Zacks Small-Cap Research

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Zecotek Photonics (V.ZMS)

V.ZMS: Revenue Remains Sluggish But Order Flow Continues to Grow

Current Recommendation	**Buy**
Prior Recommendation	N/A
Date of Last Change	10/02/2013
Current Price (01/07/2016)	$0.35
Target Price	**$1.50**

OUTLOOK

Zecotek is the only company in the world to own all key elements for a high performance PET scanner. Technology is protected by large patent portfolio. ZMS.V is well positioned to capitalize on growth of PET market. Their LFS scintillation crystals look to be superior to any other crystals on the market and with PET scanner performance tied to performance of crystals, demand for LFS crystals could be substantial. Major distributor recently signed and initial orders received. Crystals also to be used in high profile CERN experiments. Lawsuit whereby ZMS.V claimed patent infringement was recently settled. We think the settlement now opens up significant opportunity for Zecotek, the benefits of which we think begin to be realized in the very near-term.

SUMMARY DATA

52-Week High	**$0.61**
52-Week Low	**$0.30**
One-Year Return (%)	**0**
Beta	**N/A**
Average Daily Volume (sh)	**146,220**
Shares Outstanding (mil)	**118**
Market Capitalization ($mil)	**39**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**N/A**
Insider Ownership (%)	**N/A**
Annual Cash Dividend	**N/A**
Dividend Yield (%)	**N/A**
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	**N/A**
Type of Stock	**Large-Growth**
Industry	**Med Products**

ZACKS ESTIMATES

Revenue
(in '000 of $)

	Q1 (Oct)	Q2 (Jan)	Q3 (Apr)	Q4 (Jul)	Year (Jul)
2015	98 A	76 A	70 A	208 A	452 A
2016	150 A	225 E	375 E	500 E	1249 E
2017					4934 E
2018					9667 E

Earnings per Share

	Q1 (Oct)	Q2 (Jan)	Q3 (Apr)	Q4 (Jul)	Year (Jul)
2015	-$0.02 A	-$0.02 A	-$0.01 A	-$0.01 A	-$0.07 A
2016	-$0.01 A	-$0.01 E	-$0.01 E	-$0.01 E	-$0.04 E
2017					-$0.02 E
2018					-$0.01 E

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

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Financial Results, Operational Update….

Zecotek reported financial results for their fiscal 2016 first quarter ending Oct 31, 2015. Revenue, at just $150k, was disappointing. Not only was there no indication of any obvious progress towards recognizing any meaningful contribution from the recently announced $2.9M worth of "confirmed orders for 2016" (i.e. language from the company's Q4 2015 revenue preannouncement in August) or from the $750k in additional orders that were placed after that time, but revenue actually slid fairly significantly from Q4 (ending July 31, 2015).

While Zecotek made noteworthy headway over the last several quarters with broadening the scope of their potential customer base for their LFS crystals and generating additional order flow, this has not resulted in much in the way of revenue. And the company has offered little in terms of explanation for the continued delay in recognizing sales and why just $200k of the $2.5M of orders that Hamamatsu has placed since July 2013 has been booked. Much of the language related to revenue in the Q1 2016 MD&A is virtually unchanged from one year ago and includes;

- "The Company has firm commitments for future delivery of crystals"
- "Due to engineering design upgrades and internal integration processes at the OEMs the orders for the scintillation crystals have been delayed"
- "Zecotek and Hamamatsu are working closely with the OEMs, and their scientific teams to expedite the integration process"
- "Zecotek has started delivering preliminary amounts of scintillation crystals to Hamamatsu which are being used in various end user's new designs"

So while ZMS has $3M+ of outstanding confirmed orders plus a more recent order for an unspecified amount of its LFS crystals from a "specialized medical device manufacturer in the United States", the continued sluggishness in turning these orders into sales and absence of clarity on exactly what the issues are, has prompted us to again push back our sales estimates.

