

Zacks Small-Cap Research

Sponsored – Impartial - Comprehensive

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

scr.zacks.com

10 S. Riverside Plaza, Chicago, IL 60606

SANUWAVE Health (SNWV-OTC)**NGS Reimbursement Update Should Catalyze U.S. Adoption, Procedure Revenue**

We value SNWV at 8.5x forward sales, which we think fairly reflects the potential high-growth opportunity, particularly in the U.S. We have SNWV generating approximately \$17.2M revenue in 2021 – which values the company at approximately \$0.75/share.

Current Price (08/30/19) **\$0.18**
Valuation **\$0.75**

OUTLOOK

Q2'19 U.S. product sales, at \$121k, were the highest (at least) since SNWV began publicly disaggregating by geography (i.e. Q1'17). Given that the U.S. market is where most of the opportunity lies for dermaPACE, coupled with OUS distribution licensing agreements that have largely failed to live up to their implied potential, in the context of growth catalysts, we place much more importance on domestic sales than we do on OUS licensing agreements. US placements continue to track slightly ahead of mngmt's guidance. Positive clinical data and favorable patient outcomes appears to remain a major catalyst in driving awareness and initial adoption of dermaPACE in the U.S. With additional studies either ongoing, anticipated to begin shortly and/or expected to come to publication, SNWV's clinical evidence database will continue to build.

As Medicare contractor, NGS, updated coverage guidance for two specific codes that will cover the use of dermaPACE for the treatment of DFU's, we are more encouraged than ever by the domestic opportunity. We had not anticipated this level of coverage nearly this soon, particularly for such a large covered-lives population. While NGS' update does not guarantee every claim will be paid, it should provide much more certainty than if the procedure was considered not medically necessary.

SUMMARY DATA

52-Week High **\$0.33**
52-Week Low **\$0.10**
One-Year Return (%) **-12.49**
Beta **-1.56**
Average Daily Volume (sh) **310,798**

Shares Outstanding (mil) **196**
Market Capitalization (\$mil) **\$36**
Short Interest Ratio (days) **N/A**
Institutional Ownership (%) **0**
Insider Ownership (%) **38**

Annual Cash Dividend **\$0.00**
Dividend Yield (%) **0.00**

5-Yr. Historical Growth Rates
Sales (%) **13.8**
Earnings Per Share (%) **N/A**
Dividend (%) **N/A**

P/E using TTM EPS **N/A**
P/E using 2019 Estimate **N/A**
P/E using 2020 Estimate **N/A**

Zacks Rank **N/A**

Risk Level **High,**
Type of Stock **N/A**
Industry **Med Products**

ZACKS ESTIMATES**Revenue**
(in 000s of \$)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	344 A	453 A	596 A	457 A	1,850 A
2019	178 A	317 A	396 E	568 E	1,459 E
2020					5,528 E
2021					17,271 E

Earnings per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	-\$0.04 A	-\$0.02 A	-\$0.01 A	-\$0.01 A	-\$0.08 A
2019	-\$0.01 A	-\$0.02 A	-\$0.02 E	-\$0.02 E	-\$0.06 E
2020					-\$0.03 E
2021					-\$0.02 E

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

Q2 Results, Operational Update: Record U.S. Product Sales. NGS Update Should Help Drive Adoption, Procedure Revenue

SANUWAVE reported financial results for their second quarter ending June 30th and provided a business update. As it relates to the financials, while revenue increased significantly from Q1, it nonetheless was, again, relatively disappointing. Down 30% from the prior year, 31% below our estimate and lower than every quarter in 2018, total revenue was a relative dud for the second consecutive period.

But the details behind the numbers paint a better picture than the aggregate topline might suggest. That is because revenue comparables benefited much more from recognition of lump-sum distribution and license fees than did Q2. More importantly, Q2'19 U.S. product sales, at \$121k, were the highest (at least) since SNWV began publicly disaggregating by geography (i.e. Q1'17). Given that the U.S. market is where most of the opportunity lies for dermaPACE, coupled with OUS distribution licensing agreements that have largely failed to live up to their implied potential, in the context of growth catalysts, we are much more encouraged by the growth in domestic sales than we are discouraged by the OUS licensing agreements.

