November 1, 2019

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

NanoVibronix Inc (NAOV-NASDAQ)

VA Channel, Updated Reimbursement, Opioid Crises Add to Upside Potential for PainShield

We value NAOV using P/S multiple methodology applied to our forecasted revenue in 2024, representing a five-year growth runway from today. Based on the assumptions outlined in our valuation section, we look for revenue of approximately $100M in 2024. We apply a 3.5x multiple and discount back at a risk-adjusted 30% per year to arrive at calculated current fair market value of ~$72M, or $10.00/share. Our risk-adjusted discount rate is subject to change and could narrow with substantive operational and product development progress or could widen with operational and product development delays or failures.

Current Price (11/01/19)	$2.67
Valuation	**$10.00**

OUTLOOK

Highlights on the financial side include setting record highs on total revenue, PainShield revenue and UroShield revenue, gross margin at the widest level for at least the last 14 quarters and op loss at the lowest level since Q2'18. NAOV's operational progress also continues. Strides on the operational front have been broad based with meaningful headway made in several critical areas including product development (clinical validation as well as pipeline expansion), sales and distribution, regulatory and reimbursement, among others. Particularly encouraging is that management appears to have a solid grasp of the breadth of the challenges they face and is addressing each with what we believe are practical solutions (which oftentimes is not the case with small med-tech companies' leadership). We also note that the significance of what management has accomplished over just the last few quarters should not be underestimated as much of this progress could result in a direct and rapid steepening of the company's revenue curve and potentially speed the path to profitability and positive cash flow generation. But while their strategic plan makes sense, 'success' will also depend on the ability to deftly execute it.

SUMMARY DATA

52-Week High	**$4.50**
52-Week Low	**$1.96**
One-Year Return (%)	**-28.80**
Beta	**-0.49**
Average Daily Volume (sh)	**14,686**
Shares Outstanding (mil)	**7**
Market Capitalization ($mil)	**$19**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**12**
Insider Ownership (%)	**17**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**23.6**
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	**Above Avg.,**
Type of Stock	**Small-Growth**
Industry	**Med-Tech Devices**

ZACKS ESTIMATES

Revenue
(in 00,000s of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2017	0.5 A	0.5 A	0.6 A	0.7 A	2.3 A
2018	0.8 A	1.3 A	0.5 A	0.6 A	3.2 A
2019	0.8 A	2.6 A	1.3 E	1.5 E	6.3 E
2020					13.4 E

Earnings Per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2017	-$0.37 A	-$0.19 A	-$0.35 A	-$0.26 A	-$1.17 A
2018	-$0.12 A	-$0.13 A	-$0.21 A	-$0.18 A	-$0.64 A
2019	-$0.40 A	-$0.16 A	-$0.20 E	-$0.20 E	-$0.95 E
2020					-$0.81 E

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

© Copyright 2019, Zacks Investment Research. All Rights Reserved.

Q2 2019 Results / Business Update
NanoVibronix turned in a solid performance in Q2 (ending June 30, 2019) on both a financial and operational perspective. Highlights on the financial side include setting record highs on total revenue, PainShield revenue and UroShield revenue, gross margin (78.7%) at the widest level for at least the last 14 quarters and operating loss at the lowest level since Q2'18.

Relative to NanoVibronix's Q2 financials, revenue was $263k, well ahead of our $96k estimate and up 99% and 233% from the prior year ($132k) and three-month period ($79k), respectively. While PainShield continues to be the major driver of revenue on a dollar basis, UroShield's record sales in Q2 were a significant contributor to the quarters' impressive yoy and qoq percentage growth.

PainShield accounted for 64% of total sales in Q2 and also contributed 64% of the $131k yoy revenue growth. The other 36% of revenue and yoy sales growth came from UroShield. Meanwhile, UroShield, which generated just $7k in revenue in Q1 and $95k in Q2, was responsible for 48% of the sequential topline increase while PainShield contributed the other 52%.

