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electroCore, Inc. (ECOR: NASDAQ)

2023 Guidance Propelled by New Products

Our valuation is generated using a 20x multiple of 2026 earnings and discounting that value to the present year at a 20% rate.

Current Price (3/9/2023)	$3.82
Valuation	**$30.00**

OUTLOOK

electroCore is a commercial company marketing its gammaCore vagus nerve stimulation device in multiple migraine and cluster headache indications. The device non-invasively stimulates the vagus nerve which treats headache. It delivers an electrical pulse to activate the vagus nerve in the neck. Numerous clinical trials have been conducted supporting the efficacy and safety of gammaCore. Additional trials are underway for indications in stroke, PTSD, TBI and PT headache.

Sales are advancing in multiple areas: VA in the US, NHS in the UK, commercial, cash pay & distributors. Low penetration at the VA, expansions of the NHS program and continued efforts with commercial payors support topline advancement. Numerous distribution agreements signed around the globe will also layer on additional sales opportunities most recently with Joerns Healthcare, which is a domestic distributor in a variety of care settings.

Associations with the VA, NHS, CVS, Express Scripts & others combined with the strong safety and efficacy data for gammaCore support a long runway for topline growth in the US, European and Asian markets.

Our valuation assumes first positive earnings in 2025 and employs a multiple of 2026 earnings to determine target price.

SUMMARY DATA

52-Week High	**10.50**
52-Week Low	**2.93**
One-Year Return (%)	**-51.8**
Beta	**1.1**
Average Daily Volume (sh)	**19,340**
Shares Outstanding (mil)	**4.74**
Market Capitalization ($mil)	**18.1**
Short Interest Ratio (days)	**1.9**
Institutional Ownership (%)	**17.6**
Insider Ownership (%)	**17.3**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2022 Estimate	**N/A**
P/E using 2023 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**Above Average**
Type of Stock	**Small-Growth**
Industry	**Med-Tech Devices**

ZACKS ESTIMATES

Revenue

(In millions of USD)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2021	$1.2 A	$1.3 A	$1.5 A	$1.5 A	$5.5 A
2022	$1.9 A	$2.2 A	$2.0 A	$2.6 A	$8.6 A
2023					$14.6 E
2024					$23.1 E

Earnings per Share

	Q1	Q2	Q3	Q4	Year
2021	-$1.69 A	-$0.89 A	-$0.86 A	-$1.05 A	-$4.36 A
2022	-$1.18 A	-$1.13 A	-$1.15 A	-$1.22 A	-$4.69 A
2023					-$4.11 E
2023					-$2.84 E

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WHAT'S NEW

Full Year 2022 Financial and Operational Results

For the year ending December 31, 2022, electroCore Inc. (NASDAQ: ECOR) posted revenues of approximately $8.6 million vs. $5.5 million in the prior year period. While year over year growth was up 58%, sales in the fourth quarter accelerated sharply to a 72% increase driven by increases in the VA/DOD segment. Since our previous update in early February, electroCore has executed a reverse stock split, sold net operating loses for immediate cash, further expanded its patent portfolio and entered into another distribution agreement. Other events that took place in the fourth quarter include participation in several investor conferences, publication of findings demonstrating symptom reduction in opioid abuse patients and presentation of data supportive of gammaCore in the treatment of traumatic brain injury (TBI). The company also signed an agreement with Joerns Healthcare to distribute and bill gammaCore Sapphire to selected managed care health systems in November.

Full year 2022 financial and operational results were provided in a press release and Form 10-K filed with the SEC on March 8th. A conference call with investors and analysts was held immediately following the release. 2022 revenues of $8.6 million were slightly ahead of our estimates and revised company guidance and produced a net loss per share of ($4.69). Management anticipates revenues will fall between $14.0 and $15.0 million in 2023.

