

As filed with Securities and Exchange Commission on July 12, 2022

Registration No. 333-

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
WASHINGTON, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

HELIUS MEDICAL TECHNOLOGIES, INC.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

3845
(Primary Standard Industrial
Classification Code Number)

36-4787690
(I.R.S. Employer
Identification Number)

642 Newtown Yardley Road, Suite 100
Newtown, Pennsylvania 18940
(215) 944-6100

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Dane C. Andreeff
President and Chief Executive Officer
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(215) 944-6100

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall hereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

SUBJECT TO COMPLETION, DATED JULY 12, 2022

PRELIMINARY PROSPECTUS



HELIUS MEDICAL TECHNOLOGIES, INC.

Up to Shares of Common Stock
Warrants to Purchase up to Shares of Common Stock
Pre-Funded Warrants to Purchase up to Shares of Common Stock

This is a best efforts public offering of _____ shares of our Class A common stock, par value \$0.001 per share ("common stock") and warrants to purchase up to _____ shares of our common stock (which we refer to as "Public Warrants") at an assumed combined public offering price of \$ _____ per share of common stock and accompanying Public Warrant. Each Public Warrant is immediately exercisable for one share of common stock at an exercise price of \$ _____ per share and will expire _____ years from the date of issuance.

We are also offering to those purchasers, if any, whose purchase of common stock in this offering would otherwise result in any such purchaser, together with its affiliates, beneficially owning more than 4.99% (or, at the election of such purchaser, 9.99%) of our outstanding common stock immediately following the consummation of this offering, the opportunity to purchase pre-funded warrants in lieu of shares of our common stock that would otherwise result in such purchaser's beneficial ownership exceeding 4.99% (or, at the election of such purchaser, 9.99%) of our outstanding common stock. The purchase price for each pre-funded warrant will equal the per share public offering price for the common stock in this offering less the \$0.001 per share exercise price of each such pre-funded warrant. Each pre-funded warrant will be exercisable upon issuance and will not expire prior to exercise. For each pre-funded warrant we sell, the number of shares of common stock we are offering will be decreased on a one-for-one basis.

Our common stock is quoted for trading on the Nasdaq Capital Market ("Nasdaq") under the symbol "HSDT". On July _____, 2022, the last reported sales price for our common stock was \$ _____ per share. The actual public offering price per share and accompanying Public Warrant will be determined between us, the Placement Agent and the investors in the offering, and may be at a discount to the current market price of our common stock. Therefore, the assumed public offering price used throughout this prospectus may not be indicative of the final public offering price. We do not intend to apply for listing of the Public Warrants or pre-funded warrants on any national securities exchange or trading system. Without an active trading market, the liquidity of the Public Warrants and pre-funded warrants will be limited.

An investment in our common stock and warrants involves a high degree of risk. Before buying any securities you should carefully read the discussion of the material risks of investing in our common stock and warrants in "Risk Factors" beginning on page 8 of this prospectus.

We have engaged Roth Capital Partners, LLC as our exclusive placement agent ("Roth" or the "Placement Agent") to use its reasonable best efforts to solicit offers to purchase our securities in this offering. The Placement Agent has no obligation to purchase any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. Because there is no minimum offering amount required as a condition to closing in this offering the actual public amount, Placement Agent's fee, and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering amounts set forth above and throughout this prospectus. We have agreed to pay the Placement Agent the Placement Agent fees set forth in the table below and to provide certain other compensation to the Placement Agent. See "Plan of Distribution" beginning on page 21 of this prospectus for more information regarding these arrangements.

Neither the Securities and Exchange Commission nor any other state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share and related Public Warrant(2)	Per Pre-Funded Warrant and related Public Warrant(2)	Total
Public offering price	\$ _____	\$ _____	\$ _____
Placement Agent fees(1)	\$ _____	\$ _____	\$ _____
Proceeds to us before offering expenses(3)	\$ _____	\$ _____	\$ _____

- (1) We have agreed to reimburse the Placement Agent for certain expenses. See "Plan of Distribution" on page 21 of this prospectus for a description of these arrangements.
- (2) The public offering price and Placement Agent fee corresponds to (x)(i) a public offering price per share of \$ _____ and (ii) a public offering price per Public Warrant of \$ _____, and (y)(i) a public offering price per pre-funded warrant of \$ _____ and (ii) a public offering price per Public Warrant of \$ _____.
- (3) We estimate the total expenses of this offering will be approximately \$ _____.

We expect to deliver our shares, Public Warrants and pre-funded warrants, if any, to purchasers in the offering on or about _____, 2022.

Roth Capital Partners

Prospectus dated [•], 2022.

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC. Before making your investment decision, we urge you to carefully read this prospectus and all of the information contained in the documents incorporated by reference in this prospectus, as well as the additional information described under the headings “Where You Can Find More Information” and “Incorporation of Certain Documents by Reference.”

To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference in this prospectus, on the other hand, you should rely on the information in this prospectus, provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date – for example, a document incorporated by reference in this prospectus – the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreement, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before deciding to invest in our securities, you should read this entire prospectus and the documents incorporated by reference herein and therein carefully, including our financial statements and related notes, the information in the section “Risk Factors,” and “Where You Can Find More Information.” Unless otherwise specified or the context otherwise requires, references in this prospectus to the “Company,” “Helius,” “Registrant,” “we,” “us,” and “our” refer to Helius Medical Technologies, Inc. and its wholly owned subsidiaries, Helius Medical, Inc., or HMI, Helius Medical Technologies (Canada), Inc., Helius Canada Acquisition Ltd., and Helius NeuroRehab, Inc.

All trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend the use or display of other companies’ trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

Company Overview

We are a neurotechnology company focused on neurological wellness. Our purpose is to develop, license or acquire non-implanted technologies targeted at reducing symptoms of neurological disease or trauma.

Our product, known as the Portable Neuromodulation Stimulator, or PoNS[®], is an innovative non-implanted medical device, inclusive of a controller and mouthpiece, which delivers mild electrical stimulation to the surface of the tongue to provide treatment of gait deficit and chronic balance deficit. PoNS has marketing clearance in the U.S. for use in the U.S. as a short term treatment of gait deficit due to mild-to-moderate symptoms for multiple sclerosis, or MS, and is to be used as an adjunct to a supervised therapeutic exercise program in patients 22 years of age and over by prescription only. We began accepting prescriptions for PoNS in the U.S. in March 2022, and commercial sales of PoNS commenced in April 2022. PoNS is authorized for sale in Canada for two indications: (i) for use as a short term treatment (14 weeks) of chronic balance deficit due to mild-to-moderate traumatic brain injury, or mmTBI, and is to be used in conjunction with physical therapy, or PoNS Therapy[™]; and (ii) for use as a short term treatment (14 weeks) of gait deficit due to mild and moderate symptoms from MS and it is to be used in conjunction with physical therapy. It has been commercially available in Canada since March 2019. PoNS is authorized for sale as a Class IIa medical device in Australia and we are currently seeking a business partner to commercialize and distribute PoNS in Australia.

Corporate History

NeuroHabilitation Corporation, or NHC, a Delaware corporation, was incorporated on January 22, 2013. In January 2013, HMI entered into an exclusive rights agreement whereby Advanced Neuro-Rehabilitation LLC, or ANR, granted NHC exclusive worldwide rights to ANR’s trade secrets, knowhow and patent pending technology for a non-invasive means for delivering neurostimulation through the oral cavity, in exchange for a 50% equity investment in NHC and a 4% royalty of NHC’s revenue collected from (a) the U.S. sales of products covered by any claim of the patent pending rights to end users and (b) services related to the therapy or use of such products in therapy services.

On June 13, 2014, we acquired a 100% interest in NHC pursuant to a plan of merger whereby our wholly-owned subsidiary was merged with and into NHC and all of the common shares in the capital of NHC were cancelled in consideration for the issuance of an aggregate of 201,714 shares of our common stock to the shareholders of NHC. NHC, which changed its name to Helius Medical, Inc. in December 2018, is now our wholly-owned subsidiary. Prior to the transaction we had no active business.

On January 31, 2019, we formed another wholly owned subsidiary, Helius NeuroRehab, Inc., a Delaware corporation. On October 10, 2019, we formed Helius Canada Acquisition Ltd., a company incorporated under the federal laws of Canada and a wholly owned subsidiary of Helius Medical Technologies

(Canada), Inc., a company incorporated under the federal laws of Canada, which acquired Heuro Canada, Inc. from Health Tech Connex Inc. on October 30, 2019.

Recent Developments

In June 2022, we announced the launch of our Patient Therapy Access Program, which provides qualifying patients access to on-label PoNS Therapy at a significantly reduced price.

Corporate Information

Our principal executive offices are located at 642 Newtown Yardley Road, Suite 100, Newtown, PA 18940 and our telephone number is 215-944-6100. We maintain a corporate website at www.heliusmedical.com. We make available free of charge through our Internet website our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and any amendments to these reports, as soon as its reasonably practicable after we electronically file such material with, or furnish such material to the SEC. We are not including the information on our website as a part of, nor incorporating it by reference into, this prospectus or the registration statement of which it forms a part. Additionally, the SEC maintains a website that contains annual, quarterly, and current reports, proxy statements, and other information that issuers (including us) file electronically with the SEC. The SEC's website address is <http://www.sec.gov>.

