

PROSPECTUS SUPPLEMENT
(to Prospectus dated April 9, 2026)



2,610,715 shares of Common Stock
960,715 Pre-Funded Warrants to Purchase up to 960,715 shares of Common Stock
3,571,430 Warrants to Purchase up to 3,571,430 shares of Common Stock
Up to 4,532,145 shares of Common Stock underlying the Pre-Funded Warrants and Warrants

This is a registered direct offering of 2,610,715 shares of our common stock, par value \$0.0001 (the “Common Stock”) together with 3,571,430 warrants to purchase up to an aggregate of 3,571,430 shares of Common Stock (the “Warrants”) at a combined offering price of \$4.20 per share and accompanying Warrants.

The shares of Common Stock and the Warrants will be issued separately and will be immediately separable upon issuance but will be purchased together in this offering.

Each share of Common Stock is being offered together with one Warrant to purchase one share of Common Stock. The Warrants will be immediately exercisable following the issuance date at an exercise price of \$4.20 per share and will expire five years from the date of issuance.

We are also offering 960,715 pre-funded warrants (the “pre-funded warrants”) to those purchasers, whose purchase of shares of Common Stock in this offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding Common Stock following the consummation of this offering in lieu of the shares of our Common Stock that would result in ownership in excess of 4.99% (or, at the election of the purchaser, 9.99%). Each pre-funded warrant will be exercisable for one share of Common Stock at an exercise price of \$0.0001 per share. Each pre-funded warrant is being offered together with the same Warrant to purchase one share of Common Stock described above being offered with each share of Common Stock. The combined offering price of each pre-funded warrant and accompanying Warrant will equal the offering price per share of Common Stock and accompanying Warrant being sold in this offering, less the \$0.0001 per share exercise price of each such pre-funded warrant. Each pre-funded warrant will be exercisable immediately upon issuance and may be exercised at any time until exercised in full. The pre-funded warrants and Warrants will be separately issued but will be purchased together in this offering. For each pre-funded warrant that we sell, the number of shares of Common Stock that we are selling will be decreased on a one-for-one basis. This prospectus also covers the shares of Common Stock issuable from time to time upon the exercise of the pre-funded warrants and Warrants included alongside the Common Stock and pre-funded warrants offered hereby.

There is no established public trading market for the pre-funded warrants or Warrants, and we do not expect a market to develop. We do not intend to apply for listing of the pre-funded warrants or Warrants on any securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants and Warrants will be limited.

Our Common Stock is listed on the Nasdaq Global Market (“Nasdaq”) under the symbol “NTHI”. On September 8, 2026, the last reported sale price of our Common Stock on Nasdaq was \$4.07 per share.

We intend to use the net proceeds of this offering for general corporate purposes and working capital and to redeem the Series A Convertible Preferred Stock. See “*Prospectus Supplement Summary – Use of Proceeds.*”

We have engaged Roth Capital Partners, LLC and A.G.P./Alliance Global Partners to act as placement agents (the “placement agents”) in connection with the securities offered by this prospectus supplement and the accompanying prospectus. The placement agents have agreed to use their reasonable best efforts to arrange for the sale of the securities offered in this offering. The placement agents are not purchasing or selling any of the securities we are offering, and the placement agents are not required to arrange the purchase or sale of any specific number of securities or dollar amount. There is no required minimum number of securities that must be sold as a condition to completion of this offering, and there are no arrangements to place the funds in an escrow, trust, or similar account. We have agreed to pay the placement agents the placement agent fee as set forth in the table below. See “*Plan of Distribution*” beginning on page S-19 of this prospectus supplement for more information regarding these arrangements.

You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, together with additional information described under the heading “*Where You Can Find More Information*,” and any amendments or supplements carefully before you invest in any of our securities.

	Per Share and Warrant	Per Pre-Funded Warrant and Warrant	Total ⁽¹⁾
Offering price	\$ 4.20000	\$ 4.1999	\$ 14,999,910
Placement agent fees (7.0%) ⁽²⁾	\$ 0.29400	\$ 0.2940	\$ 1,049,994
Proceeds, before expenses, to us	\$ 3.90600	\$ 3.9059	\$ 13,949,916

(1) Includes the pre-funded warrants issued at closing.

(2) In addition, we have agreed to reimburse the placement agents for certain out-of-pocket expenses. See “*Plan of Distribution*” beginning on page S-19 of this prospectus supplement for additional information with respect to the compensation we will pay and expenses we will reimburse to the placement agents in connection with this offering.

Investment in our Common Stock involves risks. See the section entitled “Risk Factors” on page S-6 of this prospectus supplement and the risk factors contained in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of certain factors which should be considered before investing in our Common Stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

Delivery of the shares of Common Stock and any pre-funded warrants and Warrants is expected to be made on or about September 10, 2025, subject to the satisfaction of certain conditions.

Roth Capital Partners

A.G.P.

The date of this prospectus supplement is September 8, 2026.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is part of a registration statement that was filed with the Securities and Exchange Commission (the “SEC”), using a “shelf” registration process and consists of two parts. The first part is this prospectus supplement, which describes the specific terms of this offering and also supplements and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part is the accompanying prospectus, which provides more general information, some of which may not apply to this offering. This prospectus supplement may add, update or change information contained in the accompanying prospectus. If the information contained in this prospectus supplement differs or varies from, or is inconsistent with, the information contained in the accompanying prospectus, or the information contained in any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, you should rely on the information set forth in this prospectus supplement.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not, and the placement agents have not, authorized anyone else to provide you with information that is in addition to or different from that contained or incorporated by reference in this prospectus supplement and the accompanying prospectus, along with the information contained in any permitted free writing prospectuses we have authorized for use in connection with this offering. We and the placement agents take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may provide.

The information contained in this prospectus supplement and the accompanying prospectus is accurate only as of the date of this prospectus supplement or the date of the accompanying prospectus, and the information in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus is accurate only as of the date of those respective documents, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our Common Stock. Our business, financial condition, results of operations and prospects may have changed since those dates. It is important for you to read and consider all information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus in making your investment decision. You should read both this prospectus supplement and the accompanying prospectus, as well as the documents incorporated by reference into this prospectus supplement and the accompanying prospectus and the additional information described under “*Where You Can Find More Information*” in this prospectus supplement and in the accompanying prospectus before investing in our Common Stock.

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 in this prospectus supplement and the accompanying prospectus 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 agreements, 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.

We use various trademarks and trade names in our business, including without limitation our corporate name and logo. All other trademarks or trade names referred to in this prospectus supplement and the accompanying prospectus and the documents incorporated by reference herein or therein are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus supplement and the accompanying prospectus and the documents incorporated by reference herein or therein may be 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.

You should not consider this prospectus supplement or the accompanying prospectus to be an offer or solicitation relating to the securities in any jurisdiction in which such an offer or solicitation relating to the securities is not authorized. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement or the accompanying prospectus supplement by any person in any jurisdiction if the person making the offer or solicitation is not qualified to do so, or if it is unlawful for you to receive such an offer or solicitation.

Unless otherwise indicated, information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus concerning our business and the industry and markets in which we operate, including with respect to our business prospects, our market position and opportunity, and the competitive landscape, is based on information from our management's estimates, as well as from industry publications, surveys and studies conducted by third parties. Our management's estimates are derived from publicly available information, their knowledge of our business and industry, and assumptions based on such information and knowledge, which they believe to be reasonable. In addition, while we believe that information contained in the industry publications, surveys and studies has been obtained from reliable sources, we have not independently verified any of the data contained in these third-party sources, and the accuracy and completeness of the information contained in these sources is not guaranteed. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical, and general publications, government data and similar sources.

Except where the context otherwise requires or where otherwise indicated, the terms "we," "us," "our," "NeOnc," and "the Company" refer to NeOnc Technologies Holdings, Inc., a Delaware corporation, and its consolidated subsidiaries.

NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference herein include forward-looking statements that involve risks and uncertainties within the meaning of the Private Securities Litigation Reform Act of 1995. Other than statements of historical fact, all statements made in this prospectus supplement and in the documents incorporated by reference herein are forward-looking, including, but not limited to (a) our projected sales, profitability, and cash flows, (b) our growth strategies, (c) anticipated trends in our industry, (d) our future financing plans and (e) our anticipated needs for working capital. They are generally identifiable by use of the words “may,” “will,” “should,” “anticipate,” “estimate,” “plans,” “potential,” “projects,” “continuing,” “ongoing,” “expects,” “management believes,” “we believe,” “we intend” or the negative of these words or other variations on these words or comparable terminology. Forward-looking statements involve risks and uncertainties that are inherently difficult to predict, which could cause actual outcomes and results to differ materially from our expectations, forecasts and assumptions. The following important factors, among others, could affect our future results and could cause those results to differ materially from those expressed in such forward-looking statements:

- our goals and strategies;
- our future business development, financial conditions and results of operations fluctuations in interest rates;
- our expectations regarding demand for and market acceptance of our products and services;
- projections of revenue, earnings, capital structure and other financial items;
- competition in our industry;
- relevant government policies and regulations relating to our industry; and
- general economic and business conditions in the markets in which we operate.