Operational and scientific highlights for 4Q:22 and to date include:

- Oral presentation given at NCS Annual Meeting on Traumatic Brain Injury – October 2022
- Distribution agreement signed with Joerns Healthcare – November 2022
- Received first purchase contract under the BOOST program – November 2022
- Launch of Truvaga – December 2022
- Reverse stock split – February 2023
- Distribution agreement with Byond Healthcare – February 2023

In the financial domain, revenues for 2022 were $8.6 million, a 58% increase over the $5.5 million generated in 2021. Net loss was ($22.2) million in 2022 which compares to our ($22.1) million estimate. This equated to a loss of ($4.69) on a per share basis.

For the 12-month period ending December 31, 2022 and versus the same period in 2021:

- Net sales were $8.6 million, up 58% primarily due to increases in the VA and DOD channel and growth in commercial revenues. Initial contributions from the launch of Truvaga and the BOOST program also added to the revenue line. Ex-US revenues grew more slowly than in the previous year due to US dollar strength;
- Gross margin was 81% versus 75% due to the favorable absorption of labor and overhead costs, and product mix tilted towards longer duration, higher margin therapy, and the contribution of high margin license revenues from Teijin. Some of the margin benefit was negatively impacted by a $217,000 charge in the fourth quarter related to the change in estimated useful life for licensed products;
- Research & development expenses totaled $5.5 million, rising 120% on increased investment in next-generation, smartphone integrating gammaCore devices;
- Selling, general & administrative expenses of $24.3 million were up approximately 13% from $21.6 million propelled by investments in cash pay, direct-to-physician, direct-to-consumer awareness campaigns and the e-commerce platform;
- Net loss was ($22.2) million versus ($17.2) million with loss per share ($4.69) and ($4.36), respectively.[1]

As of December 31, 2022, cash, equivalents and marketable securities on the balance sheet totaled $17.7 million. Cash burn was ($16.6) million. No financing cash flows were recognized. For 2023, management has guided to revenues from $14 to $15 million. We anticipate operating expenses rising mid-single digits net of expense reductions early in 2023. R&D will be driven by new product development and we could see a National Institute on Drug Abuse (NIDA) grant funding work to use gammaCore to treat symptoms of substance withdrawal.

[1] Note that our earnings per share actuals use updated share counts in previous periods to reflect the February 2023 reverse stock split.

New Distributor

In February 2023 electroCore added another distributor to its roster, Byond Healthcare Pty Ltd in South Africa, bringing its total number of distribution partners to eleven. The exclusive distribution agreement with Byond has a three-year term which will allow the partner to distribute gammaCore Sapphire in South Africa and Namibia. We summarize below the distribution arrangements that electroCore has signed in the last several years.

Exhibit I – Distribution Agreements[2]

Partner	Announce Date	Region	Term
Pro Medical Baltic	December 2020	Lithuania, Latvia, Belarus, Kazakhstan, Ukraine	Three Years
RSK Medical	January 2021	Canada	Three Years
Medistar	February 2021	Australia	Three Years
Silvert Medical	March 2021	Belgium, Luxembourg, the Netherlands, France	Three Years
East Agency	April 2021	Qatar	Three Years
Kromax	June 2021	Taiw an, China, Malaysia, Singaport, Indonesia	Three Years
Melidonia	December 2021	Cyprus	Three Years
Cyrus	December 2021	United Arab Emirates, Oman	Five Years
Medexsol	December 2021	Saudi Arabia, Bahrain	Five Years
Teijin	April 2022	Japan	Not Disclosed
Byond Healthcare	February 2023	South Africa & Namibia	Three Years

