Zacks Small-Cap Research

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Zecotek Photonics (V.ZMS)

V.ZMS: Chinese OEM Places Second Order. Up To 5 Installations Expected By Year-End

We model revenue to grow from $452k in 2015 to almost $50M in 2025. Our DCF model, which uses an 8% discount rate and 2% terminal growth rate, values the shares at approximately $1.50.

Current Price (09/07/2016)	$0.31
Valuation	**$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. Hamamatsu relationship holds significant potential but ZMS recently exploiting other opportunities as well. Recent relationship with Chinese PET OEM could be a home run, but we think too early to make any predictions. ZMS seeing interest from U.S. PET manufacturers and for applications in drug research as well. More recent opportunities in homeland and border security. Formal supply relationship with U.S. PET OEM 'major' Philips remains a possibility.

SUMMARY DATA

52-Week High	**$0.46**
52-Week Low	**$0.23**
One-Year Return (%)	**-23**
Beta	**1.28**
Average Daily Volume (sh)	**160,284**
Shares Outstanding (mil)	**124**
Market Capitalization ($mil)	**38**
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 2016 Estimate	**N/A**
P/E using 2017 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**N/A**
Type of Stock	**Small-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	697 A	278 A	550 E	1675 E
2017					4825 E
2018					8951 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	-$0.02 A	-$0.00 A	-$0.01 E	-$0.04 E
2017					-$0.05 E
2018					-$0.03 E

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

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Fiscal Q3 2016, Operational Update….

We have updated our model for Zecotek's financial results for their third quarter ending April 30. Revenue for the third quarter of $278k was somewhat of a disappointment, particularly given that on April 29th the company had preannounced anticipated revenue for the quarter of $685k. While the difference was not explained in the filings, we note that the customer deposit (i.e. deferred revenue) balance fell by $442k, or $164k more than what was booked as revenue in the quarter. While complete speculation on our part, this may suggest that at least a portion of the 'miss' may relate to return of some customer deposits instead of what had been expected to be shipment of product and related recognition of revenue.

And while revenue was well below our $685k estimate (which we revised up from $550k following the Q3 preannouncement) and despite the reduction in deferred revenue, the customer deposit balance remains meaningful at $2.3M. Based on footnotes in the filing, it appears that essentially all of the $278k of revenue booked in Q3 was related to Hamamatsu. As of the close of the quarter $1.74M remains yet to be booked under the initial Hamamatsu supply agreements.

And as we have noted previously, we think the drawn out process of recognizing the Hamamatsu-related deferred revenue (i.e. previous orders which Hamamatsu has yet to take possession of) relates mostly to dragging feet of Hamamatsu. And ZMS has more recently begun to spread its wings with more than just anecdotal evidence that the company is making a more determined effort to branch out to other customer channels. And while complete speculation on our part, the drawn-out delay with Hamamatsu and ZMS's additional sales and marketing efforts, to the likes of Chinese PET manufacturers, UC Davis, U.S.-based medical imaging manufacturers, U.S. homeland security and most recently (per an August 15 PR) "a world leader in the area of level, switching and pressure measurement for the process industry", among others, may be related. While we expect Hamamatsu to remain an important customer channel, LFS crystals orders from non-Hamamatsu customers is what we expect to be driving an eventual inflection in revenue.

While Q3 revenue was less than exciting, sales through the first nine months of fiscal 2016 of $1.1M are well ahead of the $244k booked in the comparable period in 2015. And conclusion of the Saint-Gobain / Philips lawsuit and related expenses has also helped to improve operating loss improved - from $5.8M in the first nine months of 2015 to $3.9M in the first nine months of 2016.

Cash used in operating activities (ex-changes in working capital) was $976k and $3.8M in Q3 and the first nine months of 2016, respectively, compared to $1.2M and $5.6M in the comparable year-earlier periods. Cash balance was just $11k at close of Q3 but subsequent to quarter-end ZMS raised $2.4M (gross) via the sale of 8M common shares @ $0.30/share with 100% warrant coverage ($0.43 strike).

On the operational front, the most significant recent news relates to the (unnamed) "major medical OEM based in China" which ZMS announced in March had chosen the LFS crystals for a new line of high resolution PET imaging devices. As a reminder, a memorandum of understanding (MUO) that the parties entered into stipulated that upon delivery by ZMS of LFS crystals and subsequent installation of the initial PET scanner incorporating the crystals in a hospital in Shanghai (had been expected by end of July, which did not happen), that the MUO would convert into a contract. Under the contract, per the press release, "the OEM is projecting the installation of 200 LFS based PET scanners in hospitals and clinics across China over the next five years."