Any or all of our forward-looking statements in this prospectus supplement may turn out to be inaccurate. They can be affected by inaccurate assumptions we might make or by known or unknown risks or uncertainties. Consequently, no forward-looking statement can be guaranteed. Actual future results may vary materially as a result of various factors, including, without limitation, the risks outlined under “*Risk Factors*” and incorporated by reference into this prospectus supplement. In light of these risks and uncertainties, there can be no assurance that the forward-looking statements contained in this filing will in fact occur. You should not place undue reliance on these forward-looking statements.

We undertake no obligation to update forward-looking statements to reflect subsequent events, changed circumstances or the occurrence of unanticipated events.

PROSPECTUS SUPPLEMENT SUMMARY

Business

The following summary of our business highlights some of the information contained elsewhere in or incorporated by reference into this prospectus supplement or the accompanying prospectus. Because this is only a summary, it does not contain all of the information that may be important to you. You should carefully read this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, which are identified under “*Incorporation of Certain Information by Reference*” in this prospectus supplement and under “*Incorporation of Certain Information by Reference*” in the accompanying prospectus. You should also carefully consider the matters discussed in the section in this prospectus supplement entitled “*Risk Factors*” and in the accompanying prospectus, in our Annual Report on Form 10-K for the year ended December 31, 2025 and in other documents incorporated herein by reference.

About NeOnc Technologies Holdings, Inc.

Our company (f/k/a NAS-ONC, Inc.) was formed in 2008, devoted to developing new drugs with new delivery modes. As a clinical-stage biopharmaceutical company, we have focused on establishing treatments for intracranial malignancies, i.e., aggressive cancers located in the brain. These cancer types include primary brain cancers, such as glioblastoma, and secondary brain cancers, that have arrived through metastatic spread from other cancers throughout the body, such as melanoma or breast and lung cancer. Brain-localized malignancies are particularly difficult to treat because the blood-brain barrier prevents efficient entry of most pharmacotherapeutic agents into the brain. As a result, these patients are faced with poor prognoses and shortened average life expectancy. NeOnc is developing novel drug delivery methods to be used in combination with novel drug candidates.

NeOnc has two lead products in development: NEO100 and NEO12. NEO100 is a purified form of perillyl alcohol (“POH”) which is administered to brain cancer patients via intranasal delivery. Ongoing activities for intranasal delivery of NEO100:

- We have completed human testing in a Phase I clinical trial and are currently conducting a Phase IIa trial with recurrent malignant glioma (Grade IV, IDH1 mutant and Grade III Astrocytoma, IDH1 mutant) patients.
- A similar Phase IIa trial of intranasal NEO100 (NEO 100-02) for patients with malignant skull-based meningioma is also ongoing. Meningiomas are slow-growing tumors originating in the meninges, the membranous layers surrounding the brain and spinal cord. We initiated this because these patients lack effective treatment options. These tumors are notoriously difficult to access, and conventional methods like surgery often lead to significant neurological deficits. Additionally, radiation therapy has shown limited effectiveness. The trial was officially launched in July 2023. As NEO100 uses the same treatment platform as the malignant gliomas, we bypassed the Phase I trial and received FDA approval for a Phase II trial within just 30 days.
- Separate from this single-drug application, NEO100 is further being investigated as a drug delivery vehicle, where the results of NeOnc’s preclinical studies suggest evidence that the combination of NEO100 with other drugs may enable a patient’s improved brain tumor delivery via the intranasal route. Intranasal NEO100, mixed with levodopa (L-DOPA), is in the planning stages for a clinical trial in patients with Parkinson’s disease (PD). NeOnc’s laboratory experiments showed that intranasal NEO100 mixed with levodopa was able to reverse PD symptoms in mice. A Phase I clinical trial is planned to study the impact on human patients.

Our initial application for the Phase I/IIa trial for NEO 100 focused on an enrollment population with recurrent glioblastoma. Based on our Phase I results, NEO 100 showed more promise in patients with IDH1,2 mutant Grade IV astrocytomas. However, this patient population represented less than 5-10 percent of all patients with recurrent glioblastoma. As we planned for a total of 31 patients for Phase IIa in our initial analysis, enrollment of recurrent Grade IV, IDH1,2 mutants was limited due to the fact that only 5-10 percent of Grade IV astrocytomas have IDH1,2 mutations. Independent biostatistical review of clinical progression patterns of recurrent IDH1,2 mutated Grade III astrocytomas compared to recurrent IDH1,2 mutated Grade IV astrocytomas revealed that these two tumors have the same prognosis. As a result, in June 2023 we requested that the FDA not object to the inclusion of patients with recurrent Grade III IDH1,2 mutant astrocytomas in the Phase IIa trial. The FDA did not object and, as a result, the population of patients available to be enrolled is now much larger. Because the prognosis of recurrent Grade III IDH1,2 mutants is similar to recurrent IDH1,2 Grade IV astrocytomas, the number of patients needed to be enrolled in the Phase IIa trial to assess the clinical efficacy of NEO100 in the population of high grade astrocytomas did not change. The expanded patient population means that there are a significant number of additional patients that can be targeted for potential enrollment in the Phase IIa study; in an initial review, we have identified approximately 80 grade III IDH1,2 mutation-positive candidates. Patients with residual measurable disease are now followed via MRI scans to determine if there is progression, (recurrent disease), making them eligible for enrollment. We believe this focused enrollment strategy for Grade III and IV IDH1/2-mutant patients has the potential to support a more efficient trial process. Based on our current planning assumptions, we believe a Phase II data readout for NEO100 may be achievable by the end of 2026.

Our second lead product, NEO212, a covalently conjugated molecule combining the chemotherapeutic drug temozolomide with perillyl alcohol, has completed preclinical testing and has received investigational new drug (IND) approval from the United States Food and Drug Administration (FDA), i.e., it has been authorized to proceed to clinical testing in cancer patients. We have designed a Phase I/II trial for oral NEO212, which began in the fourth quarter of 2023. In this trial, NEO212 will be administered orally to patients with primary brain tumors (i.e., malignant gliomas) and secondary brain tumors (i.e., brain metastases derived from peripheral tumors, such as tumors of the lung, breast, skin/melanoma, etc.). Furthermore, NEO212 is undergoing development towards intranasal application specifically for patients with uncontrolled brain metastases derived from peripheral tumors (lung, breast, skin, etc.), but has not yet been studied in human patients.

Currently, none of our product candidates have been approved for sale in the United States or elsewhere. We have no commercial products nor do we have a sales or marketing infrastructure. In order to market and sell our products we must conduct clinical trials on patients and obtain regulatory approvals from appropriate regulatory agencies, like the FDA in the United States, and similar organizations elsewhere in the world.

We have not generated any revenue from product sales and from January 1, 2023 to June 30, 2026 have only generated revenue of \$0. We do not anticipate generating significant revenues for the foreseeable future. We had net loss of \$23,059,976 and \$38,006,186 for the six months ended June 30, 2026 and 2025, respectively. At June 30, 2026, we had an accumulated deficit of \$135,814,631.

Implications of Being an “Emerging Growth Company”

We are an “emerging growth company” as defined under the federal securities laws. For so long as we remain an emerging growth company, we are permitted to rely on exemptions from specified disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include the following:

- not being required to comply with the auditor attestation requirements in the assessment of our internal controls over financial reporting;

- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

An emerging growth company may delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to take advantage of the extended transition period for complying with new or revised accounting standards provided to emerging growth companies.

We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year following the fifth anniversary of the completion of our direct listing, (ii) the last day of the first fiscal year in which our annual gross revenues exceed \$1.235 billion, (iii) the date on which we have, during the immediately preceding three-year period, issued more than \$1.0 billion in non-convertible debt securities and (iv) the end of any fiscal year in which the market value of our Common Stock held by non-affiliates exceeds \$700 million as of the end of the second quarter of that fiscal year.

