92% of FY 2016's revenue came in the US. On March 16, 2017, President Trump unveiled the Pentagon's fiscal 2018 budget proposal. This proposal highlighted a $54 billion increase from FY 2017. With 40+ year relationships with the Army, Navy, Department of Defense, and Federal Aviation Administration, the increased budget will provide more opportunities for Leidos' services. The company's ability to lock in defense related forward contracts with organization such as the Defense Intelligence Agency, Defense Threat Reduction Agency, and US Army provides long-term growth for the firm.


## Ownership:

Currently 78.37% of Leidos Holdings is owned institutionally with 83.62% coming from Investment Advisors and 9.19% from hedge funds. Blackrock stands as the largest owner with roughly 12,650,322 shares held. Within that, Blackrock's position has increased 11.26% which seems to be promising for Leidos as the hedge fund believes there is still growth. Throughout the last 4 months, short interest has decreased 1%. With the decrease in short interest, it is likely that Blackrock's interest is long. A positive change of 3.37% in institutional ownership is also good sign for Leidos.

| Institutional - Based on Current Filings | | | |
|---|---|---|---|
| 51) Institutional | 10/08/17 | Curr | Change |
| 11) % of Shares Held | 78.37 | 78.40 | +0.03 |
| 12) % of Float Held | 78.93 | 78.95 | +0.02 |
| 13) # of Institutions | 588 | 587 | -0.17% |
| 14) # of Buyers | 208 | 210 | +0.96% |
| 15) # of Sellers | 158 | 155 | -1.90% |
| 16) # of New Buyers | 90 | 93 | +3.33% |
| 17) # of Selloffs | 69 | 71 | +2.90% |
| 18) % Chg in Inst Positions | +3.36 | +3.37 | +0.01 |

| Date | Short Interest (%) | Short Interest (Shares in Mil) |
|---|---|---|
| September 29, 2017 | 1.85 | 2.56 |
| September 15, 2017 | 2.42 | 3.35 |
| August 31, 2017 | 2.53 | 3.49 |
| August 15, 2017 | 1.95 | 2.69 |
| July 31, 2017 | 2.02 | 2.78 |
| July 14, 2017 | 2.15 | 2.98 |
| June 30, 2017 | 2.44 | 3.37 |
| June 15, 2017 | 2.85 | 3.94 |

## Capital Allocation:

Behind CR Magazine's 2017 *Responsible CEO of the Year*, Roger Krone, Leidos management has effectively created value with their capital allocation. In the 2nd quarter of 2017, Leidos generated $177 million in cash flows from operations, a $105 million increase from the prior year quarter. The higher operating net cash inflows were the result of timing of billing and collections activities. Net cash flows used in financing activities of continuing operations for the quarter were $112 million compared to $30 million in the prior year quarter. The higher financing cash outflows were primarily due to repayments of long-term debt. Leidos is currently in the process of delevering through a $275 million dollar accelerated repayment of acquisition debt. The firm currently has a Debt/EBITDA of 3.36x, right at the industry average of 3.32x. Through this delevering, they are targeting a Debt/EBITDA of 3.0x. Below displays the impact the delevering will have on the WACC: By lowering the cost of debt 0.5% and the D/E ratio by .05, the WACC decreases by .03%.

## BEFORE DELEVER

WACC = (1/[1+D/E]) x Ke + (D/E /[1+D/E]) x Kd x (1-T)

| WACC | *History* | *LTM* |
|---|---|---|
| LDOS | 9.7% | 10.1% |
| Competitors | 10.3% | 8.7% |
| Target | 10.1% | |

| Ke (Kd+Country Risk) | *History* | *LTM* |
|---|---|---|
| LDOS | 11.6% | 12.2% |
| Competitors | 11.1% | 10.2% |
| Target | 12.2% | |

| Kd | *History* | *LTM* |
|---|---|---|
| LDOS | 6.0% | 6.5% |
| Competitors | 6.0% | 4.6% |
| Target | 7% | |

| | |
|---|---|
| Country Risk | 5.69% |

| Capitalization (Debt/Equity) | *History* | *LTM* |
|---|---|---|
| LDOS | 0.36 | 0.41 |
| Competitors | 0.25 | 0.36 |
| Target | 0.41 | |

## AFTER DELEVER

WACC = (1/[1+D/E]) x Ke + (D/E /[1+D/E]) x Kd x (1-T)

| Kd | History | LTM |
|---|---|---|
| LDOS | 6.0% | 6.5% |
| Competitors | 6.0% | 4.6% |
| Target | 6% | |

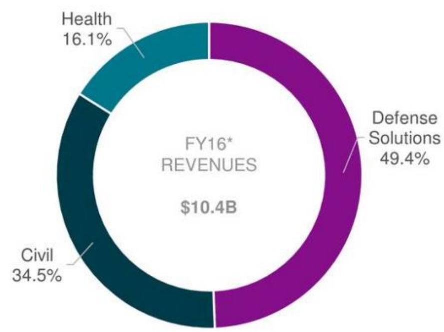
| WACC | History | LTM |
|---|---|---|
| LDOS | 9.7% | 10.1% |
| Competitors | 10.3% | 8.7% |
| Target | 9.8% | |

| Ke (Kd+Country Risk) | History | LTM |
|---|---|---|
| LDOS | 11.6% | 12.2% |
| Competitors | 11.1% | 10.2% |
| Target | 11.6% | |

| | |
|---|---|
| Country Risk | 5.69% |

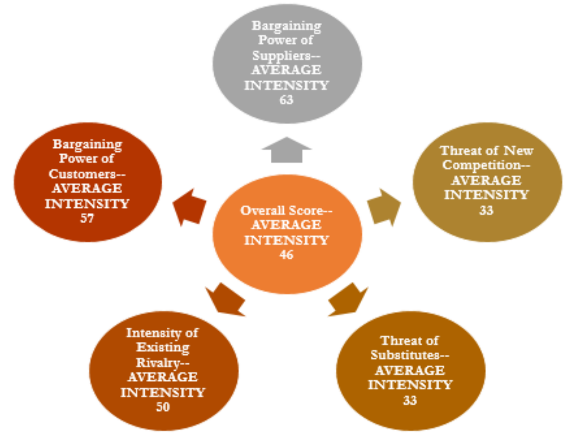
| Capitalization (Debt/Equity) | History | LTM |
|---|---|---|
| LDOS | 0.36 | 0.41 |
| Competitors | 0.25 | 0.36 |
| Target | 0.36 | |

Another area Leidos management is focusing on is cash usage. The firm is targeting 100%+ cash efficiency. This will drive Leidos' 9.9% ROIC, which has room to grow as it is only slightly above the industry average of 9.66%. With the large amount of cash Leidos generates from operations, the firm will be able to invest their cash even during a delevering process. With excess cash, Leidos plans to repurchase shares. The returns derived from this increased cash usage will further expand their margins, another area that management has addressed. Leidos is particularly focusing on expanding their EBITDA margin, which increased 350 basis points in the 2nd quarter of 2017 from the prior year quarter. The increase in EBITDA margins will directly decrease their Debt/EBITDA, helping them efficiently reach their target 3.0x. The IS&GS business will also provide cost synergies to further expand the company's margins. The acquired business allows Leidos to offer cost-effective solutions to customers by adding large, complex IT system implementation. Leidos' diverse budgeting has also created value for the company. Management has been successful in their budgeting by putting the most money in their most profitable segment, defense solutions, but still allowing the other two segments to drive revenues. This is important because it eliminates non-systematic risk. In the event that a macro phenomenon hurts one segment of business, the company will still be able to drive revenues. This is what makes the acquisition of Lockheed Martin's IS&GS business so strategic. The IS&GS business' greatest strength is in civil agency, the segment where the business had the greatest impact on 2017's 2nd quarter revenues. IS&GS accounted for $625 million of the civil segment's $875 million in revenue for the quarter. These revenues were driven by IS&GS' ability to serve customers' needs across civil federal agencies. However, the IS&GS business still managed to significantly contribute to the health and defense segments as well. Management gave guidance of 3% revenue growth, 10%+ adjusted EBITDA margin, and 100% cash efficiency for 2018 & beyond.