THE OFFERING	
Issuer	Heliuss Medical Technologies, Inc.
Common Stock Offered	Up to Shares
Public Warrants Offered	Warrants to purchase up to shares of our common stock, which will be exercisable during the period commencing on the date of their issuance and ending years from such date at an exercise price of \$ per share of common stock.
Pre-funded Warrants Offered	We are also offering to certain purchasers whose purchase of our common stock in this offering would otherwise result in the purchaser, together with its affiliates, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding shares of common stock immediately following the consummation of this offering, the opportunity to purchase pre-funded warrants (together with the Public Warrants, the "Warrants") in lieu of common stock that would otherwise result in any such purchaser's beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding shares of common stock. Each pre-funded warrant will be exercisable for one share of common stock. The purchase price of each pre-funded warrant and the accompanying Public Warrant will equal the price at which the common stock and the accompanying Public Warrant are being sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant will be \$0.001 per share. The pre-funded warrants will be exercisable immediately and may be exercised at any time until exercised in full. For each pre-funded warrant we sell, the number of shares of common stock we are offering will be decreased on a one-for-one basis. Because we will issue Public Warrant for each share of common stock and for each pre-funded warrant to purchase one share of common stock sold in this offering, the number of Public Warrants sold in this offering will not change as a result of a change in the mix of the shares of our common stock and pre-funded warrants sold.
Public Offering price	\$ per share of Common Stock and accompanying Public Warrant, or \$ per pre-funded warrant and accompanying Public Warrant, as applicable.
Common stock outstanding after this offering(1)	shares (assuming we sell only shares of common stock and no pre-funded warrants, and none of the Public Warrants issued in this offering are exercised).
Use of proceeds	We estimate that we will receive net proceeds from this offering of approximately \$ based upon an assumed public offering price of \$ per share of Common Stock and accompanying Public Warrant, or \$ pre-funded warrant and accompanying Public

	<p>Warrant, as applicable, after deducting Placement Agent fees and estimated offering expenses payable by us. We currently intend to use the net proceeds we receive from this offering for funding operations, working capital and general corporate purposes. Because this is a best efforts offering with no minimum amount as a condition to closing, we may not sell all or any of the securities offered hereby. As a result, we may receive significantly less in net proceeds than we currently estimate. See “Use of Proceeds” on page 12.</p>
Risk Factors	<p>You should carefully read the “Risk Factors” section of this prospectus beginning on page 8 and the documents incorporated by reference herein for a discussion of factors that you should consider before deciding to invest in our securities.</p>
Trading Symbol and Listing	<p>Our common stock is listed on the Nasdaq Capital Market under the symbol “HSDT”. We do not intend to apply for listing of the Public Warrants or pre-funded warrants on any national securities exchange or trading system. Without a trading market, the liquidity of the Public Warrants or pre-funded warrants will be extremely limited.</p>
<hr/> <p>(1) Except as otherwise indicated, all information in this prospectus is based on 3,794,797 shares of common stock outstanding as of March 31, 2022 and excludes the shares of common stock being offered by this prospectus and issuable upon exercise of the Warrants and also excludes the following:</p> <ul style="list-style-type: none"> • 785,228 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2022, at a weighted-average exercise price of \$31.77 per share; • 593,924 shares of common stock issuable upon the exercise of warrants (excluding the Warrants issued in the offering) outstanding as of March 31, 2022, at a weighted-average exercise price of \$16.32; • 8,595 shares of common stock reserved for future issuance under our 2018 Omnibus Incentive Plan as of March 31, 2022; • an aggregate 775 shares of unvested restricted stock units granted prior to March 31, 2022; • 52,000 shares of common stock reserved for future issuance under our 2021 Inducement Plan as of March 31, 2022; and • 179,864 shares of common stock reserved for future issuance under our 2022 Equity Incentive Plan. <p>Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options or warrants described above.</p>	

SUMMARY RISK FACTORS

Our business is subject to a number of risks. The principal factors and uncertainties include, among others:

- We have a history of losses and may not achieve or sustain profitability in the future;
- We will require additional financing to carry out our plan of operations, and failure to obtain such financing may cause our business to fail;
- We currently only have one product, the PoNS device, which is authorized for commercial distribution in Canada, Australia, and in the U.S. for treatment of MS, and we have not obtained authorization to distribute the PoNS device commercially in Europe or in the U.S. for other indications and may never obtain such authorizations;
- We may encounter substantial delays in planned clinical trials, and planned clinical trials may fail to demonstrate the safety and efficacy of the PoNS device to the satisfaction of regulatory authorities;
- Generation of revenue related to the PoNS technology is dependent on the PoNS Therapy being prescribed by physicians in the U.S. and our ability to train physical therapists in the supervision of the use of the PoNS Therapy;
- Market awareness of the PoNS device is limited, and the neuromodulation market is new and uncertain;
- We are dependent on third-party scientists and research institutions, in part, for research and development and on third parties for the manufacture and distribution of our product;
- The COVID-19 pandemic and outbreaks of communicable diseases may continue to materially and adversely affect our business, financial condition and results of operations;
- Third parties may gain access to our technology if our intellectual property protection is insufficient;
- We may be subject to various litigation claims and legal proceedings, including intellectual property litigation, which may adversely affect our business;
- Failure to secure contracts with workers' compensation and third-party administrators or rehabilitation clinics could have a negative impact on our sales and would have a material adverse effect on our business, financial condition and operating results;
- Failure to obtain a reimbursement code from the U.S. Department of Health and Human Services so that the PoNS device is covered by Medicare and Medicaid could have a negative impact on our intended sales and would have a material adverse effect on our business, financial condition and operating results;
- If we fail to comply with healthcare laws, we could face substantial penalties and financial exposure;
- We face ongoing government scrutiny and regulation in connection with the development of product candidates and following marketing authorization;
- After commercialization, a product recall or the discovery of serious safety issues with our products could have a significant adverse impact on us;
- We have been the victim of a cyber-related crime, and our controls may not be successful in avoiding future cyber-related crimes;
- We are reliant on third-party, single-sourced contract manufacturing, exposing us to risks that could delay our sales or result in higher costs or lost product revenues;
- The market price of our common stock may be highly volatile, and you could lose all or part of your investment;

- This offering could cause our stock price to fall, which could result in being delisted from The Nasdaq Capital Market; and
- This is a best efforts offering, no minimum amount of securities is required to be sold, and we may not raise the amount of capital we believe is required for our business plans.

RISK FACTORS

An investment in our securities has a high degree of risk. Before you invest you should carefully consider the risks and uncertainties described below and in the “Risk Factors” section of our [Annual Report on Form 10-K for the year ended December 31, 2021](#) and the [Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2022](#), each of which is incorporated by reference herein, and the other information in this prospectus. Any of the risks and uncertainties set forth herein and therein could materially and adversely affect our business, results of operations and financial condition, which in turn could materially and adversely affect the trading price or value of our securities. Additional risks not currently known to us or which we consider immaterial based on information currently available to us may also materially adversely affect us. As a result, you could lose all or part of your investment.

Risks Related to the Offering

Because our management will have broad discretion and flexibility in how the net proceeds from this offering are used, our management may use the net proceeds in ways with which you disagree or which may not prove effective.

We currently intend to use the net proceeds from this offering as discussed under “Use of Proceeds” in this prospectus. We have not allocated specific amounts of the net proceeds from this offering for any of the foregoing purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds of this offering. You will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the net proceeds are being used appropriately. It is possible that the net proceeds will be invested in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flow.

There is substantial doubt about our ability to continue as a going concern.

Even if this offering is successful, we will need additional funding to continue our operations. If we are unable to raise capital when needed, we could be forced to delay, reduce, or eliminate our portions of our business strategy, or cease our operations entirely.

There is no market for our Public Warrants or pre-funded warrants.

The public offering price for the securities will be determined by negotiations between us, the Placement Agent and prospective investors, and may not be indicative of prices that will prevail in the trading market. We do not intend to apply to list the Public Warrants or pre-funded warrants on the Nasdaq Capital Market or any nationally recognized trading system, and accordingly, there will be no trading market for such Warrants. In the absence of an active public trading market:

- you may not be able to resell your securities at or above the public offering price;
- the market price of our common stock may experience more price volatility; and
- there may be less efficiency in carrying out your purchase and sale orders.

The market price of our common stock may be highly volatile, and you could lose all or part of your investment.

The trading price of our common stock has been and is likely to continue to be volatile. This volatility may prevent you from being able to sell your securities at or above the price you paid for your securities. Our stock price could be subject to wide fluctuations in response to a variety of factors, which include:

- whether we achieve our anticipated corporate objectives;
- termination of the lock-up agreement or other restrictions on the ability of our stockholders and other security holders to sell shares after this offering; and
- general economic or political conditions in the United States or elsewhere.