Implications of Being a Smaller Reporting Company

We are a “smaller reporting company” as defined in Rule 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of the fiscal year in which (1) the market value of our shares held by non-affiliates equals or exceeds \$250 million as of the prior June 30th, or (2) our annual revenues equaled or exceeded \$100 million during such completed fiscal year and the market value of our shares held by non-affiliates equals or exceeds \$700 million as of the prior June 30th. Such reduced disclosure and corporate governance obligations may make it more challenging for investors to analyze our results of operations and financial prospects.

Corporate Information

Our principal executive office is located at 23975 Park Sorrento, Suite 205, Calabasas, CA 91302, and our telephone number is (310) 663-7831. We maintain a website at www.neonc.com/. Information available on our website is not incorporated by reference in and is not deemed a part of this prospectus supplement.

Other Information

For a complete description of our business, financial condition, results of operations and other important information, we refer you to our filings with the SEC that are incorporated by reference in this prospectus supplement, including our Annual Report on Form 10-K for the year ended December 31, 2025. For instructions on how to find copies of these documents, please see the section titled “*Incorporation of Certain Information by Reference*” beginning on page S-22 of this prospectus supplement.

THE OFFERING

Common Stock offered by us	2,610,715 shares of our Common Stock
Pre-funded Warrants being Offered	We are also offering 960,715 pre-funded warrants to purchase shares of Common Stock to certain purchasers whose purchase of shares of Common Stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding Common Stock immediately following the consummation of this offering, the opportunity to purchase, if such purchasers so choose, 960,715 pre-funded warrants to purchase shares of Common Stock, in lieu of shares of Class A 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 Common Stock. Each pre-funded warrant will be exercisable for one share of our Common Stock. The combined purchase price of each pre-funded warrant and accompanying Warrant will equal the price at which each share of Common Stock and accompanying Warrant are being sold in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant will be \$0.0001 per share. The pre-funded warrants will be exercisable immediately and may be exercised at any time until all the pre-funded warrants are exercised in full. This offering also relates to the shares of Common Stock issuable upon exercise of any pre-funded warrants sold in this offering. 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 one Warrant, each to purchase one share of Common Stock, for each share of our Common Stock and for each pre-funded warrant to purchase one share of our Common Stock sold in this offering, the number of 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.
Warrants being Offered	Warrants to purchase up to 3,571,430 shares of our Common Stock. Each share of Common Stock is being offered together with one Warrant to purchase one share of Common Stock. Each Warrant has an exercise price of \$4.20 per share of Common Stock. The Warrants will become immediately exercisable following the issuance date and will expire five years from the date of issuance. For additional information regarding the Warrants, see "<i>Description of Securities We Are Offering</i>" below. The shares of Common Stock and pre-funded warrants, and the accompanying Warrants can only be purchased together in this offering but will be issued separately and will be immediately separable upon issuance. This prospectus supplement also relates to the offering of the shares of Common Stock issuable upon exercise of the Warrants and the pre-funded warrants.
Common Stock outstanding⁽¹⁾	26,194,665
Common Stock to be outstanding immediately after this offering	29,766,095 shares of Common Stock based on the assumptions noted below (assuming full exercise of the pre-funded warrants and assuming no exercise of the Warrants).

Use of Proceeds

We estimate that the net proceeds to us from this offering, after deducting the estimated placement agent fees and estimated offering expenses payable by us, will be approximately \$13.9 million, excluding the proceeds, if any, from the cash exercise of the Warrants in this offering. We currently intend to use the net proceeds from this offering for general corporate and working capital purposes and to redeem the Series A Convertible Preferred Stock. See “*Use of Proceeds*” on page S-8 of this prospectus supplement.

Risk Factors

See “*Risk Factors*” in this prospectus supplement, the accompanying prospectus and otherwise incorporated by reference into this prospectus supplement and the accompanying prospectus for a discussion of factors you should consider carefully before deciding to invest in shares of our Common Stock.

Nasdaq Global Market symbol

“NTHI”

(1) Based on 26,194,665 shares of Common Stock issued and outstanding as of September 8, 2026 and excludes as of that date:

- 28,437,970 shares of Common Stock issuable upon exercise of outstanding warrants;
- 623,666 unvested shares of restricted stock issued pursuant to our 2023 Equity Incentive Plan (the “Plan”);
- Shares of Common Stock issuable pursuant to a \$50 million Equity Purchase Agreement; and
- 1,199,507 shares of Common Stock reserved for future issuance under the Plan.

RISK FACTORS

Before you invest in our Common Stock, you should be aware that our business faces numerous financial and market risks, including those described below, as well as general economic and business risks. Our Common Stock is speculative, and you should not make an investment in NeOnc unless you can afford to bear the loss of your entire investment. Prior to making a decision about investing in our Common Stock, you should carefully consider the risks, uncertainties and assumptions discussed under Item 1A, "Risk Factors," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2025, as updated by our subsequent filings with the SEC, under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are incorporated herein by reference, together with the information in this prospectus supplement and the base prospectus and any other information incorporated by reference herein or therein. Before you decide whether to invest in our Common Stock, you should carefully consider these risks and uncertainties, together with all of the other information included in or incorporated by reference into this prospectus supplement or the accompanying prospectus. The risks and uncertainties identified are not the only risks and uncertainties we face. If any of the material risks or uncertainties that we face were to occur, you could lose part or all of your investment.

Risks Related to our Common Stock and this Offering

Purchasers in this offering will experience immediate and substantial dilution in the book value of their investment.

The price per share of our Common Stock being offered is higher than the net tangible book value per share of our outstanding Common Stock prior to this offering. Based on an offering price of \$4.20, our as adjusted net tangible book value per share of Common Stock after this offering will be \$(0.17). As a result, purchasers in this offering will experience an immediate decrease of \$4.37 per share in net tangible book value of the shares of our Common Stock purchased in this offering. For a more detailed discussion of the foregoing, see "Dilution" in this prospectus supplement. To the extent outstanding warrants or restricted stock are exercised or vested, as applicable, there will be further dilution to investors. Investors may be further diluted in the event that outstanding convertible promissory notes or the Series A Convertible Preferred Stock are converted into Common Stock, or in the event that Common Stock is issued pursuant to the Plan. In addition, to the extent we need to raise additional capital in the future and we issue additional shares of Common Stock or securities convertible or exchangeable for our Common Stock, our then existing stockholders may experience dilution and the new securities may have rights senior to those of our Common Stock offered in this offering.

We will have broad discretion in how we use the net proceeds of this offering, if any. We may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.

Although we currently intend to use the net proceeds from this offering, if any, in the manner described in the section entitled "Use of Proceeds" in this prospectus supplement, we will have considerable discretion in the application of the net proceeds of this offering. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

There is no public market for the Warrants or pre-funded warrants being offered by us in this offering.

There is no established public trading market for the Warrants or the pre-funded warrants, and we do not expect a market to develop. In addition, we do not intend to apply to list the Warrants or pre-funded warrants on any national securities exchange or other nationally recognized trading system. Without an active market, the liquidity of the Warrants and pre-funded warrants will be limited.

The Warrants and pre-funded warrants are speculative in nature.

The Warrants and pre-funded warrants offered hereby do not confer any rights of share 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 Common Stock at a fixed price. Holders of the Warrants may acquire the shares of Common Stock issuable upon exercise of such Warrants at an exercise price of \$4.20 per share of Common Stock, and holders of the pre-funded warrants may acquire the shares of Common Stock issuable upon exercise of such warrants at an exercise price of \$0.0001 per share of Common Stock. Moreover, following this offering, the market value of the Warrants and pre-funded warrants is uncertain and there can be no assurance that the market value of the Warrants or pre-funded warrants will equal or exceed their respective offering prices. There can be no assurance that the market price of the shares of Common Stock will ever equal or exceed the exercise price of the Warrants or pre-funded warrants, and consequently, whether it will ever be profitable for holders of Warrants to exercise the Warrants or for holders of the pre-funded warrants to exercise the pre-funded warrants.

Holders of the Warrants and pre-funded warrants offered hereby will have no rights as common stockholders with respect to the shares of our Common Stock underlying such warrants until such holders exercise their warrants and acquire our Common Stock, except as otherwise provided in the warrants.

Until holders of the Warrants and the pre-funded warrants acquire shares of our Common Stock upon exercise thereof, such holders will have no rights with respect to the shares of our Common Stock underlying such warrants, except to the extent that holders of such warrants will have certain rights to participate in distributions or dividends paid on our Common Stock as set forth in the Warrants and pre-funded warrants. Upon exercise of the Warrants and the pre-funded warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

A substantial number of shares of our Common Stock may be sold in the market following this offering, which may depress the market price for our Common Stock.

