Zacks Small-Cap Research

April 6, 2015

Brian Marckx, CFA
bmarckx@zacks.com
Ph (312) 265-9474

scr.zacks.com

111 North Canal Street, Chicago, IL 60606

CytoSorbents Cp (CTSO- NASDAQ)

CTSO: Short-Term Revenue Hiccup. Our Long-Term Outlook Remains Intact

Current Recommendation	**Buy**
Prior Recommendation	Neutral
Date of Last Change	02/02/2015
Current Price (04/06/15)	$7.82
Target Price	**$12.50**

OUTLOOK

CytoSorb was CE Marked in March 2011 and subsequently commenced its initial commercialization. Initial focus on building awareness appears to be paying off. CTSO now generating clinical outcomes data which is just starting to be used to accelerate adoption and utilization. CTSO now expects to pursue cardiac surgery indication in the U.S. as this may provide the lowest cost, easiest and fastest route to the U.S. market. Cardiac surgery indication has driven substantial interest overseas with successful outcomes. Gov't contracts/grants that CTSO continues to score should benefit near-term revenue and cash flow as well as also aid their awareness-building efforts, further increase visibility and credibility of the technology, and potentially expand the menu of potential applications of the device. Interest in and use of CytoSorb from hospitals and physicians continues to increase. Also seeing great interest from distributors and other industry partners.

SUMMARY DATA

52-Week High	**$15.24**
52-Week Low	**$7.60**
One-Year Return (%)	**41.47**
Beta	**-1.02**
Average Daily Volume (sh)	**267,235**
Shares Outstanding (mil)	**25**
Market Capitalization ($mil)	**$192**
Short Interest Ratio (days)	**2.54**
Institutional Ownership (%)	**2**
Insider Ownership (%)	**24**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2015 Estimate	**N/A**
P/E using 2016 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**High,**
Type of Stock	**Small-Growth**
Industry	**Med Products**

ZACKS ESTIMATES

Revenue
(in '000 of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2014	1062 A	1025 A	1162 A	874 A	4123 A
2015	720 E	825 E	1218 E	1578 E	4341 E
2016					13074 E
2017					26620 E

Earnings per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2014	-0.20 A	-0.27 A	-0.22 A	-0.47 A	-1.29 A
2015	-0.14 E	-0.05 E	-0.10 E	-0.10 E	-0.40 E
2016					-0.25 E
2017					-0.19 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

© Copyright 2015, Zacks Investment Research. All Rights Reserved.

Q4 Financials, Business Update

Q4 Financials: Revenue below estimates but product sales growth remains very strong

CytoSorbents reported results for the fourth quarter and year ending December 31, 2014. Q4 product and total revenue came in well below ours and consensus estimates and product sales broke the 7-quarter streak of setting a new record high. Meaningful adverse shift in forex was a factor in the relatively soft top line but a disruption caused by reshuffling the direct sales force likely also played a significant part. But while the miss on revenue was a disappointment, the possibility of periods of negative sales growth, particularly at this relatively early stage of the overseas roll-out of CytoSorb, should not come as a surprise. In fact, we have continued to advise investors that despite pull-through demand driving sales that there remained the real potential for short-term volatility. And important is to look deeper than just the total revenue figure which includes product sales and grant revenue, the latter which while it can be a nice addition to the top line, is meaningless as a gauge to the fundamentals of the business. So while total revenue came in flat yoy, product sales exhibited 177% growth and were at the second highest level in the company's history.

But the "miss" to analyst expectations was not just confined to Q4 as management noted that Q1 2015 revenue will come in lower than Q4 (or roughly flat on a constant currency basis) as replacements to the direct sales force climb the productivity curve. CTSO further indicated that sales growth may remain tepid through the first half of the current year with most of the incremental contribution over the first six months driven by their distribution partners. The second half could experience a steepening growth curve as newly hired direct reps gain productivity momentum and other recent catalysts including new distribution agreements come online and / or make a more significant impact.