In addition, the stock market in general, and the stock of biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance.

This offering could cause our stock price to fall, which could result in being delisted from The Nasdaq Capital Market.

Our common stock is currently listed on The Nasdaq Capital Market. In order to maintain that listing, we must satisfy minimum financial and other continued listing requirements and standards, including maintaining a minimum share price. If the price of our common stock falls as a result of this offering, there can be no assurances that we will be able to comply with the applicable listing requirements.

If we fail to satisfy the continued listing requirements of Nasdaq, such as the minimum share price requirement, Nasdaq may take steps to delist our securities. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we would take actions to restore our compliance with Nasdaq's listing requirements, but we can provide no assurance that any such action taken by us would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our securities, prevent our common stock from dropping below the Nasdaq minimum share price requirement or prevent future non-compliance with Nasdaq's listing requirements.

You will experience immediate and substantial dilution as a result of this offering and may experience additional dilution in the future.

You will incur immediate and substantial dilution as a result of this offering. After giving effect to the sale by us of _____ shares of common stock (or pre-funded warrants to purchase common stock) and accompanying Public Warrants in this offering at an assumed combined public offering price of \$ _____ per share of common stock (or pre-funded warrant to purchase common stock) and accompanying Public Warrant, after deducting Placement Agent fees and estimated offering expenses payable by us, investors in this offering can expect an immediate dilution of \$ _____ per share. For a further description of the dilution that investors in this offering may experience, see "Dilution."

In the past, we have issued shares of common stock and warrants in public offerings and private placements of our securities, and we have issued shares of common stock as compensation to our officers and directors. Our issuance of shares of common stock in the future, and the exercise of outstanding warrants or warrants that we may issue in the future, may result in additional dilution to investors in this offering.

Public Warrants are speculative in nature.

The Public Warrants offered pursuant to this prospectus do not confer any rights of common stock ownership on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of our common stock at a fixed price for a limited period of time. Specifically, commencing on the date of issuance, holders of the Public Warrants may exercise their right to acquire the common stock and pay an exercise price of \$ _____, prior to _____ years from the date of issuance, after which date any unexercised Public Warrants will expire and have no further value. Moreover, following this offering, the market value of the Public Warrants is uncertain and there can be no assurance that the market value of the Public Warrants will equal or exceed their public offering price. There can be no assurance that the market price of the common stock will ever equal or exceed the exercise price of the Public Warrants, and, consequently, whether it will ever be profitable for holders of the Public Warrants to exercise those warrants.

This is a best efforts offering, no minimum amount of securities is required to be sold, and we may not raise the amount of capital we believe is required for our business plans.

The Placement Agent has agreed to use its reasonable best efforts to solicit offers to purchase the securities being offered in this offering. The Placement Agent has no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities or amount of proceeds that must be sold as a condition to completion of this offering. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, Placement Agent fees and proceeds to us are not presently

determinable and may be substantially less than the maximum amounts set forth above. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to fund for our operations as described in the “*Use of Proceeds*” section herein. Thus, we may not raise the amount of capital we believe is required for our operations in the short-term and may need to raise additional funds, which may not be available or available on terms acceptable to us.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS AND INDUSTRY DATA

This prospectus, including the documents that we incorporate by reference, contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “may,” “will,” “should,” “could,” “anticipates,” “estimates,” “plans,” “projects,” “potential,” “continuing,” “ongoing,” “expects,” “believes,” “intends,” “targets,” “predicts,” and similar words or phrases. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them.

The forward-looking statements included or incorporated by reference in this prospectus include but are not limited to statements relating to: our future growth and operational progress, including commercial activities for the PoNS device, the COVID-19 pandemic, including its impact on the Company, clinical development plans, product development activities, plans for U.S. Food and Drug Administration, or FDA, filings and their subsequent approvals, other foreign or domestic regulatory filings, the safety and effectiveness of our product, our market awareness, our ability to compete effectively, the ability and limitation of our manufacturing source(s), our distribution network, the adequacy of our intellectual property protection, our future patent approvals, our future expenses and cash flow, our ability to become profitable, our future financing arrangements, our ability to continue as a going concern, any future stock price, our ability to build commercial infrastructure, and our ability to receive reimbursement coverage under Medicare, Medicaid or under other insurance plans.

Such forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Heliuss, are inherently subject to significant business, economic, competitive political and social uncertainties and contingencies. The factors and assumptions used by our management to develop such forward-looking statements include, but are not limited to, uncertainties associated with our capital requirements to achieve its business objectives, the impact of the COVID-19 pandemic, our ability to train physical therapists in the supervision of the use of the PoNS Therapy, our ability to secure contracts with rehabilitation clinics, our ability to obtain national Medicare coverage and to obtain a reimbursement code so that the PoNS device is covered by Medicare and Medicaid, our ability to build internal commercial infrastructure, secure state distribution licenses, build a commercial team and build relationships with key opinion leaders, neurology experts and neurorehabilitation centers, market awareness of the PoNS device, future clinical trials and the clinical development process, manufacturing and supply chain risks, the product development process and FDA regulatory submission review and approval process, other development activities, ongoing government regulation and other factors included in the sections entitled “*Risk Factors*” in this prospectus and in the documents incorporated herein by reference.

Although we believe the expectations expressed in such forward-looking statements are based on reasonable assumptions at the time they were made, they are subject to risks and uncertainties, known and unknown, which could cause actual results and developments to differ materially from those expressed or implied in such statements. Forward-looking statements are not guarantees of future performance and actual results may differ significantly from such forward-looking statements.

You should carefully read this prospectus, any prospectus supplement and any related free writing prospectus and with the understanding that our actual future results may materially differ from what we expect.

Except as required by law, forward-looking statements speak only as of the date they are made, and we assume no obligation to update any forward-looking statements publicly, or to update the reasons why actual results could differ materially from those anticipated in any forward-looking statements, even if new information becomes available.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$ based on an assumed public offering price of \$ per share of common stock and accompanying Public Warrant, after deducting estimated Placement Agent fees and estimated offering expenses payable by us and excluding the proceeds, if any, from the exercise of the Public Warrants issued in this offering. However, because this is a best efforts offering and there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, Placement Agent's fees and net proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth on the cover page of this prospectus.

We currently intend to use the net proceeds from this offering for funding operations, working capital and general corporate purposes. We may use a portion of the net proceeds for the acquisitions of businesses, products, technologies or licenses that are complementary to our business, although we have no present commitments or agreements to do so.

The allocation of the net proceeds of the offering represents our estimates based upon our current plans and assumptions regarding industry and general economic conditions, our future revenues and expenditures.

The amounts and timing of our actual expenditures may vary significantly and will depend on numerous factors, including market conditions, cash generated or used by our operations, business developments and opportunities that may arise and related rate of growth. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes.

Circumstances that may give rise to a change in the use of proceeds and the alternate purposes for which the proceeds may be used include:

- the existence of other opportunities or the need to take advantage of changes in timing of our existing activities;
- the need or desire on our part to accelerate, increase or eliminate existing initiatives due to, among other things, changing market conditions and competitive developments; and/or
- if strategic opportunities present themselves (including acquisitions, joint ventures, licensing and other similar transactions).

From time to time, we evaluate these factors and other factors and we anticipate continuing to make such evaluations to determine if the existing allocation of resources, including the proceeds of this offering, is being optimized. Pending the application of the net proceeds as described above, we will hold the net proceeds from this offering in short-term, interest-bearing, securities.

We believe that the net proceeds of this offering, together with cash on hand, will be sufficient to fund our operations throughout the third quarter of 2023, assuming we sell all of the securities being offered hereby, and we believe that we will need to raise additional capital to fund our operations thereafter. Additional capital may not be available on terms favorable to us, or at all. If we raise additional funds by issuing equity securities, our stockholders may experience dilution. Debt financing, if available, may involve restrictive covenants or additional security interests in our assets. Any additional debt or equity financing that we complete may contain terms that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or products or grant licenses on terms that are not favorable to us. If we are unable to raise adequate funds, we may have to delay, reduce the scope of, or eliminate some or all of, our development programs or liquidate some or all of our assets.

CAPITALIZATION

The following table sets forth our cash and cash equivalents, debt obligations, and capitalization as of March 31, 2022 (i) on an actual basis, and (ii) on a pro forma as adjusted basis to give effect to the issuance and sale of shares of our common stock and Public Warrants in this offering at a combined public offering price of \$ per share and accompanying Public Warrant, for total net proceeds of approximately \$ (assuming no sale of pre-funded warrants).

	As of March 31, 2022 (in thousands)	
	Actual	Pro Forma
Cash	\$ 6,310	\$
Stockholders' (deficit) equity:		
Preferred Stock, \$0.001 par value; 10,000,000 shares authorized; no shares issued and outstanding as of March 31, 2022		
Class A common stock, \$0.001 par value, 150,000,000 shares authorized; 3,794,797 shares issued and outstanding as of March 31, 2022		4
Additional paid-in capital	149,834	
Accumulated other comprehensive loss	(1,327)	
Accumulated deficit	(141,381)	
Total stockholders' equity	\$ 7,130	\$

The foregoing pro forma as adjusted information is illustrative only, and our capitalization following the completion of this offering will be adjusted based on the actual public offering price and other terms of this offering determined at pricing.