Sales of a substantial number of shares of our Common Stock in the public market following this offering, or the perception that such sales might occur, could cause the market price of our Common Stock to decline. A substantial number of the outstanding shares of our Common Stock are, and the shares of Common Stock sold in this offering upon issuance will be, freely tradeable without restriction or further registration under the Securities Act.

USE OF PROCEEDS

We expect the net proceeds to us from this offering after deducting commissions and estimated offering expenses to be approximately \$13.9 million, excluding the proceeds, if any, from the cash exercise of the Warrants in this offering. We may receive additional proceeds from the exercise of the Warrants issuable in connection with this offering and, if such Warrants are exercised in full for cash, the additional net proceeds will be approximately \$15 million. We intend to use the net proceeds from the sale of securities offered by this prospectus supplement for general corporate and working capital purposes and to redeem the Series A Convertible Preferred Stock.

DESCRIPTION OF SECURITIES WE ARE OFFERING

The following is a brief summary of certain terms and conditions of the securities being offered in this offering. The following description is subject in all respects to the provisions contained in instruments governing the applicable security.

We are offering 2,610,715 shares of our Common Stock, 960,715 pre-funded warrants to purchase Common Stock and 3,571,430 Warrants to purchase up to 3,571,430 shares of Common Stock. Each share of Common Stock is being offered together with one Warrant to purchase one share of Common Stock. We are also offering pre-funded warrants to those purchasers whose purchase of shares of Common Stock in this offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding shares of Common Stock following the consummation of this offering in lieu of the shares of Common Stock that would result in such excess ownership. Each pre-funded warrant will be exercisable for one share of Common Stock. Each pre-funded warrant is being offered together with one Warrant to purchase one share of Common Stock. No Warrant for fractional shares of Common Stock will be issued, rather Warrants will be issued only for whole shares of Common Stock. We are also registering the shares of Common Stock issuable from time to time upon exercise of the pre-funded warrants and Warrants offered hereby.

Common Stock

The material terms and provisions of our Common Stock are described under the caption “*Description of Securities*” in the accompanying prospectus and are incorporated herein by reference.

Warrants

General

The following is a summary of certain terms and provisions of the Warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the Warrants. Prospective investors should carefully review the terms and provisions of the form of Warrant for a complete description of the terms and conditions of the Warrants.

Duration, Exercise Price and Form

The Company is offering Warrants to purchase up to an aggregate of 3,571,430 shares of our Common Stock. Each Warrant may be exercised, in cash, or by a cashless exercise at the election of the holder under certain circumstances, at any time following the issuance date, and will expire five years from the date of issuance. 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 Common Stock and the exercise price. The Warrants will be issued separately from the Common Stock and will be held separately immediately thereafter. One Warrant to purchase one share of our Common Stock, will be issued for every share of Common Stock or pre-funded warrant purchased in this offering. The Warrants will be issued in certificated form only.

Exercisability

The Warrants are exercisable immediately following the date of issuance and, 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 our Common Stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of such holder’s Warrants to the extent that the holder would own more than 4.99% of the outstanding 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 Warrants up to 9.99% of the number of shares of our Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Warrants. Purchasers of Warrants in this offering may also elect prior to the issuance of the Warrants to have the initial exercise limitation set at 9.99% of our outstanding shares of Common Stock.

Cashless Exercise

If, at the time a holder exercises its Warrants, a registration statement registering the issuance of the shares of Common Stock underlying the Warrants under the Securities Act is not then effective or available for the issuance of such shares, 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 Warrants.

Fundamental Transactions

In the event of a fundamental transaction, as described in the form of Warrant, and generally including any reorganization, recapitalization or reclassification of our 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 Common Stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding Common Stock, the holders of the Warrants will be entitled to receive upon exercise of the Warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the Warrants immediately prior to such fundamental transaction, other than one in which a successor entity that is a publicly traded corporation (whose stock is quoted or listed for trading on a national securities exchange, including, but not limited to, the New York Stock Exchange, the NYSE American, the Nasdaq Global Select Market, the Nasdaq Global Market or the Nasdaq Capital Market) assumes the Warrants such that the warrant shall be exercisable for the publicly traded Common Stock of such successor entity. Additionally, as more fully described in the Warrants, at the option of the holders of the Warrants the holder can receive consideration in the same type and form of an amount equal to the Black Scholes value (as defined in the Warrants) of such unexercised Warrants on the date of consummation of such transaction.

Transferability

Subject to applicable laws, the Warrants may be transferred at the option of the holder upon surrender of the Warrants to us together with the appropriate instruments of transfer.

Fractional Shares

No fractional shares of Common Stock will be issued upon the exercise of the Warrants. Rather, the number of shares of Common Stock to be issued will, at the Company's election, either be rounded up to the next whole share or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Trading Market

There is no established trading market for the Warrants, and we do not expect an active trading market to develop. We do not intend to apply to list the Warrants on any securities exchange or other trading market. Without a trading market, the liquidity of the Warrants will be extremely limited.

Right as a Stockholder

Except as otherwise provided in the Warrants or by virtue of the holder's ownership of shares of our Common Stock, such holder of Warrants does not have the rights or privileges of a holder of our Common Stock, including any voting rights until such holder exercises such holder's Warrants. The Warrants will provide that the holders of the Warrants have the right to participate in distributions or dividends paid on our shares of Common Stock.

Waivers and Amendments

Other than Section 2(e) or Section 5(l) of the Warrants which may not be amended, modified or waived, the Warrants may be modified or amended or the provisions of the Warrants waived with our and the holder's written consent.

Pre-Funded Warrants

General

The following summary of certain terms and provisions of the pre-funded warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrant, the form of which will be filed as an exhibit to the registration statement of which this prospectus supplement forms a part. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

Duration, Exercise Price and Form

Each pre-funded warrant offered hereby will have an initial exercise price per share of Common Stock equal to \$0.0001. The pre-funded warrants will be immediately exercisable and may be exercised at any time until all pre-funded warrants have 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 Common Stock and the exercise price. The pre-funded warrants will be issued in certificated form only.

Exercisability

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). 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 beneficial ownership of outstanding shares after exercising the holder's pre-funded warrants up to 9.99% of the number of our 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.

Cashless Exercise

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.

Fractional Shares

No fractional shares of Common Stock will be issued upon the exercise of the pre-funded warrants. Rather, the number of shares of Common Stock to be issued will be, at the Company's election, either rounded up to the next whole share or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Transferability

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

Trading Market

There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system, and we do not expect a trading market to develop. We do not intend to list the pre-funded warrants on any securities exchange or nationally recognized trading market. Without a trading market, the liquidity of the pre-funded warrants will be extremely limited. The shares of Common Stock issuable upon exercise of the pre-funded warrants are currently traded on the Nasdaq Global Market.

Right as a Stockholder

Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of Common Stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our shares of Common Stock, including any voting rights, until they exercise their pre-funded warrants. The pre-funded warrants will provide that the holders of the pre-funded warrants have the right to participate in distributions or dividends paid on our shares of Common Stock.

Fundamental Transaction

In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our 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 Common Stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding 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, other than one in which a successor entity that is a publicly traded corporation (whose stock is quoted or listed for trading on a national securities exchange, including, but not limited to, the New York Stock Exchange, the NYSE American, the Nasdaq Global Select Market, the Nasdaq Global Market or the Nasdaq Capital Market) assumes the pre-funded warrant such that the warrant shall be exercisable for the publicly traded Common Stock of such successor entity.

Waivers and Amendments

Other than Section 2(e) or Section 5(l) of the pre-funded warrant which may not be amended, modified or waived, the pre-funded warrant may be modified or amended or the provisions of the pre-funded warrant waived with our and the holder's written consent.

DILUTION

If you invest in our securities in this offering, your interest will be diluted to the extent of the difference between the combined offering price per share and the as adjusted net tangible book value per share of our Common Stock after this offering. As of June 30, 2026, our net tangible book value was \$(19.0) million, or \$(0.73) per share, based on 25,933,365 shares of Common Stock outstanding at that date. Our net tangible book value per share represents the amount of our total tangible assets reduced by the amount of our total liabilities, divided by the total number of shares of our Common Stock outstanding as of June 30, 2026.

After giving effect to the sale of 3,571,430 shares of Common Stock (assuming no issuance of pre-funded warrants in lieu thereof) and accompanying Warrants at a combined offering price of \$4.20 per share, and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2026 would have been \$(5.1) million, or \$(0.17) per share of Common Stock. This represents an immediate increase in net tangible book value of \$0.56 per share to our existing stockholders and an immediate dilution in net tangible book value of \$4.37 per share to investors in this offering.

The following table illustrates this dilution to investors on a per share basis.