Moreover, U.S. device placements continue to track slightly ahead of management's current-year quarterly guidance which, as a reminder, is for the installed base to reach 15 by close of Q1 (16 actual), 35 by Q2 (36 actual), 70 by Q3 and 110 by the end of 2019. Positive clinical data and favorable patient outcomes appears to remain a major catalyst in driving awareness and initial adoption of dermaPACE in the U.S. With additional studies either ongoing, anticipated to begin shortly and/or expected to come to publication in major peer-reviewed wound care journals, SNWV's clinical evidence database will continue to build – leveraging of which we expect will remain a key component of their sales and marketing messaging. This, along with further beefing up of the sales force, expansion of the U.S. geographical footprint and, hopefully, further favorable changes to related reimbursement, represent potentially potent catalysts to driving awareness of dermaPACE and steepening the placement rate.

The combination of a growing installed base and contribution from procedural volume has the potential to create somewhat of a multiplier effect and result in significant acceleration of U.S. revenue. The recent update from a major Medicare contractor, which we discuss below, could be the initial spark to procedural revenue.

Major Regional CMS Contractor Coverage Update Should Benefit Adoption of dermaPACE

While we have made some downward revisions to our OUS sales, with SNWV's mid-August announcement that Medicare regional contractor, National Government Services, Inc. (NGS), updated coverage guidance for two specific codes that will cover the use of dermaPACE for the treatment of DFU's (applicable to certain conditions), we are more encouraged than ever by the domestic opportunity. Specifically, as it relates to NGS's update, per SNWV's 8/14/19 PR, effective July 1, 2019, CPT codes 0512T and 0513T (Extracorporeal shockwave therapy for integumentary wound healing, high energy) have been reclassified from Group 1 (i.e. 'not medically necessary') to CPT 3 (i.e. 'individually reviewed to determine medical necessity'). NGS's updated coverage guidance is available [here](https://go.cms.gov/2L3cAgE) (<https://go.cms.gov/2L3cAgE>).

NGS administers benefits to 7M A/B Medicare members in 10 states; NY, ME, RI, VT, CT, NH, MA, MN, WI, and IL which, in aggregate (per SNWV, which cites the American Diabetes Association), represents 47.5M people including 5.8M with diabetes. SNWV estimates that more than 600k people fit the treatment profile for dermaPACE in these 10 states, representing what they calculate to be a total market opportunity of more than \$1B.

We had not anticipated this level of coverage nearly this soon, particularly for such a large covered-lives population. While NGS' update does not guarantee every claim will be paid, it should provide much more certainty than if the procedure was considered not medically necessary. SNWV management indicated on the Q2 call that as long as providers only use dermaPACE for its FDA indicated uses, providers should have success in receiving reimbursement under these codes.

Per CMS.gov, these two codes are not currently listed in the Medicare fee schedule but instead are contractor priced (i.e. NGS, in this case). While we will not know how 'robust' (i.e. average \$ payment and proportion of valid claims that are paid) NGS reimbursement will be, management noted that Medicare will pay \$314 per procedure and, again, indicated that they expect most claims will be paid (without having doctors having to endure repeated denials and rebillings). As is commonplace, private payers, if they follow NGS' lead (a topic which we will be eager to hear updates about), could be expected to pay a significantly higher rate than Medicare.

NGS Updated Coding: dermaPACE Covered Under 0512T and 0513T

Group 3 Paragraph:

The CPT codes below will be individually reviewed to determine medical necessity.

Effective for services rendered on or after July 1, 2019, 0543T- 0551T and 0553T-0562T were added to Group 3 (CPT codes that will be individually reviewed to determine medical necessity) and will be added to the tabular listing when the database has been updated.

Group 3 Codes:

CODE	DESCRIPTION
0510T	REMOVAL OF SINUS TARSI IMPLANT
0511T	REMOVAL AND REINSERTION OF SINUS TARSI IMPLANT
0512T	EXTRACORPOREAL SHOCK WAVE FOR INTEGUMENTARY WOUND HEALING, HIGH ENERGY, INCLUDING TOPICAL APPLICATION AND DRESSING CARE; INITIAL WOUND
0513T	EXTRACORPOREAL SHOCK WAVE FOR INTEGUMENTARY WOUND HEALING, HIGH ENERGY, INCLUDING TOPICAL APPLICATION AND DRESSING CARE; EACH ADDITIONAL WOUND (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)

Source CMS.gov. Article A56195, *Billing and Coding: Category III CPT Codes*

Importantly, management believes even the Medicare rate is sufficient to drive interest, adoption and utilization of dermaPACE by clinicians. We think this is a reasonable assumption, particularly given the lack of capital risk to the provider (as SNWV places the devices free of charge). And while SNWV did not increase their current-year dermaPACE placement guidance (110 expected in FY2019, including current installed base of 36) as a result of this coverage update, they do anticipate an earlier ramp in procedural revenue.