The above discussion and table is based on 3,794,797 shares of common stock outstanding on March 31, 2022, and excludes the following:

- 785,228 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2022, at a weighted-average exercise price of \$31.77 per share;
- 593,924 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2022, at a weighted-average exercise price of \$16.32;
- 8,595 shares of common stock reserved for future issuance under our 2018 Omnibus Incentive Plan as of March 31, 2022;
- an aggregate 775 shares of unvested restricted stock units granted prior to March 31, 2022;
- 52,000 shares of common stock reserved for future issuance under our 2021 Inducement Plan as of March 31, 2022; and
- 179,864 shares of common stock reserved for future issuance under our 2022 Equity Incentive Plan.

DILUTION

A purchaser of our securities in this offering will be diluted to the extent of the difference between the price you pay for each share of our common stock and the net tangible book value per share of our common stock after this offering. Net tangible book value per share prior to this offering is equal to our total tangible assets minus total liabilities, all divided by 3,794,797 shares of common stock outstanding at March 31, 2022. Our historical net tangible book value as of March 31, 2022 was approximately \$6.1 million, or \$1.60 per share of our common stock. As of March 31, 2022, our pro forma net tangible book value was \$ million, or \$ per share.

Pro forma as adjusted net tangible book value is our pro forma net tangible book value, plus the effect of the sale of our securities in this offering at the assumed public offering price of \$ per share of common stock (or pre-funded warrant) and accompanying Public Warrant and after deducting the Placement Agent fees and commissions and other estimated offering expenses payable by us. Our pro forma as adjusted net tangible book value as of March 31, 2022 would have been approximately \$, or \$ per share. This amount represents an immediate increase in pro forma as adjusted net tangible book value of approximately \$ per share to our existing stockholders, and an immediate dilution of \$ per share to new investors participating in this offering. Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the public offering price per share paid by new investors.

The following table illustrates this per share dilution:

Assumed public offering price per share (attributing no value to the Warrants)	\$
Net tangible book value per share as of March 31, 2022	\$1.60
Increase in pro forma as adjusted net tangible book value per share after this offering	\$
Pro forma as adjusted net tangible book value per share after giving effect to this offering	\$
Dilution in pro forma as adjusted net tangible book value per share to new investors	\$

The information above is illustrative only and will change based on actual pricing and other terms of this offering determined at pricing.

Each \$0.50 increase (decrease) in the public offering price of \$ per share and accompanying Public Warrant would increase (decrease) the pro forma as adjusted net tangible book value per share by \$, and the dilution per share to new investors in this offering by \$, assuming the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the Placement Agent fees and commissions and estimated offering expenses payable by us. Each increase of 500,000 in the number of shares of common stock and accompanying Public Warrants sold in this offering would increase (decrease) our pro forma as adjusted net tangible book value by approximately \$ and the dilution per share to new investors in this offering by \$, assuming that the public offering price per share and accompanying Public Warrant remains the same and after deducting Placement Agent fees and commissions and estimated offering expenses payable by us.

The foregoing discussion and table do not take into account further dilution to new investors that could occur upon the exercise of outstanding warrants having a per share exercise or conversion price less than the per share offering price to the public in this offering.

The above discussion and table are based on 3,794,797 shares of common stock outstanding as of March 31, 2022 and excludes the shares of common stock issuable upon exercise of the Warrants being offered by this prospectus and also excludes the following as of that date:

- 785,228 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2022, at a weighted-average exercise price of \$31.77 per share;
- 593,924 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2022, at a weighted-average exercise price of \$16.32;

- 8,595 shares of common stock reserved for future issuance under our 2018 Omnibus Incentive Plan as of March 31, 2022;
- an aggregate 775 shares of unvested restricted stock units granted prior to March 31, 2022;
- 52,000 shares of common stock reserved for future issuance under our 2021 Inducement Plan as of March 31, 2022; and
- 179,864 shares of common stock reserved for future issuance under our 2022 Equity Incentive Plan.

To the extent that outstanding options or warrants are converted or exercised, you could experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of additional equity, the issuance of these shares could result in further dilution to our stockholders.

DIVIDEND POLICY

Holders of our shares of common stock are entitled to dividends when, as and if declared by our board of directors out of legally available funds.

We have not declared or paid any dividends in the past to the holders of our common stock and do not currently anticipate declaring or paying any dividends in the foreseeable future. We intend to retain earnings, if any, to finance the development and expansion of our business. Future dividend policy will be subject to the discretion of our board of directors and will be contingent upon future earnings, if any, our financial condition, capital requirements, general business conditions, and other factors. Therefore, we can give no assurance that any dividends of any kind will ever be paid to holders of our common stock.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the ownership of our common stock as of June 30, 2022 by: (i) each director; (ii) each of our named executive officers; (iii) all executive officers and directors of the Company as a group; and (iv) all those known by the Company to be beneficial owners of more than five percent of our common stock.

We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, these rules require that we include shares of Common Stock issuable pursuant to the vesting of warrants and the exercise of stock options that are either immediately exercisable or exercisable within 60 days of June 30, 2022, and restricted stock units that vest within 60 days of June 30, 2022. These shares are deemed to be outstanding and beneficially owned by the person holding those warrants or options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. This table is based on information supplied by officers, directors and principal stockholders and Schedule 13D, Schedule 13G and Section 16 filings, if any, with the SEC. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted below, the address for persons listed in the table is c/o Heliuss Medical Technologies, Inc., 642 Newtown Yardley Road, Suite 100, Newtown, Pennsylvania 18940.

Beneficial Owner	Beneficial Ownership(1)	
	Number of Shares of Common Stock	Percent of Total
Columbus Capital Management LLC(2)	324,684	7.7%
AIGH Capital Management, LLC(3)	192,950	4.6%
Maple Leaf Capital I, LLC(4)	189,416	4.5%
Antonella Favit-Van Pelt(5)	9,500	*
Sherrie Perkins(6)	10,914	*
Edward M. Straw(7)	20,669	*
Mitchell E. Tyler(8)	30,712	*
Blane Walter(9)	22,876	*
Paul Buckman(10)	9,909	*
Jeffrey S. Mathiesen(11)	63,701	1.5%
Dane C. Andreeff(12)	419,729	9.4%
All current executive officers and directors as a group (8 persons)(13)	588,009	12.9%

* Less than one percent.

- (1) This table is based upon information supplied by officers, directors and principal stockholders. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, the Company believes that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 4,195,113 shares outstanding on June 30, 2022.
- (2) Includes 278,010 shares of Common Stock, and 46,674 shares of Common Stock issuable upon the exercise of warrants. Columbus Capital Management, LLC, which serves as the general partner and investment manager to each of Columbus Capital QP Partners, L.P., Columbus Capital Partners, L.P., and Columbus Capital Offshore QP Fund, LTD. (collectively "the Funds"), and Mr. Matthew D. Ockner, as Managing Member of Columbus Capital Management, LLC, with the power to exercise investment and voting discretion, may be deemed to be the beneficial owner of all shares of Common Stock held by the Funds. The business address of Matthew D. Ockner is 1 Embarcadero Center, Suite 1130, San Francisco, CA 94111. The percentage in this table reflects that the reporting persons may not exercise

the warrants to the extent such exercise would cause the reporting persons to beneficially own a number of shares of Common Stock that would exceed 9.99% of our then outstanding Common Stock following such exercise.