Truvaga

electroCore's strategy over the last several years has been to expand its revenue sources into new geographical, government and product verticals. The latest initiative is Truvaga™ which is a device similar to gammaCore Sapphire which activates the vagus nerve. Truvaga reduces stress by activating the vagus nerve at the primary source in the neck.[3] There is a broad body of research demonstrating that vagus nerve stimulation can influence the body's stress response, which in turn increases serotonin and norepinephrine. Serotonin is involved in regulating mood, appetite, and sleep, among other functions and is associated with feelings of happiness and well-being. Norepinephrine acts as a neurotransmitter and hormone, playing a role in regulating attention and alertness, as well as regulating the body's sympathetic nervous system response in times of stress. Norepinephrine is also involved in regulating blood pressure and heart rate. See footnotes for additional research on vagus nerve stimulation and stress.[4,5]

The product sells for $299 online and claims to reduce stress, improve sleep, induce calmness and boost thinking. Support for the product is available with both online video and written instruction as well as a customer support line. Training sessions are also offered during the week. electroCore reported sales from Truvaga in 4Q:22.

Exhibit II – Truvaga Device[6]



[2] Analyst work compiled from electroCore press releases.
[3] The vagus nerve runs from the brainstem, down the neck and into the thorax and abdomen. It can be found in the neck near the pharynx, larynx, trachea and esophagus.
[4] Bremner, J.D., *et al.* Application of Noninvasive Vagal Nerve Stimulation to Stress-Related Psychiatric Disorders. J Pers Med. Sept 2020.
[5] Breit, S., *et al*. Vagus Nerve as Modulator of the Brain–Gut Axis in Psychiatric and Inflammatory Disorders. Front. Psychiatry, 13 March 2018.
[6] Source: electroCore's Truvaga website. Accessed February 2023.

New Patents
In late 2022, the US Patent Office granted two new patents to electroCore for disorders in general and gastrointestinal disorders specifically. The patents strengthen electroCore's portfolio that is expected to expand into a number of new conditions beyond migraines and cluster headaches. Another set of patents were announced in February 2023 related to new indications for nVNS therapy, technical design for refilling electroCore's device and new methods of vagal nerve stimulation therapy.

December patent titles:

- Non-invasive Magnetic or Electrical Nerve Stimulation to Treat Gastroparesis, Functional Dyspepsia, and other Functional Gastrointestinal Disorders
  - US patent number 11,511,109
  - Device uses methods involving the transmission of impulses of energy non-invasively to selected nerve fibers, particularly those in a vagus nerve.
- Non-invasive vagal nerve stimulation to treat disorders
  - US patent number 11,517,742
  - Disorders mentioned include asthma, COPD, depression, anxiety, epilepsy and fibromyalgia.

These patents build on the previous set of patents that were announced in 2022 related to using a mobile phone for vagus nerve stimulation in dementia, use of devices for remote therapy, treatment of a broad group of gastrointestinal disorders and use of a stimulator with a mobile device.

February patent titles:

- Non-Invasive Nerve Stimulation to Treat or Prevent Autism Spectrum Disorders and Other Disorders of Psychological Development
  - US patent number 11,534,600
  - Related to devices and methods for treating behavioral disorders, such as attention-deficit /hyperactivity disorder, autism spectrum disorder and Asperger syndrome with nVNS.
- Technologies for Initial Provisioning and Refilling of Medical Devices
  - US patent number 11,581,090
  - Related to electrical stimulation devices that limit the use of the devices to a prescribed number of treatments (e.g., doses) and/or a prescribed time period.
- Vagal Nerve Stimulation Therapy
  - US patent number 11,590,341
  - Related to a method of treating post-operative symptoms in a patient that includes attaching a patch to the neck of the patient and wirelessly transmitting electrical impulses to electrodes in the patch to reduce intraperitoneal or retroperitoneal inflammation.
  - The electrical impulses are applied for at least two doses/per day with each dose having a duration of 60 seconds to 5 minutes.