While consumables sales remain relatively minimal, accounting for just 2% and 3% of total revenue in the three- and six-months ending June 30, 2019, we continue to expect this to grow. We continue expect to see utilization grow with further expansion of NAOV's distribution footprint and greater awareness of the clinical benefits (and safety) of their low intensity low frequency ultrasound technology. In addition, the recently announced intention to launch a CBD patch and CBD cream (targeting the pain market) could result in further acceleration of consumables-related sales.

Q2'19 and 1H'19 gross margins of 79% and 76%, respectively, compare very favorably to the comparable prior year periods' 58% and 63%. The current gross margins also appear to be higher than any prior three and consecutive six-month periods and at least partially bolstered by receipt in Q2 of a nonrefundable deposit related to a royalty agreement signed in the quarter. While we continue to expect some variability in gross margin based on product and distributor mix, we also continue to look for GM to widen over the long-term. NAOV's recently announced agreement with an Israel contract manufacturer with facilities in China is expected to result in margin enhancement and potentially reduce cost of goods sold of some products by as much as 50%. The company recently noted that they have completed a manufacturing test run at this facility with "favorable results".

Meanwhile, operating expenses were $1.1M in Q2 and $3.4M in 1H'19 compared to $0.9M and $1.8M in the prior year periods. A portion of the current year increases relates to personnel additions (largely in sales and marketing functions) and higher professional and consulting fees. Most of the difference is reflected by a significant increase in non-cash stock compensation – which increased by $1.3M in 1H'19 as compared to the first half of 2018.

Relative to the operational update…
NanoVibronix's operational progress also continues. Importantly, strides on the operational front have been broad based with meaningful headway made in several critical areas including product development (including clinical validation as well as pipeline expansion), sales and distribution, regulatory and reimbursement, among others. Particularly encouraging in our opinion is that management appears to have a solid grasp of the breadth of the challenges they face and is addressing each with what we believe are practical solutions (which oftentimes is not the case with small med-tech companies' leadership). We also note that the significance of what management has accomplished over just the last few quarters should not be underestimated as much of this progress could result in a direct and rapid steepening of the company's revenue curve and potentially speed the path to profitability and positive cash flow generation. But while their strategic plan makes sense, 'success' will also depend on the ability to deftly execute it.

Some of the more encouraging announcements relate to NAOV's quest to 'find' and/or 'create' (our words) reimbursement for their products – with much of their focus in that regard related to PainShield. As we indicated in our initiation report on the company (Initiation of Coverage on NAOV*: technology represents a potential paradigm shift in the treatment of chronic pain, difficult-to-heal wounds and biofilm eradication* Jan 17, 2019), securing of sufficient reimbursement should be on a short list of near-term goals. Given the outsized influence that availability of third-party reimbursement can have to the eventual success (or demise) of novel medical technologies such NAOV's, investors should be encouraged by even the most incremental progress on this front.

As it relates to this topic, NAOV most recently announced that they presented PainShield to a Healthcare Common Procedure Coding System (HCPCS) Workgroup at the Centers for Medicare & Medicaid Services (CMS). The aim was to make HCPCS aware of PainShield and its potential utility in clinical settings where they have product evaluation oversight for reimbursement purposes. Specifically, Level II of the HCPSC, evaluates medical products

and services used outside of physician offices and not covered by CMS' CPT coding schedule. While, currently, CMS-related claims for use of PainShield fall under a general miscellaneous CPT code, it does not cover home-use (and may otherwise very likely be un-reimbursable for all practical purposes). NOAV noted in their June 12, 2019 press release that they had previously submitted for a Level II code.

If granted, it could represent a meaningful step towards eventually securing 'sufficient' reimbursement for PainShield. While CMS rejected medtech-industry efforts to increase payment for outpatient use of non-opioid device-based pain therapies in August of this year, there remains significant interest in doing so[1]. And motivation is not only from industry but now also coming from Congress. In fact, U.S. legislators included in the 2020 Labor-HHS appropriations report (September 18, 2019) a demand that CMS increase non-opioid device reimbursement.[2] We continue to view the opioid crises in America as a potentially potent catalyst in driving clinician, regulatory and payer (Medicare and private) interest in effective alternatives to treating chronic pain, potentially including PainShield.