- (3) Represents shares held by AIGH Capital Management, LLC (“AIGH LP”), AIGH Investment Partners, L.L.C. (“AIGH LLC”) and Orin Hirschman. AIGH LP is an advisor or sub-advisor with respect to shares held by AIGH Investment Partners, L.P. and WVP Emerging Manger Onshore Fund, LLC. AIGH LLC directly holds shares. Mr. Hirschman, who is the managing member of AIGH LP and president of AIGH LLC, holds shares directly with his family. The business address of AIGH LP, AIGH LLC and Mr. Hirschman is 6006 Berkeley Avenue, Baltimore, MD 21209.
- (4) Includes 86,482 shares of Common Stock and 12,350 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Partners, L.P., 19,200 shares of Common Stock and 3,376 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Partners I, L.P., 53,779 shares of Common Stock and 8,162 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Discovery I, L.P., 4,634 shares of Common Stock and 1,433 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Offshore, Ltd. Maple Leaf Capital I, LLC is the general partner of each of Maple Leaf Partners, L.P., Maple Leaf Partners I, L.P., Maple Leaf Discovery I, L.P., and Maple Leaf Offshore, Ltd., and Mr. Andreeff has sole voting and dispositive power over the shares.
- (5) Includes 9,500 shares of Common Stock issuable upon the exercise of stock options.
- (6) Includes 1,946 shares of Common Stock, 8,464 shares of Common Stock issuable upon the exercise of stock options and 504 shares issuable upon exercise of restricted stock units.
- (7) Includes 2,017 shares of Common Stock, 18,148 shares of Common Stock issuable upon the exercise of stock options and 504 shares issuable upon exercise of restricted stock units.
- (8) Includes 24,638 shares of Common Stock and 6,074 shares of Common Stock issuable upon the exercise of stock options.
- (9) Includes 4,360 shares of Common Stock, 18,102 shares of Common Stock issuable upon the exercise of stock options and 504 shares issuable upon exercise of restricted stock units.
- (10) Includes 1,609 shares of Common Stock, 7,736 shares of Common Stock issuable upon the exercise of stock options and 564 shares issuable upon exercise of restricted stock units.
- (11) Includes 11,948 shares of Common Stock and 51,753 shares of Common Stock issuable upon the exercise of stock options.
- (12) Includes 86,482 shares of Common Stock and 12,350 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Partners, L.P., 19,200 shares of Common Stock and 3,376 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Partners I, L.P., 53,779 shares of Common Stock and 8,162 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Discovery I, L.P., 4,634 shares of Common Stock and 1,433 shares of Common Stock issuable upon the exercise of warrants held by Maple Leaf Offshore, Ltd., 2,394 shares on Common Stock held directly by Mr. Andreeff and 228,805 shares of Common Stock issuable upon the exercise of stock options held directly by Mr. Andreeff. Mr. Andreeff has sole voting and dispositive power over shares held by Maple Leaf Partners, L.P., Maple Leaf Partners I, L.P., Maple Leaf Discovery I, L.P. and Maple Leaf Offshore, Ltd.
- (13) Includes 212,121 shares of Common Stock, 348,491 shares of Common Stock issuable upon the exercise of stock options, 2,076 shares issuable upon exercise of restricted stock units and 25,321 shares of Common Stock issuable upon the exercise of warrants.

DESCRIPTION OF SECURITIES WE ARE OFFERING

Common Stock. The material terms and provisions of our common stock are described under the caption “*Description of Capital Stock*”.

Public Warrants. Upon completion of this offering we expect to have Public Warrants outstanding, each Public Warrant is exercisable for up to shares of common stock at an exercise price of \$ per share and is immediately exercisable for a period of years following the date of issuance.

Pursuant to a warrant agency agreement between us and American Stock Transfer & Trust Company LLC, as warrant agent, the Public Warrants will be issued in book-entry form and shall be initially represented only by one or more global warrants deposited with the warrant agent, as custodian on behalf of The Depository Trust Company, or DTC, and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC.

The number of Public Warrants outstanding, and the exercise price of those securities, will be adjusted proportionately in the event of a reverse or forward stock split of our common stock, a recapitalization or reclassification of our common stock, payment of dividends or distributions in common stock to our common stock holders, or similar transactions. In the event that the Company effects a rights offering to its common stock holders or a pro rata distribution of its assets among its common stock holders, then the holder of the Public Warrants will have the right to participate in such distribution and rights offering to the extent of their pro rata share of the Company’s outstanding common stock assuming they owned the number of shares of common stock issuable upon the exercise of their Public Warrants. In the event of a “Fundamental Transaction” by the Company, such as a merger or consolidation of it with another company, the sale or other disposition of all or substantially all of the Company’s assets in one or a series of related transactions, a purchase offer, tender offer or exchange offer, or any reclassification, reorganization or recapitalization of the Company’s common stock, then the Public Warrant holder will have the right to receive, for each share of common stock issuable upon the exercise of the Public Warrant, at the option of the holder, the number of shares of common stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration payable as a result of the Fundamental Transaction, that would have been issued or conveyed to the Public Warrant holder had the holder exercised the Public Warrant immediately preceding the closing of the Fundamental Transaction.

The Company will promptly notify the Public Warrant holders in writing of any adjustment to the exercise price or to the number of the outstanding Public Warrants, declaration of a dividend or other distribution, a special non-recurring cash dividend on or a redemption of the common stock, the authorization of a rights offering, the approval of the stockholders required for any proposed reclassification of the common stock, a consolidation or merger by the Company, sale of all or substantially all of the assets of the Company, any compulsory share exchange, or the authorization of any voluntary or involuntary dissolution, liquidation, or winding up of the Company.

The Public Warrants contain a contractual provision stating that all questions concerning the construction, validity, enforcement and interpretation of the Public Warrants are governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law.

There is no trading market available for the Public Warrants on any securities exchange or nationally recognized trading system, and we do not intend to list the Public Warrants on any securities exchange or nationally recognized trading system.

Pre-Funded Warrants. Each pre-funded warrant will have an initial exercise price per share equal to \$0.001. The pre-funded warrants will be immediately exercisable and may be exercised at any time until exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our shares of common stock and the exercise price. The pre-funded warrants will be issued separately from the accompanying Public Warrants, and may be transferred separately immediately thereafter.

The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of

common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). Purchasers of the pre-funded warrants in this offering may elect to deliver their exercise notice following the pricing of the offering and prior to the issuance of the pre-funded warrants at closing to have their pre-funded warrants exercised immediately upon issuance and receive shares of common stock underlying the pre-funded warrants upon closing of this offering. A holder (together with its affiliates) may not exercise any portion of the pre-funded warrant to the extent that the holder would own more than 4.99% of the outstanding shares of common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's pre-funded warrants up to 9.99% of the number shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. Purchasers of pre-funded warrants in this offering may also elect prior to the issuance of the pre-funded warrants to have the initial exercise limitation set at 9.99% of our outstanding shares of common stock. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will round up to the next whole share.

If, at the time a holder exercises its pre-funded warrants, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Subject to applicable laws, a pre-funded warrant may be transferred at the option of the holder upon surrender of the pre-funded warrant to us together with the appropriate instruments of transfer.

There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system. We do not intend to list the pre-funded warrants on any securities exchange or nationally recognized trading system.

In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our shares of common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding shares of common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding shares of common stock, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction.

PLAN OF DISTRIBUTION

Pursuant to a placement agency agreement, dated as of _____, 2022, we have engaged Roth Capital Partners, LLC to act as our exclusive placement agent to solicit offers to purchase the securities offered by this prospectus on a reasonable best efforts basis. The Placement Agent is not purchasing or selling any securities, nor is it required to arrange for the purchase and sale of any specific number or dollar amount of securities, other than to use its “reasonable best efforts” to arrange for the sale of the securities by us. Therefore, we may not sell the entire amount of securities being offered, or any at all. The Placement Agent may engage one or more subagents or selected dealers in connection with this offering.

We will enter into a securities purchase agreement directly with the institutional investors, at the investor’s option, who purchase our securities in this offering. Investors who do not enter into a securities purchase agreement shall rely solely on this prospectus in connection with the purchase of our securities in this offering.

The placement agency agreement provides that the Placement Agent’s obligations are subject to conditions contained in the placement agency agreement.

We will deliver the securities being issued to the investors upon receipt of investor funds for the purchase of the securities offered pursuant to this prospectus. We expect to deliver the securities being offered pursuant to this prospectus on or about _____, 2022. There is no minimum number of securities or amount of proceeds that is a condition to closing of this offering.

Placement Agent Fees, Commissions and Expenses

Upon the closing of this offering, we will pay the Placement Agent a cash transaction fee equal to 7.0% of the aggregate gross proceeds to us from the sale of the securities in the offering. In addition, we will reimburse the Placement Agent for its out-of-pocket expenses incurred in connection with this offering, including the fees and expenses of the counsel for the Placement Agent, up to \$100,000.

The following table shows the public offering price, Placement Agent fees and proceeds, before expenses, to us, assuming the purchase of all the securities we are offering.

	Per Share and related Public Warrant	Per Pre-Funded Warrant and related Public Warrant
Public Offering Price	\$	\$
Placement Agent fees	\$	\$
Proceeds to us before expenses	\$	\$

We estimate that the total expenses of the offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding Placement Agent fees, will be approximately \$ _____, all of which are payable by us. This figure includes the Placement Agent’s accountable expenses, including, but not limited to, legal fees for Placement Agent’s legal counsel, that we have agreed to pay at the closing of the offering up to an aggregate expense reimbursement of \$100,000.

Lock-Up Agreements

We and each of our officers and directors as of the date of this prospectus have agreed with the Placement Agent to be subject to a lock-up period of ninety (90) days following the date of closing of the offering pursuant to this prospectus. This means that, during the applicable lock-up period, we and such persons may not offer for sale, contract to sell, sell, distribute, grant any option, right or warrant to purchase, pledge, hypothecate or otherwise dispose of, directly or indirectly, any of our shares of common stock or any securities convertible into, or exercisable or exchangeable for, shares of common stock, subject to customary exceptions. The Placement Agent may in its sole discretion and at any time without notice release some or all of the shares subject to lock-up agreements prior to the expiration of the lock-up period. When determining whether or not to release shares from the lock-up agreements, the Placement Agent will

consider, among other factors, the security holder's reasons for requesting the release, the number of shares for which the release is being requested and market conditions at the time.

