

October 6, 2017

Axcelis Technologies: ACLS

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Sector: Technology

Industry: Semiconductor Equipment & Materials

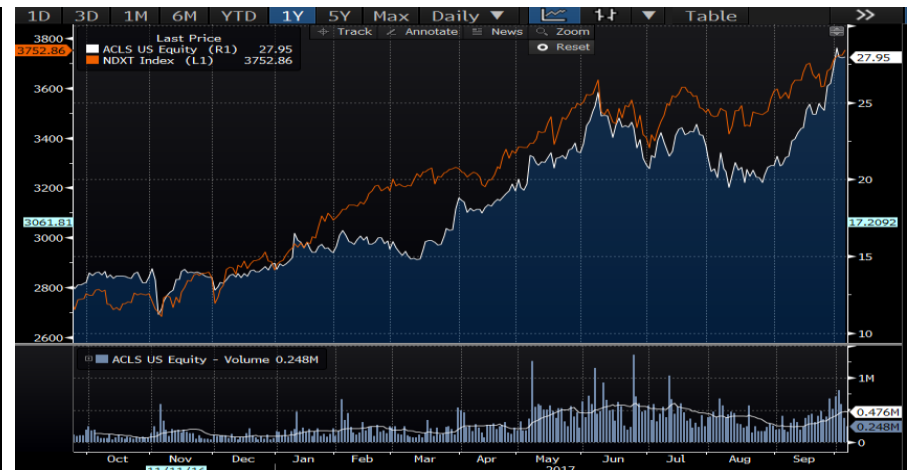
Current Price: \$27.95

Target Price: \$29.29

Company Description: Axcelis Technologies is a designer, manufacturer, and distributor of ion implantation and processing equipment used in the manufacturing of semiconductor chips. Axcelis primarily operates in the United States, but also conducts business in Europe and Asia.

BUY

Current Price:	\$27.95
Target Price:	\$33.99
Market Cap:	871.14M
PE:	30.66
ROIC:	15.97%
EBITDA Margin:	13.68%



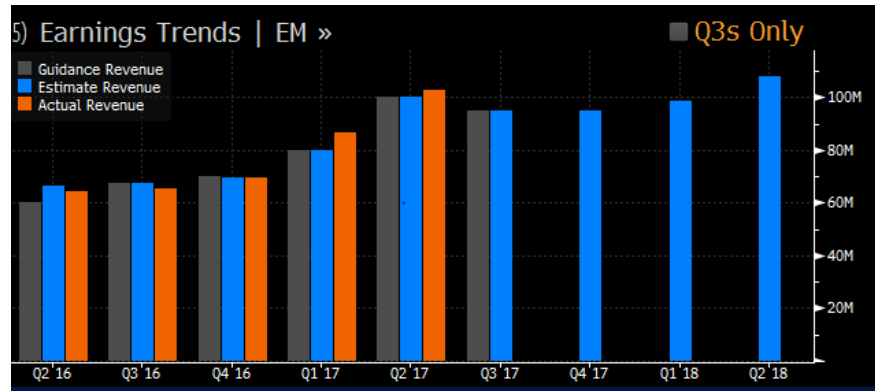
Thesis: Axcelis Technologies is a leader in the semiconductor materials market. Based upon their increased revenues, gross margin improvement program, and aggressive strategy to grow market share, Axcelis' stock is poised for significant growth in the coming months.

Catalysts: Forward looking projections that call for positive/negative outlook that will strengthen your thesis. Example:

- Short Term(within the year): Multiple orders for leading chip manufacturers in China and Asia Pacific Region.
- Mid Term(1-2 years): Continued implementation of Axcelis' margin increase strategy.
- Long Term(3+): Continued usage of microchips in various electronics.