Offering price per share		\$	4.20
Historical net tangible book value per share as of June 30, 2026	\$	(0.73)	
Increase per share attributable to investors purchasing shares in this offering	\$	0.56	
As adjusted net tangible book value per share, after giving effect to this offering		\$	(0.17)
Dilution per share to investors purchasing Common Stock in this offering		\$	4.37

The foregoing table and calculations are based on 25,933,365 shares of our Common Stock outstanding as of June 30, 2026, and excludes as of such date:

- 573,666 unvested shares of restricted stock issued pursuant to the Plan;
- Shares of Common Stock issuable pursuant to a \$50 million Equity Purchase Agreement; and
- 249,507 shares of Common Stock reserved for future issuance under the Plan.

To the extent that outstanding warrants are exercised, or restricted stock awards are vested and settled, you may 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 we raise additional capital by issuing equity or convertible debt securities, your ownership will be further diluted.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our Common Stock and do not anticipate paying any cash dividends on our Common Stock at any time in the foreseeable future. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any dividends on our Common Stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our Board and will depend on, among other factors, our financial condition, operating results, capital requirements, general business conditions, the terms of any future credit agreements and other factors that our Board may deem relevant.

MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSEQUENCES TO NON-U.S. HOLDERS OF OUR COMMON STOCK

The following is a summary of the material U.S. federal income and estate tax consequences to non-U.S. holders (as defined below) of the ownership and disposition of our Common Stock but does not purport to be a complete analysis of all the potential tax considerations relating thereto. This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended, or the Code, U.S. Treasury regulations promulgated thereunder, administrative rulings and judicial decisions, all as of the date hereof. These authorities may be changed, possibly retroactively, or be subject to differing interpretations so as to result in U.S. federal income and estate tax consequences different from those set forth below. We have not sought and will not seek any ruling from the Internal Revenue Service, or the IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will not take a position contrary to such statements and conclusions.

This summary applies only to Common Stock acquired in this offering. It does not address the tax considerations arising under the laws of any non-U.S., state or local jurisdiction or under U.S. federal non-income tax laws, except to the limited extent set forth below. In addition, this discussion does not address the potential application of the Medicare surtax on net investment income or any tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies or other financial institutions;
- persons subject to the alternative minimum tax;
- tax-exempt organizations;
- qualified foreign pension funds;
- “controlled foreign corporations,” “passive foreign investment companies” and corporations that accumulate earnings to avoid U.S. federal income tax;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below);
- certain former citizens or long-term residents of the United States;
- entities or arrangements treated as partnerships for U.S. federal income tax purposes and other pass-through entities (and investors therein);
- persons who hold our Common Stock as a position in a “straddle,” “conversion transaction” or other risk reduction transaction or integrated transaction;
- persons who do not hold our Common Stock as a capital asset within the meaning of Code Section 1221 (generally, property held for investment);
- persons subject to special tax accounting rules as a result of any item of gross income with respect to our Common Stock being taken into account in an applicable financial statement; or
- persons deemed to sell our Common Stock under the constructive sale provisions of the Code.

If a partnership or entity or arrangement classified as a partnership for U.S. federal income tax purposes holds our Common Stock, the tax treatment of a partner generally will depend on the status of the partner and upon the activities of the partnership. Accordingly, partnerships that hold our Common Stock, and partners in such partnerships, should consult their tax advisors regarding the tax consequences of the purchase, ownership and disposition of our Common Stock.

You are urged to consult your tax advisor with respect to the application of the U.S. federal income tax laws to your particular situation, as well as any tax consequences of the purchase, ownership and disposition of our Common Stock arising under the U.S. federal non-income tax laws or under the laws of any state, local, non-U.S. or other taxing jurisdiction or under any applicable tax treaty.

Non-U.S. Holder Defined

For purposes of this discussion, except as modified for estate tax purposes, you are a non-U.S. holder if you are a beneficial owner of shares of our Common Stock, other than a partnership or entity or arrangement classified as a partnership for U.S. federal income tax purposes, or:

- an individual who is a citizen or resident of the United States (for U.S. federal income tax purposes);
- a corporation or other entity taxable as a corporation created or organized in the United States or under the laws of the United States or any political subdivision thereof or entity treated as such for U.S. federal income tax purposes;
- an estate whose income is subject to U.S. federal income tax regardless of its source; or
- a trust (x) whose administration is subject to the primary supervision of a U.S. court, and which has one or more U.S. persons who have the authority to control all substantial decisions of the trust or (y) which has made a valid election to be treated as a U.S. person.

Distributions

We have never paid cash distributions on our Common Stock and do not anticipate doing so in the foreseeable future. However, if we do make distributions on our Common Stock, those payments will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed both our current and our accumulated earnings and profits, they will constitute a return of capital and will first reduce your basis in our Common Stock, but not below zero, and then will be treated as gain from the sale of stock.

Subject to the discussion below on effectively connected income, any dividend paid to a non-U.S. holder generally will be subject to U.S. withholding tax either at a rate of 30% of the gross amount of the dividend or such lower rate as may be specified by an applicable income tax treaty. In order to receive a reduced treaty rate, a non-U.S. holder must provide us with an IRS Form W-8BEN, IRS Form W-8BEN-E or other appropriate version of IRS Form W-8, including a U.S. taxpayer identification number, if required, certifying qualification for the reduced rate. A non-U.S. holder of shares of our Common Stock eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the IRS. If the non-U.S. holder holds the stock through a financial institution or other agent acting on the non-U.S. holder's behalf, the non-U.S. holder will be required to provide appropriate documentation to the agent, which may then be required to provide certification to the relevant paying agent, either directly or through other intermediaries.

Dividends received by a non-U.S. holder that are effectively connected with such holder's conduct of a U.S. trade or business (and, if required by an applicable tax treaty, that are attributable to a permanent establishment maintained in the U.S.), are generally exempt from such withholding tax. In order to obtain this exemption, a non-U.S. holder must provide us with an IRS Form W-8ECI properly certifying such exemption. Such effectively connected dividends, although not subject to withholding tax, generally are taxed at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. In addition, if you are a corporate non-U.S. holder, dividends you receive that are effectively connected with your conduct of a U.S. trade or business may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty. You should consult your tax advisor regarding any applicable tax treaties that may provide for different rules.

Gain on Disposition of Common Stock

Subject to discussions below regarding backup withholding and foreign accounts, a non-U.S. holder generally will not be required to pay U.S. federal income tax on any gain realized upon the sale or other disposition of our Common Stock unless:

- the gain is effectively connected with such holder's conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, the gain is attributable to a permanent establishment maintained in the United States);
- the non-U.S. holder is an individual who is present in the United States for a period or periods aggregating 183 days or more during the taxable year in which the sale or disposition occurs and certain other conditions are met; or
- our Common Stock constitutes a U.S. real property interest by reason of our status as a "United States real property holding corporation," or USRPHC, for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding such holder's disposition of, or the holder's holding period for, our Common Stock.

We believe that we are not currently and will not become a USRPHC. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property relative to the fair market value of our other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, however, as long as our Common Stock is regularly traded on an established securities market, such Common Stock will be treated as U.S. real property interests only if a non-U.S. holder actually or constructively holds more than 5% of such regularly traded Common Stock at any time during the shorter of the five year period preceding the holder's disposition of, or the holder's holding period for, our Common Stock.

If you are a non-U.S. holder described in the first bullet above, you will be required to pay U.S. federal income tax on the net gain derived from the sale under regular graduated U.S. federal income tax rates, and a corporate non-U.S. holder described in the first bullet above also may be subject to the branch profits tax at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty. If you are an individual non-U.S. holder described in the second bullet above, you will be required to pay a flat 30% U.S. federal income tax (or such lower rate specified by an applicable income tax treaty) on the gain derived from the sale, which gain may be offset by U.S.-source capital losses for the year, provided you have timely filed U.S. federal income tax returns with respect to such losses. You should consult any applicable income tax or other treaties that may provide for different rules.

Federal Estate Tax

Our Common Stock beneficially owned by an individual who is not a citizen or resident of the United States (as defined for U.S. federal estate tax purposes) at the time of death will generally be includable in the decedent's gross estate for U.S. federal estate tax purposes, unless an applicable estate tax treaty provides otherwise.

Backup Withholding and Information Reporting

Generally, we must report annually to the IRS the amount of dividends paid to a non-U.S. holder, such holder's name and address, and the amount of tax withheld, if any. A similar report will be sent to such non-U.S. holder. Pursuant to applicable income tax treaties or other agreements, the IRS may make these reports available to tax authorities in the non-U.S. holder's country of residence.