The outstanding LFS crystals orders include;

- $2.5M from Hamamatsu. The initial order, for $500k, was placed in July 2013. Since then, $2M in follow-on orders were placed. Only $200k of the $2.5M total has been booked as revenue
- $500k from a PET OEM in China. Announced in October 2015, this LFS crystals order is "for a new series of PET medical imaging devices and this is the first of a contemplated series of purchase orders"
- $250k LFS crystals order, announced in November 2015, from a "strategic partner" – which, while not confirmed, likely also relates to Hamamatsu
- December 2015 ZMS announced receipt of an LFS crystals order from "a specialized medical imaging device manufacturer based in the United States" which will use them for a "state-of-the-art molecular brain imaging device for diagnosis of Alzheimer's disease, Frontotemporal Dementia, Lewy Body Dementia, Parkinson's disease, and other neurological and psychiatric disorders. This order, per the PR, will be used for one PET scanner to demonstrate the instruments' capabilities. Presumably, however, follow-on orders could occur if the device moves into production. While ZMS did not name the manufacturer, we think (based on the description in the PR) it may be a company called Brain Biosciences which recently received a $2.1M NIH grant. The company is involved in developing less-costly PET scanners specifically for neuroimaging, an area of potentially high growth given the advances in Alzheimer's research and new imaging agents designed specifically for imaging of the brain. If Brain Resource (some background here: http://bit.ly/1n4LQNV) is indeed the customer, this is a relationship that we think could eventually prove meaningful for ZMS.

Q1 Financials: Q1 2016 revenue was $150k, which was up from $98k in the year-earlier period but down from $208k in Q4 2015. The only financial-related aspect that we can point to as a highlight in the quarter were operating expenses which came in at $1.2M, about one-half as much as the $2.3M from Q1 2015 and about 15% less than Q4. The yoy drop mostly relates to lower litigation expense from the Philips/St Gobain patent-infringement lawsuit as well as less stock-based compensation in the most recent quarter.

Cash used in operating activities (ex-changes in working capital) was $1.1M in Q1 2016, down from $2.1M in Q1 2015. ZMS exited the quarter with just $102k in cash but subsequent to quarter-end, raised an additional ~$2M (gross) via the sale of common stock with warrants.

Operational Update
While revenue has been a disappointment, ZMS appears to be making operational progress with bringing on additional LFS crystals customers as well as with product development in all three of their divisions; Imaging, Display and Optronics (i.e. laser).

- **Imaging**: ***Additional Validation of LFS Crystals, Photo Detectors Development Progressing..***
  In 2015 CERN conducted an experiment which compared the LFS crystals to LYSO crystals which showed the LFS crystals produced a superior coincident time resolution. Results were presented in a poster session at the 2015 Institute of Electrical and Electronics Engineers (IEEE) Conference in Seattle. CERN's senior research scientist noted following results of the testing that, "Our team is impressed with the test results and with the competitive pricing of the LFS crystals. We are therefore proceeding to use Zecotek's LFS crystals for our PET-CERN projects." We viewed this as a meaningful "win" for ZMS as LYSO crystals are used in many of the OEM Time-of-Flight scanners (i.e. - high-end, high resolution scanners) and had been considered the highest performing crystals available. Higher performing crystals can be a tremendous competitive advantage as performance of crystals is a key factor in demand of PET scanners.

  This validation by CERN could have very positive effects in terms of demand for the LFS crystals. In fact, just months after the experiment, a CERN team working at the University of Virginia on the Compact Muon Solenoid project placed orders for ZMS's thin LFS crystal plates.

  Subsequent to the CERN experiment, researchers at the University of California at Davis, following testing of the LFS crystals for PET applications, noted that, "What we find most attractive about Zecotek's LFS crystals is the fast decay time…." UC Davis has multiple high-end projects ongoing using the LFS crystals which includes potentially incorporating them in high performance PET detector designs as well as possible collaboration with ZMS on crystal arrays. The UC Davis team is lead by Dr. Simon Cherry, who is extensively published in molecular imaging and a renowned expert in the field. So validation of the LFS crystals by Dr. Cherry and his team is a meaningful vote of confidence.