Earnings Performance:

As seen in the chart above, Axcelis has made 5 out of their past 8 revenue projections. All of the missed revenues occurred in the last three quarters of 2016. This is due primarily to lower purchasing from the company's clients. This is reinforced through the Net Income Margins of



2.89%, 4.56%, and 3.28% respectively. While Axcelis may not have performed well in for most of 2016 in terms of meeting their earnings projections, since then, the company has been able to exceed their revenue projections in each quarter. This is shown in the 2017 Q1 projected of \$80.15M and actual of 86.93M in revenue and 2017 Q2 projected \$99.975M and actual \$102.79M in revenue. Through Q1 of 2018, Axcelis is projected to generate around \$95M in each quarter, with Q2 of 2018 being projected to generate \$108M in revenue. Overall, these projections are a marked improvement, about a \$10M increase in revenue, from the previous year.

Business Description:

Axcelis Technologies, Inc. designs, manufactures, and services ion implantation and processing equipment, which is used in the manufacturing of semiconductor chips. Based in Beverly, MA, their main family of products is branded under Purion. Within the past year, Axcelis has released three new product lines under Purion, the “H”, “XE”, and “M”. The “H” product line is used primarily for high current implants. The “XE” line is the market leader for high energy ion implanters, and is considered the best that money can buy. Conversely, the “M” is used for medium current systems and is a lower cost option for Axcelis’ clients. The entire Purion family of products is the major revenue driver for Axcelis, making up 93.2% of their revenue for 2016.

Axcelis operates in three markets throughout the world: the United States, Asia Pacific, and Europe. Most of the company’s revenue is generated domestically, about 65% of total revenue. Asia Pacific constitutes 21.4% of revenue, and Europe 13.6%. Although Axcelis reaches the international markets, they have a limited customer base. In 2016, their top ten customers accounted for 70.2% of revenue, with one client bringing in 17% of revenue alone.

As with most technology companies, Axcelis experiences high research and development costs due to the constant updating and improvement of technologies. It then follows that for Axcelis to remain competitive in the industry, they must be continuously developing new systems in addition to enhancing their existing products. As a result, research and development costs totaled \$34.4M in 2016, or 12.9% of revenue.

In addition to developing new products, Axcelis also manufactures their ion implants in house at their plant in Beverly, MA. Axcelis views this in-house production as vital to maintaining their expertise in the industry, as well as maintaining their intellectual property.

Industry Overview and Outlook:

Axcelis operates in a very niche industry due to the fact that their products are inputs of the larger semiconductor chip industry. As of now, there are approximately 6 other companies that can be considered direct competitors of Axcelis based on market capitalization and line of products. However, as Axcelis points out in their own 10K, many of the larger semiconductor companies manufacture their own inputs to their semiconductors, rather than buy from suppliers like Axcelis.

Within the industry, there are two types of customers. First, there are integrated electronics manufacturers, who make semiconductor chips for their own electronic devices, such as smartphones and computers. A good example of an integrated electronics manufacturer is Samsung. Second, foundries manufacture semiconductor chips in order to sell them to other companies who use them as inputs in their own electronic devices. Some integrated electronics manufacturers will also function as foundries, such as Samsung. Some foundries will also have partnerships or joint ventures with electronic manufacturers where they will only sell to a select group of electronic manufacturers in order to share technology development and capital investment.

Both integrated electronics manufacturers and foundries affect the highly cyclical semiconductor chip market through the timing of their purchases and technology requirements. This leads to chip production capacities initially exceeding and then lagging behind the global demand for semiconductor chips. As a result, Axcelis' industry tends to mirror the overall semiconductor chip industry cycle. This highly cyclical market often leads to difficulty forecasting chip demand and production and as a result, the industry experiences excess chip inventories and softening chip prices. Currently, the semiconductor chip cycle is experiencing a boom in production, as evidenced from the multiple orders from semiconductor producers Axcelis and its competitors have received in the last couple months. This trend is expected to continue at least through the end of this year, based on the multiple orders Axcelis has received from companies in Asia Pacific.