The reimbursement update also means SNWV will add personnel – including sales staff and clinical trainers to cover these ten states. There may be incremental headcount additions to support positions such as billing and collections. Noteworthy is that the company will not shift significant resources from their initial targeted regions in the U.S. (Texas, California, North and South Carolina, Pennsylvania and Illinois) – perhaps an indication that they are having ‘sufficient’ commercial success in these areas.

Financials

Q2 revenue was \$317k (\$128k U.S., \$190k OUS), down 30% yoy, up 78% from Q1'19 and well below our \$460k estimate.

U.S. sales were \$127k, accounting for 40% of total revenue, and included \$121k and \$6k of product and license revenue, respectively. Total U.S. sales increased from \$25k and \$24k in Q2'18 and Q1'19, respectively. U.S. product sales reached a new quarterly high and were up from \$19k and \$18k in prior year and 3-month periods, respectively.

Meanwhile, international sales were \$190k, down 56% yoy, up 24% qoq, and consisted of \$100k (-49% yoy, +114% qoq) of product sales, \$61k (-69% yoy, -39% qoq) of license fees and \$30k (-15% yoy, +315% qoq) of ‘other’. OUS sales were disappointing for the second consecutive quarter and averaged just \$172k/quarter during 1H'19, compared to \$179k/qtr in FY2017 and \$404k/qtr in 2018. Not only has OUS product sales growth slowed, but we think it is becoming more apparent that the distribution license agreements are not working out as planned.

Last year MundiMed defaulted on their JV agreement with SNWV (for commercialization in Brazil). More recently, it appears that Johnfk Medical Inc. (covering Taiwan, Singapore, Malaysia, Brunie, Cambodia, Myanmar, Laos, Indonesia, Thailand, Philippines and Vietnam) bowed out, defaulting on their agreement earlier this year. Per

management, these and others like it, were expected to bring in potentially many millions of dollars in license fees and sales-related revenues and reduce the company's reliance on external capital to fund operations. However, given recent history, we think there's enough writing on the wall to suggest these types of agreements were either too early, poorly crafted or otherwise highly susceptible to failure. As such, we have removed all assumed contribution from these agreements from our model. We, however, remain hopeful that the U.S. regulatory clearance and eventual ramp in domestic adoption and utilization will (eventually) create a halo effect overseas and be a significant catalyst in driving international revenue.

SNWV recently brought in Alira Health to lead its European commercial efforts. And, we reiterate that recent expansion of SNWV's OUS footprint, expanding 'label' from orthopedics-only to, more recently, include wound treatment in several territories and new distributor relationships are all potential catalysts that could have a positive impact on international revenue growth going forward. Certainly, FDA clearance, while largely meaningless from an OUS regulatory standpoint, can act as a proxy 'stamp of approval' and prove an important and influential marketing message and help drive adoption. New clinical studies have also recently commenced, positive results of which could also aid in adoption and utilization. Among these are a dose-optimization study in Poland (as well as a U.S.-based perfusion study), which commenced in April 2019 and is expected to complete later this year.

We should provide some context, however, as while we have been disappointed by the lack of consistent growth in international sales, we have always viewed the U.S. market as representing the vast majority of the commercial opportunity for dermaPACE. Management has indicated that the OUS business is profitable (in at least some countries) and that they believe it will grow. But OUS product sales have all but stalled and the international growth that was supposed to materialize years ago, didn't. While we do believe that there are reasonable reasons why OUS could pick up (explained earlier), given the developing U.S. opportunity (particularly following the update by NGS) and the resources (capital, time, leadership, etc) required to take advantage of it, we wonder if another serious strategic review of OUS operations is warranted.

Cash balance was \$155k at quarter end. Cash used in operating activities was \$2.1M and \$3.4M (\$1.9M and \$3.7M) in the three and six months ending 6/30/19, compared to and inflow of \$250k and (an outflow of) \$1.9M in the comparable prior year periods. Management is guiding for monthly cash burn of about \$300k for the remainder of 2019.

U.S. roll-out underway...

As noted, management mentioned on the call that they already have 36 units placed in the U.S. via their direct efforts (up from 16 at the close of Q1'19). They continue to guide for a U.S. installed base of at least 70 units by the end of Q3 and 110 by the close of 2019. Management further disclosed that to-date, 116 users (i.e. providers) have been trained and certified to use dermaPACE and 130 patients were treated during Q2. They are well on their way to meeting both their installed base and trained-users guidance, the latter which they aim to have 300 by the end of this year.