Indemnification

We have agreed to indemnify the Placement Agent against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the Placement Agent may be required to make for these liabilities.

Determination of Offering Price and Warrant Exercise Price

The actual public offering price of the securities we are offering, and the exercise price of the Public Warrants and pre-funded warrants that we are offering, were negotiated between us, the Placement Agent and the investors in the offering based on the trading price of our common stock prior to the offering, among other things. Other factors considered in determining the public offering price of the securities we are offering, as well as the exercise price of the Public Warrants and pre-funded warrants that we are offering include our history and prospects, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, the general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

Other Compensation

If within six (6) months following the termination or expiration of our engagement with the Placement Agent, we complete any sale of equity, equity-linked, convertible or debt or other capital-raising activity for which the Placement Agent is not acting as underwriter or placement agent (other than the exercise by any person or entity of any options, warrants or other convertible securities) to any of the investors that the Placement Agent introduced to us or with which the Placement Agent conducted discussions on our behalf, subject to specified exceptions, then we are required to pay to the Placement Agent a commission as described in this section, in each case only with respect to the portion of such financing received from such investors.

Regulation M

The Placement Agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the securities sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the Placement Agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of our securities by the Placement Agent acting as principal. Under these rules and regulations, the Placement Agent (i) may not engage in any stabilization activity in connection with our securities and (ii) may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

Electronic Distribution

A prospectus in electronic format may be made available on a website maintained by the Placement Agent. In connection with the offering, the Placement Agent or selected dealers may distribute prospectuses electronically. No forms of electronic prospectus other than prospectuses that are printable as Adobe® PDF will be used in connection with this offering.

Other than the prospectus in electronic format, the information on the Placement Agent's website and any information contained in any other website maintained by the Placement Agent is not part of the prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or the Placement Agent in its capacity as placement agent and should not be relied upon by investors.

Certain Relationships

The Placement Agent and its affiliates may in the future provide, from time to time, investment banking and financial advisory services to us in the ordinary course of business, for which they may receive customary fees and commissions.

Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol "HSDT."

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our Certificate of Incorporation and Amended and Restated Bylaws are summaries. You should also refer to the Certificate of Incorporation and the Amended and Restated Bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part.

General

Our Certificate of Incorporation authorizes us to issue up to 150,000,000 shares of common stock and 10,000,000 shares of preferred stock, par value \$0.001 per share, all of which shares of preferred stock are currently undesignated. Our board of directors may establish the rights and preferences of the preferred stock from time to time.

As of March 31, 2022, there were (i) 3,794,797 shares of common stock outstanding; (ii) no outstanding shares of preferred stock; (iii) 785,228 shares of common stock issuable upon the exercise of outstanding stock options; (iv) 593,924 shares of common stock issuable upon the exercise of outstanding warrants; and (v) 775 restricted stock units.

Common Stock

Voting

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, holders of our common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by the board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

Preferred Stock

Our board of directors has the authority under our Certificate of Incorporation, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The purpose

of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of us and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock on the rights of holders of common stock until the board of directors determines the specific rights attached to that preferred stock.

Description of Outstanding Warrants

As of March 31, 2022, there were warrants outstanding to purchase 593,924 shares of common stock issuable upon the exercise of warrants at a weighted-average exercise price of \$16.32. Certain of these warrants have a net exercise provision under which its holder may, in lieu of payment of the exercise price in cash, surrender the warrant and receive a net amount of shares based on the fair market value of our common stock at the time of exercise of the warrant after deduction of the aggregate exercise price. Each of these warrants also contains provisions for the adjustment of the exercise price and the aggregate number of shares issuable upon the exercise of the warrant in the event of dividends, share splits, reorganizations and reclassifications and consolidations. Certain of these warrants provide that, subject to limited exceptions, a holder will not have the right to exercise any portion of its warrants if the holder, together with its affiliates, would beneficially own over 4.99% of our then outstanding common stock following such exercise; provided, however, that upon prior notice to us, the warrant holder may increase its ownership, provided that in no event will the ownership exceed 9.99%.

Anti-Takeover Provisions

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 ²/₃% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a “business combination” to include the following:

- merger or consolidation involving the corporation or any direct or indirect majority-owned subsidiary of the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder (in one transaction or a series of transactions);

- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation or by any direct or indirect majority-owned subsidiary of the corporation of any stock of the corporation or of such subsidiary to the interested stockholder;
- any transaction involving the corporation or any direct or indirect majority-owned subsidiary of the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Certificate of Incorporation and Amended and Restated Bylaws

Our Certificate of Incorporation provides that the authorized number of directors may be changed only by resolution of the board of directors, and vacancies and newly created directorships on the board of directors may, except as otherwise required by law or determined by the board of directors, only be filled by a majority vote of the directors then serving on the board of directors, even though less than a quorum.

Our Amended and Restated Bylaws provide that all stockholder actions must be effected at a duly called meeting of stockholders and eliminate the right of stockholders to act by written consent without a meeting. Our Amended and Restated Bylaws also provide that only our Chairman of the board of directors, Chief Executive Officer or the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors may call a special meeting of stockholders.

Our Amended and Restated Bylaws also provide that stockholders seeking to present proposals before a meeting of stockholders to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and specify requirements as to the form and content of a stockholder’s notice. At any meeting of stockholders for the election of directors at which a quorum is present, the election will be determined by a plurality of the votes cast by the stockholders entitled to vote at the election.

Our Certificate of Incorporation and Amended and Restated Bylaws provide that the stockholders cannot amend many of the provisions described above except by a vote of 66⅔% or more of our outstanding common stock. As described above, our Certificate of Incorporation gives our board of directors the authority, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series.

The combination of these provisions will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our Company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our Certificate of Incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;
- any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our Certificate of Incorporation or our Amended and Restated Bylaws; or
- any action asserting a claim against us that is governed by the internal affairs doctrine.

The provision does not apply to suits brought to enforce a duty or liability created by the Exchange Act.

The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any action, a court could find the choice of forum provisions contained in our Certificate of Incorporation to be inapplicable or unenforceable in such action. Our Certificate of Incorporation further provides that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, subject to and contingent upon a final adjudication in the State of Delaware of the enforceability of such exclusive forum provision.

Registration Rights

Pursuant to the terms of convertible notes issued to A&B (HK) Company Limited in October 2015 and December 2015, we agreed to register any shares issued upon the conversion of such convertible notes upon the request of A&B (HK) Company Limited. As of June 30, 2022, A&B (HK) Company Limited beneficially owned 71,306 shares of common stock that were issued upon the conversion of such convertible notes.

Transfer Agent and Registrar

The transfer agent and the registrar for the Company is American Stock Transfer & Trust Company LLC, 6201 15th Avenue, Brooklyn, New York 11219; Telephone: 800-937-5449.

Common Stock Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol "HSDT".

LEGAL MATTERS

Honigman LLP, Kalamazoo, Michigan, will issue a legal opinion as to the validity of the securities offered by this prospectus.

EXPERTS

The consolidated financial statements as of December 31, 2021 and 2020, and for the years then ended, incorporated by reference in this Prospectus and in the Registration Statement have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC in accordance with the Exchange Act. Our reports, proxy statements and other information filed with the SEC are available free of charge to the public over the Internet at the SEC's website at <http://www.sec.gov>. These documents may also be accessed on our website at www.heliusmedical.com. We are not including the information on our website as a part of, nor incorporating it by reference into, this prospectus or the registration statement of which it forms a part.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" in this prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information we incorporate by reference is an important part of this prospectus, and certain information that we will later file with the SEC will automatically update and supersede this information. Later information that we file with the SEC will automatically update and supersede the information that is either contained, or incorporated by reference, in this prospectus, and will be considered to be a part of this prospectus from the date those documents are filed.

We incorporate by reference into this prospectus and the registration statement of which this prospectus forms a part the information or documents listed below that we have filed with the SEC, and any future filings we will make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act (other than information furnished under Item 2.02 or Item 7.01 of Form 8-K or Schedule 14A), including all filings filed pursuant to the Exchange Act after the date of the registration statement and prior to effectiveness of the registration statement, and following effectiveness of the registration statement and until the termination or completion of the offering of the securities covered by this prospectus:

- [Our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on March 14, 2022](#), including the information specifically incorporated by reference into such Annual Report on Form 10-K from our [definitive proxy statement for our 2022 Annual Meeting of Stockholders filed with the SEC on April 22, 2022](#);
- [Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, filed with the SEC on May 12, 2022](#);
- Our Current Reports on Form 8-K filed with the SEC on [February 18, 2022](#), [March 11, 2022](#), [April 27, 2022](#), and [May 27, 2022](#); and
- The description of the Registrant's Common Stock contained in the Registrant's [Form 8-A \(File No. 001-38445\) filed with the Commission on April 4, 2018](#), as further amended by any subsequent amendment or report filed for the purpose of updating such description.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus including exhibits to these documents. You should direct any requests for documents to Helius Medical Technologies, Inc., Attn: Chief Financial Officer, 642 Newtown Yardley Road, Suite 100, Newtown, PA 18940, or via e-mail at inquiry@heliusmedical.com. Our phone number is (215) 944-6104.