Revenue Growth:

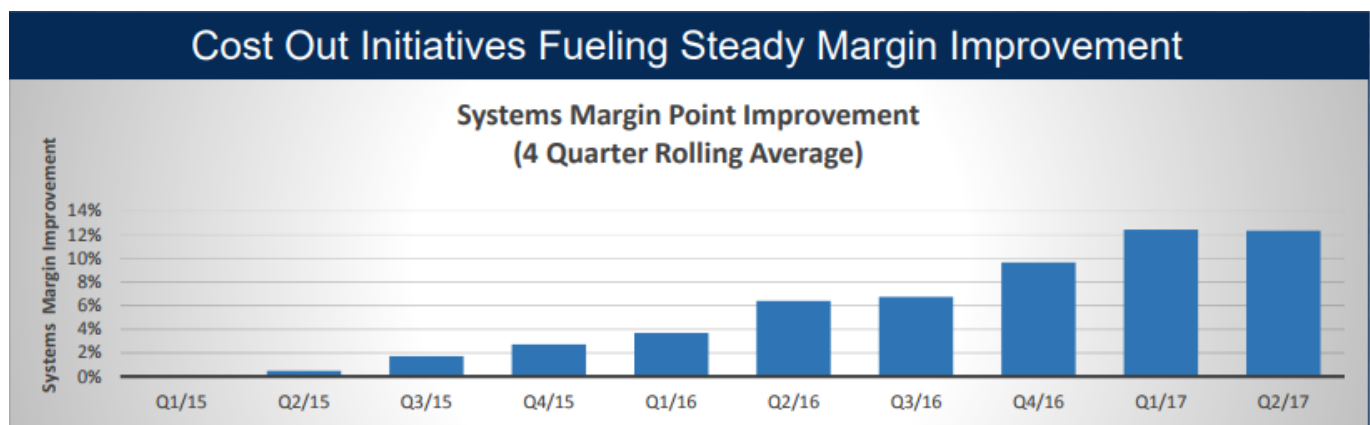
In Millions of USD	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017 Est	Q4 2017 Est
3 Months Ending	06/30/2016	09/30/2016	12/31/2016	03/31/2017	06/30/2017	09/30/2017	12/31/2017
Market Capitalization	313.5	389.7	429.5	563.9	653.2		
- Cash & Equivalents	61.0	65.6	70.8	69.4	108.6		
+ Preferred & Other	0.0	0.0	0.0	0.0	0.0		
+ Total Debt	0.0	0.0	0.0	0.0	0.0		
Enterprise Value	252.5	324.1	358.7	494.5	544.7		
Revenue, Adj	64.5	65.7	69.4	86.9	102.8	95.1	95.2
Growth %, YoY	-17.8	-17.2	-1.6	28.7	59.5	44.9	37.3
Gross Profit, Adj	25.1	24.1	26.9	34.7	39.1	36.3	36.9
Margin %	39.0	36.7	38.9	40.0	38.0	38.2	38.8
EBITDA, Adj	5.8	4.6	6.8	11.9	13.8		
Margin %	9.0	7.0	9.9	13.7	13.4		

As shown in the chart above, Axcelis did not have a profitable 2016. However, this can be attributed to the semiconductor market being in a recession. Axcelis saw a steep decline in orders from their customers, most likely due to the fact that the customers' chip inventories were full. However, as seen in the first two








quarters of 2016, Axcelis' revenue has grown by 28.7% and 59.5%. This is in part attributed to the boom in the semiconductor industry, but the majority of it can be attributed to the release of the three new product lines under Purion. While the new product lines were released in 2016, during the decline in revenue, this is not seen as a failure of the product lines, but a result of the industry cycle.

Now that the industry is in a boom, the full effect of the product line is shown in the growth in revenue and the in placement of numerous orders since the end of Q3 2016. Beginning in Q4 2016, Axcelis has received multiple orders for their various Purion products to their customers in the Asia Pacific region, with the most recent order announcement being announced as late as September 27, 2017. This is promising news for Axcelis, as it shows there is a demand for their products and the industry is in a boom. Furthermore, it is reflected in the Q3 and Q4 revenue forecasts, which are \$95.1M and \$95.2M respectively. While these forecasts may be a decrease from the Q2 earnings of \$102.8M, it is still a marked improvement from the revenue earnings during the same quarters last year. Furthermore, with the entire technology sector in a bullish position and the increasing dependability of electronics (and thereby semiconductors) in everyday life, there is no reason to predict a loss in revenue for Axcelis.