This HCPCS presentation follows other positive reimbursement related progress earlier this year including;

- **In March 2019 NAOV announced** that they have been receiving reimbursement approvals from commercial and worker's compensation insurance plans. Specifically, NAOV announced that reimbursement for PainShield has been spurred by programs advocated by American Health Insurance Plans and the Centers for Medicare and Medicaid Services designed to encourage adoption of non-opioid pain management therapeutics. NAOV's press release noted that this has aided in securing approval and reimbursement for the use of PainShield.
- **In May 2019NAOV announced** that they have entered an agreement with Protrade in order to access reimbursement programs for sports programs and made progress towards obtaining reimbursement by the U.K. National Health System and The National Institute for Health and Care Excellence (NICE)

Among NanoVibronix's recent pipeline-related news was that from early June when the company announced plans to develop and ultimately launch a **cannabidiol patch and cream to be used in combination with PainShield**. The CDB patch and cream will be developed using a proprietary nanoparticle infusion process (aimed at providing for enhanced absorption and sustained pain relief). NOAV has teamed up with Saralex Group which will lead the regulatory and launch activities. Canada and Europe, where CBD has favorable legal status, are the intended initial target markets. We expect we will hear more about NAOV's development and clinical plans for 'PainShield CBD' as this program gets further underway – and hope to have an approximate timeline for when we may see initial clinical data.

The company also continues to build out **its sales and distribution infrastructure and footprint**. Most recently, this included announcements related to:

- **selling PainShield to VA Hospitals and the U.S. Department of Justice**. On 9/3/19 NAOV announced an agreement with Marathon Medical to provide PainShield to these government organizations as a way to help address the opioid crises. This follows on the heels of PainShield (and related supplies) being added to the Federal Supply Schedule in mid-August 2019 (via Marathon Medical) – a significant and requisite step to be able to sell to the VA. Marathon Medical is a Service-Disabled Veteran-Owned Small Business which enjoys the benefits of the government limiting competition for certain contracts (i.e. "set-aside contracts")[3]. The VA channel potentially represents another avenue to bring awareness of PainShield as a substitute for opioids in the treatment of pain and to leverage the VA's Opioid Safety Initiative – which, among other mandates, encourages clinicians to consider use of non-opioid pain-relief therapies

- **OEM sales of PainShield**, providing benefits of branding (name-recognition and awareness) and, presumably, adding a new lane of distribution. On 8/27/19 NAOV announced an agreement with Medisana. Per NAOV's PR, they will manufacture a specialized product based on PainShield called PT-100 exclusively for Medisana GmbH. Specific terms of the deal were not disclosed which makes it impossible for us to gauge the potential significance of financial implications for NAOV, at the very least, this deal should provide opportunity to build additional awareness of NAOV's technology including its utility for at-home use – which is where we believe the majority of the opportunity lies for PainShield. Medisana's website notes that they are "one of the leading healthcare specialists" and "operate in the home health care market and work continuously to develop, manufacture and market healthcare products for the end user".[4]

- **distribution of PainShield via ProTrade Systems.** On 8/131/9 NAOV announced that they signed a distribution agreement for PainShield with Protrade Systems. While Protrade Systems' website includes very

[1] MEDTECHDIVE Aug 12, 2019. https://www.medtechdive.com/news/senate-lawmakers-direct-cms-to-boost-non-opioid-devices-reimbursement/563290/
[2] DEPARTMENTS OF LABOR, HEALTH AND HUMAN SERVICES, AND EDUCATION, AND RELATED AGENCIES APPROPRIATION BILL, 2020
[3] U.S. SBA. Service-Disabled Veteran-Owned Small Businesses program. http://bit.ly/34nwk5z. Set-aside contracts http://bit.ly/32cvSWs
[4] Medisana GmbH. https://www.medisana.com/lngen/unternehmen/unternehmen/?lang=en

little background about the company, NAOV's PR notes that "ProTrade Systems, a medical equipment distributor in the U.S. for thousands of patients, elite athletes, athletic trainers, professional teams, special military forces, orthopedic surgeons, sports medicine doctors, and physical therapists."

