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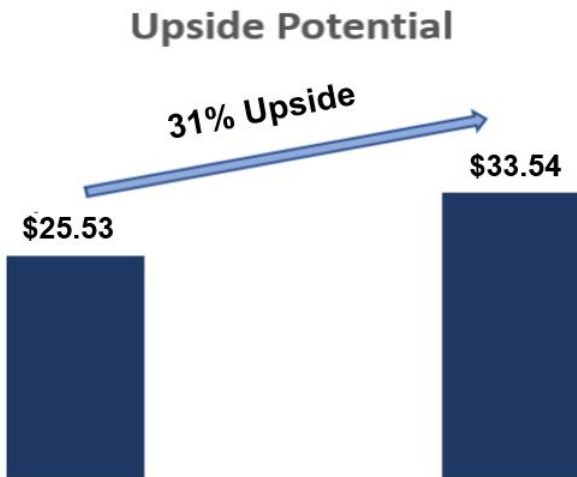
Senior Analysts: Seng Juan Goh & Spencer Pederson



Introduction

Lantheus Holdings is the global leader in the development, manufacturing and commercialization of innovative diagnostic medical imaging agents. These agents are digested, inhaled or injected, and they attach to specific organs to illuminate them for imaging procedures. Their products assist clinicians in the diagnosis and treatment of cardiovascular and other diseases through a variety of imaging procedures. These imaging practices can be broken down into two broad segments; echocardiology and nuclear imaging. Their echocardiology segment is focused on microbubbles that illuminate the heart during an ultrasound. Nuclear imaging procedures are noninvasive and are usually painless medical tests that help physicians diagnose various medical conditions. Lantheus sells their products to radiopharmacies, hospitals, clinics and group practices. Their products are used in a wide range of settings by cardiologists, radiologists, internal medical physicians, nuclear physicians, technologists and sonographers. Lantheus operates mainly in the U.S. and internationally, the latter expanding considerably.

Recommendation



We recommend a **buy** on Lantheus Holdings (LNTH). The stock is currently trading at 25.53 however we believe the stock price will increase to \$33.54, based on our valuations. We used a discounted cash flow model and a multiples approach. We weighted the DCF at 70% and peer analysis at 30% because the company has had a clear trend in cash flows over the past few years and lacks similar competitors. If the stock reaches the price we are forecasting it would provide a 31% upside. We believe this company has high growth potential, having a trustworthy brand with quality products. Lantheus is in line with our healthcare key drivers, and overall is a great investing opportunity for our portfolio. We believe that healthcare equipment and supplies offer the best

avenue for stock growth. Although we already have multiple supply and equipment companies, Lantheus operates in a unique part of the healthcare market compared to our current companies.

Investment Thesis

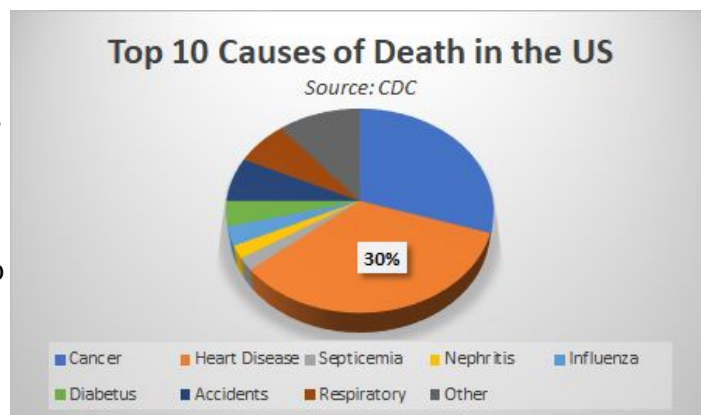
Strong Product Line

Lantheus patents cover every product they have. Not only are their products high quality, but they also have a strong track record of being safe to use. DEFINITY is an injectable contrast agent to aid with suboptimal echocardiograms (ultrasounds of the heart). Since these images are suboptimal they could benefit from the use of a contrast agent to improve image quality, like DEFINITY. The product has over 80% of the market share for suboptimal echoes in the US.

Their nuclear imaging products revolve around imaging agents that illuminate numerous vital organs. These agents are used in mostly MRIs and CT scans to assist clinicians in diagnostic and treatment of many diseases. The company's second biggest revenue stream, TechnoLite, has a 33% market share in the US and Xenon is also a market leader. Lantheus has top of the line products and lead the market with their top 3 products. Lantheus has 42 issued U.S. patents and 261 issued foreign patents. They also have many patents pending, including 23 in the U.S. and 175 foreign applications. We expect their product line to continue to increase as their R/D has increased 25% from 2016.