  Additionally noteworthy is that in October 2015 UC Davis was awarded a five-year, $15.5M grant by the National Institutes of Health/National Cancer Institute to fund their EXPLORER project. The goal of EXPLORER, being co-led by Dr. Cherry, is to (per the EXPLORER website….http://explorer.ucdavis.edu/) design, develop and construct the world's highest sensitivity PET scanner. This scanner is projected to have a sensitivity that is 40 times higher than current PET scanners and have the ability to scan the entire body at once.

  And while we are not connecting any dots at this point between the LFS crystals and the EXPLORER project (although we are not ruling out a potential connection), at the very least we think the fact the Dr. Cherry is leading this project speaks to his credibility as an expert in the field. And the fact that an expert of his status is impressed with the performance of the LFS crystals is of significance.

  And while we do not have confirmation that Brain Biosciences is indeed one of ZMS' latest customers, we think it is a reasonable guess that they are. If so, this would provide additional validation towards the quality of the LFS crystals.

And the fact that St. Gobain violated the LFS crystals' patent provides even more credence ("Imitation is the sincerest form of flattery") to the validity of the performance of the product. So while we have no reservations about the performance or potential demand for the LFS crystals, full "validation" will only come when Zecotek begins booking significant revenue from sales.

And the Imaging division is more than the LFS crystals and includes solid-state MAPD and MAPT photo detectors as well as other patented technology for PET imaging systems. Integration of the crystals into plug-and-play components such ZMS's PET imaging photo detectors is the next iteration of expected demand from the Imaging segment and where even greater opportunity may lie. Development of the company's photo detectors is progressing. In October ZMS received a Notice of Allowance from the USPTO for their novel MAPT.

- **Display**
  Zecotek has developed a working prototype of a 32-inch 3D display which does not require the use of 3D glasses. The display is protected by both U.S. and Australian patents. It can simultaneously project high resolution 3D and 2D images on the same screen with separate views for multiple users. Zecotek notes that they are "in discussions with certain major electronics companies to co-develop an OLED/LED (organic light

emitting diode) based, flat screen, glasses-free, true 3D HD television." If commercialized, particularly for the (large) consumer television market, this could be a significant needle-mover.

Zecotek was recently granted two new U.S. patents related to their front and rear 3D projection technology.

In early August 2015 ZMS announced that the company signed agreements with the Engineering Centre of the National Research Nuclear Center MEPhi (ECM) and its affiliate Novilab Mobile to commercialize their 3D display monitors in Russia. ECM and Novilab are responsible for manufacturing the 3D units using ZMS technology and for commercialization and, in return, these partners have exclusive rights to the Russian market. Zecotek expects to announce additional commercialization partnerships in other areas of the world.

Optronics (formerly called Laser):
Zecotek's optronics segment has been somewhat back-burner as they have dedicate most of their efforts towards their other business, particularly Imaging. The optronics segment develops lasers and laser components for applications in the medical and industrial sectors as well as for research purposes. Zecotek's joint lab with Inversion Fiber/Novolaser has completed a tuneable visible laser technology platform which may have utility in a broad-spectrum of medical, research and industrial applications. And while the optronics business is likely to remain more in the hip-pocket over the near-term, this is another area that could be a future financial contributor to Zecotek.

Outlook

Given the continued slower-than-anticipated pace in recognizing sales from the various LFS crystals orders, we have again pushed back our respective revenue estimates – by approximately one year. For 2016 we now model revenue of $1.3M and have delayed most of our prior modeled 2016 revenue to fiscal 2017 (ending July 2017). However, our model is always subject to updating. If and when there is a more accelerated transition of orders to revenue, our model may be updated to reflect an expectation that that trend continues.