Payments of dividends on or of proceeds from the disposition of our Common Stock made to a non-U.S. holder may be subject to additional information reporting and backup withholding at a current rate of 24% unless such holder establishes an exemption, for example, by properly certifying such holder's non-U.S. status on a Form W-8BEN, IRS Form W-8BEN-E or another appropriate version of IRS Form W-8. Notwithstanding the foregoing, backup withholding and information reporting may apply if either we or our paying agent has actual knowledge, or reason to know, that such holder is a U.S. person.

Backup withholding is not an additional tax; rather, the U.S. federal income tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund or credit may generally be obtained from the IRS, provided that the required information is furnished to the IRS in a timely manner.

Foreign Account Tax Compliance Act

Provisions commonly referred to as "FATCA" impose a U.S. federal withholding tax of 30% on dividends on, and the gross proceeds from a disposition of, our Common Stock paid to a "foreign financial institution" (as specifically defined under the FATCA rules) unless such institution enters into an agreement with the U.S. government to, among other things, withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners) or otherwise establishes an exemption. FATCA also imposes a U.S. federal withholding tax of 30% to dividends on, and the gross proceeds from a disposition of, our Common Stock paid to a "non-financial foreign entity" (as specifically defined under the FATCA rules) unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides information regarding direct and indirect U.S. owners of the entity or otherwise establishes an exception.

The withholding provisions described above generally apply to payments of dividends on our Common Stock and will apply to payments of gross proceeds from a sale or other disposition of our Common Stock. However, the U.S. Treasury Department has issued proposed regulations that, if finalized in their present form, would eliminate FATCA withholding on gross proceeds of the sale or other disposition of our Common Stock (but not on payments of dividends). Taxpayers may rely on the proposed regulations until final regulations are issued or until such proposed regulations are rescinded. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this section. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes. You should consult your personal tax advisor regarding these withholding provisions.

The preceding discussion of U.S. federal tax considerations is for general information only. It is not tax advice. Each prospective investor should consult its own tax advisor regarding the particular U.S. federal, state and local and non-U.S. tax consequences of purchasing, holding and disposing of our Common Stock, including the consequences of any proposed change in applicable laws.

PLAN OF DISTRIBUTION

We have entered into securities purchase agreements with certain institutional and accredited investors pursuant to which we have agreed to issue and sell directly to such investors, and such investors have agreed to purchase directly from us, an aggregate of 2,610,715 shares of Common Stock, pre-funded warrants to purchase up to 960,715 shares of Common Stock and Warrants to purchase up to 3,571,430 shares of Common Stock.

We have retained Roth Capital Partners, LLC and A.G.P./ Alliance Global Partners to act as our placement agents in connection with this offering. Under the terms of the placement agency agreement, dated September 8, 2026, the placement agents are not purchasing or selling any Common Stock offered by us in this offering, and are not required to arrange for the sale of any specific number or dollar amount of the Common Stock, Warrants or pre-funded warrants other than to use their reasonable best efforts to arrange for the sale of such Common Stock, Warrants or pre-funded warrants by us.

We expect to deliver the securities being offered pursuant to this prospectus supplement and accompanying prospectus on or about September 10, 2026, subject to satisfaction of customary closing conditions.

Fees and Expenses

We have agreed to pay the placement agents a cash fee equal to 7.0% of the aggregate gross proceeds of this offering. We have also agreed to reimburse the placement agents at closing for out-of-pocket expenses, including legal expenses, incurred by them in connection with the offering up to a maximum of \$75,000. The following table shows the per share, per pre-funded warrant and total cash placement agent fees we will pay to the placement agents in connection with the sale of the securities offered pursuant to this prospectus supplement and the accompanying prospectus, assuming the purchase of all of the securities offered hereby:

	Per Share and Warrant	Per Pre-Funded Warrant and Warrant	Total⁽¹⁾
Offering price	\$ 4.20000	\$ 4.1999	\$ 14,999,910
Placement agent fees (7.0%) ⁽²⁾	\$ 0.29400	\$ 0.2940	\$ 1,049,994
Proceeds, before expenses, to us	\$ 3.90600	\$ 3.9059	\$ 13,949,916

Indemnification

We have agreed to indemnify the placement agents against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the placement agents or such other indemnified parties may be required to make in respect of those liabilities.

Lock-Up Agreements

From the date of the securities purchase agreements until 30 days after the closing date of this offering (the “standstill period”), neither the Company nor any subsidiary of the Company may (i) issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or Common Stock equivalents or (ii) file any registration statement or amendment or supplement thereto, other than this prospectus supplement, or filing a registration statement on Form S-8 in connection with any employee benefit plan. This lock-up period does not apply to certain exempt issuances, as described in the securities purchase agreements.

In addition, our Chief Executive Officer and Chief Medical Officer have entered into lock-up agreements. Under the lock-up agreements, our Chief Executive Officer and Chief Medical Officer may not, directly or indirectly, for a period of 90 days from the closing date of this offering, offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by the Chief Executive Officer, Chief Medical Officer or any affiliate of the Chief Executive Officer or Chief Medical Officer or any person in privity with the Chief Executive Officer and Chief Medical Officer, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Exchange Act, with respect to, any shares of Common Stock of the Company or securities convertible, exchangeable or exercisable into, shares of Common Stock of the Company beneficially owned, held or hereafter acquired by the Chief Executive Officer or Chief Medical Officer.

Notwithstanding these limitations, these shares of Common Stock may be transferred under limited circumstances, including, without limitation, by a bona fide gift, will or intestate succession.

Regulation M Restrictions

The placement agents may be deemed to be underwriters within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by them and any profit realized on the resale of the securities sold by them while acting as our placement agents might be deemed to be underwriting discounts or commissions under the Securities Act. As underwriters, the placement agents would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of securities by the placement agents acting as placement agent. Under these rules and regulations, the placement agents:

- may not engage in any stabilization activity in connection with our securities; and
- 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

This prospectus supplement and accompanying prospectus may be made available in electronic format on websites or via email or through other online services maintained by the Company and/or the placement agents. Other than this prospectus supplement and the accompanying prospectus in electronic format, the information on the Company's and/or the placement agents' websites and any information contained in any other websites maintained by the Company and/or the placement agents are not part of this prospectus supplement, accompanying prospectus, or the registration statement of which this prospectus supplement and accompanying prospectus form a part, has not been approved or endorsed by us or the placement agents, and should not be relied upon by investors.

The foregoing does not purport to be a complete statement of the terms and conditions of the engagement letter agreement with the placement agents nor the securities purchase agreements. See *"Where You Can Find More Information."*

Price Stabilization, Short Positions

No person has been authorized by the Company to engage in any form of price stabilization in connection with this offering.

Other Relationships

The placement agents and their affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. The placement agents and their affiliates have provided, and may in the future provide, a variety of these services to us and to persons and entities with relationships with us, for which they received or will receive customary fees and expenses, including the Company's current at-the-market offering facility, for which A.G.P./Alliance Global Partners currently acts as sales agent.

In the ordinary course of their various business activities, the placement agents and their affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to our assets, securities and/or instruments (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with us. The placement agents and their affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

Common Stock Listing

Our Common Stock is listed on the Nasdaq Global Market under the symbol "NTHI." There is no established public trading market for the Warrants or pre-funded warrants, and we do not expect such markets to develop. In addition, we do not intend to apply for a listing of the Warrants or pre-funded warrants on any national securities exchange or other nationally recognized trading system.

LEGAL MATTERS

The validity of the Common Stock offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Manatt, Phelps & Phillips, LLP, Costa Mesa, California. Ellenoff Grossman & Schole LLP, New York, New York, is counsel for the placement agents in connection with this offering.

EXPERTS

The financial statements of NeOnc Technologies Holdings, Inc. incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended December 31, 2025 have been so incorporated in reliance on (i) the report of CBIZ CPAs P.C., an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting, with respect to the financial statements of the Company for the year ended December 31, 2025, and (ii) the report of Marcum LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting, with respect to the financial statements of the Company for the year ended December 31, 2024. Such financial reports are incorporated by reference in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with them. This means that we can disclose important information to you by referring you to those documents. Each document incorporated by reference is current only as of the date of such document, and the incorporation by reference of such documents shall not create any implication that there has been no change in our affairs since the date thereof or that the information contained therein is current as of any time subsequent to its date. The information incorporated by reference is considered to be a part of this prospectus supplement and should be read with the same care. When we update the information contained in documents that have been incorporated by reference by making future filings with the SEC, the information incorporated by reference in this prospectus supplement is considered to be automatically updated and superseded. In other words, in the case of a conflict or inconsistency between information contained in this prospectus and information incorporated by reference into this prospectus supplement, you should rely on the information contained in the document that was filed later.