We view the disruption to revenue growth as a disappointment and model it as a short-term speed bump, not a traffic jam and certainly not a dead-end. While restructuring of the sales force in order to improve productivity will cause a near-term hiccup, it in no way negatively affects the fundamental long-term potential of the company or CytoSorb. In fact, on the operational front the company has made and continues to make significant progress including regular additions to the growing list of OUS distributors, entrance into new territories, launch of the patient registry, growing clinical experience with CytoSorb, meaningful recognition and awareness milestones and progress towards commencement of a U.S. study, among others. So while we have adjusted our model to reflect what we see as a delay – essentially pushing back our estimates by approximately 12 months – but our long-term positive outlook remains intact.

Q4 / FY Results

Q4 total revenue was $874k, flat yoy but down 25% sequentially. However, product sales performed much better, exhibiting 177% yoy growth and contracting just 16% from Q3. As noted, product sales in Q4 of $872k were at the second highest level ever, only bested by the $1.03M posted in the prior quarter. Meanwhile grant revenue contributed just $2.5k in Q4 which was down considerably from the year earlier period ($565k) as well as the prior quarter ($131k) as many of the high dollar contracts have either completed or are near completion.

For the full year, total revenue and product sales were $4.1M and $3.1M respectively, increases of 70% and 282%. So again, the "disappointing" revenue should be taken into context. While Q4 revenue disappointed compared to our $1.6M estimate as well as the $1.7M consensus estimate, both total sales and product sales growth was robust during 2014.

And as we have noted in the past, the yoy product revenue growth has not come at the expense of margins which remained the case for Q4. Product margins were approximately 62% which is where they averaged for all of 2014 and which is 100 basis points better than 2013.

Excluding non-cash change in warrant liability, Q4 and full year net income and EPS were ($8.2)M / ($0.37) and ($16.5)M / ($1.14). Excluding accrued PIK preferred dividends (which, along with all of the preferred shares were subsequently converted to common), Q4 and full year net income and EPS were ($2.7)M / ($0.12) and ($7.2)M / ($0.50).