- **distribution of PainShield and UroShield via Ideal Medical International Ltd**. On 7/23/19 NAOV announced a non-exclusive international distribution agreement for PainShield and UroShield with Ideal Medical which covers "various regions throughout the world." Ideal Medical Int'l Ltd is a subsidiary of IMS Medical, which NAOV has had an ongoing agreement with for distribution of UroShield in the UK.

And, as a reminder, NAOV made more distribution-related progress earlier this year including…

- **Letters of Intent:** NAOV noted in their Q1'19 Business Update (in May) that they entered an LOI for private label sale of PainShield into the Gulf Coast countries. Additional information, including the identity (ies) of the counterparty (ies) or potential timing of consummation of the agreement, was not disclosed.
- **Italy distribution:** in March 2019 NAOV announced an agreement with N.B.A. Medica Srl to market and distribute PainShield and UroShield in Italy.
- **"Very Positive responses from potential distributors of UroShield":** NAOV noted in their 2018 year-end business update (April 2, 21019) that they "are getting very positive responses from potential distributors of UroShield on the heels of our recent trials and publications." As a reminder, distribution agreements were previously signed for UroShield covering India (December 2018), Israel (December 2018) and Switzerland (December 2018).
- **PainShield distribution**: previously added Fritz Clinic (as of January 2019), Golfballs.com (Q3 2018) and Fabrication Enterprises, Inc (May 2018).

NanoVibronix is showing no signs of slowing down as it relates to their focus on accelerating adoption and utilization of their three main product platforms; namely PainShield, UroShield and WoundShield. The company's strategy includes;

- a focus on leveraging clinical evidence to facilitate awareness-building, sales and marketing, and regulatory efforts
- publishing existing clinical data and generating new data through commencement of additional clinical studies
- expanding the distribution footprint and overall sales capabilities
- label expansion (including OTC use for PainShield) and additional regulatory clearances for their existing product suite and initial approvals for their product pipeline
- optimize manufacturing to increase production efficiencies and scalability
- obtaining reimbursement
- licensing to category-specific companies with significant distribution

As it relates to clinical trials and driving awareness of the evidence supporting the utility and efficacy of their technology…

- ***PainShield Trigeminal Neuralgia Study Published in of the Journal of Anesthesiology and Pain Research…***

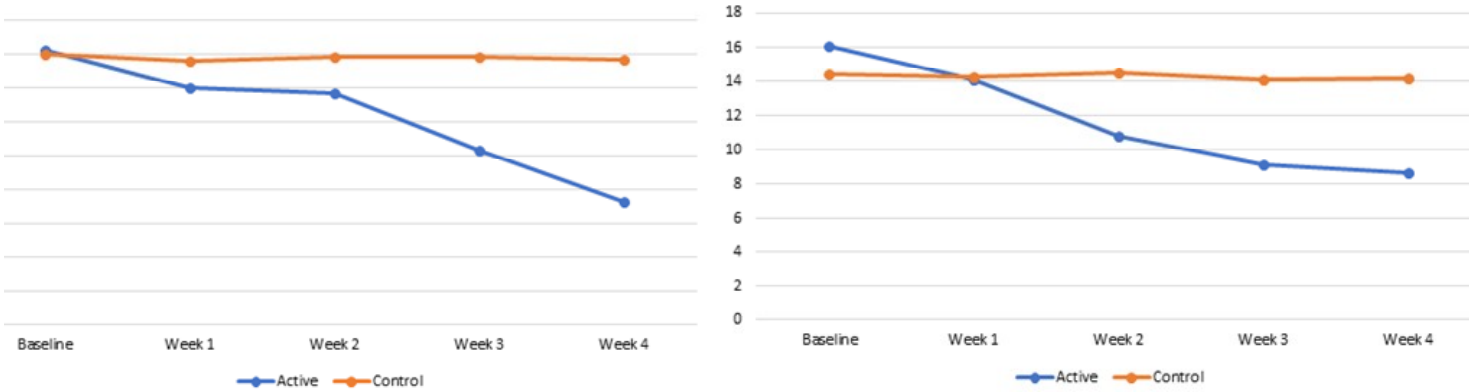
  The previously-announced clinical study of PainShield as a treatment for trigeminal neuralgia was published in the January 2019 issue of the Journal of Anesthesiology and Pain Research. The U.S.-based double-blinded cross-over study (n=59), titled "The Effect of a Surface Acoustic Wave (SAW) Device on the Symptomatology of Trigeminal Neuralgia", compared PainShield to a sham device on the following outcome measures; pain (as assessed by Visual Analog Scale, or VAS), quality of life (based on a number of QoL questionnaires) and breakthrough medications taken (breakthrough medications included Percocet, oxycodone, hydrocodone, codeine, and morphine patches).