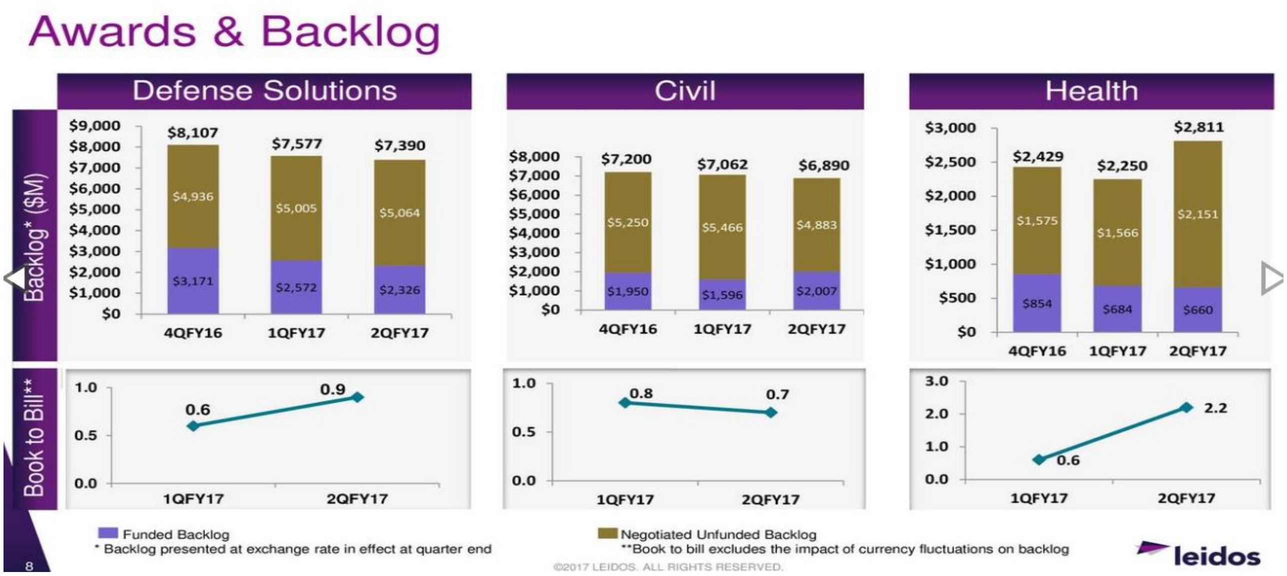



## Large Customer Base:

Through the acquisition of the IS&GS business, Leidos has both strengthened and increased their customer base. The company's ability to sustain long-term relationships with customers eliminates the threat of substitutes (33/100 intensity on Porter 5 forces model). Net bookings totaled $2.7 billion in quarter 2 of 2017. This gave Leidos a book-to-bill ratio of 1, which indicates a strong demand for Leidos' services. Most notable awards received in quarter 2 of 2017 were from the Defense Threat Reduction Agency and US Army. The DTRA awarded Leidos a contract to support their Cooperative Biological Engagement Program and Cooperative Threat Reduction Program through a worldwide Scientific and Technical Engagement Partnership program. This contract has a one-year base period of performance, four one-year options, and a total contract value of approximately $170 million if all options are exercised. The US Army awarded Leidos a task order to provide program management solutions to the Department of Defense Biometrics program. The contract has a one-year base period of performance, four one-year options, and a total contract value of approximately $132 million, if all options are exercised. From September 26, 2017- October 12, 2017, Leidos announced four more multi-year contracts. The most notable of these contracts was a 10 year contract providing IT services to US Social Security Agency's strategic plan. This contract has up to a 10-year period if all options are exercised and the contract ceiling totals $2.3B. With all the hatred surrounding President Trump, this is a crucial service, which makes this contract monumental for the company. On October 12, 2017, Leidos was also awarded a contract by the National Geospatial-Intelligence Agency to provide IT assistance to the Agency's Information Technology Enterprise Management User Facing Services program. This contract has a five-year ordering period with a $988 million ceiling. On October 3, 2017, Leidos received a $25 million contract from the US Department of Energy Information Administration to provide energy consumption information for two complex surveys. This cost-plus-fixed-fee contract has a four year period. After the announcement of the contract, Leidos shares were up 0.17% after hours. Leidos' ability to frequently acquire significant long-term contracts demonstrates their dominance in their industry.




At the end of quarter 2 of 2017, Leidos' backlog of signed business orders totaled $17.1 billion, of which $5 billion was funded. The company's book to bill ratio of 1 shows their ability to process orders despite this large amount of backlog.




## Conclusion:

We must capitalize on this buy as Leidos will continue to dominate its industry. With locked in long-term forward contracts in place, the company will only continue growing. Through the IS&GS business integration into the company, there are still synergies coming in the future. President Trump's increased defense budget for FY 2018 provides opportunities for potential large-scale future contracts as Leidos has 40+ year relationships with major defense organizations. With an increasing book to bill ratio, the demand for Leidos' services will only continue rising. The company has all the signs of meeting or exceeding its guidance of 3% revenue growth. Leidos is a best-in-class IT service provider with both room and momentum to improve.

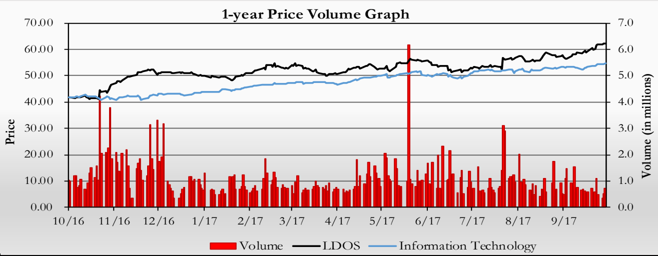
SIENA college | BJORKLUND FUND

# Leidos Holdings, Inc. (LDOS)

# CENTER FOR GLOBAL FINANCIAL STUDIES

**BULLISH**

| | | | | | |
|---|---|---|---|---|---|
| Analysis by RYAN | Current Price: | $62.78 | Intrinsic Value | $74.83 | Target 1 year Return: 35.75% |
| 10/13/2017 | Divident Yield: | 2.6% | Target Price | $83.56 | Probability of Price Increase: 94.5% |




**Description**

Leidos Holdings, Inc., a science and technology company, provides technology and engineering solutions in the defense, intelligence, homeland security, civil, and health markets in the United States and internationally.

**General Information**

| | |
|---|---|
| Sector | Information Technology |
| Industry | IT Services |
| Last Guidance | November 3, 2015 |
| Next earnings date | November 2, 2017 |
| Estimated Country Risk Premium | 5.69% |
| Effective Tax rate | 24% |
| Effective Operating Tax rate | 40% |

**Market Data**

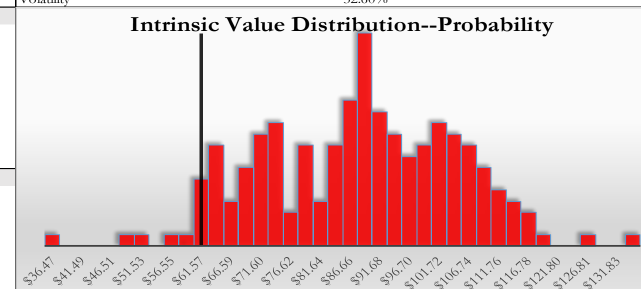
| | |
|---|---|
| Market Capitalization | $9,423.35 |
| Daily volume (mil) | 0.22 |
| Shares outstanding (mil) | 151.21 |
| Diluted shares outstanding (mil) | 143.50 |
| % shares held by institutions | 84% |
| % shares held by investments Managers | 65% |
| % shares held by hedge funds | 6% |
| % shares held by insiders | 0.41% |
| Short interest | 1.69% |
| Days to cover short interest | 2.88 |
| 52 week high | $62.66 |
| 52-week low | $40.96 |
| Volatility | 32.60% |

**Past Earning Surprises**

| Quarter ending | Revenue | EBITDA |
|---|---|---|
| 7/1/2016 | -1.53% | -6.54% |
| 9/30/2016 | -2.61% | 1.08% |
| 12/30/2016 | -1.72% | -10.95% |
| 3/31/2017 | -1.19% | -20.51% |
| 6/30/2017 | -1.19% | -11.58% |
| Mean | -1.65% | -9.70% |
| Standard error | 0.3% | 3.5% |

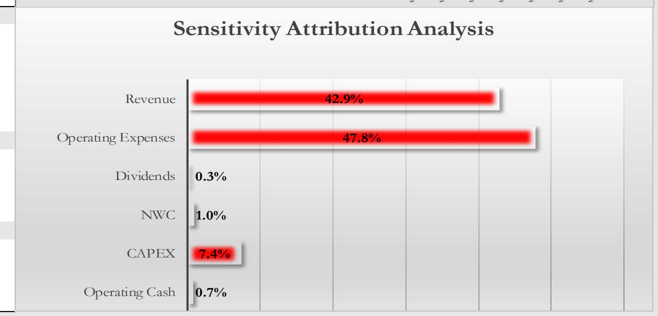
**Peers**

- Booz Allen Hamilton Holding Corporation
- Cognizant Technology Solutions Corporation
- DXC Technology Company
- Science Applications International Corporation
- CACI International Inc
- Unisys Corporation

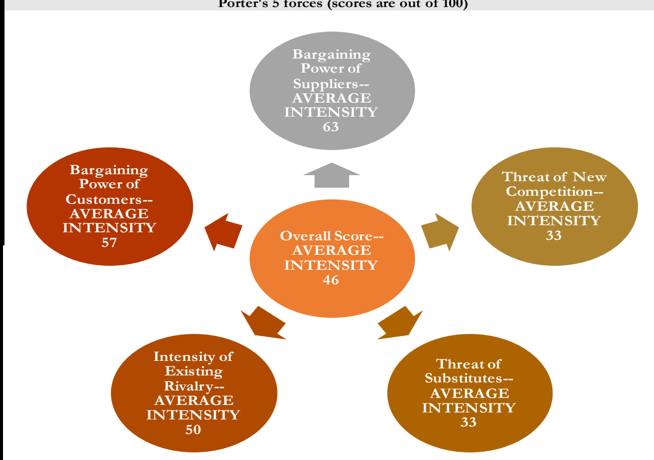



| Management | Position | Total compensations growth | Total return to shareholders |
|---|---|---|---|
| Krone, Roger | Chairman & CEO | 19.3% per annum over 2y | 13.8% per annum over 2y |
| Reagan, James | Chief Financial Officer and | N/M | -6.83% per annum over 1y |
| Scholl, Jonathan | President of Health Group | N/M | -6.83% per annum over 1y |
| Reardon, Timothy | President of Defense & Intel | N/M | -6.83% per annum over 1y |
| Chadha, Ranjit | Chief Accounting Officer, Se | N/M | N/M |
| Fratamico, John | Chief Technology Officer and | N/M | N/M |

| Profitability | LDOS (LTM) | LDOS (5 years historical average) | Peers' Median (LTM) |
|---|---|---|---|
| Return on Capital (GAAP) | 11.4% | 14.61% | 18.41% |
| Operating Margin | 7% | 5.56% | 6.55% |
| Revenue/Capital (GAAP) | 1.58 | 2.63 | 2.81 |
| ROE (GAAP) | 10.2% | 23.5% | 22.4% |
| Net margin | 3.3% | 4.3% | 7.3% |
| Revenue/Book Value (GAAP) | 3.05 | 5.46 | 3.06 |
| **Invested Funds** | **LDOS (LTM)** | **LDOS (5 years historical average)** | **Peers' Median (LTM)** |
| Cash/Capital | 4.0% | 19.6% | 9.1% |
| NWC/Capital | 5.3% | 7.5% | 13.1% |
| Operating Assets/Capital | 14.6% | 12.5% | 32.3% |
| Goodwill/Capital | 76.1% | 56.0% | 45.4% |
| **Capital Structure** | **LDOS (LTM)** | **LDOS (5 years historical average)** | **Peers' Median (LTM)** |
| Total Debt/Market Capitalization | 0.50 | 0.48 | 0.26 |
| Cost of Existing Debt | 6.5% | 6.0% | 4.6% |
| CGFS Rating (F-score, Z-score, and default Probability) | B | BB | BBB |
| WACC | 8.4% | 9.7% | 8.7% |