Increase in Demand

Major revenue drivers for Lantheus involve agents that assist in imaging of the heart and the brain. Heart disease is already the leading cause of death in the U.S. The American Heart Association predicts 40% of people in the United States will have at least one issue related to heart disease by 2030 and 45% by 2035. Right now, that number is at 30%. The National Stroke Association reported a 44% increase in the number of young Americans under age 45 hospitalized due to stroke over the past decade. As these numbers are increasing, deaths associated with these issues are decreasing, which means an increase in the amount of people needing imaging. A rise in heart disease and strokes are forcing experts to focus on preventative measures, thus increasing the need for Lantheus products. As people get older, their chance of heart attack and stroke increases. According to the U.S. census Bureau, adults over the age of 65 will increase from 15.7% in 2018 to 21.5% in 2030. Although this is an unfortunate trend, it will directly contribute to revenues.



Expansion

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States**	84.0	-4.0	
Mainland China	3.3**	699.5	
Japan	1.2**	87.2	
Germany	1.0**	115.8	
United Kingdom	0.7**	106.3	
France	0.7**	112.0	
India	0.7**	103.5	

Lantheus has major products in the works that will be commercialized over the next three years. DEFINITY LVEF, DEFINITY RT, and expansion to Asia will ramp up revenues. DEFINITY LVEF is for patients who need their Left Ventricular Ejection Fraction is measured directly, instead of just a general heart screen. Some examples patients who need this kind of screening are people with heart failure, valve disease and chemotherapy patients. DEFINITY RT provides a type of DEFINITY with Ambient storage, which is a term that means it can be stored at room temperature (hence RT). Currently DEFINITY needs to be kept cooled which limits its potential care settings.

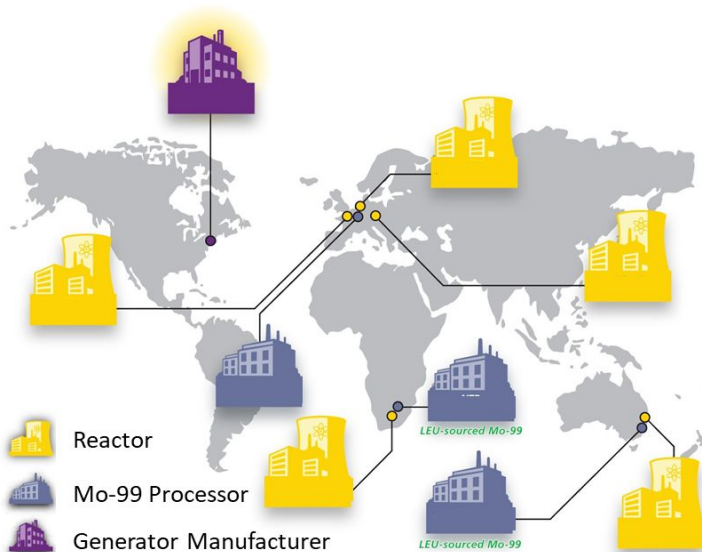
With room temperature storage, DEFINITY has more options to meet clinic and patient needs which is in line with our industry key drivers. Lastly, Lantheus is looking to continue its expansion into China, where it increased sales by 700% from 2017 to 2018. As China continues to move from an export driven economy to a consumer driven economy with the world's largest population, we think this growth is an immense opportunity.

Risks

DEFINITY Reliance

DEFINITY is 53% of Lantheus total sales, therefore the growth of Lantheus is substantially dependent on the growth of the use of DEFINITY in suboptimal echocardiograms. The DEFINITY patent ends in July of 2019, however Lantheus has an Orange Book-listed patent expiring in 2037. Which means companies must submit if they are going to use and sell a DEFINITY generic version, although no company has submitted anything as of yet according to their latest 10Q. If competitors were to enter into the market, it would be an issue for growth although we don't see that happening anytime soon because of the rigorous hoops new competition would have to jump through to put out even a generic version. Lantheus actively pursues additional patents for DEFINITY, such as there would be stand out product LVEF which is a product that is in the late stage of patent pending.

Moly Scarcity



Multiple nuclear imaging products sold by Lantheus are derived from the radioactive decay of Moly. Moly is a chemical element used to create most of their nuclear imaging products. The global supply of Moly is fragile and scarce. Their dependence on a limited number of third-party suppliers may prevent them from delivering some of their products to their customers in desired quantities. Lantheus purchases Moly from 3 of the 4 main processing sites in the world. These sites provide Moly from 5 of the 6 Moly-producing reactors in the world. Lantheus experienced a Moly shortage in 2018 because their main processing site was being renovated to produce 75% more Moly than it originally did, therefore we don't expect as much of an issue with moly scarcity in the near future.

Patent Fall Through

Lantheus has 23 patents pending right now and many of them are in the latest stage of receiving a patent. With the DEFINITY patent running out, it is critical for these patents to pass for revenue growth. Although this is a risk, we don't see the likelihood of major issues because their nuclear imaging agents are safer than other diagnosis alternatives.

Trade War

The recent Trade War escalations could be a risk for the growth opportunities in China, which is their fastest growing market. China recently retaliated to the U.S. tariffs on Chinese goods by raising the import tax on certain medical equipment from 10% to 25%. Although we didn't find any direct evidence that Lantheus products were affected, that could change in coming weeks. However, even if the worst case scenario plays out and Lantheus products are the recipient of a drastic tariff, we still believe in the company long term. Lantheus has many additional growth opportunities and is expanding into many other markets and have the option to change the direction of their expansion.