Gross Margin Improvement Initiative:



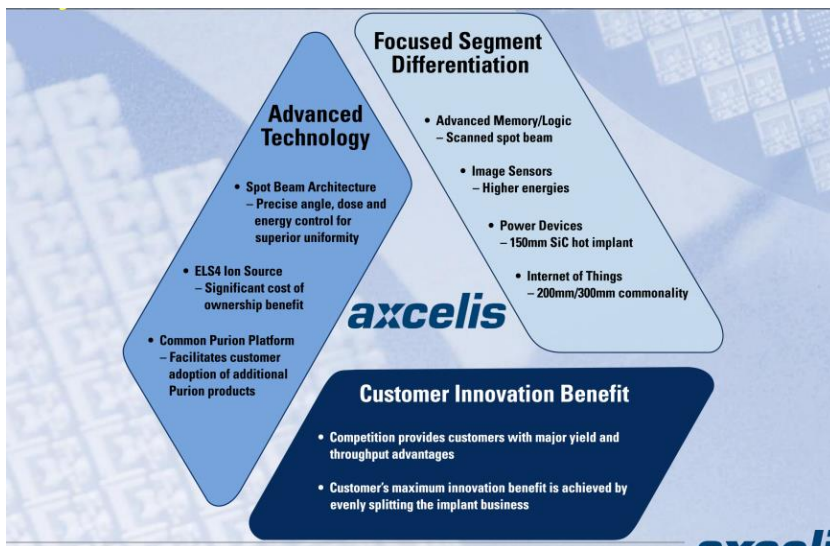
Currently, Axcelis is in the stages of improving their gross margin in order to be more profitable. As shown in the chart above, the company has been improving their systems margin since Q1 2015 by about 12% as of Q2 2017 using cost out initiatives. Ideally, Axcelis is trying to increase their gross margin to be above 40%. This will enable the company to reinvest the extra money into research and development, allowing them to pull ahead in the industry. Broken down on a quarterly basis, the gross margins are as follows:

In Millions of USD except Per Share	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017 [▲]
3 Months Ending	03/31/2016	06/30/2016	09/30/2016	12/31/2016	03/31/2017	06/30/2017
Returns						
 Return on Common Equity	8.07	6.35	4.07	5.71	9.04	13.74
 Return on Assets	5.18	3.97	2.69	3.77	6.03	9.04
 Return on Capital	9.84	9.03	6.69	8.34	11.47	15.29
 Return on Invested Capital	10.46	8.80	6.37	8.29	11.70	15.97
Margins						
 Gross Margin	34.68	38.99	36.72	38.85	39.95	38.00
 EBITDA Margin	5.06	8.96	7.26	9.99	13.68	13.41
 Operating Margin	3.70	7.19	5.53	8.46	12.33	12.19
 Incremental Operating Margin	-16.42	-18.21	-29.71	-	42.42	20.60

While Axcelis’ gross margin has retained a slow growth since Q1 2016, their EBITDA margin has dramatically increased, adding reinforcement that their margin improvement program is working and should continue to work. Fueled by their increase in revenue and the increase in various margins, Axcelis is looking towards outpacing the technology sector growth.

Growing Market Share Through Purion:

Axcelis is poised to become a market share leader in the semiconductor equipment industry through continuing revenue growth and increasing gross margin. The Purion family of products has been able to make this a possibility, as shown in the chart below:



As previously discussed, Axcelis has received an increasing amount of orders for their various Purion products. Furthermore, the new Purion platforms allows for increased integration with existing Purion products. This will cause Axcelis to retain their existing customers and any new customers they acquire. This acquisition and successive ability to retain customers will take away business opportunities from Axcelis’ competitors, thus giving them an increased market share.