You also may access these filings on our website at <http://www.heliusmedical.com>. We do not incorporate the information on our website into this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus).



UP TO SHARES OF COMMON STOCK
WARRANTS TO PURCHASE UP TO SHARES OF COMMON STOCK
PRE-FUNDED WARRANTS TO PURCHASE UP TO SHARES OF
COMMON STOCK

PROSPECTUS

Roth Capital Partners

, 2022

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of the securities being registered hereby (except any placement agent fees and commissions). All amounts shown are estimates except the SEC registration fee.

	<u>Amount</u>
SEC registration fee	\$1,390.50
FINRA filing fee	\$ *
Printing expenses	\$ *
Accounting fees and expenses	\$ *
Legal fees and expenses	\$ *
Transfer agent fees and expenses	\$ *
Miscellaneous fees and expenses	\$ *
Total	<u>\$ *</u>

* To be completed by amendment.

Item 14. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

As permitted by the Delaware General Corporation Law, our amended and restated bylaws provide that: (1) we are required to indemnify our directors and executive officers to the fullest extent permitted by the Delaware General Corporation Law; (2) we may, in our discretion, indemnify our other officers, employees and agents as set forth in the Delaware General Corporation Law; (3) we are required, upon satisfaction of certain conditions, to advance all expenses incurred by our directors and executive officers in connection with certain legal proceedings; (4) the rights conferred in the bylaws are not exclusive; (5) we are authorized to enter into indemnification agreements with our directors, officers, employees and agents; and (6) we may secure insurance on behalf of any director, officer, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law.

We have entered into indemnification agreements with our directors and officers. These agreements provide broader indemnity rights than those provided under the Delaware General Corporation Law and our Certificate of Incorporation. The indemnification agreements are not intended to deny or otherwise limit third-party or derivative suits against us or our directors or officers, but to the extent a director or officer were entitled to indemnity or contribution under the indemnification agreement, the financial burden of a third-party suit would be borne by us, and we would not benefit from derivative recoveries against the director or officer. Such recoveries would accrue to our benefit but would be offset by our obligations to the director or officer under the indemnification agreement.

We maintain a directors' and officers' liability insurance policy. The policy insures directors and officers against unindemnified losses arising from certain wrongful acts in their capacities as directors and officers and reimburses us for those losses for which we have lawfully indemnified the directors and officers. The policy contains various exclusions.

Item 15. Recent Sales of Unregistered Securities.

The following sets forth information regarding all unregistered securities sold by the Registrant in the three years preceding the date of this registration statement.

On September 1, 2021, we entered into a purchase agreement with Lincoln Park Capital Fund, LLC (the "Lincoln Park Purchase Agreement") pursuant to which we have the right to sell to Lincoln Park up to \$15.0 million in shares of common stock, subject to certain limitations, from time to time over the 36-month period commencing on the date that a registration statement covering the resale of the shares is declared effective by the SEC. We issued 31,958 commitment shares to Lincoln Park as consideration for its commitment to purchase our shares under the Lincoln Park Purchase Agreement, following the delisting of our common stock from the TSX. As of June 30, 2022, we have sold 431,363 shares to Lincoln Park under the Lincoln Park Purchase Agreement.

On October 21, 2020, we entered into a securities purchase agreement (the "October 2021 Purchase Agreement") with certain purchasers, pursuant to which we agreed to sell and issue, in a private placement, an aggregate of 187,646 shares of common stock. Pursuant to the October 2021 Purchase Agreement, we also issued 93,817 warrants. The warrants have an initial exercise price of \$15.82 per share and expire on October 26, 2023, except that warrants issued to insiders, and affiliates of insiders, have an initial exercise price of \$16.1665 per share and expire on October 26, 2023. Joseph Gunnar & Co., LLC acted as placement agent in connection with the private placement. We issued warrants to the Joseph Gunnar & Co., LLC to purchase 961 shares of our common stock, with an exercise price of \$19.775 per share.

On March 18, 2020, we entered into a securities purchase agreement (the "March 2020 Purchase Agreement") with certain purchasers, pursuant to which we agreed to sell and issue to such purchasers, in a registered direct offering, an aggregate of 178,776 shares of our common stock, at \$12.25 per share. Pursuant to the March 2020 Purchase Agreement, in a concurrent private placement, on March 20, 2020 we issued to the purchasers warrants to purchase up to 178,776 shares of common stock. The warrants are exercisable beginning on September 21, 2020 at an exercise price of \$16.10 per share and expire on September 22, 2025. H.C. Wainwright & Co., LLC acted as placement agent for the private placement.

Unless otherwise noted, the transactions described in Item 15 were exempt from registration under the Securities Act pursuant to Section 4(a)(2) of the Securities Act in that such sales did not involve a public offering, under Rule 701 promulgated under the Securities Act, in that they were offered and sold either pursuant to written compensatory plans or pursuant to a written contract relating to compensation, as provided by Rule 701, or under Rule 506 of Regulation D promulgated under the Securities Act.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

The exhibits to the registration statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

(b) Financial Statement Schedules.

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or notes.

Item 17. Undertakings.

- (a) The undersigned Registrant hereby undertakes:
- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (ii) and (iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act, that are incorporated by reference in the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser,
 - (i) each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - (ii) each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof; *provided, however,* that no

statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

- (b) The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the indemnification provisions described herein, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

EXHIBIT INDEX

Exhibit Number	Exhibit
3.1	Certificate of Conversion filed with the Delaware Secretary of State on July 18, 2018 (incorporated by reference to Exhibit 3.1 to the Form 10-Q filed August 9, 2018)
3.2	Certificate of Incorporation, as corrected (incorporated by reference to Exhibit 3.1 to the Form 8-K filed October 30, 2018)
3.3	Certificate of Amendment to Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Form 8-K filed on December 31, 2020)
3.4	Bylaws as amended and restated (incorporated by reference to Exhibit 3.3 to the Form 10-Q filed August 9, 2018)
4.1**	Common Stock Certificate
4.2**	Form of Public Warrant
4.3**	Form of Warrant Agency Agreement
4.4**	Form of Pre-Funded Warrant
5.1**	Opinion of Honigman LLP
10.1	License Agreement between Advanced NeuroRehabilitation, LLC and Yuri Danilov, Mitchell Tyler, Kurt Kaczmarek and John Klus, dated June 29, 2011 (incorporated by reference to Exhibit 10.8 to the Amendment to Form S-1 filed with the SEC on September 23, 2014)
10.2	Amended and Restated Patent Sub-License Agreement between Advanced NeuroRehabilitation, LLC and Helius Medical, Inc., having an effective date of January 22, 2013 (incorporated by reference to Exhibit 10.1 to the Form S-1 filed with the SEC on July 14, 2014)
10.3	Second Amended and Restated Patent Sub-License Agreement between Advanced NeuroRehabilitation, LLC and Helius Medical, Inc, dated June 6, 2014, but having an effective date of January 22, 2013 (incorporated by reference to Exhibit 10.7 to the Form S-1 filed with the SEC on July 14, 2014)
10.4	Design and Manufacturing Consultant Agreement between Helius Medical, Inc and Clinvue, LLC, dated January 30, 2013 (incorporated by reference to Exhibit 10.3 to the Form S-1 filed with the SEC on July 14, 2014)
10.5	Commercial Development-to-Supply Program between Helius Medical, Inc and Ximedica, dated October 25, 2013 (incorporated by reference to Exhibit 10.4 to the Form S-1 filed with the SEC on July 14, 2014)
10.6‡	Asset Purchase Agreement between the Company and A&B (HK) Company Limited, dated as of October 9, 2015 (Confidential information has been omitted and filed separately with the SEC. Confidential treatment has been granted with respect to this omitted information.) (incorporated by reference to Exhibit 2.1 to the Form 8-K filed with the SEC on October 16, 2015)
10.6.1	Amendment to Asset Purchase Agreement between the Company and A&B (HK) Company Limited, dated as of October 30, 2017 (incorporated by reference to Exhibit 10.1 to the Form 8-K filed with the SEC on November 2, 2017)
10.6.2	Supplemental Agreement to Asset Purchase Agreement dated October 9, 2015, between Helius Medical, Inc. and A&B (HK) Company Limited, dated as of August 15, 2018 (incorporated by reference to Exhibit 10.27 to the Form 10-K filed March 14, 2019)
10.7*	Amended and Restated June 2014 Equity Incentive Plan (incorporated by reference to Exhibit 4.3 to the Form 10-Q filed with the SEC on November 9, 2017)
10.7.1*	2014 Stock Incentive Plan Form of Option Grant Agreement (incorporated by reference to Exhibit 10.23.1 to the Transition Report on Form 10-K filed with the SEC on April 3, 2017)
10.8*	2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.25 to the Transition Report on Form 10-K filed with the SEC on April 3, 2017)