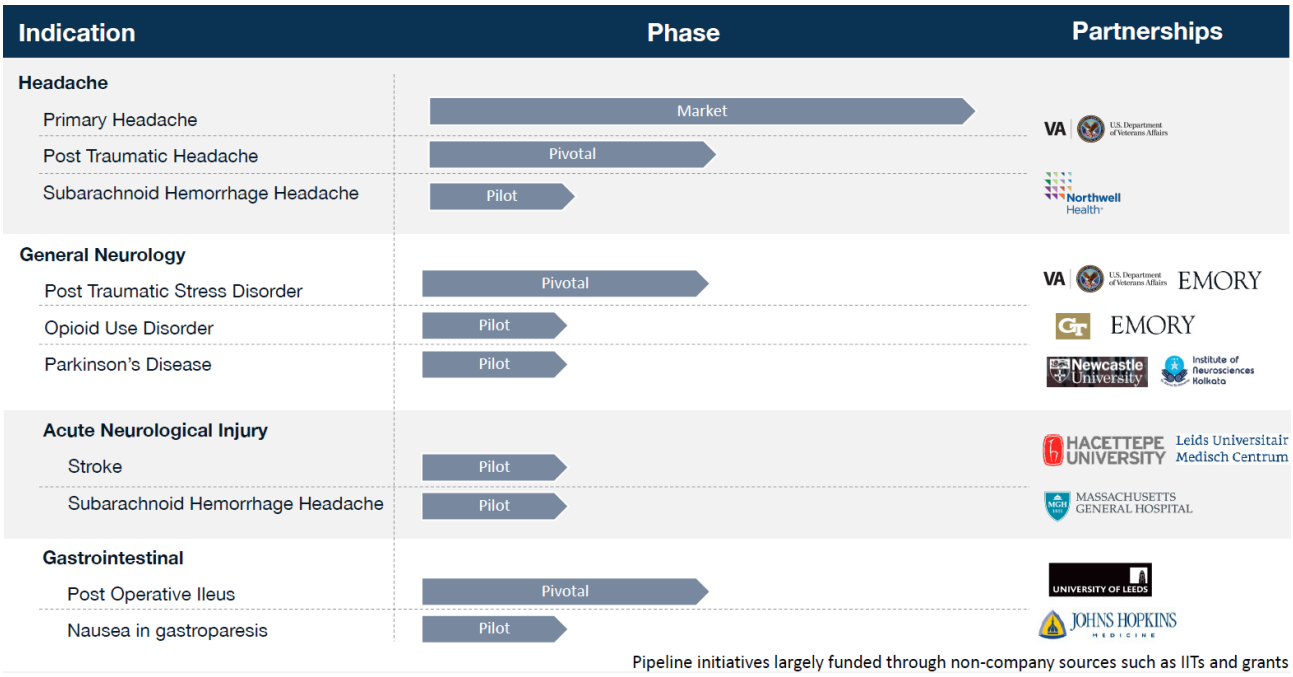
Belgian Product Code
In mid-November, electroCore was issued a National Code Number in Belgium which allows product recognition throughout the Belgian pharmaceutical network. The coding and recognition of gammaCore Sapphire by the system will improve the ease of prescribing the therapy and enhance the reimbursement process.

Department of Defense BOOST Program

electroCore was selected to participate in the Department of Defense's (DoD) Biotech Optimized for Operational Solutions and Tactics (BOOST) Program which is in part funded by the Defense Advanced Research Projects Agency (DARPA). The program seeks to improve training in the intelligence, surveillance, and reconnaissance (ISR) training environment. Investigations conducted using gammaCore have quantified a 20% acceleration in training and a 35% improvement in memory retention during intelligence, surveillance, and reconnaissance (ISR) training. The same participants also exhibited a 25% improvement in attention and mood. If further study confirms the initial findings, electroCore will be expected to provide field ready devices to the US Air Force by 2H:23. The company has signed an agreement with the contractor for the first purchase commitment for this nVNS product

which will be called the Tac-Stim[7] for human performance. electroCore is working to expand use of the product to all branches of the US Armed Services.