Conclusion:

Axcelis' ion implant technology is a leader in the semiconductor equipment industry, as shown by their increase in orders since Q4 2016 for their Purion family of products. This increase is due in part to the boom in the semiconductor industry, but more attributable to the recent release of their three new products. Resulting from this increase in orders is a marked improvement in Axcelis' revenues for Q1 & Q2 2017 from one year ago. When coupled with their successful gross margin improvement program and their aggressive strategy to increase market share through product integration, Axcelis' stock is poised for significant growth in the coming months, making it a must buy for the Bjorkland Fund.

Axcelis Technologies, Inc.
(ACLS)

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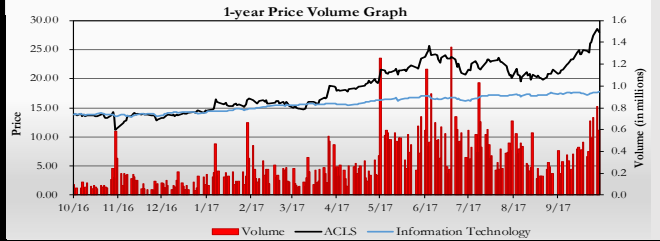
BULLISH

Analysis by **Nick Matzelevich**
10/6/2017

Current Price: \$27.95
Divident Yield: 0.0%

Intrinsic Value: \$33.16
Target Price: \$39.03

Target 1 year Return: 39.65%
Probability of Price Increase: 99.5%

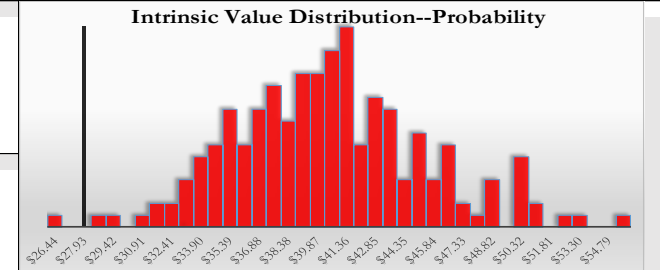


Description	
Axcelis Technologies, Inc. designs, manufactures, and services ion implantation and other processing equipment used in the fabrication of semiconductor chips in the United States, Europe, and the Asia Pacific.	
General Information	
Sector	Information Technology
Industry	Semiconductors and Semiconductor Equipment
Last Guidance	November 3, 2015
Next earnings date	November 3, 2017
Estimated Country Risk Premium	6.26%
Effective Tax rate	24%
Effective Operating Tax rate	24%

Market Data	
Market Capitalization	\$872.71
Daily volume (mil)	0.25
Shares outstanding (mil)	31.22
Diluted shares outstanding (mil)	32.03
% shares held by institutions	84%
% shares held by investments Managers	56%
% shares held by hedge funds	17%
% shares held by insiders	1.32%
Short interest	2.86%
Days to cover short interest	2.27
52 week high	\$29.40
52-week low	\$11.05
Volatility	43.10%

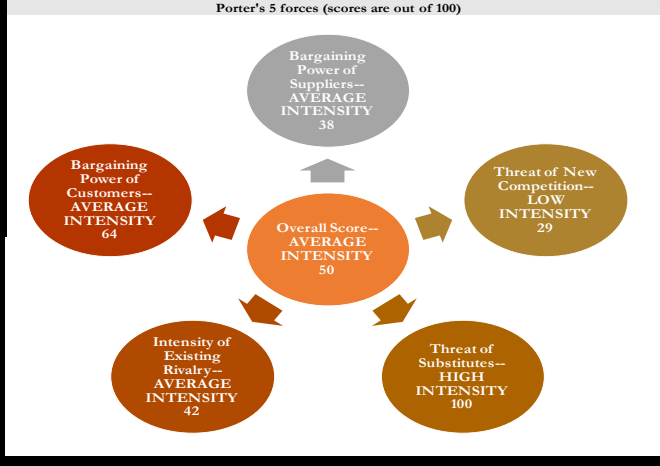
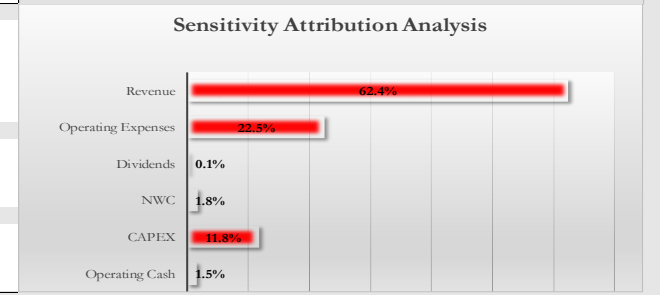
Quarter ending	Revenue	EBITDA
6/30/2016	-2.35%	N/A
9/30/2016	-3.74%	N/A
12/31/2016	-1.26%	N/A
3/31/2017	7.41%	N/A
6/30/2017	2.38%	N/A
Mean	0.49%	#DIV/0!
Standard error	2.0%	#DIV/0!