  Participants were instructed to use PainShield or the sham device each night for 30 nights while they slept. Each day they completed a Visual Analog Scale (indicating pain severity) and medication logs (reporting how much pain medication they took). QoL questionnaires were completed at the end of the 30-day treatment period.

  Results, which were first announced in July 2018, showed that patients in the PainShield group (n=30) experienced a 55.2% improvement in baseline pain scores versus a 2.3% improvement in the control cohort (n=29). In addition, while control saw a 1.5% decrease in breakthrough pain medication use (including opioids), PainShield patients used 46.4% less. Moreover, there was an improvement in uninterrupted sleep favoring the PainShield group. The improvements in VAS scores as well as in the amount of pain medications used (both

favoring PainShield) were statistically significant (charts below). There was also an improvement in overall quality of life favoring PainShield, although the difference was not statistically significant.

Statistically significant improvement in pain scores (L) and pain medications taken (R) favoring PainShield



Source: Markowitz et al., J Anesthesiol Pain Res 2019, 2:1

- **Interim results of a recent study support effectiveness of PainShield in tennis elbow…**
  In March 2019 NAOV announced interim results of a new study supporting the effectiveness of PainShield in the treatment of lateral epicondylitis, or tennis elbow. Results of "The Effects of the NanoVibronix's PainShield Surface Acoustic Waves on the Symptoms of Lateral Epicondylitis" showed seven of ten patients with tennis elbow using PainShield plus physical therapy had complete pain resolution or significant improvement in pain. This compares to just five of twelve patients in the control group that had similar outcomes. No adverse events or complications were reported.

  The randomized, double-blinded study evaluated PainShield over 30 days on patients suffering from lateral epicondylitis. Symptoms included pain, discomfort and loss of mobility. A total of 24 patients (12 in each treatment cohort) were enrolled. The interim results were from 22 of the patients that completed the study (two others did not complete). While NAOV's press release announcing the results does not specify the expected total enrollment, it does note that the study is ongoing and additional patients are enrolling. Upon completion of the study, the company expects to have the results published.

- **Usability Study Completed, Is FDA Submission for OTC Approval of PainShield Upcoming?...**
  NAOV noted in their Q1'19 Business Update (May 24th) that the usability study has been completed. As a reminder, NAOV had previously mentioned (in a recent investor presentation) that their usability study (or 'human factor study') was underway. The study is one of several prerequisites needed to support an application to FDA seeking OTC approval of PainShield. Among others are product redesign, updated product packaging and redevelopment of Quick Reference guides. NAOV indicated in their Q1'19 Business Update that they have also made progress on one or more of these areas. OTC approval, if and when achieved, would be a major milestone as it would allow for purchase and use of PainShield without the need for a doctor's prescription – which has been a major impediment to sales to-date. Submission to FDA for OTC approval of PainShield was one of NAOV's anticipated 2019 milestones.

- **UroShield Sheep (safety) Study Completed, One Step Closer to FDA Submission…**
  NAOV mentioned in their Q1'19 Business Update that they completed the sheep study for UroShield. As a reminder, FDA asked the company to conduct this study to address certain of their concerns related to safety of the device. The goal of this large sheep study was to establish local tissue response from a urinary catheter with UroShield attached as compared to a control group. This is in addition to a comparative leachables study aimed at establishing that use of UroShield does not exceed toxicological safety limits. With the sheep study completed, NAOV is potentially one step closer to finalizing an eventual submission to FDA seeking U.S. regulatory clearance for UroShield – a filing which the company was shooting to make in late 2019.

Opioid crisis represents opportunity for PainShield…

The announcement that payers are encouraging use of novel pain management technologies such as PainShield comes as little surprise to us as we had all but anticipated that PainShield adoption and reimbursement would benefit as a result of a crackdown on the use of opioid pain medications.