As we have noted in the past, ZMS has seen burgeoning interest for their LFS crystals from manufacturers of small and next-gen Time-of-Flight PET scanners. In addition, validation of the LFS scintillation crystals for use in small PET scanners in applications such as pre-clinical pharmaceutical research for drug development is ongoing by certain international PET OEMs. ZMS's Chinese manufacturing partner, Beijing Opto-Electronics Technology (BOET), is scaling up its manufacturing capacity by ~300%.

The revisions to our model have moved our DCF-generated price target from $1.80/share to $1.50/share. We are maintaining our Buy recommendation.

FINANCIAL MODEL

Zecotek Photonics Inc.

	2015 A	Q1A	Q2E	Q3E	Q4E	2016 E	2017 E	2018 E	2019 E
Total Revenues	$451.7	$149.6	$224.9	$374.9	$499.8	$1,249.1	$4,934.3	$9,666.5	$18,044.2
YOY Growth	*421.9%*	*52.8%*	*197.4%*	*434.4%*	*140.2%*	*176.5%*	*295.0%*	*95.9%*	*86.7%*
Cost of Goods Sold	$322.9	$94.5	$141.69	$228.7	$289.9	$754.8	$2,516.5	$4,253.3	$6,405.7
Gross Income	$128.8	$55.1	$83.2	$146.2	$209.9	$494.4	$2,417.8	$5,413.3	$11,638.5
SG&A	$5,825.1	$867.6	$964.0	$935.0	$1,066.0	$3,832.6	$4,243.5	$4,639.9	$6,676.4
% SG&A	*1289.5%*	*580.0%*	*428.6%*	*249.4%*	*213.3%*	*306.8%*	*86.0%*	*48.0%*	*37.0%*
R&D	$1,468.7	$356.3	$411.0	$368.0	$427.0	$1,562.3	$1,344.0	$1,657.0	$1,812.0
% R&D	*325.1%*	*238.2%*	*182.7%*	*98.2%*	*85.4%*	*125.1%*	*27.2%*	*17.1%*	*10.0%*
Operating Income	($7,165.0)	($1,168.9)	($1,291.8)	($1,156.8)	($1,283.1)	($4,900.5)	($3,169.7)	($883.7)	$3,150.2
Operating Margin	*-1586.1%*	*-781.4%*	*-574.4%*	*-308.6%*	*-256.7%*	*-392.3%*	*-64.2%*	*-9.1%*	*17.5%*
Total Other Income (Expense)	($290.8)	$124.8	$0.0	$0.0	$0.0	$124.8	$0.0	$0.0	$0.0
Pre-Tax Income	($7,455.8)	($1,044.1)	($1,291.8)	($1,156.8)	($1,283.1)	($4,775.8)	($3,169.7)	($883.7)	$3,150.2
Tax expense (benefit)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Tax Rate	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Net Income	($7,455.8)	($1,044.1)	($1,291.8)	($1,156.8)	($1,283.1)	($4,775.8)	($3,169.7)	($883.7)	$3,150.2
YOY Growth	*-13.9%*	*-54.9%*	*-46.5%*	*-0.2%*	*-18.0%*	*-35.9%*	*-33.6%*	*-72.1%*	*-456.5%*
Net Margin	*-1650.5%*	*-698.0%*	*-574.4%*	*-308.6%*	*-256.7%*	*-382.3%*	*-64.2%*	*-9.1%*	*17.5%*
EPS	($0.07)	($0.01)	($0.01)	($0.01)	($0.01)	($0.04)	($0.02)	($0.01)	$0.02
YOY Growth	*-26.6%*	*-60.2%*	*-49.3%*	*-6.7%*	*-26.6%*	*-41.3%*	*-39.6%*	*-73.0%*	*-451.2%*
Diluted Shares O/S	108,340	112,275	116,000	120,000	125,000	118,319	130,000	134,000	136,000

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