Recent Points-of-Interest

- Distribution of CytoSorb now covers 29 countries. Company expects to add several new distributors by the end of 1H 2015
- International CytoSorb registry went live in Q4 2014. Sponsored by Jena University Hospital (Germany), the registry will collect data from users of CytoSorb. CTSO noted on the Q4 call that as many as 1,000 patients may be included in the registry by current year-end. The registry is listed on clinicaltrials.gov (https://clinicaltrials.gov/ct2/show/NCT02312024)
- CytoSorb.com website also recently launched – which includes list of investigator initiated studies which are underway or in the planning phase. Website also includes case reports, many of which have been published in peer-reviewed journals. We expect the clinical experience documented in case reports, studies and through the registry to be key components of driving awareness and facilitating marketing efforts
- First international users meeting held in March 2015 at the International Symposium on Intensive Care and Emergency Medicine in Belgium. These user meetings are another significant part of CTSO's marketing and awareness efforts and are expected to provide valuable feedback from early adopters. The company noted on the Q4 call that the meeting was very well attended with standing room only
- Agreement with Biocon, CTSO's distributor in India, was expanded whereby Biocon agreed to increase the minimum purchase agreement and will be funding and publishing results from their own investigator initiated and patients case studies. Biocon now also has distribution rights of CytoSorb for all critical care illnesses in India and certain emerging countries. As we have noted in the recent past, Biocon has been a key ally of CTSO and, while CTSO does not disclose sales per revenue channel, we think Biocon has been a material contributor to product sales growth
- Fresenius partnership announced in December whereby Fresenius has distribution rights of CytoSorb for critical care applications in France, Sweden, Norway, Finland, Denmark and Poland. As we noted in a recent investor note we think this deal with Fresenius, which is the world leader in dialysis, provides not only substantial distribution reach, it also provides a significant vote of credibility to CytoSorb and CytoSorbents. Fresenius-related sales are expected to commence in Q2 of this year
- Recently announced partnership with "top four" (unnamed) medical device company for use of CytoSorb in France for cardiac surgery. Assuming all goes well, following the evaluation period the parties will collaborate on a broader marketing message and promote the product - initially at the KOL level and then drive down into hospitals and individual physicians levels. CTSO noted on the Q4 call that the initial six month evaluation period is expected to be completed in Q2 of this year.
- FDA approval to commence U.S. feasibility study of CytoSorb came in early February. The study, named REFRESH (Reduction in FREe Hemoglobin), is expected to enroll 20 patients undergoing cardiac surgery across three U.S. sites and, along with safety, will evaluate CytoSorb s ability to actively remove plasma free hemoglobin and cytokines, among other inflammatory markers. These toxic substances, which are produced during cardiac surgery, can lead to serious complications including kidney injury / failure. While this is a single-arm study, CTSO will also conduct a parallel, non-interventional study across several U.S. cardiac surgery centers. This study will use similar enrollment criteria as the interventional study and collect similar data related to adverse events, such as kidney injury / failure, and inflammatory markers, such as plasma free hemoglobin and cytokines from a broad population of patients undergoing cardiac surgery. The two studies will provide a comparison of how well CytoSorb was able to reduce toxic substances and related adverse events between the active study patient population and those undergoing cardiac surgery where CytoSorb was not used. This data, assuming positive, will then be used as support for regulatory approval to initiate a larger, pivotal study for support of FDA approval. CTSO expects to commence this feasibility study shortly after receiving requisite institutional review board approvals at the selected study sites. The company aims to complete REFRESH and file an IDE for a pivotal U.S. cardiac surgery study this year.
- German dosing study progressing well with over 100 of the planned 300 patients currently enrolled.
- Recently restructured direct sales team, with four of the ten reps fired in Q1 2015. Replacements are expected to come online in the coming months. The restructuring is expected to result in significant hiccup in direct sales in 1H 2015. We see this as a short-term issue, however.

Outlook and Model Update

As noted we have made some adjustments to our model following Q4 results and management's recent guidance. Also as noted, we think the hiccup to revenue has no bearing on the long-term prospects of the company or CytoSorb. So the changes to our model mostly reflect our estimates being pushed back by about one-year with our long-term outlook remaining intact. We view 2015 as somewhat of a re-grouping year on the income statement but, on the positive side, we expect CTSO to continue to make major strides on the operational front and think recent

developments such as the Fresenius deal and expanded agreement with Biocon can begin to add incrementally as soon as the back half of the year.

The changes to our model are significant in the near term, given that we had forecast a steep ramp in the revenue curve to materialize in 2015 – we have delayed this until next year which we think is reasonable given the continued expected expansion of the direct sales force, productivity gains from the new hires, expanded third-party distribution network, growing list of KOL's using CytoSorb as well as investigator initiated studies utilizing the device, and fruits from awareness efforts materializing in a greater rate of adoption.

Our model update has resulted in 2015 forecasted revenue moving from $14.2M to $4.3M and 2016 from $22.4M to $13.1M. Similarly, the remainder of our model pushes back revenue estimates by approximately one year.

Important to recognize and the reason we continue to reiterate this, is that we believe management is wisely navigating and executing the roll-out of CytoSorb. Unlike a shotgun approach and "just trust us that our novel product works" followed by many inexperienced med-tech start-ups, CTSO is following a game plan that puts clinical experience and positive outcomes first in order to drive demand and is targeting KOL's (i.e. those who have the most influence). While this strategy can take time, we already see early successes with growth in product sales, a growing list of KOLs using or interested in using CytoSorb as well an increasing number of investigator initiated studies coming online. Many of the user experiences are also being documented in peer-reviewed journal articles which, now with the patient registry live, may expand further and facilitate even greater awareness and resultant adoption. As such our long-term outlook and positive recommendation remain unchanged as our fundamental investment view is unaffected by the short-term revenue disruption attributed to a restructuring of the direct sales force.