As we initially wrote in our initiation report, U.S. state and federal regulators recently announced new measures aimed at stemming the oversubscribing of opioid pain medication. This includes a goal of the Trump administration to reduce opioid prescriptions by one-third over the next three years and more than 30 states enacting legislation limiting the number of opioid prescriptions for all conditions except cancer and palliative care. Insurers, both private and Medicare, have also placed limits on the number of prescriptions that they will now cover. These measures, coupled with a reaction by some doctors to do away with prescribing opioids altogether, has not only resulted in a significant decrease in the availability of these drugs for recreational purposes (and solely to feed addictions), but has also reduced access for patients that rely on them to control chronic pain.

This, we think, has created a potentially potent opportunity for NAOV with PainShield, particularly given that, in the face of the crackdown on opioids, the U.S. government is encouraging (and in some cases sponsoring) the development and use of alternative pain therapies (in fact, Mariano Rivera, per NAOV's March 21, 2018 press release, recently approached President Trump about PainShield). Fritz Clinic, which treats thousands of patients per month and will use PainShield as an alternative to opioids, is the first of potentially more collaborations which could expand use and build awareness of the utility of the device to reduce reliance of these highly addictive medications.

While CMS rejected medtech-industry efforts to increase payment for outpatient use of non-opioid device-based pain therapies in August of this year, there remains significant interest in doing so[5]. And motivation is not only from industry but now also coming from Congress. In fact, U.S. legislators included in the 2020 Labor-HHS appropriations report (September 18, 2019) a demand that CMS increase non-opioid device reimbursement. We continue to view the opioid crises in America as a potentially potent catalyst in driving clinician, regulatory and payer (Medicare and private) interest in effective alternatives to treating chronic pain, potentially including PainShield.

In September 2019 NAOV announced an agreement with Marathon Medical to provide PainShield to **VA Hospitals and the U.S. Department of Justice** as a way to help address the opioid crises. The VA channel potentially represents another avenue to bring awareness of PainShield as a substitute for opioids in the treatment of pain and to leverage the VA's Opioid Safety Initiative – which, among other mandates, encourages clinicians to consider use of non-opioid pain-relief therapies.

[5] MEDTECHDIVE Aug 12, 2019. https://www.medtechdive.com/news/senate-lawmakers-direct-cms-to-boost-non-opioid-devices-reimbursement/563290/

Model Assumptions

Our model assumptions include:

- Average selling price of the hardware and disposables of approximately $300 and $50, respectively
- Market sizes represent North America, developed Europe and, in some cases, Israel and other countries
- PainShield
    - TN
        - Target market size of ~400k people
        - Target market worth an estimated $130M
        - Once adopted, use is indefinite and each patient uses 12 patches per year
        - One percent penetration by year 2020, 2.5% penetration by 2024
    - "General pain'
        - Market size is ~235M people
        - Target market worth an estimated $30B
        - Much more sporadic use relative to TN
        - Less than 1% penetration through 2024
- WoundShield
    - Chronic wounds/DFU
        - Market size ~3M people
        - Target market worth an estimated $500M
        - Each patient requires 12 weeks of treatment and uses 3 patches
        - One-half of one percent penetration by 2022, 2.5% penetration by 2024
    - CLI / other wounds
        - Market size ~60M people
        - Target market worth an estimated $7.5B
        - Each patient requires 1 month of treatment and uses 1 patch
        - One-half of one percent penetration by 2022, less than 1% penetration by 2024
- UroShield
    - CAUTI market size of ~50k catheters
    - Target market worth an estimated $1.4B
    - One-half of one percent penetration by 2022, 2.5% penetration by 2024

Valuation

We think our above assumptions are reasonable and, arguably, conservative. We value NAOV using P/S multiple methodology applied to our forecasted revenue in 2024, representing a five-year growth runway from today. Based on the above assumptions, we look for revenue of approximately $100M in 2024. We apply a 3.5x multiple and discount back at a risk-adjusted 30% per year to arrive at **calculated current fair market value of ~$72M, or $10.00/share**. Our risk-adjusted discount rate is subject to change and could narrow with substantive operational and product development progress or could widen with operational and product development delays or failures.