Exhibit III – electroCore Pipeline & Partnerships[8]



Valuation

We update our valuation to reflect the 1:15 reverse stock split, anticipated capital raises, operational expense adjustments and an advance of our discounted cash flow (DCF) model ahead by one year. We apply a 20x multiple to 2026 EPS and discount the result at 20% to present. This generates a valuation of $30 per share.

Summary

electroCore has been busy since its third quarter report. Most notable is the stronger than expected revenues in the fourth quarter which were driven by both government and commercial channels as well as new initiatives that could provide substantial growth in years to come. Another welcome surprise was the launch of Truvaga, which is a device similar to gammaCore Sapphire but is intended to treat stress and is being sold directly to the consumer. The favorable safety profile for vagus nerve stimulation and the non-invasive nature of the device make it an enticing online offering for consumer use.

electroCore continues to develop its intellectual property with additional indications added and also noted that it has received revenues in the fourth quarter related to its BOOST program. We are very positive on electroCore's prospects and see its strong revenue growth profile supporting substantially greater valuation. The material and bold initiatives being advanced by electroCore support continued strong topline growth and our price target of $30 per share.

[7] Tactical Stimulation (Tac-Stim). If it's the military, you've got to have an acronym.
[8] Source: electroCore Corporate Presentation November 2022

PROJECTED FINANCIALS

electroCore, Inc. - Income Statement

electroCore, Inc.	2021 E	Q1 A	Q2 A	Q3 A	Q4 A	2022 A	2023 E	2024 E
Total Revenues ($US '000)	**$5,451**	**$1,899**	**$2,157**	**$1,976**	**$2,560**	**$8,592**	**$14,606**	**$23,078**
YOY Growth	56%	58%	70%	33%	72%	58%	70%	58%
Cost of Goods Sold	$1,385	$360	$358	$258	$640	$1,616	$2,921	$4,616
Product Gross Margin	75%	81%	83%	87%	79%	81%	80%	80%
Research & Development	$2,536	$934	$1,341	$1,617	$1,628	$5,520	$5,962	$5,720
Selling, General & Administrative	$21,573	$6,186	$6,278	$5,657	$6,209	$24,330	$25,340	$26,354
Restructuring & Other	$0	$0	$0	$0	$0	$0	$0	$0
Income from operations	($20,043)	($5,581)	($5,820)	($5,556)	($5,917)	($22,874)	($19,616)	($13,611)
Operating Margin	*-368%*	*-294%*	*-270%*	*-281%*	*-231%*	*-266%*	*-134%*	*-59%*
Other Expense	($1,974)	$1	($38)	($103)	($141)	($281)	$0	$0
Pre-Tax Income	($18,069)	($5,582)	($5,782)	($5,453)	($5,776)	($22,593)	($19,616)	($13,611)
Provision for Income Tax	($851)	$0	($445)	$0	$14	($431)	$0	$0
Tax Rate	*4.7%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*1.9%*	*0.0%*	*0.0%*
Net Income	**($17,218)**	**($5,582)**	**($5,337)**	**($5,453)**	**($5,790)**	**($22,162)**	**($19,616)**	**($13,611)**
Net Margin	*-316%*	*-294%*	*-247%*	*-276%*	*-226%*	*-258%*	*-134%*	*-59%*
Reported EPS	**($4.36)**	**($1.18)**	**($1.13)**	**($1.15)**	**($1.22)**	**($4.69)**	**($4.11)**	**($2.84)**
YOY Growth	*624%*	*-30.1%*	*26.4%*	*33.5%*	*16.2%*	*7%*	*-12%*	*-31%*
Basic Shares Outstanding	3,945	4,711	4,721	4,739	4,744	4,729	4,773	4,791

Source: Company Filing // Zacks Investment Research, Inc. Estimates

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HISTORICAL STOCK PRICE

electroCore – Share Price Chart[9]



[9] Source: Zacks Research System

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