**Porter's 5 forces (scores are out of 100)**




**Valuation**

| Period | Revenue Growth Forecast | NOPAT Margin Forecast | Revenue to Capital Forecast |
|---|---|---|---|
| Base Year | 83% | 4.8% | 1.20 |
| 6/30/2018 | 20% | 1.3% | 1.33 |
| 6/30/2019 | 3% | 1.9% | 1.33 |
| 6/30/2020 | 5% | 2.4% | 1.38 |
| 6/30/2021 | 6% | 2.8% | 1.43 |
| 6/30/2022 | 4% | 3.0% | 1.44 |
| 6/30/2023 | 4% | 3.3% | 1.45 |
| 6/30/2024 | 4% | 7.6% | 1.46 |
| 6/30/2025 | 4% | 8.5% | 1.38 |
| 6/30/2026 | 4% | 8.6% | 1.30 |
| 6/30/2027 | -49% | 7.5% | 0.60 |
| Continuing Period | 4% | 7.9% | 0.60 |

| Period | Return on Capital Forecast | WACC Forecast | Price per share Forecast |
|---|---|---|---|
| Base Year | 5.8% | 8.4% | $75.82 |
| 6/30/2018 | 1.7% | 8.4% | $84.89 |
| 6/30/2019 | 2.5% | 8.0% | $92.72 |
| 6/30/2020 | 3.2% | 8.1% | $100.88 |
| 6/30/2021 | 4.0% | 7.8% | $108.78 |
| 6/30/2022 | 4.4% | 7.8% | $116.74 |
| 6/30/2023 | 4.8% | 7.5% | $124.47 |
| 6/30/2024 | 11.1% | 7.5% | $132.20 |
| 6/30/2025 | 11.8% | 7.2% | $139.53 |
| 6/30/2026 | 11.2% | 7.2% | $146.71 |
| 6/30/2027 | 4.5% | 6.9% | $154.33 |
| Continuing Period | 4.8% | 6.9% | |

SIENA college

BJORKLUND FUND

October, 13, 2017

## Company Name: SJW

**Niall McGeever**

**Sector: Utility**
**Industry: Water Utility**
**Current Price: $61.04**
**Target Price: $68.13**

**Company Description: SJW Group operates as a holding company with the following subsidiaries: San Jose Water Company, a water utility with both regulated and non-regulated businesses; SJW Land Company, which owns commercial buildings and undeveloped land, SJWTX Inc., a water utility, and Texas Water Alliance Limited, a Texas corporation.**

## BUY

| | |
|---|---|
| Current Price: | $61.04 |
| Target Price: | $68.13 |
| Market Cap: | 1.24B |
| Dividend Yield: | 1.43% |
| WACC: | 6.44% |
| ROIC: | 7.37% |

## Catalysts:

- Short Term(within the year): Completed renovation of the Montevina Water Treatment Plant
- Mid Term(1-2 years): Acquisition of more connections in San Antonio and San Jose
- Long Term(3+): Continued commercial and residential construction in San Antonio and San Jose


Source: Bloomberg

## Thesis:

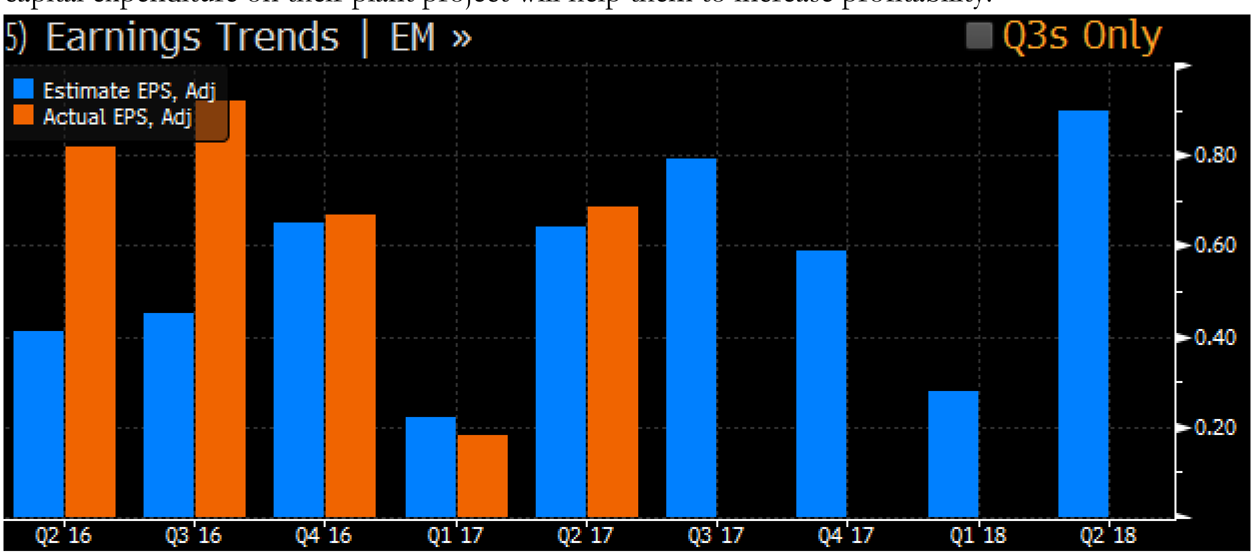
SJW will continue to increase their revenue with an increased number of customers and increased rates. SJW Group will continue to add customers through their organic growth strategy as well as acquiring new connections. SJW positioned for growth with their primary markets in San Jose and San Antonio whose populations are set to keep increasing. This will drive up demand for water, which will increase the stock price in the short and long term.

---

## Earnings Performance:

SJW has beat their revenue estimates on six of the last eight quarters. Revenues have continued to grow because of water connections in California and Texas. Water rate increases have resulted in $15 million in extra revenue for the quarter and $23.6 million year-to-date. Rates increased because of the company's 2016 GRC decision to raise rates 3.8%. SJW has also been able to beat earnings on five of the last eight quarters. Earnings per share were $0.69 per share in quarter 2 of 2017. This is primarily due to rate increases, SJW balancing their Water Conservation Memorandum Account, and SJW realizing a gain on real estate. The improvements that SJW has made at their Montevina Water Treatment Plant has helped them to increase their water supply. When the project is finished during the fourth quarter of 2017, it will help them to become more self-sustainable. SJW currently buys 40-50% of their water supply so their capital expenditure on their plant project will help them to increase profitability.

| Per End↓ | Per | Comp | Est | %Surp |
|---|---|---|---|---|
| 06/17 | Q2 17 | 102.07M | 91.00M | 12.17% |
| 03/17 | Q1 17 | 69.05M | 64.00M | 7.88% |
| 12/16 | Q4 16 | 79.31M | 75.00M | 5.74% |
| 09/16 | Q3 16 | 112.34M | 87.00M | 29.13% |
| 06/16 | Q2 16 | 86.94M | 75.00M | 15.93% |
| 03/16 | Q1 16 | 61.11M | 65.00M | -5.98% |
| 12/15 | Q4 15 | 87.61M | 73.70M | 18.88% |
| 09/15 | Q3 15 | 82.96M | 92.40M | -10.22% |




Source: Bloomberg

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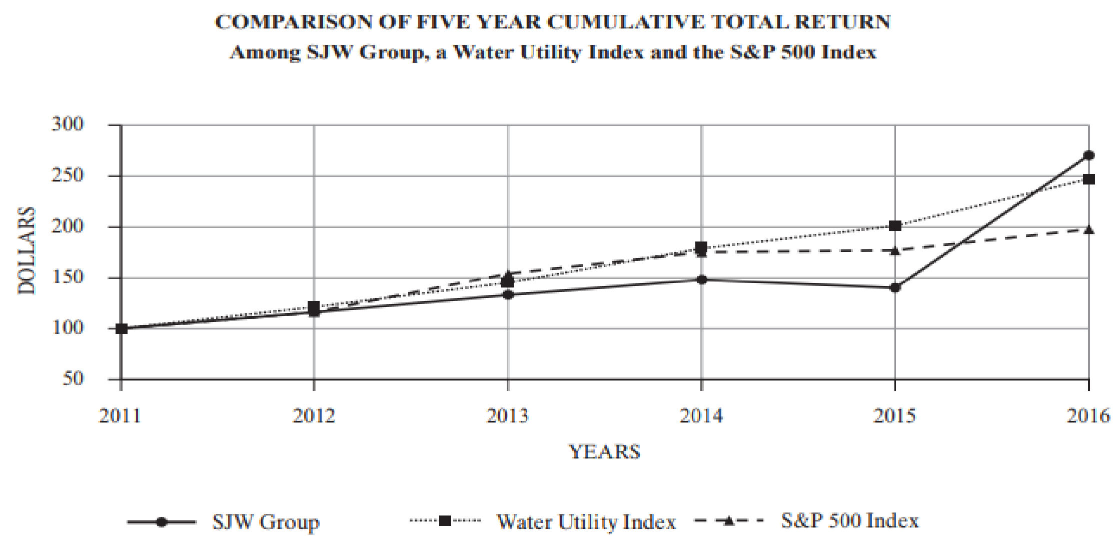
## Industry Outlook:

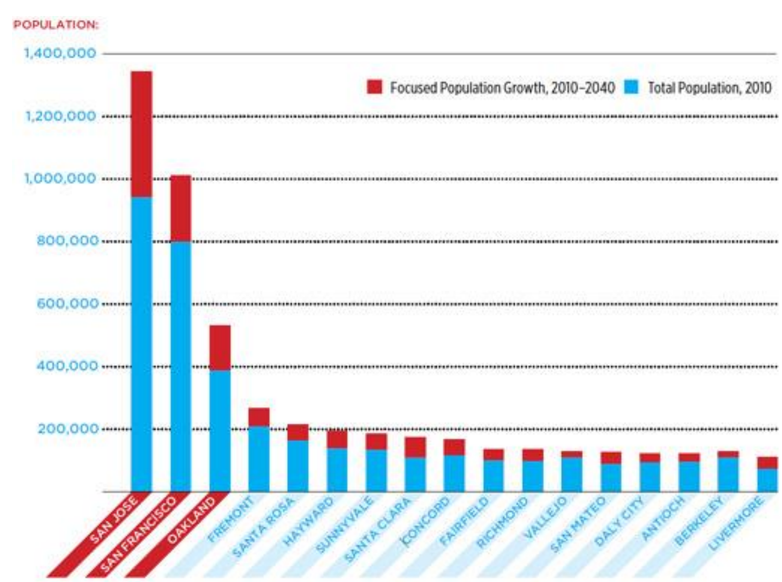
SJW is well positioned in the water utility industry because of the locations that they currently serve. Under California state law SJW can operate in their service areas with minimal interruption from competitors. California statutory laws provide that no other investor-owned public utility may operate in the public utilities' service areas without first obtaining from the regulator a certificate of public convenience and necessity. With this statute in place it is extremely difficult for a competitor to enter the space thus making SJW's 229,000 connections valuable. The water utility business is capital-intensive because of the repairs that must be made for aging infrastructure. SJW is maintaining their water systems to avoid a more costly expenditures such as broken pipes. SJW spent $136,186,000 in 2017 and plans to spend $662,962,000 over the next five years for capital improvements. From 2011 to 2015, the S&P 500 has increased from $100 to $198 and the Water Utility Index has increased from $100 to $247. Over the same time period, SJW has outperformed both of these indexes by returning $270. This shows that SJW continues to grow and add value as a company.



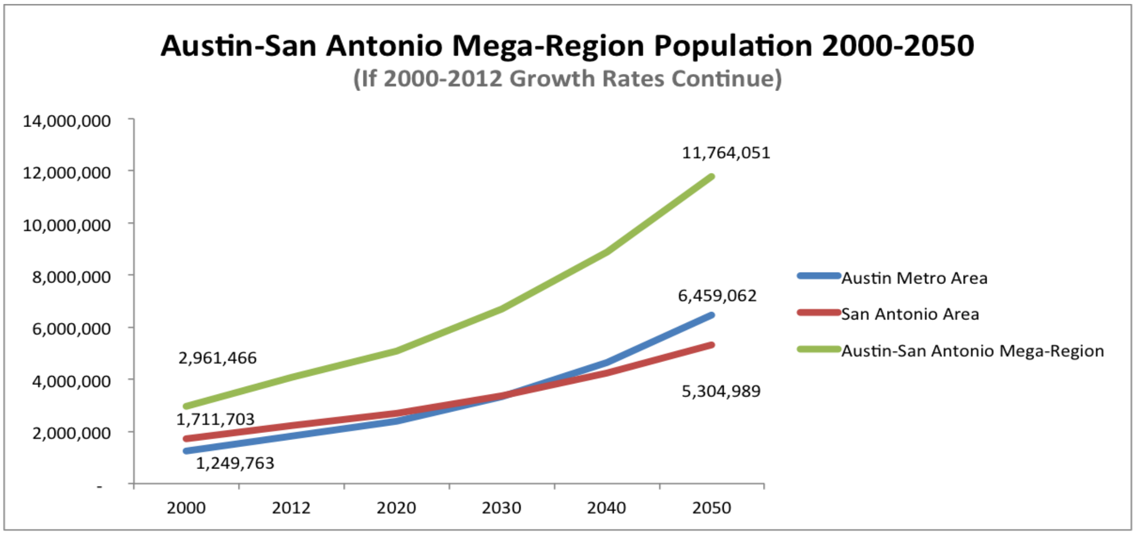

Source: SJW 10K

## Organic Growth:

SJW's customer growth in water utility services is driven multiple ways. One way it is driven is by organic population growth within their service areas. SJW serves the San Jose area in California, which is poised to grow. This is because Alphabet and Adobe Systems announced plans to add around 8 million square feet of office space and 23,000 employees in downtown San Jose. With the addition of 23,000 employees in the area, new residential construction will be needed. This is a win-win scenario for SJW because San Jose is one of the areas they service. SJW will therefore benefit from serving the new commercial and residential buildings. San Jose added 12,041 people from July 1, 2015, to July 1, 2016. Building permits issued in San Jose have



averaged 2,750 over the 2000-2010 time period. The graph to the right shows that San Jose is projected to have the largest population growth in the Bay Area. The growth of SJWTX, Inc. in San Antonio has been a beneficial acquisition. Since SJW bought it in 2006, it has doubled in size from 6,500 connections to more than 13,000 connections. The 244 square miles that SJWTX serves is also experiencing a rapid population growth. San Antonio ranked third among U.S. cities in terms of people added from July 1, 2015, to July 1, 2016, with a net increase of 24,473 residents. San Antonio is projected to continue growing which means more customers for SJWTX.




Source: UrbanScale

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## Acquisition Growth:

SJW is constantly looking for ways to expand their customer base. Before SJW enters a new regulated market, they evaluate the regulatory environment to make sure that they have the opportunity to achieve an appropriate rate of return. In the acquisition of a company, they also make sure that they maintain their high standards for quality, reliability and compliance with environmental, health and safety and water quality standards. During 2016, 2015 and 2014, SJW had cash outflows of $1,070,000, $991,000 and $1,768,000 to acquire water rights to expand their customer base. In the last earnings call, CEO, Richard Roth, said that SJW is working on acquiring systems in the 500 to 600--connection area. On average, each connection generates $1,402,000 of revenue. SJW are currently working on getting a couple of these deals done. These deals will help to add to the organic growth that has helped SJW to steadily expand and maintain financial stability. It is smart of SJW to strategically acquire connections because expanding just to expand is not always profitable.

---

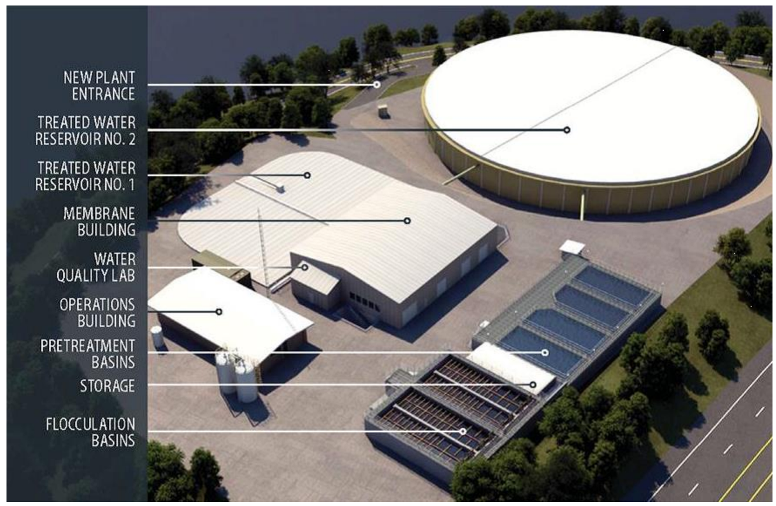
## Rate Increases:

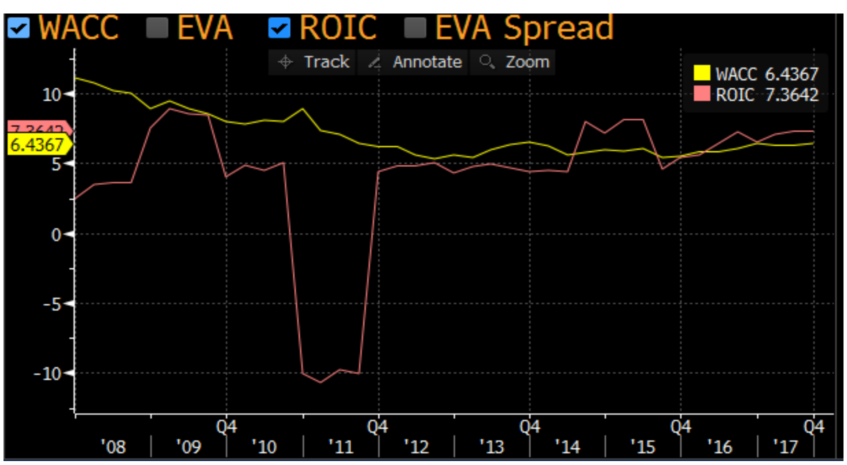
The California Public Utilities Commission regulates SJW's rate increases. SJW is able to mitigate risk due to regulatory lag and new changes to legislation, policies and regulation by keeping memorandum accounts.