As a reminder, SNWV places the devices for free and generates revenue when they are used – which means it is critical that not only are devices placed, but that users are trained. Management noted that their main focus for 2019 is on steepening the placement rate, while a more determined focus on driving utilization will happen in 2020 – although the (unexpected) NGS coding change, effective July 1, 2019, may mean that procedural volume may begin and steepen earlier than previously anticipated.

A CPT III tracking code became effective January 1, 2019. Clinicians will use this to submit for reimbursement (which they may or may not receive) and most payers will use it to monitor usage and for making policy, reimbursement and rate decisions (this is not as applicable to NGS as reimbursement should eventually be relatively seamless). As we have noted in prior updates, novel medical devices, such as dermaPACE often initially go to market in the U.S. sans-dedicated Medicare reimbursement. While we think that providers (perhaps, particularly influential KOLs) may have some success billing under this CPT III, we expect spotty reimbursement, at best, initially or at least until there is more usage data and perhaps, until following conclusion of supportive post-approval clinical utility and pharmacoeconomic studies. Eventual issuance of a CPT I code will likely be the goal, although that could be a years-long process and will undoubtedly require sufficient usage and economic data.

SNWV mentioned that they have brought on consultants to help with their initial reimbursement strategy – which will include picking certain regional payers and engaging with an evidence-based approach. Initial discussions with private insurers and MACs (i.e. regional Medicare) are underway – which presumably helped facilitate the favorable change by NGS. We will continue to be eager to hear updates about the outcome of discussions with payers.

As it relates to NGS, given that reimbursement claims will be ‘individually reviewed to determine medical necessity’, payment is not guaranteed. But we expect it should provide much more certainty than if the procedure was considered not medically necessary. And while, ‘individually reviewed to determine medical necessity’ may mean that most or all initial claims are looked through with a fine toothed comb, we think it is reasonable to believe that as each provider builds trust with a history of valid claims that it will speed and ease the billing and review process and reduce risk of claim denials. Assuming that proves to be true, it will directly benefit procedural revenue and, given its validation of the economics of dermaPACE DFU treatment in the U.S., should almost certainly benefit adoption as well.

SNWV has indicated that they will conduct an initial pharmacoeconomic study and that results will be used to help support their case to these regional payers. Importantly, a manuscript of the two pivotal (initial and supplemental) studies used as primary support for SNWV’s application seeking FDA clearance of dermaPACE was published in the peer-reviewed Journal of Wound Care in December 2018. This is a significant event in our opinion, particularly in the context of communicating the benefits and utility of dermaPACE in treating DFUs at the clinician level. Other post-marketing studies, aimed at clinician adoption and utilization, are also planned in the U.S.

In fact a skin perfusion study, being conducted in New Jersey and California, commenced in April 2019. The study will evaluate the effects of their dermaPACE technology on local skin perfusion (blood flow) and its effect on healing DFU’s. Additional studies, aimed at supporting the U.S. roll-out, are also expected to begin during 2019. These are topics that we will be eager to hear updates on given their potential outsized influence on whether a provider chooses to use, or a payor chooses to reimburse for, a particular modality or therapy.

SNWV’s initial commercialization territories in the U.S., which they chose due to their potential receptiveness to adoption and use of dermaPACE (under a CPT III code), are Texas, California, North and South Carolina, Pennsylvania and Illinois (these are the initial territories and are in addition to the 10 NGS states). The criteria under which these areas were chosen includes population density, presence of doctors with high volume of DFU patients and payors that have shown to be more amenable to reimbursing for novel technologies.

Management indicated on their recent earnings calls that initial feedback from U.S. clinicians has been positive. Among the feedback were comments from doctors of ‘great results’ with using dermaPACE for chronic wounds, that safety of the device was noteworthy, plans to use dermaPACE for DFUs in conjunction with other therapies and use of dermaPACE when other therapies have failed.

Valuation

We approach modeling U.S. revenue based on unit placements. Our model incorporates three cases; conservative, base and liberal – which are based on assumed margin (to SNWV), market opportunity, unit placements rate and number of treatments per console.