Peer Analysis

Company	Ticker	Market Cap <i>in millions</i>	Shares Outstanding	P/E	EV/EBITDA
Lantheus Holdings	LNTH	986.03 M	38.82	22.64	12.70
Average		5,450	88.416	35.85	20.84
Varian Medical Systems	VAR	12,483	90.78	32.97	20.94
Hologic Inc	HOLX	12,515	268.05	37.83	14.69
Semler Scientific Inc	SMLR	288.07	6.33	53.37	41.75
Varex Imaging Corp	VREX	1,291	38.1	32.28	14.13

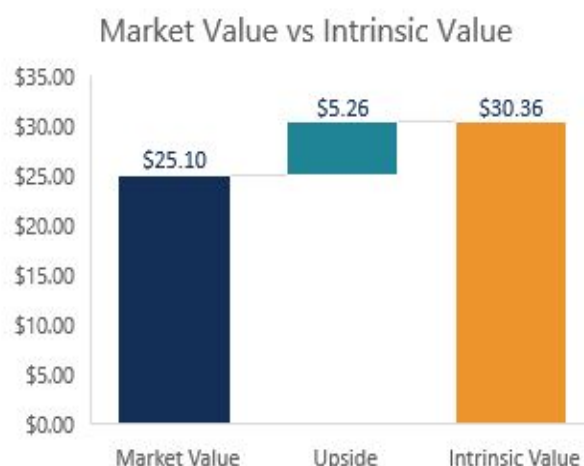
*For the peer analysis we found companies that are involved also involved in medical imaging.

For our peer analysis we took a look at different companies that are also involved in medical imaging. As you can see here Lantheus fared very well from a P/E and EV/EBITDA perspective. We don't think a peer analysis is the best way to evaluate Lantheus however because these peers are not direct competitors as Lantheus operates in a very specific part of the medical imaging market.

Valuation

With our DCF model we get a target price of \$30.36, which is a 21% upside. We used a long-term growth rate of 5% based on FactSet and we believe that number is justified because of the many promising patents they have pending. Our discount rate was 9.5% because the company is mostly debt financed. Our growth in EBIT, D&A, Δ NWC were 8% for the first year and 10% after because of the products coming out that are in their final stage of

becoming a patent. For the peer analysis we found companies that are also involved in medical imaging. From this peer analysis we compared all the company's P/E and EV/EBITDA ratios and calculated an average. We chose P/E and EV/EBITDA because these ratios have been known to identify undervalued stocks compared to industry averages. With this data we used a multiples approach to get a value of \$40.22 for Price to Earnings and \$41.68 for Enterprise Value to EBITDA. Using a 50% weight for each, we computed a target price of \$40.95. This would be an upside of 60% over its current value of \$25.40. However, as we said earlier Lantheus doesn't have any direct competitors in the US so we valued the multiple approach at only 30% and the DCF at 70%. This came to an overall target price of \$33.54.



Management

Lantheus saw a major management team shift following poor performance in 2011 and 2012. This is why the average tenure of the board is so low. The average age will be dropped notably when Cesare Orlandi, CMO, retires next year. Top executives pay is over 80% stock compensation, which benefits us shareholders as they will be incentivized to increase the stock price first and foremost. When Mary Anne Heino took the helm in 2013 Lantheus was a company that had negative earnings and dangerously high debt. Under her management she has turned the company profitable within two years, while decrease long term debt year over year. We are confident that this management team will keep the company growing year over year. .

TOTAL MEMBERS	Mgmt 10	INDEPENDENT DIRECTORS	AVERAGE AGE Mgmt 54	AVERAGE TENURE Mgmt 5	INSIDER OWNED Mgmt 2.702%
19	Board 10	0%	58 YRS Board 61	4 YRS Board 3	3.651% Board 2.643%

Name	Position	Age	Tenure
Mary Anne Heino	Chief Executive Officer	59	6
John Bolla	Chief Operating Officer	49	1
Robert J Marshall	Chief Financial	52	1
Cesare Orlandi	Chief Medical Officer	68	6

Major Shareholders

Lantheus is largely owned by institutional owners. Of these institutional shareholders, the top 10 hold over 50% of the company. All of the top shareholders have a lower amount activism, which is a sign that they are interested in Lantheus long term.

Company	Percent Share
BlackRock Fund Advisors	13.38
Wellington Management Co. LLP	6.92
The Vanguard Group, Inc.	5.93
T. Rowe Price Associates, Inc.	4.5
LSV Asset Management	4.14

Ownership Statistics



SHARES OUTSTANDING
38,629,000
99.20% TOTAL OWNERSHIP

- 95.16% Inst. Ownership
- 50.77% Top 10 Inst. Holders
- 4.04% Insider Ownership
- 0.80% Unknown

One Year Stock Price



As you can see above in the one year price change, Lantheus has outperformed the market. On February 19th they beat their 2018 Q4 earnings and the stock price jumped drastically.