These accounts help to track revenue during unforeseen events. There are three types of rate adjustments that affect SJW's revenue collection: general rate adjustments, cost of capital adjustments and offset rate adjustments. General rate adjustments are authorized during an initial rate adjustment followed by two annual adjustments. The new agreement was made in January 1, 2016, which implemented an increase of 8.6% in authorized revenue. 2017 and 2108 rates and revenue are determined on the forecasted change in the consumer price index. Cost of capital adjustments are rate adjustments resulting from the CPUC's usual tri-annual establishment of a reasonable rate of return from SJW's capital investments. Offset rate adjustments are used to compensate utilities for changes in pre-authorized capital investments or expenses. With these three rate adjustments, SJW should be able to constantly increase their revenue for the foreseeable future.

## Capital Expenditure:

SJW plans to spend $136,186,000 in 2017 and $662,962,000 over the next five years for capital improvements. The main capital expenditure project that SJW is working on is upgrading the Montevina Water Treatment Plant. The plant will have state-of-the-art treatment technology and microfiltration membrane technology when it is completed in quarter 4 of 2017. SJW wants to deliver a premium product to its customer, which is why they invested so heavily in the project. The plant produces an average of 10% of the total supply for Silicon Valley. The new plant will become more efficient than the last and thus be able to serve more customers. SJW has lines of credit that total 145,000,000. The cost of SJW's short-term borrowing has averaged 1.5%, which helps them to borrow at a cheap rate. SJW has a WACC calculated by Bloomberg of 6.44% and a ROIC of 7.36%. This means that SJW is investing in projects that have a beneficial return to them. This has been a shift from 2008 to 2014 where SJW was investing in projects with lower returns than the cost of borrowing. The recent shift has helped the company to grow and become more sustainable.




Source: Bloomberg

## SJW vs. Competitors:

SJW has solid margins across the board. They have the highest one year revenue and earnings per share growth against their competitors. SJW's ROE is 10.52%, which is above the industry average of 9.85%. SJW also boasts a 1-year gross margin of 76.72% compared to the 68.83% of their competitors. SJW's 1-year operating margin is 27.41% while the industry average is 26.86%. This chart shows that SJW is in the upper class of the water utility industry.

Overview | Comp Sheets | Markets | EPS Preview | Ownership | Credit | Custom

Add Column | 93) Fields | 19) Save | 20) Discard

| Name (BICS Best Fit) | Rev - 1 Yr Gr:Y | EPS - 1 Yr Gr:Y | P/E | ROE | Dvd 12M Yld | GM:Y | NOPAT:Y | OPM:Y |
|---|---|---|---|---|---|---|---|---|
| Median | 3.15% | 7.38% | 30.58 | 9.85% | 1.85% | 68.83% | 75.92M | 26.86% |
| 100) SJW GROUP | 11.35% | 19.54% | 28.87 | 10.52% | 1.39% | 76.72% | 68.73M | 27.41% |
| 101) AMERICAN WATER WORKS... | 4.53% | 6.56% | 30.02 | 9.61% | 1.86% | -- | 669.42M | 34.37% |
| 102) CHESAPEAKE UTILITIES C... | 8.63% | 6.62% | 32.02 | 9.82% | 1.55% | 52.28% | 53.28M | 16.83% |
| 103) CONNECTICUT WATER SVC... | 2.73% | 3.79% | 31.39 | 9.28% | 1.85% | -- | 31.34M | 29.42% |
| 104) AMEREN CORPORATION | -0.36% | 4.69% | 21.10 | 9.89% | 2.92% | 71.91% | 854.33M | 22.73% |
| 105) AMERICAN STATES WATER... | -4.92% | 1.25% | 31.15 | 12.66% | 1.85% | 80.85% | 72.63M | 26.31% |
| 106) AVISTA CORP | -2.85% | 14.51% | 24.50 | 8.33% | 2.71% | 61.78% | 198.66M | 20.09% |
| 107) MIDDLESEX WATER CO | 5.46% | 13.11% | 32.89 | 9.99% | 1.93% | -- | 27.67M | 30.57% |
| 108) CALIFORNIA WATER SERV... | 3.57% | 8.15% | 34.73 | 8.89% | 1.71% | 65.75% | 79.20M | 16.57% |
| 109) AQUA AMERICA INC | 0.70% | 9.58% | 26.72 | 12.63% | 2.23% | -- | 314.31M | 39.62% |

(Accounting Adjustments: Adjusted for Abnormal Items When Applicable) 10) Analyze List

Source: Bloomberg

## Conclusion:

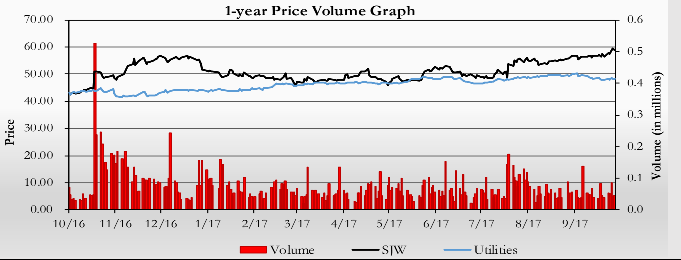
In conclusion, I am proposing a BUY for SJW Group (SJW). SJW is well positioned in their primary markets of San Jose and San Antonio. SJW has constantly managed to grow its revenue and number of customers because of their organic and acquisition growth strategy. SJW is spending on capital expenditure projects to ensure their competitiveness in the industry. SJW's margins are above the industry average. A one-year target price of $68.13 can easily be achieved.

SIENA college | BJORKLUND FUND

# SJW Group (SJW) — CENTER FOR GLOBAL FINANCIAL STUDIES — NEUTRAL

| | | | |
|---|---|---|---|
| Analysis by Niall McGeever | Current Price: $60.59 | Intrinsic Value $62.30 | Target 1 year Return: 13.87% |
| 10/11/2017 | Divident Yield: 1.4% | Target Price $68.13 | Probability of Price Increase: 92.5% |

1-year Price Volume Graph




**Description**

SJW Group, through its subsidiaries, provides water utility services in the United States.

**General Information**

| | |
|---|---|
| Sector | Utilities |
| Industry | Water Utilities |
| Last Guidance | November 3, 2015 |
| Next earnings date | October 27, 2017 |
| Estimated Country Risk Premium | 5.87% |
| Effective Tax rate | 24% |
| Effective Operating Tax rate | 22% |

**Market Data**

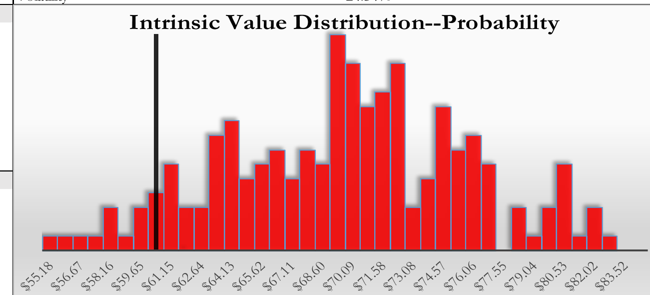
| | |
|---|---|
| Market Capitalization | $1,242.49 |
| Daily volume (mil) | 0.06 |
| Shares outstanding (mil) | 20.51 |
| Diluted shares outstanding (mil) | 20.64 |
| % shares held by institutions | 47% |
| % shares held by investments Managers | 39% |
| % shares held by hedge funds | 5% |
| % shares held by insiders | 21.11% |
| Short interest | 0.75% |
| Days to cover short interest | 2.38 |
| 52 week high | $60.04 |
| 52-week low | $42.20 |
| Volatility | 24.54% |

**Past Earning Surprises**

| Quarter ending | Revenue | EBITDA |
|---|---|---|
| 6/30/2016 | 15.93% | N/A |
| 9/30/2016 | 29.13% | N/A |
| 12/31/2016 | 5.74% | N/A |
| 3/31/2017 | 7.88% | N/A |
| 6/30/2017 | 12.17% | N/A |
| Mean | 14.17% | #DIV/0! |
| Standard error | 4.1% | #DIV/0! |

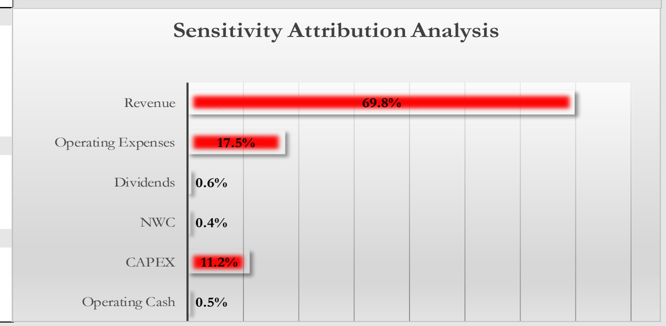
**Peers**

American States Water Company
California Water Service Group
Aqua America, Inc.
Connecticut Water Service, Inc.
Middlesex Water Company
Artesian Resources Corporation
Pure Cycle Corporation
The York Water Company