We hereby incorporate by reference into this prospectus supplement the following documents that we have filed with the SEC under the Exchange Act:

- (1) the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2025 filed with the SEC on [March 31, 2026](#), and Amendment No. 1 thereto filed with the SEC on [May 5, 2026](#);
- (2) our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2026, and June 30, 2026, filed with the SEC on [May 15, 2026](#) and [August 10, 2026](#), respectively;
- (3) our Current Reports on Form 8-K filed on [January 29, 2026](#), [March 3, 2026](#), [March 4, 2026](#), [March 17, 2026](#), [March 23, 2026](#), [April 10, 2026](#), [April 24, 2026](#), [June 12, 2026](#), [July 2, 2026](#), [August 20, 2026](#), and [August 21, 2026](#), in each case only to the extent filed and not furnished; and
- (4) the description of our Common Stock, which is contained in the Registrant’s Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2025 filed on March 31, 2026, including any amendments or supplements thereto.

Our Annual Report on Form 10-K for the period ended December 31, 2025 contains a description of our business and audited consolidated financial statements with a report by our independent auditors. The consolidated financial statements are prepared and presented in conformity with U.S. generally accepted accounting principles.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus supplement is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus supplement, and such future filings will become a part of this prospectus supplement from the respective dates that such documents are filed with the SEC. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof to the extent that a statement contained herein or in any other subsequently filed document which is also incorporated or deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement. Copies of all documents incorporated by reference in this prospectus supplement, other than exhibits to those documents unless such exhibits are specifically incorporated by reference in this prospectus supplement, will be provided at no cost to each person, including any beneficial owner, who receives a copy of this prospectus on the written or oral request of that person made to: NeOnc Technologies Holdings, Inc. Attention: Corporate Secretary, 23975 Park Sorrento, Suite 205 Calabasas, California 91302.

You should rely only on the information that we incorporate by reference or provide in this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with different information. We are not making any offer of these securities in any jurisdiction where the offer is not permitted. You should not assume that the information in this prospectus supplement or any prospectus supplement is accurate as of any date other than the date on the front of those documents.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus supplement and the accompanying prospectus are part of the registration statement on Form S-3 we filed with the SEC under the Securities Act, and do not contain all the information set forth in the registration statement. Since this prospectus supplement and the accompanying prospectus may not contain all of the information that you may find important, you should review the full text of these documents. If we have filed a contract, agreement or other document as an exhibit to the registration statement of which this prospectus supplement and the accompanying prospectus form a part, you should read the exhibit for a more complete understanding of the document or matter involved. Each statement in this prospectus supplement and the accompanying prospectus, including statements incorporated by reference as discussed above, regarding a contract, agreement or other document is qualified in its entirety by reference to the actual document.

We are subject to the information reporting requirements of the Exchange Act, and, in accordance with these requirements, we file annual and current reports and other information with the SEC. You may inspect, read (without charge) and copy the reports and other information we file with the SEC at the SEC's Public Reference Room located at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet website at www.sec.gov that contains our filed reports and other information that we file electronically with the SEC.

We maintain a corporate website at www.neonc.com. Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus supplement.

PROSPECTUS



\$300,000,000
Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units

From time to time, we may offer up to \$300,000,000 of any combination of the securities described in this prospectus. We may also offer securities as may be issuable upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including any applicable antidilution provisions.

This prospectus provides a general description of the securities we may offer. Each time we offer securities, we will provide specific terms of the securities offered in a supplement to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before you invest in any of the securities being offered.

This prospectus may not be used to consummate a sale of any securities unless accompanied by a prospectus supplement.

Our common stock, par value \$0.0001 ("Common Stock"), is listed on The Nasdaq Global Market under the symbol "NTHI." On March 31, 2026 the last reported sale price of our Common Stock was \$7.01 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on The Nasdaq Global Market or any securities market or other exchange of the securities covered by the prospectus supplement.

We will sell these securities directly to investors, through agents designated from time to time or to or through underwriters or dealers, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus. If any agents or underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such agents or underwriters and any applicable fees, commissions, discounts or over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “[Risk Factors](#)” beginning on page 4 of this prospectus and contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 2, 2026

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ABOUT THIS PROSPECTUS

This prospectus forms a part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”) utilizing a “shelf” registration process. Under this shelf registration process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$300,000,000. This prospectus provides you with a general description of the securities we may offer.

Each time we sell securities under this prospectus, we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in any documents that we have incorporated by reference into this prospectus. You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading “*Incorporation of Certain Information By Reference*” before investing in any of the securities offered.

THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus. This prospectus, any applicable supplement to this prospectus or any related free writing prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus, any applicable supplement to this prospectus or any related free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

You should not assume that the information contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate on any date subsequent to the date of such document or that any information we have incorporated by reference is accurate on any date subsequent to the date of such document incorporated by reference, even though this prospectus, any applicable prospectus supplement or any related free writing prospectus is delivered, and securities are sold, on a later date.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus forms a part, and you may obtain copies of those documents as described below under the heading “*Where You Can Find More Information.*”

PROSPECTUS SUMMARY

This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus forms a part.

Unless the context indicates otherwise, as used in this prospectus, the terms “we,” “us,” “our,” “NeOnc,” the “Company” and similar designations refer to NeOnc Technologies Holdings, Inc., a Delaware corporation.

About NeOnc Technologies Holdings, Inc.

Our company (f/k/a NAS-ONC, Inc.) was formed in 2008, devoted to developing new drugs with new delivery modes. As a clinical-stage biopharmaceutical company, we have focused on establishing treatments for intracranial malignancies, i.e., aggressive cancers located in the brain. These cancer types include primary brain cancers, such as glioblastoma, and secondary brain cancers, that have arrived through metastatic spread from other cancers throughout the body, such as melanoma or breast and lung cancer. Brain-localized malignancies are particularly difficult to treat because the blood-brain barrier prevents efficient entry of most pharmacotherapeutic agents into the brain. As a result, these patients are faced with poor prognoses and shortened average life expectancy. NeOnc is developing novel drug delivery methods to be used in combination with novel drug candidates.

NeOnc has two lead products in development: NEO100 and NEO212. NEO100 is a purified form of perillyl alcohol (“POH”) which is administered to brain cancer patients via intranasal delivery. Ongoing activities for intranasal delivery of NEO100:

- We have completed human testing in a Phase I clinical trial and are currently conducting a Phase IIa trial with recurrent malignant glioma (Grade IV, IDH1 mutant and Grade III Astrocytoma, IDH1 mutant) patients.
- A similar Phase IIa trial of intranasal NEO100 (NEO 100-02) for patients with malignant skull-based meningioma is also ongoing. Meningiomas are slow-growing tumors originating in the meninges, the membranous layers surrounding the brain and spinal cord. We initiated this because these patients lack effective treatment options. These tumors are notoriously difficult to access, and conventional methods like surgery often lead to significant neurological deficits. Additionally, radiation therapy has shown limited effectiveness. The trial was officially launched in July 2023. As NEO100 uses the same treatment platform as the malignant gliomas, we bypassed the Phase I trial and received FDA approval for a Phase II trial within just 30 days.
- Separate from this single-drug application, NEO100 is further being investigated as a drug delivery vehicle, where the results of NeOnc’s preclinical studies suggest evidence that the combination of NEO100 with other drugs may enable a patient’s improved brain tumor delivery via the intranasal route. Intranasal NEO100, mixed with levodopa (L-DOPA), is in the planning stages for a clinical trial in patients with Parkinson’s disease (PD). NeOnc’s laboratory experiments showed that intranasal NEO100 mixed with levodopa was able to reverse PD symptoms in mice. A Phase I clinical trial is planned to study the impact on human patients.