Exhibit Number	Exhibit
10.8.1*	<u>Amendment Number 1 to the 2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.25.1 to the Transition Report on Form 10-K filed with the SEC on April 3, 2017)</u>
10.8.2*	<u>Amendment Number 2 to the 2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 4.7 to the Registration Statement on Form S-8 filed with the SEC on May 18, 2017)</u>
10.8.3*	<u>2016 Omnibus Incentive Plan Form of U.S. Option Grant Agreement (incorporated by reference to Exhibit 4.8 to the Registration Statement on Form S-8 filed with the SEC on May 18, 2017)</u>
10.8.4*	<u>2016 Omnibus Incentive Plan Form of Canada Option Grant Agreement (incorporated by reference to Exhibit 4.9 to the Registration Statement on Form S-8 filed with the SEC on May 18, 2017)</u>
10.9*	<u>2018 Omnibus Incentive Plan, as amended (incorporated by reference to Exhibit 10.2 to the Form 10-Q filed November 8, 2018)</u>
10.9.1*	<u>2018 Omnibus Incentive Plan Form of Option Grant Agreement (incorporated by reference to Exhibit 10.3 to the Form 10-Q filed November 8, 2018)</u>
10.9.2*	<u>2018 Omnibus Incentive Plan Form of Restricted Stock Unit Grant Agreement (incorporated by reference to Exhibit 10.4 to the Form 10-Q filed November 8, 2018)</u>
10.9.3*	<u>2018 Omnibus Incentive Plan Form of Option Grant Agreement – 2020 Retention Grant (incorporated by reference to Exhibit 10.1 to the Form 8-K filed on October 7, 2020)</u>
10.9.4*	<u>2018 Omnibus Incentive Plan Form of Stock Grant Notice and Award Agreement (incorporated by reference to Exhibit 10.1 to the Form 8-K filed on April 7, 2021)</u>
10.9.5*	<u>Amendment to the Helius Medical Technologies, Inc. 2018 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.1 to the Form 8-K filed on May 27, 2021)</u>
10.9.6*	<u>2018 Omnibus Incentive Plan Form of Option Grant Agreement – Initial Grants to Dane C. Andreeff and Jeffrey S. Mathiesen (incorporated by reference to Exhibit 10.3 to the Form 8-K filed on June 15, 2021)</u>
10.10*	<u>Form of Indemnification Agreement (incorporated by reference to Exhibit 10.24 to the Form 10-K filed on March 10, 2021)</u>
10.11	<u>Non-employee Director Compensation Policy (incorporated by reference to Exhibit 10.7 to the Form 10-Q filed on May 17, 2021)</u>
10.12*	<u>Employment Agreement between Helius Medical Technologies, Inc. and Dane C. Andreeff, dated June 14, 2021 (incorporated by reference to Exhibit 10.1 to the Form 8-K filed on June 15, 2021)</u>
10.13*	<u>Employment Agreement between Helius Medical Technologies, Inc. and Jeffrey S. Mathiesen, dated June 14, 2021 (incorporated by reference to Exhibit 10.2 to the Form 8-K filed on June 15, 2021)</u>
10.14*	<u>Helius Medical Technologies, Inc. 2021 Inducement Plan (incorporated by reference to Exhibit 4.6 to the Form S-8 filed July 7, 2021)</u>
10.14.1*	<u>Form of Stock Option Grant Notice, Option Agreement and Notice of Exercise under the Helius Medical Technologies, Inc. 2021 Inducement Plan (incorporated by reference to Exhibit 4.5 to the Form S-8 filed July 7, 2021)</u>
10.15*	<u>Separation and Release Agreement between Helius Medical Technologies, Inc. and Joyce LaViscount, dated August 17, 2021 (incorporated by reference to Exhibit 10.1 to the Form 8-K filed on August 19, 2021)</u>
10.16	<u>Purchase Agreement between Helius Medical Technologies, Inc. and Lincoln Park Capital Fund, LLC dated September 1, 2021 (incorporated by reference to Exhibit 10.1 to the Form 8-K filed on September 2, 2021)</u>
10.17	<u>Registration Rights Agreement between Helius Medical Technologies, Inc. and Lincoln Park Capital Fund, LLC, dated September 1, 2021 (incorporated by reference to Exhibit 10.2 to the Form 8-K filed on September 2, 2021)</u>

Exhibit Number	Exhibit
10.18*	Employment Agreement between Helius Medical Technologies, Inc. and Antonella Favit-Van Pelt, dated July 7, 2021 (incorporated by reference to Exhibit 10.31 to the Form S-1 filed on September 3, 2021).
10.19*	Helius Medical Technologies, Inc. 2022 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to the Form 8-K filed on February 18, 2022).
10.19.1*	Helius Medical Technologies, Inc. 2022 Equity Incentive Plan Form of Stock Option Agreement (incorporated by reference to Exhibit 10.3 to the Form 8-K filed on February 18, 2022).
10.20**	Form of Securities Purchase Agreement
10.21**	Form of Placement Agency Agreement
21.1	Subsidiaries of Helius Medical Technologies, Inc. (incorporated by reference to Exhibit 21.1 to the Form 10-K filed on March 14, 2022).
23.1	Consent of BDO USA, LLP
23.2**	Consent of Honigman LLP (included in Exhibit 5.1 hereto)
24.1	Power of Attorney (included on signature page hereto)
107	Filing Fee Table

* Indicates a management contract or compensatory plan.

** To be filed by amendment.

‡ Confidential information has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been granted with respect to this omitted information.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Newton, State of Pennsylvania, on July 12, 2022.

Helius Medical Technologies, Inc.

By: /s/ Dane C. Andreeff

Dane C. Andreeff
President, Chief Executive Officer and Director

KNOW ALL MEN BY THESE PRESENTS, that the undersigned officers and directors of Helius Medical Technologies, Inc., a Delaware corporation, do hereby constitute and appoint each of Dane C. Andreeff and Jeffrey S. Mathiesen as his or her true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution, for him and in his name, place, and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments, exhibits thereto and other documents in connection therewith) to this Registration Statement and any subsequent registration statement filed by the Registrant pursuant to Rule 462(b) of the Securities Act of 1933, as amended, which relates to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Dane C. Andreeff _____ Dane C. Andreeff	President, Chief Executive Officer (Principal Executive Officer) and Director	July 12, 2022
/s/ Jeffrey S. Mathiesen _____ Jeffrey S. Mathiesen	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer) and Director	July 12, 2022
/s/ Edward M. Straw _____ Edward M. Straw	Director	July 12, 2022
/s/ Sherrie Perkins _____ Sherrie Perkins	Director	July 12, 2022
/s/ Paul Buckman _____ Paul Buckman	Director	July 12, 2022
/s/ Blane Walter _____ Blane Walter	Director	July 12, 2022

Consent of Independent Registered Public Accounting Firm

Helius Medical Technologies, Inc.
Newtown, Pennsylvania

We hereby consent to the use in the Prospectus constituting a part of this Registration Statement of our report dated March 14, 2022, relating to the consolidated financial statements of Helius Medical Technologies, Inc., which is contained in that Prospectus. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP

Philadelphia, Pennsylvania
July 12, 2022

Calculation of Filing Fee Table

FORM S-1
(Form Type)Helius Medical Technologies, Inc.
(Exact Name of Registrant as Specified in its Charter)

Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Maximum Aggregate Offering Price(1)(2)	Fee Rate	Amount of Registration Fee
Equity	Class A Common Stock(3)	Rule 457(o)	-	0.0000927	-
Equity	Public Warrants(4)	Other	-	-	-
Equity	Shares of Class A Common Stock issuable upon exercise of Public Warrants	Rule 457(o)	-	0.0000927	-
Equity	Pre-funded warrants(3)(4)	Other	-	-	-
Equity	Shares of Class A Common Stock issuable upon exercise of pre-funded warrants(3)	Rule 457(o)	-	0.0000927	-
Total Offering Amounts			\$ 15,000,000		\$ 1,390.50
Total Fee Offsets					-
Net Fee Due					\$ 1,390.50

- (1) Estimated solely for the purpose of calculating the registration fee pursuant Rule 457(o) under the Securities Act of 1933, as amended (the "Securities Act").
- (2) Pursuant to Rule 416(a) under the Securities Act, this registration statement shall also cover an indeterminate number of shares that may be issued and resold resulting from stock splits, stock dividends or similar transactions.
- (3) The proposed maximum aggregate offering price of the common stock will be reduced on a dollar-for-dollar basis based on the offering price of any pre-funded warrants issued in the offering, and the proposed maximum aggregate offering price of the pre-funded warrants to be issued in the offering will be reduced on a dollar-for-dollar basis based on the offering price of any common stock issued in the offering. Accordingly, the proposed maximum aggregate offering price of the common stock, pre-funded warrants and Public Warrants (including the common stock issuable upon exercise of the pre-funded warrants), if any, is \$15,000,000.
- (4) No fee pursuant to Rule 457(g) of the Securities Act.