While the initial installation has yet to happen, in early May the Chinese OEM placed its first crystals order (slightly delayed from initial expectation of April) and in late July ZMS announced that the customer assembled the first PET scanner and placed a crystals order for a second scanner. Further, ZMS notes in the July 28 press release that "The initial test results of the assembled device are very positive and …OEM is working through various tests and when complete, the installation of the first unit will be finalized." Additionally, ZMS expects as many of five machines will be installed by the current year end - and reiterates installation of 200 units over the next five years.

Zecotek, as of late July, expects to also have their novel MAPD/MAPT photo detectors ready for full production by the end of Q3 2016. While ZMS's LFS crystals have been the headline-grabber given their superior performance to all other scintillation crystals as well as being the most near-term revenue source for the company, MAPT could eventually be a more significant product for the company. Zecotek's MAPT (micro-pixel avalanche photo transistors) has shown to have much faster response time and higher resolution to alternative technologies.

Zecotek's MAPD/MAPT have been developed to replace photo multiplier tubes, which remain the most commonly used photo detectors in PET scanners and gamma cameras. Photo multiplier tubes are very sensitive detectors of light with high gain, low noise and very fast response, which has made them ideal for applications such as in advanced medical imaging cameras. But they have some drawbacks, including being relatively large, expensive, and require very high voltage. As such PET manufacturers could be highly receptive to a more practical alternative and could offer the next wave of growth for ZMS.

We reiterate that while we think it is much too early to start modeling 200 PET scanners worth LFS crystals sales from this Chinese PET manufacturer, given that each scanner could need ~$400k - $500k in crystals, if ZMS were able to realize even a small fraction of this “minimum of 200 PET machines”, it could be significant. Photo detectors also make up a significant portion of the overall cost of PET machines - if and when ZMS' MAPD/MAPT components are completed and successfully tested, that could provide another potentially significant revenue source. But given the lack of reaction to ZMS’s share price following announcement of the MUO, the market clearly is discounting any chance of significant orders resulting from this relationship. If the contract is consummated it would at the very least provide greater confidence in continued and greater order flow from this customer. And it may also introduce greater potential that ZMS could be an acquisition candidate.

Recent updates on other of ZMS' customer relationships include;

- **Radiation Monitoring**: In April ZMS announced that they received preliminary LFS crystals orders from "major OEMs developing radiation monitoring and detection devices" for testing in devices used for homeland security and border protection purposes. More specifically, the crystals were tested in "a device for large cargo screening at land crossings such as border crossings, airports, and harbors". Then in late June ZMS announced that they received a second order from this customer which will be tested for "screening applications for luggage, bags, packages, for high security locations including government buildings, sports stadiums, conventions centers and other crowded venues". ZMS further indicated that this relationship could eventually into a long-term supply agreement, noting, "We are working closely with the device manufacturer to develop detection devices for various applications and look to develop these crystal orders into long term, high volume contracts."

- **CERN**: In April ZMS announced that the European Organization for Nuclear Physics (CERN) ordered LFS crystals for their PET program.

- **UC Davis, PET/MR Applications**: In September 2015 researchers at the University of California, Davis, following testing of the LFS crystals for PET applications commented 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. **In July of this year, ZMS announced that UC Davis ordered additional LFS crystals for a novel PET/MR module.** Potentially 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 still are not connecting any dots 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 and recently placed another order is of significance.

- **Silo and Container Measurement**: What appears to be the most recent customer relationship was announced in mid-August with "a world leader in the area of level, switching and pressure measurement for the process industry" placing an order for LFS crystals "for a leading edge approach to the measurement of silos and large containers. The device is able to detect the level of liquids, pastes, powders and bulk solids in silos and large containers and is to be widely deployed in industries such as oil and gas, chemical, and waste management."

Outlook

While the continued lack of recognition of significant orders from Hamamatsu remains disappointing, what we had previously viewed as more ancillary customer channels has recently come more to the forefront. We think this may have been a deliberate shift in focus and effort by ZMS to exploit opportunities via direct sales.

Revenue has been challenging to accurately forecast. While we think revenue may continue to be variable over the near-term, the recent customer engagements, continued broadening of the customer base and what we think is a more deliberate spreading of ZMS's wings towards opportunities outside of Hamamatsu has us encouraged that sales will trend towards more consistency. More importantly, however, will be if ZMS can steepen the revenue curve. As the customer base grows, so do the potential shots on goal and opportunities to grow revenue.