We are maintaining our Buy recommendation as well as our $12.50/share price target.

FINANCIAL MODEL

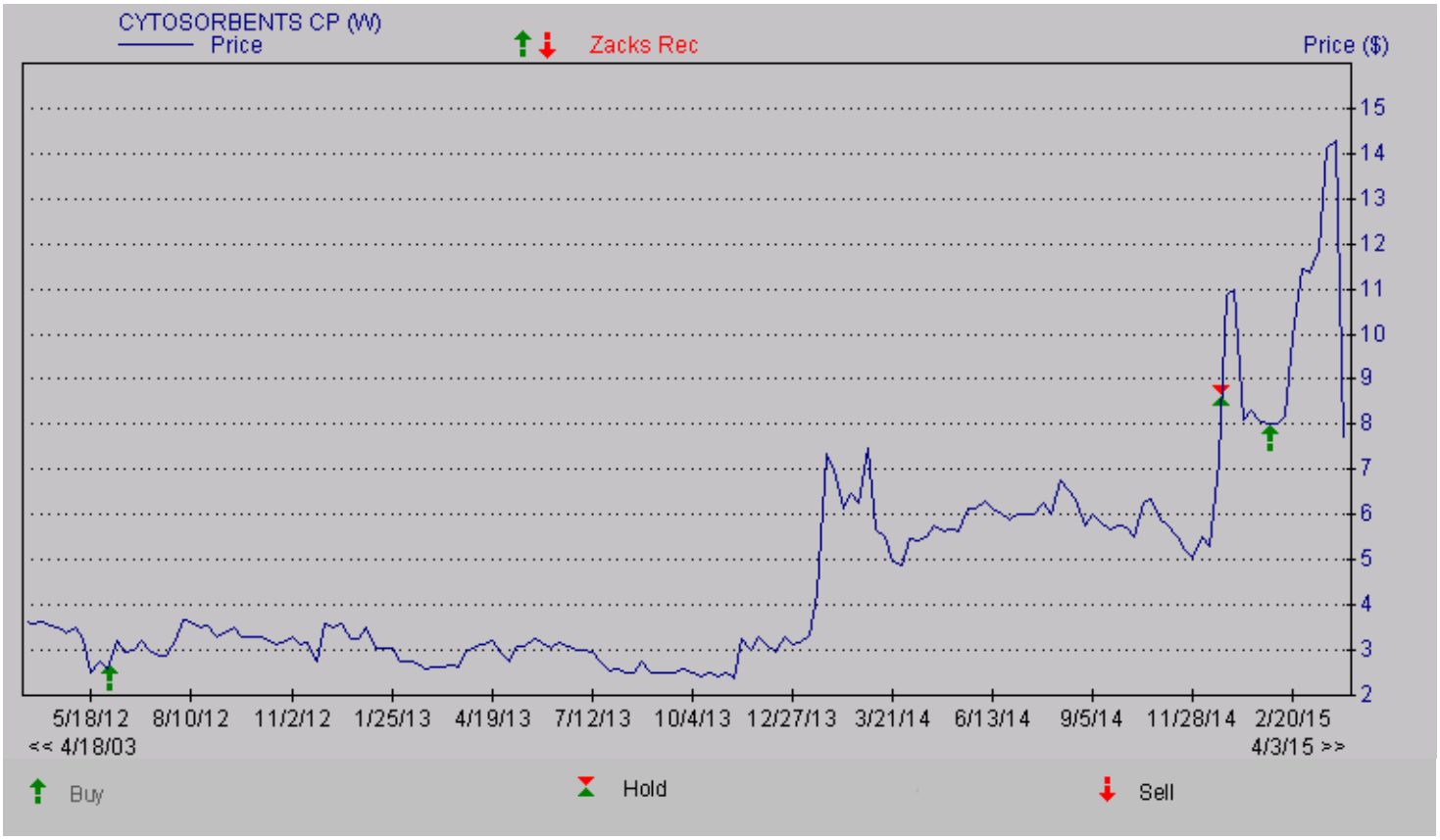
CytoSorbents Inc.