FINANCIAL MODEL

NanoVibronix, Inc

	2018 A	Q1A	Q2A	Q3E	Q4E	2019 E	2020 E	2021 E
Total Revenues	$318.0	$79.0	$263.0	$132.0	$153.0	$627.0	$1,334.6	$4,841.1
YOY Growth	*33.1%*	*2.6%*	*99.2%*	*144.4%*	*178.2%*	*97.2%*	*112.9%*	*262.7%*
Cost of Goods Sold	$158.0	$26.0	$56.0	$64.0	$68.9	$214.9	$485.8	$1,558.8
Gross Income	$160.0	$53.0	$207.0	$68.0	$84.2	$412.1	$848.8	$3,282.3
Gross Margin	*50.3%*	*67.1%*	*78.7%*	*51.5%*	*55.0%*	*65.7%*	*63.6%*	*67.8%*
SG&A	$3,849.0	$2,124.0	$953.0	$1,257.0	$1,376.0	$5,710.0	$6,512.2	$8,354.1
% SG&A	*1210.4%*	*2688.6%*	*362.4%*	*952.3%*	*899.3%*	*910.7%*	*487.9%*	*172.6%*
R&D	$614.0	$152.0	$150.0	$207.2	$187.4	$696.6	$1,201.4	$1,599.6
% R&D	*193.1%*	*192.4%*	*57.0%*	*157.0%*	*122.5%*	*111.1%*	*90.0%*	*33.0%*
Operating Income	($4,303.0)	($2,223.0)	($896.0)	($1,396.2)	($1,479.3)	($5,994.5)	($6,864.8)	($6,671.4)
Operating Margin	*-1353.1%*	*-2813.9%*	*-340.7%*	*-1057.7%*	*-966.8%*	*-956.1%*	*-514.4%*	*-137.8%*
Total Other Income (Expense)	$22.0	($444.0)	($205.0)	($17.5)	($19.1)	($685.6)	$21.2	$18.4
Pre-Tax Income	($4,281.0)	($2,667.0)	($1,101.0)	($1,413.7)	($1,498.4)	($6,680.1)	($6,843.6)	($6,653.0)
Tax expense (benefit)	($127.0)	$12.0	$6.0	$0.0	$0.0	$18.0	$0.0	$0.0
Tax Rate	*3.0%*	*-0.4%*	*-0.5%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Net Income	($4,154.0)	($2,679.0)	($1,107.0)	($1,413.7)	($1,498.4)	($6,698.1)	($6,843.6)	($6,653.0)
YOY Growth	*-28.5%*	*229.4%*	*21.1%*	*5.8%*	*7.3%*	*61.2%*	*2.2%*	*-2.8%*
Net Margin	*-1306.3%*	*-3391.1%*	*-420.9%*	*-1071.0%*	*-979.3%*	*-1068.3%*	*-512.8%*	*-137.4%*
EPS	($0.64)	($0.40)	($0.16)	($0.20)	($0.20)	($0.95)	($0.81)	($0.71)
YOY Growth	*-44.9%*	*218.3%*	*16.7%*	*-6.1%*	*2.5%*	*48.1%*	*-14.9%*	*-12.4%*
Diluted Shares O/S	6,448	6,652	6,789	7,154	7,485	7,020	8,425	9,350

Brian Marckx, CFA

© Copyright 2019, Zacks Investment Research. All Rights Reserved.

HISTORICAL STOCK PRICE



© Copyright 2019, Zacks Investment Research. All Rights Reserved.

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.

CANADIAN COVERAGE

This research report is a product of Zacks SCR and prepared by a research analyst who is employed by or is a consultant to Zacks SCR. The research analyst preparing the research report is resident outside of Canada, and is not an associated person of any Canadian registered adviser and/or dealer. Therefore, the analyst is not subject to supervision by a Canadian registered adviser and/or dealer, and is not required to satisfy the regulatory licensing requirements of any Canadian provincial securities regulators, the Investment Industry Regulatory Organization of Canada and is not required to otherwise comply with Canadian rules or regulations.