We incorporate the following assumptions (all of which are subject to updating);

Unit placements model:

Utilization:

- o on the low end (i.e. conservative), we assume one patient treated per (business) day per every four consoles (which implies initially, 75% of placed units are idle) and an average of 6 treatments per patient (equal to ~0.5 patients per console per month)
 - o on the high end (i.e. liberal), we assume one patient treated per (business) day per every two consoles (which implies initially, 50% of placed units are idle) and an average of 6 treatments per patient (equal to ~1 patient per console per month)
 - o base case is the average of the two
- Margin per treatment to SNWV:
- o \$100 liberal, \$75 base, \$50 conservative

		2019	2020	2021	2022
Consoles	liberal	110	275	413	495
	base	75	188	281	360
	conservative	40	100	150	225
onsole/mth	liberal	1.00	4.00	10.00	12.50
	base	0.75	2.75	6.13	7.94
	conservative	0.50	1.50	2.25	3.38
Treatments	liberal	7,920	79,200	297,000	445,500
	base	4,680	45,000	160,650	250,088
	conservative	1,440	10,800	24,300	54,675
Margin	liberal	\$101	\$102	\$103	\$104
	base	\$76	\$77	\$77	\$78
	conservative	\$51	\$51	\$52	\$52
Revenue	liberal	\$799,920	\$8,079,192	\$30,599,940	\$46,358,909
	base	\$436,320	\$4,315,023	\$15,925,878	\$24,601,830
	conservative	\$72,720	\$550,854	\$1,251,816	\$2,844,751

Based on our belief that the early years of U.S. commercialization will be based on “picking their spots” based on hospitals, regional payers, wound centers and clinics as well as KOLs where reimbursement may be most favorable, we think the unit placement model may be most appropriate as a guide. This is also the reason why we do not extend this model past the year 2022.

We reiterate that our model is subjecting to updating. It will almost certainly change based on when there is more definitive information to make more informed judgments about inputs. And while we assume conservative, base and liberal cases, our inputs for each should not be interpreted to mean that, for example, margin cannot significantly exceed \$100 per treatment. Meanwhile, we have OUS revenue remaining relatively flat to slightly down from the \$1.6M generated in 2018 through to 2022.

Valuation

We value SNWV at 8.5x forward sales, which we think fairly reflects the potential high-growth opportunity, particularly in the U.S. We note our P/S multiple was increased from 7.5x to reflect the risk reduction and potential for accelerated time to cash-flow break even as a result of the NGS coding update. With the updates to our model, we have SNWV generating approximately \$17.2M in revenue in 2021 – which values the company at approximately \$0.75/share.

FINANCIAL MODEL

SANUWAVE Health, Inc.