	2014 A	Q1E	Q2E	Q3E	Q4E	2015 E	2016 E	2017 E	2018 E
CytoSorb Sales	$3,135.4	$715.0	$807.0	$1,131.0	$1,462.0	$4,115.0	$12,070.0	$20,620.0	$29,050.0
y-o-y growth	*281.5%*	*25.6%*	*21.7%*	*9.6%*	*67.8%*	*31.2%*	*193.3%*	*70.8%*	*40.9%*
Total Royalties/Grants/Other	$987.5	$5.0	$18.0	$87.0	$116.0	$226.0	$1,004.0	$0.0	$0.0
y-o-y growth	*-38.3%*	*-99.0%*	*-95.0%*	*-33.4%*	*4470.5%*	*-77.1%*	*344.2%*	*-100.0%*	*#DIV/0!*
Revenue	$4,122.9	$720.0	$825.0	$1,218.0	$1,578.0	$4,341.0	$13,074.0	$20,620.0	$29,050.0
YOY Growth	*70.2%*	*-32.2%*	*-19.5%*	*4.8%*	*80.6%*	*5.3%*	*201.2%*	*57.7%*	*40.9%*
Cost of Goods Sold	$2,133.9	$283.3	$318.7	$495.0	$643.0	$1,740.0	$5,510.3	$7,835.6	$11,039.0
Gross Income	$1,989.0	$436.8	$506.3	$723.0	$935.0	$2,601.0	$7,563.7	$12,784.4	$18,011.0
Gross Margin	*48.2%*	*60.7%*	*61.4%*	*59.4%*	*59.3%*	*59.9%*	*57.9%*	*62.0%*	*62.0%*
SG&A	$6,836.2	$2,030.0	$2,075.0	$2,225.0	$2,434.0	$8,764.0	$9,654.0	$13,237.0	$14,873.6
% SG&A	*165.8%*	*281.9%*	*251.5%*	*182.7%*	*154.2%*	*201.9%*	*73.8%*	*64.2%*	*51.2%*
R&D	$2,431.7	$935.0	$961.0	$1,010.0	$1,105.0	$4,011.0	$4,664.0	$4,881.0	$4,915.0
% R&D	*59.0%*	*129.9%*	*116.5%*	*82.9%*	*70.0%*	*92.4%*	*35.7%*	*23.7%*	*16.9%*
Operating Income	($7,278.9)	($2,528.3)	($2,529.7)	($2,512.0)	($2,604.0)	($10,174.0)	($6,754.3)	($5,333.6)	($1,777.6)
Operating Margin	-	-	-	-	-	-	-	-	-
Total Other Expense	$2,428.5	$1,022.0	($1,218.0)	$0.0	$0.0	($196.0)	$0.0	$0.0	$0.0
Pre-Tax Income	($9,707.4)	($3,550.3)	($1,311.7)	($2,512.0)	($2,604.0)	($9,978.0)	($6,754.3)	($5,333.6)	($1,777.6)
Taxes (benefit)	($385.6)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Tax Rate	*4.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Preferred Dividend	$9,266.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Net Income	($18,588.4)	($3,550.3)	($1,311.7)	($2,512.0)	($2,604.0)	($9,978.0)	($6,754.3)	($5,333.6)	($1,777.6)
Net Margin	-	*-493.1%*	*-159.0%*	*-206.2%*	*-165.0%*	*-229.9%*	*-51.7%*	*-25.9%*	*-6.1%*
EPS	($1.29)	($0.14)	($0.05)	($0.10)	($0.10)	($0.40)	($0.25)	($0.19)	($0.06)
YOY Growth	-	-	-	-	-	-			
Diluted Shares O/S	14,441	24,640	24,850	25,200	26,000	25,173	26,800	27,500	28,000

Brian Marckx, CFA

© Copyright 2015, Zacks Investment Research. All Rights Reserved.