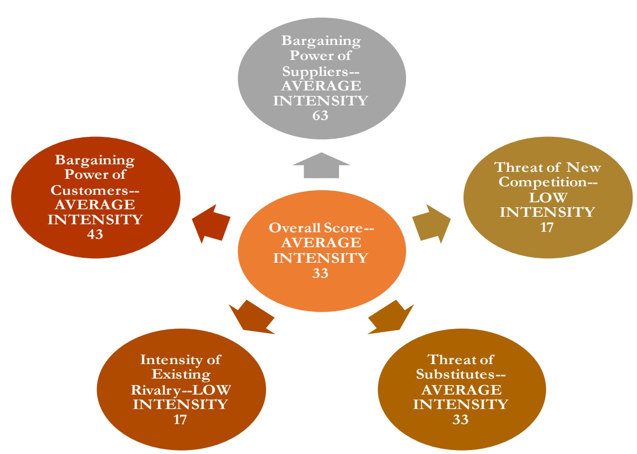



| Management | Position | Total compensations growth | Total return to shareholders |
|---|---|---|---|
| Roth, W. | Chairman of the Board, CEO & | -7.51% per annum over 5y | 4.33% per annum over 5y |
| Lynch, James | Chief Financial Officer and | 7.27% per annum over 5y | 4.33% per annum over 5y |
| Jensen, Palle | Executive Vice President - S | 12.62% per annum over 5y | 4.33% per annum over 5y |
| Gere, Andrew | President of San Jose Water | 101.21% per annum over 1y | 91.53% per annum over 1y |
| Walters, Andrew | Chief Administrative Officer | 8.86% per annum over 2y | 34.71% per annum over 2y |
| Papazian, Suzy | General Counsel and Corporat | N/M | N/M |

| Profitability | SJW (LTM) | SJW (5 years historical average) | Peers' Median (LTM) |
|---|---|---|---|
| Return on Capital (GAAP) | 8.4% | 8.12% | 7.98% |
| Operating Margin | 20% | 18.81% | -1.37% |
| Revenue/Capital (GAAP) | 0.42 | 0.43 | -5.84 |
| ROE (GAAP) | 13.1% | 10.5% | 9.7% |
| Net margin | 15.2% | 12.4% | 17.0% |
| Revenue/Book Value (GAAP) | 0.86 | 0.85 | 0.57 |
| **Invested Funds** | **SJW (LTM)** | **SJW (5 years historical average)** | **Peers' Median (LTM)** |
| Cash/Capital | 1.1% | 0.5% | 4.3% |
| NWC/Capital | -0.8% | 2.9% | 0.6% |
| Operating Assets/Capital | 99.7% | 95.6% | 91.5% |
| Goodwill/Capital | 0.0% | 0.0% | 3.5% |
| **Capital Structure** | **SJW (LTM)** | **SJW (5 years historical average)** | **Peers' Median (LTM)** |
| Total Debt/Market Capitalization | 0.50 | 0.53 | 0.44 |
| Cost of Existing Debt | 5.3% | 5.8% | 4.9% |
| CGFS Rating (F-score, Z-score, and default Probability) | BBB | BBB | BB |
| WACC | 8.9% | 8.8% | 8.9% |




**Porter's 5 forces (scores are out of 100)**




**Valuation**

| Period | Revenue Growth Forecast | NOPAT Margin Forecast | Revenue to Capital Forecast |
|---|---|---|---|
| Base Year | 14% | 24.1% | 0.34 |
| 6/30/2018 | 10% | 16.6% | 0.37 |
| 6/30/2019 | 7% | 17.3% | 0.38 |
| 6/30/2020 | 6% | 18.1% | 0.40 |
| 6/30/2021 | 6% | 18.9% | 0.40 |
| 6/30/2022 | 5% | 19.7% | 0.41 |
| 6/30/2023 | 5% | 20.5% | 0.41 |
| 6/30/2024 | 4% | 21.4% | 0.41 |
| 6/30/2025 | 4% | 22.1% | 0.41 |
| 6/30/2026 | 3% | 22.9% | 0.40 |
| 6/30/2027 | 3% | 23.6% | 0.39 |
| Continuing Period | 2% | 24.3% | 0.38 |

| Period | Return on Capital Forecast | WACC Forecast | Price per share Forecast |
|---|---|---|---|
| Base Year | 8.2% | 8.9% | $61.95 |
| 6/30/2018 | 6.1% | 9.4% | $67.54 |
| 6/30/2019 | 6.7% | 9.4% | $73.65 |
| 6/30/2020 | 7.2% | 9.4% | $79.96 |
| 6/30/2021 | 7.7% | 9.4% | $86.38 |
| 6/30/2022 | 8.1% | 9.4% | $92.82 |
| 6/30/2023 | 8.5% | 9.4% | $99.25 |
| 6/30/2024 | 8.8% | 9.4% | $105.56 |
| 6/30/2025 | 9.0% | 9.4% | $111.65 |
| 6/30/2026 | 9.1% | 9.4% | $117.42 |
| 6/30/2027 | 9.2% | 9.4% | $122.77 |
| Continuing Period | 9.2% | 9.5% | |

October 11, 2017

## Company Name: TER

**Kevin Boland**

**Sector: Technology**
**Industry: Hardware**
**Current Price: $38.61**
**Target Price: $45.08**

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**Company Description:** Teradyne is a global leading supplier of automation equipment for test and industrial applications. Teradyne's four official segments for revenue are Semiconductor Test, System Test, Wireless Test and Industrial Automation. The test systems are used on semi-conductors, wireless products, data storage and complex electronics systems in the consumer electronics, wireless, automotive, industrial, computing, communications, and aerospace and defense industries. The industrial automation includes robots, used by global manufacturers, to improve quality, increase manufacturing efficiency and decrease manufacturing costs.

---

## BUY

| | |
|---|---|
| Current Price: | $38.61 |
| Target Price: | $45.08 |
| Market Cap: | 7.6B |
| ROIC: | 18.77% |
| WACC: | 10.3% |
| EBIT Margin | 22.7% |
| D/E | 1.48 |

## Catalysts:

- **Short Term (within the year):** Consistent revenues of Semiconductor Test and growth in market
- **Mid Term (1-2 years):** Universal Robots increase in demand, investment and growth
- **Long Term (3+):** Focused Capital Allocation: Acquisitions, R&D, Repurchase of shares and dividend payment

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## Thesis:

Teradyne's stock price has an excellent opportunity to grow over the next few years and beyond. It is positioned in one of the fastest growing and most successful industries and has customers in other lucrative industries that can increase sales. The Universal Robotics segment of Teradyne is in high demand at the moment and expects to see tremendous revenue growth of over 50% by the end of the year. Combined with the steady revenues from the revenue-leading Semiconductor Test segment, Teradyne is well balanced and a relatively low risk. The company has also shown a focused capital allocation strategy that bodes well for shareholders. They plan to repurchase shares and pay dividends throughout the rest of the year. By acquiring other company's Teradyne has diversified its own product line and entered new segments. This focus on improvement and innovation is what will maintain Teradyne's success in a very competitive industry.

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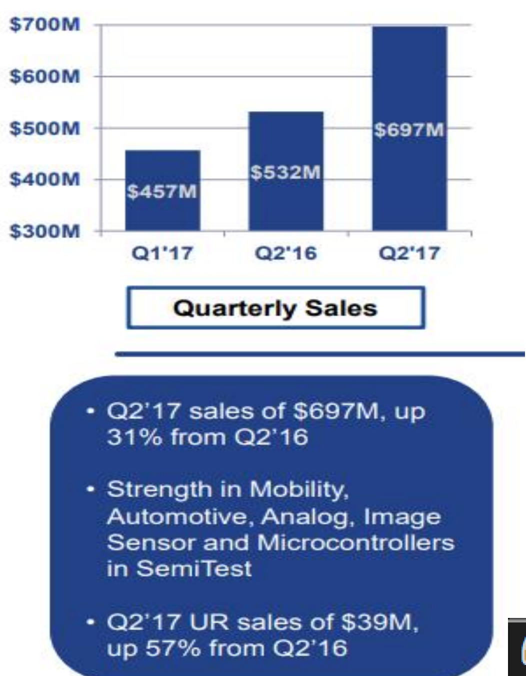
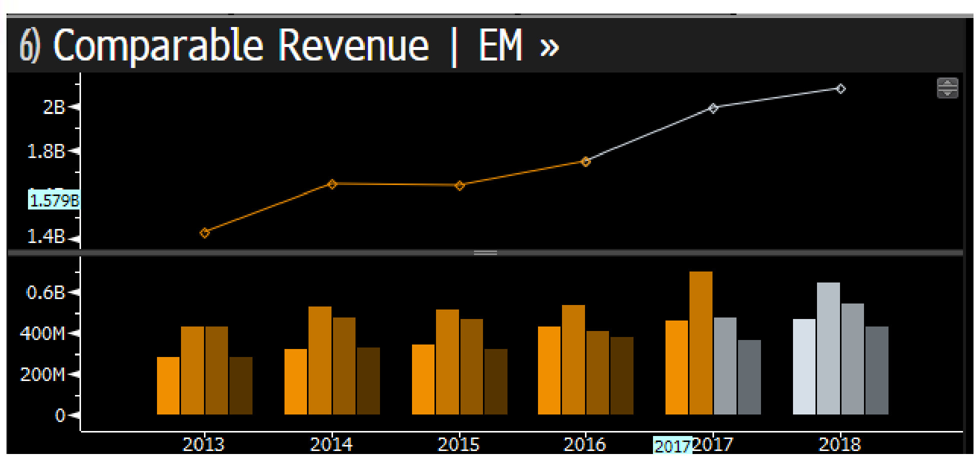
## Earnings Performance:




Q2 2017 revenues increased to $697 million, up 31% from Q2 2016. These large increases can be attributed mainly to the company's Semiconductor Test and Universal Robot's products. Semiconductor Test was the larger of the two, contributing to $593 million (77% of sales) this quarter and $949 million for the first half of the year. Semiconductor Test also drove EPS figures as well. EPS is currently $1.34 for the first half of the year, ahead of the yearly EPS target plan of $2. Net income expanded to $175 million for Q2, its highest quarterly figure to date. Looking ahead, Teradyne expects 3Q revenues to be in the range of $455 to $485 million. Teradyne earnings are seasonal, with Quarter 2 being the largest sales period. While the revenues next quarter will be down form Q2 2017, they are likely to surpass Q3 2016 revenues of $410 million.