	2017 A	Q1A	Q2A	Q3A	Q4A	2018 A	Q1A	Q2A	Q3E	Q4E	2019 E	2020 E	2021 E	2022 E
Total Revenues	\$738.5	\$344.3	\$453.2	\$595.8	\$456.8	\$1,850.0	\$178.0	\$317.0	\$396.2	\$568.0	\$1,459.1	\$5,528.0	\$17,270.5	\$26,057.9
<i>YOY Growth</i>	-46.3%	130.2%	308.1%	268.7%	44.4%	150.5%	-48.3%	-30.1%	-33.5%	24.4%	-21.1%	278.9%	212.4%	50.9%
Cost of Revenues	\$242.0	\$165.5	\$166.6	\$183.6	\$178.0	\$693.7	\$93.9	\$185.9	\$191.8	\$257.3	\$728.8	\$2,088.79	\$5,833.73	\$8,144.37
Gross Income	\$496.6	\$178.8	\$286.6	\$412.2	\$278.8	\$1,156.4	\$84.1	\$131.1	\$204.4	\$310.7	\$730.3	\$3,439.2	\$11,436.8	\$17,913.5
<i>Gross Margin</i>	67.2%	51.9%	63.2%	69.2%	61.0%	62.5%	47.3%	41.4%	51.6%	54.7%	50.1%	62.2%	66.2%	68.7%
R&D	\$1,292.5	\$349.4	\$368.3	\$661.7	\$284.3	\$1,663.9	\$261.0	\$307.3	\$401.2	\$510.3	\$1,479.8	\$2,102.7	\$2,394.5	\$2,901.2
<i>% R&D</i>	175.0%	101.5%	81.3%	111.1%	62.3%	89.9%	146.7%	96.9%	101.3%	89.8%	101.4%	38.0%	13.9%	11.1%
SG&A	\$3,004.4	\$945.6	\$2,034.0	\$2,415.1	\$1,255.8	\$6,650.5	\$1,675.2	\$1,833.9	\$2,055.6	\$2,174.5	\$7,739.2	\$8,308.6	\$15,370.7	\$18,892.0
<i>% G&A</i>	406.8%	274.7%	448.8%	405.4%	274.9%	359.5%	941.3%	578.6%	518.8%	382.8%	530.4%	150.3%	89.0%	72.5%
Depreciation	\$24.1	\$5.0	\$6.0	\$5.7	\$5.6	\$22.3	\$8.4	\$9.5	\$9.7	\$10.1	\$37.6	\$48.0	\$85.0	\$110.0
Operating Income	(\$3,824.5)	(\$1,121.3)	(\$2,121.7)	(\$2,670.4)	(\$1,267.0)	(\$7,180.3)	(\$1,860.4)	(\$2,019.5)	(\$2,262.1)	(\$2,384.2)	(\$8,526.3)	(\$7,020.1)	(\$6,413.5)	(\$3,989.6)
<i>Operating Margin</i>	-517.9%	-325.7%	-468.2%	-448.2%	-277.4%	-388.1%	-1045.4%	-637.1%	-570.9%	-419.8%	-584.3%	-127.0%	-37.1%	-15.3%
Total Other Expense	(\$1,713.5)	(\$4,735.4)	(\$766.5)	\$1,845.2	(\$794.4)	(\$4,451.1)	(\$336.9)	(\$714.9)	(\$909.7)	(\$912.4)	(\$2,865.6)	(\$2,254.8)	(\$1,518.7)	(\$1,311.6)
Pre-Tax Income	(\$5,538.0)	(\$5,856.7)	(\$2,888.3)	(\$825.1)	(\$2,061.4)	(\$11,631.4)	(\$2,197.3)	(\$2,734.4)	(\$3,171.8)	(\$3,296.7)	(\$11,391.9)	(\$9,274.9)	(\$7,932.2)	(\$5,301.2)
Taxes	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<i>Tax Rate</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net Income	(\$5,538.0)	(\$5,856.7)	(\$2,888.3)	(\$825.1)	(\$2,061.4)	(\$11,631.4)	(\$2,197.3)	(\$2,734.4)	(\$3,171.8)	(\$3,296.7)	(\$11,391.9)	(\$9,274.9)	(\$7,932.2)	(\$5,301.2)
<i>YOY Growth</i>	-14.2%	-9.3%	485.2%	-41.7%	142.1%	110.0%	-60.3%	-53.3%	9.8%	299.5%	-2.1%	-18.6%	-14.5%	-33.2%
<i>Net Margin</i>	-749.9%	-1701.2%	-637.3%	-138.5%	-451.3%	-628.7%	-1234.7%	-862.7%	-800.6%	-580.4%	-780.7%	-167.8%	-45.9%	-20.3%
EPS (continuing ops)	(\$0.04)	(\$0.04)	(\$0.02)	(\$0.01)	(\$0.01)	(\$0.08)	(\$0.01)	(\$0.02)	(\$0.02)	(\$0.02)	(\$0.06)	(\$0.03)	(\$0.02)	(\$0.01)
Diluted Shares O/S	138,828	139,754	148,582	151,826	157,989	149,538	157,113	174,731	196,047	208,125	184,004	290,000	350,000	370,000

Brian Marcks, CFA

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, 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.

INVESTMENT BANKING AND FEES FOR SERVICES

Zacks SCR does not provide investment banking services nor has it received compensation for investment banking services from the issuers of the securities covered in this report or article.

Zacks SCR has received compensation from the issuer directly, from an investment manager, or from an investor relations consulting firm engaged by the issuer for providing non-investment banking services to this issuer and expects to receive additional compensation for such non-investment banking services provided to this issuer. The non-investment banking services provided to the issuer includes the preparation of this report, investor relations services, investment software, financial database analysis, organization of 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 and types of services contracted. Fees typically range between ten thousand and fifty thousand dollars per annum. Details of fees paid by this issuer are available upon request.

POLICY DISCLOSURES

This report provides an objective valuation of the issuer today and expected valuations of the issuer at various future dates based on applying standard investment valuation methodologies to the revenue and EPS forecasts made by the SCR Analyst of the issuer's business.

SCR Analysts are restricted from holding or trading securities in the issuers that they cover. ZIR and Zacks SCR do not make a market in any security followed by SCR nor do they act as dealers in these securities. Each Zacks SCR Analyst has full discretion over the valuation of the issuer included in this report based on his or her own due diligence. SCR Analysts are paid based on the number of companies they cover. SCR Analyst compensation is not, was not, nor will be, directly or indirectly, related to the specific valuations or views expressed in any report or article.

ADDITIONAL INFORMATION

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