The Chinese PET OEM relationship could be home run but we think it is prudent to forego modeling any significant related contribution until, at least, the MUO turns into a formal contract (if it ever does). And if it reaches that point and with additional clarity on potential scheduling of follow-on orders, there may be an opportunity to make an informed estimate related to potential future sales through this channel.

Near-term could see recognition of more of the outstanding Hamamatsu orders. And ZMS could see additional interest for their LFS crystals from manufacturers of small and next-gen Time-of-Flight PET scanners as well as in applications such as pre-clinical pharmaceutical research for drug development. And while a formal supply relationship with Philips has yet to be penned, that possibility remains open and, if it happens, could be a needle-mover for ZMS. And other more recent opportunities could be in homeland security, radiation and other measurement applications.

We now look for 2016 revenue of $1.7M, which we have moved down from $2.1M prior to Q3 results as a result of the aforementioned miss relative to the preannouncement. The revisions to our model have not impacted our DCF-generated price target, which remains at $1.50/share.

FINANCIAL MODEL

Zecotek Photonics Inc.

	2015 A	Q1A	Q2A	Q3A	Q4E	2016 E	2017 E	2018 E	2019 E
Total Revenues	$451.7	$149.6	$697.4	$277.9	$549.8	$1,674.6	$4,824.6	$8,950.5	$16,110.9
YOY Growth	*421.9%*	*52.8%*	*822.1%*	*296.1%*	*164.3%*	*270.7%*	*188.1%*	*85.5%*	*80.0%*
Cost of Goods Sold	$322.9	$94.5	$593.91	$242.3	$467.3	$1,398.0	$3,136.0	$4,833.3	$7,249.9
Gross Income	$128.8	$55.1	$103.5	$35.6	$82.5	$276.6	$1,688.6	$4,117.2	$8,861.0
Gross Margin	*28.5%*	*36.8%*	*14.8%*	*12.8%*	*15.0%*	*16.5%*	*35.0%*	*46.0%*	*55.0%*
SG&A	$5,825.1	$867.6	$1,483.8	$616.2	$953.0	$3,920.6	$6,127.2	$6,712.9	$7,088.8
% SG&A	*1289.5%*	*580.0%*	*212.8%*	*221.7%*	*173.3%*	*234.1%*	*127.0%*	*75.0%*	*44.0%*
R&D	$1,468.7	$356.3	$493.0	$256.9	$444.0	$1,550.3	$1,621.0	$1,657.0	$1,812.0
% R&D	*325.1%*	*238.2%*	*70.7%*	*92.5%*	*80.8%*	*92.6%*	*33.6%*	*18.5%*	*11.2%*
Operating Income	($7,165.0)	($1,168.9)	($1,873.4)	($837.5)	($1,314.5)	($5,194.3)	($6,059.6)	($4,252.6)	($39.8)
Operating Margin	*-1586.1%*	*-781.4%*	*-268.6%*	*-301.4%*	*-239.1%*	*-310.2%*	*-125.6%*	*-47.5%*	*-0.2%*
Total Other Income (Expense)	($290.8)	$124.8	($320.2)	$379.6	$0.0	$184.2	$0.0	$0.0	$0.0
Pre-Tax Income	($7,455.8)	($1,044.1)	($2,193.6)	($457.9)	($1,314.5)	($5,010.1)	($6,059.6)	($4,252.6)	($39.8)
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)	($2,193.6)	($457.9)	($1,314.5)	($5,010.1)	($6,059.6)	($4,252.6)	($39.8)
YOY Growth	*-13.9%*	*-54.9%*	*-9.2%*	*-60.5%*	*-16.0%*	*-32.8%*	*20.9%*	*-29.8%*	*-99.1%*
Net Margin	*-1650.5%*	*-698.0%*	*-314.6%*	*-164.8%*	*-239.1%*	*-299.2%*	*-125.6%*	*-47.5%*	*-0.2%*
EPS	($0.07)	($0.01)	($0.02)	($0.00)	($0.01)	($0.04)	($0.05)	($0.03)	($0.00)
YOY Growth	*-26.6%*	*-60.2%*	*-14.0%*	*-62.7%*	*-22.9%*	*-38.0%*	*9.2%*	*-32.9%*	*-99.1%*
Diluted Shares O/S	108,340	112,275	116,211	118,885	122,050	117,355	130,000	136,000	138,000

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