Peers	
Nanometrics Incorporated	4.04% per annum over 5y
Coha, Inc.	4.04% per annum over 5y
Veeco Instruments Inc.	4.04% per annum over 5y
Advanced Energy Industries, Inc.	4.04% per annum over 5y
Xcerra Corporation	4.04% per annum over 5y
FormFactor, Inc.	7.74% per annum over 3y
Applied Materials, Inc.	N/M
Photronics, Inc.	N/M



Management	Position	Total compensations growth	Total return to shareholders
Puma, Mary	Chief Executive Officer, Pre	13.22% per annum over 5y	4.04% per annum over 5y
Brewer, Kevin	Chief Financial Officer and	7.52% per annum over 5y	4.04% per annum over 5y
Fallon, Lynnette	Executive Vice President of	2.38% per annum over 5y	4.04% per annum over 5y
Bitz, William	Executive Vice President of	4.11% per annum over 5y	4.04% per annum over 5y
Aldeborgh, John	Executive Vice President of	-15.26% per annum over 3y	7.74% per annum over 3y
Lawson, Douglas	Executive Vice President of	N/M	N/M

Profitability	ACLS (LTM)	ACLS (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	14.0%	-4.25%	21.39%
Operating Margin	8%	-0.66%	8.59%
Revenue/Capital (GAAP)	1.82	6.43	2.49
ROE (GAAP)	14.7%	7.4%	17.3%
Net margin	9.1%	4.5%	11.7%
Revenue/Book Value (GAAP)	1.61	1.64	1.48



Period	Revenue Growth Forecast	Return on Capital Forecast
Base Year	15%	10.5%
6/30/2018	21%	12.5%
6/30/2019	19%	13.7%
6/30/2020	18%	13.8%
6/30/2021	16%	14.2%
6/30/2022	14%	14.1%
6/30/2023	13%	13.8%
6/30/2024	11%	13.2%
6/30/2025	9%	12.6%
6/30/2026	7%	12.2%
6/30/2027	6%	11.9%
Continuing Period	4%	11.1%
Continuing Period		10.4%

Valuation	Revenue to Capital Forecast	Price per share Forecast
NOPAT Margin Forecast		
13.6%	0.77	\$32.63
15.9%	0.79	\$37.79
16.7%	0.82	\$44.29
17.3%	0.80	\$51.47
18.5%	0.77	\$62.07
19.4%	0.73	\$70.80
20.1%	0.68	\$80.26
20.8%	0.64	\$90.37
21.3%	0.59	\$101.03
21.8%	0.54	\$112.15
22.3%	0.50	\$123.61
22.7%	0.46	
WACC Forecast	Price per share Forecast	
13.5%	\$32.63	
13.5%	\$37.79	
13.3%	\$44.29	
13.0%	\$51.47	
12.8%	\$62.07	
12.6%	\$70.80	
12.4%	\$80.26	
12.3%	\$90.37	
12.2%	\$101.03	
12.1%	\$112.15	
12.0%	\$123.61	
12.0%		