## Industry Outlook:


Teradyne operates in the technology industry with a focus on hardware and software. This year technology has performed quite well. The S&P 500 Technology Hardware and Equipment Index has grown over 27% YTD. Teradyne has mainly followed this macro trend and has recently shown the ability to break past the industry. The technology sector is poised to continue this growth trend as well. It is a very competitive industry that requires constant innovation and diversification to stay ahead. One of the areas of growth in this industry is in robotics. Teradyne's acquisition of Universal Robotics in 2015 had positioned them well to gain off of the growth of demand for robotics.


It is also important to note that Teradyne's customers are involved in industrials and machinery. The S&P Industrials Sector Index has also been successful this year, growing just above 13% YTD. With an increased growth in technology and relative increased spending from customers, Teradyne has experienced much growth this year with the opportunity for more in the future.

## Semiconductor Test:

Semiconductor Test products and services are designed for integrated circuits to improve manufacturing capabilities. As mentioned previously, Semiconductor Test is the driver behind revenues for Teradyne, contributing historically 70% to 80% of overall revenue. So far, 1H revenues have increased by 22% compared to 1H revenues of last year. This can be attributed to the strength of their customers industry and the ability to spend more money. Semiconductor Test is also on track to achieve profit margins of 50% for the year. This is compared to overall profit margins of 22% for the company. This a good sign that Teradyne's largest segment has over double the company's profit margin. Management also expects the market for Semiconductor Test to increase by 8% by the end of 2017. This business segment provides a solid foundation for the rest of the company to grow. It has been consistent for years and the added growth for the rest of the year will give the company the ability to allocate more capital into areas that need it.

### Semiconductor Test Segment Summary

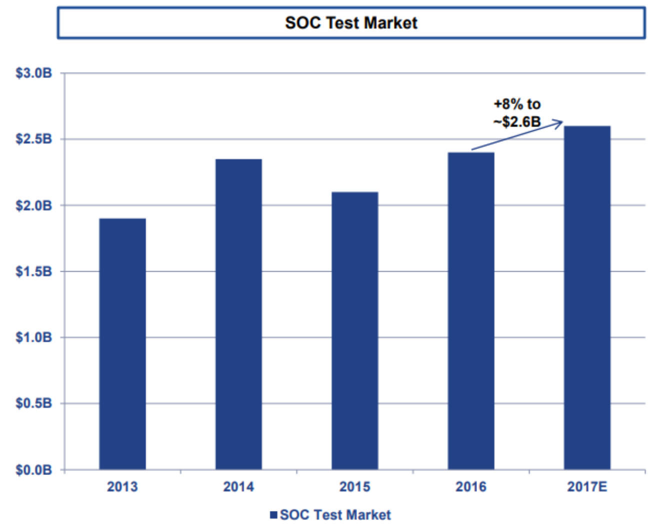
**Semiconductor Test**

2nd Qtr Orders: $369M
2nd Qtr Sales: $593M

1H'17 SOC sales of $876M up 22% from 1H'16

Mobility, Automotive, Analog, Microcontroller and Memory end markets driving 1H'17 strength

1H'17 Memory Test sales up 25% from 1H'16, results driven by NAND final test

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## Universal Robotics

In 2015, Teradyne acquired Universal Robots for $315 million cash. This acquisition makes up the entire Industrial Automation segment of the business. Universal Robots are the leading supplier of collaborative robots, which are low-cost, easy-to-deploy and simple-to-program. They work alongside production workers to improve quality, increase manufacturing efficiency and decrease manufacturing costs. Due to this segment being in the early-adoption phase, Universal Robots has not made a profit yet. However, management is determined to expand this high demand segment. With Q2 2017 revenues increasing 57% and 1H 2017 revenues increasing 81%, the segment is on track to reach the annual revenue growth target of 50% or greater. These increased revenues all come at a time where prices for Universal Robots were increased. Even when prices are raised, customers are expressing their demands by continuing to buy the products. In order to keep demand high, Universal Robots are investing in features like higher resolution cameras and 3D scanners to make the ease of implementing robots increase. In the Q2 earnings call, it was reported that Operating Expenses for Universal Robotics would increase from $7 million a quarter in late 2015 to $16 million for Q2 2017. This added investment was designed to target three key areas to

**Industrial Automation**

2nd Qtr Orders: $33M
2nd Qtr Sales: $39M

1H'17 sales of $76M up 81% vs 1H'16

Continue to strengthen UR's distribution capabilities

Expanding array of applications showcased on UR+

continue growth. First, distribution capabilities are being strengthened by providing more support and training to existing customers. New offices are also being opened to create new partnerships and a greater geographic reach of a very large potential market. Secondly, Teradyne has opened its Universal Robots software to third-party developers, who create new applications for sale. Lastly, global distribution channels are being developed that can serve large and small deployments of Universal Robots. These committed investment will create a better and more effective product that will be ready for increases in market size in the years to come.

## OPEX

**Annual Non-GAAP OPEX[1]**

| | 2014 | 2015 | 2016 | 2017E |
|---|---|---|---|---|
| UR[2] | | $14M | $43M | +~$25M |
| Test | $525M | $514M | $513M | ~Flat |
| Variable Comp | $46M | $61M | $53M | +~$25M |
| Total OPEX | $571M | $589M | $609M | +~$50M |

- UR OPEX increasing to ~$20M per quarter by late 2017 on further distribution, UR+ and R&D investments
- Test OPEX ~flat YoY in 2017 excluding changes in variable compensation tied to profitability levels

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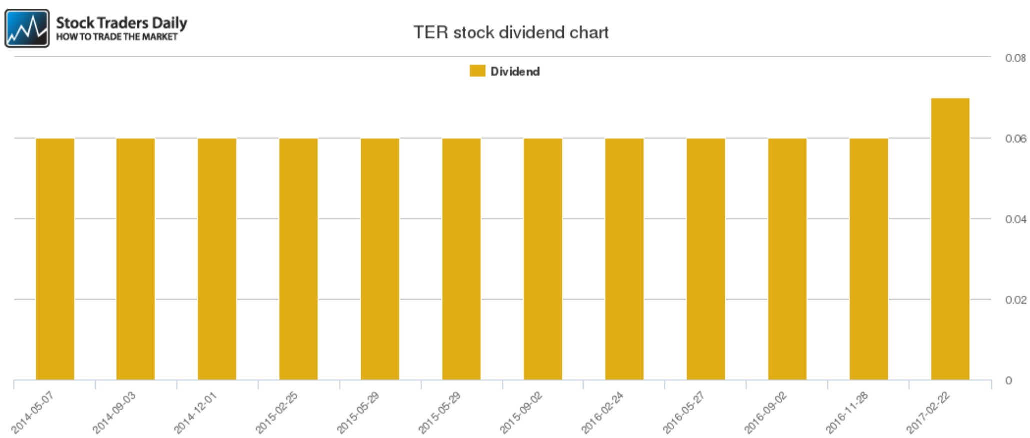
## Capital Allocation:

To maintain a competitive advantage and offer a wider range of innovative products, Teradyne has begun acquiring other firms within the industry, through highly-selective analysis. In 2013, Teradyne acquired ZTEC Instrument, a supplier of modern wireless test instruments for $17 million cash. In 2014, Teradyne acquired Avionics Interface Technologies, a supplier for testing communication buses, for $21 million cash. In 2015, Teradyne acquired Universal Robots, the leading supplier of collaborative robots, for $315 million cash. All of these cash acquisitions have saved Teradyne money and represented the overall health of the balance sheet. It also shows how forward-thinking they are by expanding old segments and, in the case of Universal Robots, creating new segments as well. These acquisitions may take time to see their true value, but they will eventually with the right time and investment. Teradyne also has $600 million cash on hand if, if they were to find another acquisition opportunity.

Teradyne has also rewarded its shareholders over the past few years by implementing share repurchase programs and issuing dividends. Over the past 12 quarters, Teradyne has paid a dividend of $.06 or $.24 for a full year. They plan on continuing this trend throughout the rest of the year, with a goal of $56 million in dividends paid in 2017. Teradyne also plans on repurchasing $200 million of their own stock for the rest of the year, with the ability to repurchase as much as $500 million. Since the start of buybacks in 2015, Teradyne has repurchased 25.4 million shares. All of these actions create more value to the stock. With less shares in circulation and a quarterly payment, shareholders are rewarded for their continued investment.




Overall, Teradyne's current Capital Allocation activities express their vision for the future of the company. They are focused on long-term investments through acquisitions and have shown their desire to devote research and development to these new operations. Along the way, it seems that Teradyne will be rewarding shareholders through dividends and repurchases of shares. Even if these activities end it shows the current health of the company, as they are able to pay back their investors.