HISTORICAL ZACKS RECOMMENDATIONS



DISCLOSURES

The following disclosures relate to relationships between Zacks Small-Cap Research ("Zacks SCR"), a division of Zacks Investment Research ("ZIR"), and the issuers covered by the Zacks SCR Analysts in the Small-Cap Universe.

ANALYST DISCLOSURES

I, Brian Marckx, CFA, CFA, hereby certify that the view expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the recommendations or views expressed in this research report. I believe the information used for the creation of this report has been obtained from sources I considered to be reliable, but I can neither guarantee nor represent the completeness or accuracy of the information herewith. Such information and the opinions expressed are subject to change without notice.

INVESMENT BANKING, REFERRALS, AND FEES FOR SERVICE

Zacks SCR does not provide nor has received compensation for investment banking services on the securities covered in this report. Zacks SCR does not expect to receive compensation for investment banking services on the Small-Cap Universe. Zacks SCR may seek to provide referrals for a fee to investment banks. Zacks & Co., a separate legal entity from ZIR, is, among others, one of these investment banks. Referrals may include securities and issuers noted in this report. Zacks & Co. may have paid referral fees to Zacks SCR related to some of the securities and issuers noted in this report. From time to time, Zacks SCR pays investment banks, including Zacks & Co., a referral fee for research coverage.

Zacks SCR has received compensation for non-investment banking services on the Small-Cap Universe, and expects to receive additional compensation for non-investment banking services on the Small-Cap Universe, paid by issuers of securities covered by Zacks SCR Analysts. Non-investment banking services include investor relations services and software, financial database analysis, advertising services, brokerage services, advisory services, equity research, investment management, non-deal road shows, and attendance fees for conferences sponsored or co-sponsored by Zacks SCR. The fees for these services vary on a per client basis and are subject to the number of services contracted. Fees typically range between ten thousand and fifty thousand USD per annum.

POLICY DISCLOSURES

© Copyright 2015, Zacks Investment Research. All Rights Reserved.

Zacks SCR Analysts are restricted from holding or trading securities placed on the ZIR, SCR, or Zacks & Co. restricted list, which may include issuers in the Small-Cap Universe. ZIR and Zacks SCR do not make a market in any security nor do they act as dealers in securities. Each Zacks SCR Analyst has full discretion on the rating and price target based on his or her own due diligence. Analysts are paid in part based on the overall profitability of Zacks SCR. Such profitability is derived from a variety of sources and includes payments received from issuers of securities covered by Zacks SCR for services described above. No part of analyst compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in any report or article.

ADDITIONAL INFORMATION

Additional information is available upon request. Zacks SCR reports are based on data obtained from sources we believe to be reliable, but are not guaranteed as to be accurate nor do we purport to be complete. Because of individual objectives, this report should not be construed as advice designed to meet the particular investment needs of any investor. Any opinions expressed by Zacks SCR Analysts are subject to change without notice. Reports are not to be construed as an offer or solicitation of an offer to buy or sell the securities herein mentioned.

ZACKS RATING & RECOMMENDATION

ZIR uses the following rating system for the 1134 companies whose securities it covers, including securities covered by Zacks SCR:
Buy/Outperform: The analyst expects that the subject company will outperform the broader U.S. equity market over the next one to two quarters.
Hold/Neutral: The analyst expects that the company will perform in line with the broader U.S. equity market over the next one to two quarters.
Sell/Underperform: The analyst expects the company will underperform the broader U.S. Equity market over the next one to two quarters.

The current distribution is as follows: Buy/Outperform- 23.2%, Hold/Neutral- 55.6%, Sell/Underperform – 17.2%. Data is as of midnight on the business day immediately prior to this publication.