## Conclusion:

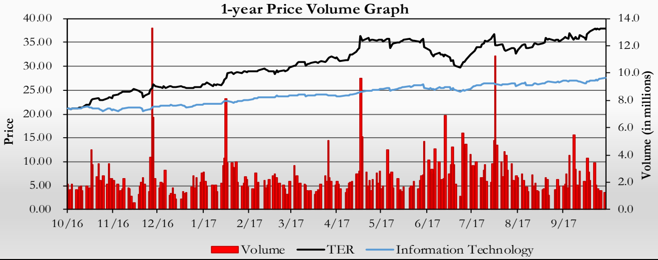
Teradyne has installed the proper initiatives to foster revenue growth. They are investing in other companies through acquisition, as well as investing money in themselves. They have an innovative product line that will continue to spark demand in this growing technology industry. The luxury of having Semiconductor Test nearing maturity will allow the continued effort of proper capital allocation for Teradyne. We can expect to see this stock price increase within the next few quarters as segments become more effective and profitable due to these capital investments within the company.

SIENA college — BJORKLUND FUND

# Teradyne, Inc. (TER) — CENTER FOR GLOBAL FINANCIAL STUDIES — NEUTRAL

| | | | | | |
|---|---|---|---|---|---|
| Analysis by Kevin Boland | Current Price: | $38.61 | Intrinsic Value | $40.87 | Target 1 year Return: 17.48% |
| 10/13/2017 | Divident Yield: | 0.7% | Target Price | $45.08 | Probability of Price Increase: 98% |

1-year Price Volume Graph




**Description**

Teradyne, Inc. designs, develops, manufactures, sells, and supports automatic test equipment worldwide.

**General Information**

| | |
|---|---|
| Sector | Information Technology |
| Industry | Semiconductors and Semiconductor Equipment |
| Last Guidance | November 3, 2015 |
| Next earnings date | October 24, 2017 |
| Estimated Country Risk Premium | 7.52% |
| Effective Tax rate | 24% |
| Effective Operating Tax rate | 28% |

**Market Data**

| | |
|---|---|
| Market Capitalization | $7,638.29 |
| Daily volume (mil) | 1.13 |
| Shares outstanding (mil) | 197.83 |
| Diluted shares outstanding (mil) | 201.62 |
| % shares held by institutions | 84% |
| % shares held by investments Managers | 81% |
| % shares held by hedge funds | 10% |
| % shares held by insiders | 0.41% |
| Short interest | 4.35% |
| Days to cover short interest | 3.39 |
| 52 week high | $38.63 |
| 52-week low | $20.22 |
| Volatility | 25.47% |

**Past Earning Surprises**

| Quarter ending | Revenue | EBITDA |
|---|---|---|
| 7/3/2016 | -1.83% | -12.21% |
| 10/2/2016 | -14.66% | -1.32% |
| 12/31/2016 | 5.67% | 10.83% |
| 4/2/2017 | -4.69% | -6.38% |
| 7/2/2017 | -0.07% | -0.59% |
| Mean | -3.12% | -1.94% |
| Standard error | 3.3% | 3.8% |

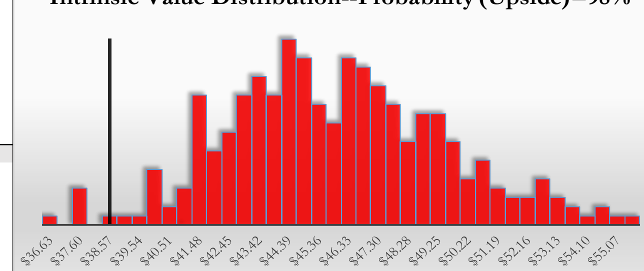
**Peers**

- KLA-Tencor Corporation
- Entegris, Inc.
- MKS Instruments, Inc.
- Applied Materials, Inc.
- Lam Research Corporation
- FormFactor, Inc.
- Xcerra Corporation
- Amkor Technology, Inc.

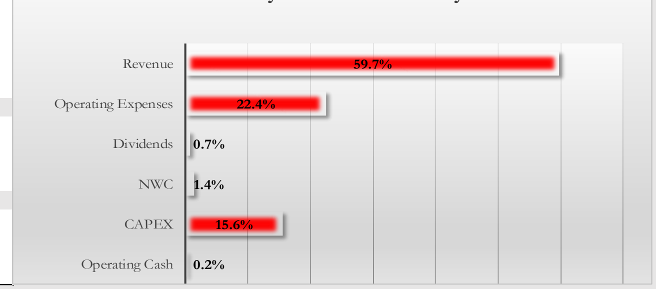
| Management | Position | Total compensations growth | Total return to shareholders |
|---|---|---|---|
| Jagiela, Mark | Chief Executive Officer, Pre | 21.75% per annum over 5y | 5.06% per annum over 5y |
| Beecher, Gregory | Chief Financial Officer, Vic | 5.46% per annum over 5y | 5.06% per annum over 5y |
| Gray, Charles | Vice President, Secretary an | 3.64% per annum over 5y | 5.06% per annum over 5y |
| Vahey, Walter | President of Systems Test Gr | 8.55% per annum over 4y | 3.31% per annum over 4y |
| Robbins, Bradford | President of Wireless Test D | -9.02% per annum over 2y | 14.48% per annum over 2y |
| Smith, Gregory | President of Semiconductor T | N/M | N/M |

| Profitability | TER (LTM) | TER (5 years historical average) | Peers' Median (LTM) |
|---|---|---|---|
| Return on Capital (GAAP) | 36.7% | 19.67% | 35.86% |
| Operating Margin | 19% | 15.38% | 13.68% |
| Revenue/Capital (GAAP) | 1.94 | 1.28 | 2.62 |
| ROE (GAAP) | 21.3% | 9.6% | 26.1% |
| Net margin | 20.1% | 12.1% | 14.4% |
| Revenue/Book Value (GAAP) | 1.06 | 0.80 | 1.81 |
| **Invested Funds** | **TER (LTM)** | **TER (5 years historical average)** | **Peers' Median (LTM)** |
| Cash/Capital | 58.5% | 40.0% | 41.7% |
| NWC/Capital | 9.7% | 6.7% | 18.1% |
| Operating Assets/Capital | 21.8% | 33.2% | 25.1% |
| Goodwill/Capital | 10.1% | 17.3% | 15.1% |
| **Capital Structure** | **TER (LTM)** | **TER (5 years historical average)** | **Peers' Median (LTM)** |
| Total Debt/Market Capitalization | 0.15 | 0.09 | 0.32 |
| Cost of Existing Debt | 4.0% | 9.2% | 5.0% |
| CGFS Rating (F-score, Z-score, and default Probability) | BBB | BBB | A |
| WACC | 10.3% | 16.5% | 11.4% |

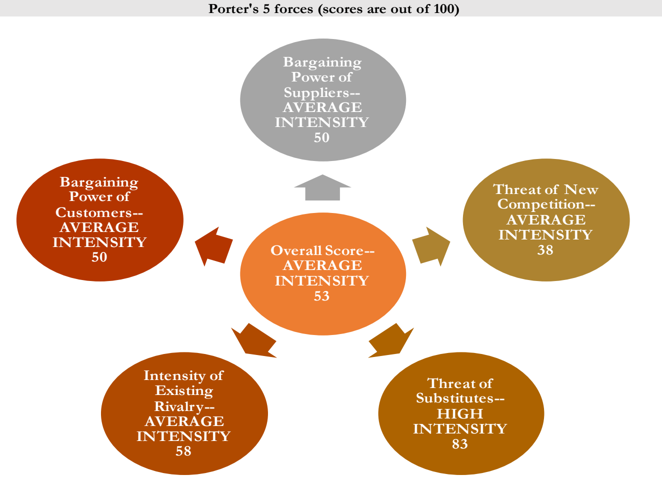
Intrinsic Value Distribution--Probability (Upside)=98%




Sensitivity Attribution Analysis




Porter's 5 forces (scores are out of 100)




**Valuation**

| Period | Revenue Growth Forecast | NOPAT Margin Forecast | Revenue to Capital Forecast |
|---|---|---|---|
| Base Year | 11% | 16.8% | 0.48 |
| 7/2/2018 | 7% | 17.5% | 0.52 |
| 7/2/2019 | 5% | 19.1% | 0.49 |
| 7/2/2020 | 11% | 20.3% | 0.49 |
| 7/2/2021 | 10% | 21.1% | 0.48 |
| 7/2/2022 | 9% | 21.5% | 0.47 |
| 7/2/2023 | 8% | 23.1% | 0.46 |
| 7/2/2024 | 7% | 23.2% | 0.44 |
| 7/2/2025 | 7% | 23.0% | 0.42 |
| 7/2/2026 | 6% | 22.8% | 0.41 |
| 7/2/2027 | 5% | 22.7% | 0.39 |
| Continuing Period | 4% | 22.5% | 0.37 |

| Period | Return on Capital Forecast | WACC Forecast | Price per share Forecast |
|---|---|---|---|
| Base Year | 8.1% | 10.3% | $40.31 |
| 7/2/2018 | 9.0% | 10.3% | $44.41 |
| 7/2/2019 | 9.3% | 10.3% | $48.53 |
| 7/2/2020 | 9.9% | 10.4% | $52.94 |
| 7/2/2021 | 10.2% | 10.4% | $57.75 |
| 7/2/2022 | 10.1% | 10.6% | $62.73 |
| 7/2/2023 | 10.6% | 10.7% | $67.92 |
| 7/2/2024 | 10.2% | 10.7% | $73.27 |
| 7/2/2025 | 9.7% | 10.8% | $78.75 |
| 7/2/2026 | 9.3% | 10.8% | $84.33 |
| 7/2/2027 | 8.8% | 10.9% | $90.01 |
| Continuing Period | 8.4% | 10.9% | |