Our initial application for the Phase I/IIa trial for NEO 100 focused on an enrollment population with recurrent glioblastoma. Based on our Phase I results, NEO 100 showed more promise in patients with IDH1,2 mutant Grade IV astrocytomas. However, this patient population represented less than 5-10 percent of all patients with recurrent glioblastoma. As we planned for a total of 31 patients for Phase IIa in our initial analysis, enrollment of recurrent Grade IV, IDH1,2 mutants was limited due to the fact that only 5-10 percent of Grade IV astrocytomas have IDH1,2 mutations. Independent biostatistical review of clinical progression patterns of recurrent IDH1,2 mutated Grade III astrocytomas compared to recurrent IDH1,2 mutated Grade IV astrocytomas revealed that these two tumors have the same prognosis. As a result, in June 2023 we requested that the FDA not object to the inclusion of patients with recurrent Grade III IDH1,2 mutant astrocytomas in the Phase IIa trial. The FDA did not object and, as a result,

the population of patients available to be enrolled is now much larger. Because the prognosis of recurrent Grade III IDH1,2 mutants is similar to recurrent IDH1,2 Grade IV astrocytomas, the number of patients needed to be enrolled in the Phase IIa trial to assess the clinical efficacy of NEO100 in the population of high grade astrocytomas did not change. The expanded patient population means that there are a significant number of additional patients that can be targeted for potential enrollment in the Phase IIa study; in an initial review, we have identified approximately 80 grade III IDH1,2 mutation-positive candidates. Patients with residual measurable disease are now followed via MRI scans to determine if there is progression, (recurrent disease), making them eligible for enrollment. We believe this focused enrollment strategy for Grade III and IV IDH1/2-mutant patients has the potential to support a more efficient trial process. Based on our current planning assumptions, we believe a Phase II data readout for NEO100 may be achievable by the end of 2026.

Our second lead product, NEO212, a covalently conjugated molecule combining the chemotherapeutic drug temozolomide with perillyl alcohol, has completed preclinical testing and has received investigational new drug (IND) approval from the United States Food and Drug Administration (FDA), i.e., it has been authorized to proceed to clinical testing in cancer patients. We have designed a Phase I/II trial for oral NEO212, which began in the fourth quarter of 2023. In this trial, NEO212 will be administered orally to patients with primary brain tumors (i.e., malignant gliomas) and secondary brain tumors (i.e., brain metastases derived from peripheral tumors, such as tumors of the lung, breast, skin/melanoma, etc.). Furthermore, NEO212 is undergoing development towards intranasal application specifically for patients with uncontrolled brain metastases derived from peripheral tumors (lung, breast, skin, etc.), but has not yet been studied in human patients.

Currently, none of our product candidates have been approved for sale in the United States or elsewhere. We have no commercial products nor do we have a sales or marketing infrastructure. In order to market and sell our products we must conduct clinical trials on patients and obtain regulatory approvals from appropriate regulatory agencies, like the FDA in the United States, and similar organizations elsewhere in the world.

We have not generated any revenue from product sales and from January 1, 2023 to December 31, 2025 have only generated revenue of \$122,990. We do not anticipate generating significant revenues for the foreseeable future. We had net loss of \$62,146,210 and \$11,898,464 for the years ended December 31, 2025 and 2024, respectively. At December 31, 2025, we had an accumulated deficit of \$112,754,655.

Additional Information

For additional information related to our business and operations, please refer to the reports incorporated herein by reference, as described under the caption “*Incorporation of Certain Information By Reference*” on page 24 of this prospectus.

Corporate Information

NeOnc Technologies Holdings, Inc. (“NeOnc” or the “Company”) was incorporated in the State of Delaware. The Company was formed as a holding company in connection with a share exchange transaction completed on April 7, 2023, pursuant to which all of the common stockholders of NeOnc Technologies, Inc. (“NTI”), the Company’s wholly owned operating subsidiary, exchanged their shares in NTI for shares of common stock of the Company. NTI was originally incorporated in California in 2008 under the name NAS-ONC, Inc. and subsequently redomiciled and renamed NeOnc Technologies, Inc. Following the share exchange, NTI became a wholly owned subsidiary of the Company, which conducts all of the Company’s research and development and clinical operations.

Our principal executive office is located at 23975 Park Sorrento, Suite 205, Calabasas, CA 91302, and our telephone number is (310) 663-7831. Our website address is www.neonc.com/. Our website and the information contained on, or that can be accessed through, our website shall not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on any such information in making your decision whether to purchase our Common Stock.

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) are available free of charge through the investor relations page of our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

The Securities We May Offer Under This Prospectus

We may offer shares of our Common Stock, preferred stock, various series of debt securities and warrants to purchase any of such securities, or units to purchase any combination thereof, with a total value of up to \$300,000,000 from time to time under this prospectus, together with any applicable prospectus supplement and any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of the offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity, if applicable;
- original issue discount, if any;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion, exchange or sinking fund terms, if any;
- conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- important United States federal income tax considerations.

The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus forms a part.

We may sell the securities directly to investors or through underwriters, dealers or agents. We, and our underwriters or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters or agents, we will include in the applicable prospectus supplement:

- the names of those underwriters or agents;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the estimated net proceeds to us.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully review the risks and uncertainties described under the heading “*Risk Factors*” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus, before deciding whether to purchase any of the securities being registered pursuant to the registration statement of which this prospectus forms a part. The risks and uncertainties described in these risk factors are not the only ones facing us. Additional risks and uncertainties of which we are currently unaware or which we currently consider to be immaterial may also become important factors that affect us. You should read the section entitled “*Special Note Regarding Forward-Looking Statements*” below for a discussion of what types of statements are forward-looking statements, as well as the significance of such statements in the context of this prospectus. If any of these risks occur, our business, financial condition or results of operations could be materially and adversely affected. In that case, the value of our Common Stock could decline, and you may lose some or all of your investment.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into this prospectus contain forward-looking statements regarding our business, financial condition, results of operations and prospects. Words such as, but not limited to “anticipate,” “aim,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “pro forma,” “project,” “seek,” “should,” “suggest,” “strategy,” “target,” “will,” “would,” and similar expressions or variations thereof are intended to identify forward-looking statements, but are not deemed to represent an all-inclusive means of identifying forward-looking statements as denoted in this prospectus. Additionally, statements concerning future matters are forward-looking statements. These statements include, among other things, statements regarding:

- the timing, progress and results of preclinical studies and clinical trials for our current and future product candidates, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available and our research and development programs;
- the timing, scope or likelihood of regulatory submissions, filings, and approvals, including final regulatory approval of our product candidates;
- our ability to develop and advance product candidates into, and successfully complete, clinical trials;
- our expectations regarding the size of the patient populations for our product candidates, if approved for commercial use;
- the implementation of our business model and our strategic plans for our business, product candidates and technology;
- our commercialization, marketing and manufacturing capabilities and strategy;
- the pricing and reimbursement of our product candidates, if approved;
- the rate and degree of market acceptance and clinical utility of our product candidates, in particular, and cell therapy, in general;
- our ability to establish or maintain collaborations or strategic relationships or obtain additional funding;
- our competitive position;
- the scope of protection we and/or our licensors are able to establish and maintain for intellectual property rights covering our product candidates;
- developments and projections relating to our competitors and our industry;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- the period over which we estimate our existing cash and cash equivalents will be sufficient to fund our future operating expenses and capital expenditure requirements;
- the impact of laws and regulations; and
- other factors detailed under the section titled “*Risk Factors*.”

Although forward-looking statements in this prospectus reflect the good faith judgment of our management, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include, without limitation, those specifically addressed under the heading “*Risk Factors*” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus, including our most recent annual report on Form 10-K, as well as any amendments thereto reflected in subsequent filings with the SEC. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date made. We file reports with the Securities and Exchange Commission (the “SEC”), and our electronic filings with the SEC (including 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) are available free of charge on the SEC’s website at www.sec.gov.

We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this prospectus, except as required by law. Readers are urged to carefully review and consider the various disclosures made throughout the entirety of this prospectus, the applicable prospectus supplement and the documents incorporated by reference into this prospectus, which disclosures are designed to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

USE OF PROCEEDS

Unless we inform you otherwise in the applicable prospectus supplement, we expect to use any net proceeds from this offering for general corporate purposes, including working capital and other general and administrative purposes. We have not reserved or allocated specific amounts for any of these purposes and we cannot specify with certainty how we will use any net proceeds, and the timing and amount of our actual expenditures will be based on many factors, including, among others, cash flows from operations and any growth of our business. Our management will have broad discretion in applying any net proceeds of this offering.

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods. We may sell the securities to or through underwriters or dealers, through agents, or directly to one or more purchasers. We may distribute securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

We may also sell equity securities covered by this registration statement in an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act. Such offering may be made into an existing trading market for such securities in transactions at other than a fixed price on or through the facilities of the Nasdaq Global Market or any other securities exchange or quotation or trading service on which such securities may be listed, quoted or traded at the time of sale. Such at-the-market offerings, if any, may be conducted by underwriters acting as principal or agent.

A prospectus supplement or supplements (and any related free writing prospectus that we may authorize to be provided to you) will describe the terms of the offering of the securities, including, to the extent applicable:

- the name or names of any underwriters, dealers or agents, if any;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents’ or underwriters’ compensation;
- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any overallotment or other option. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities, and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

We may provide agents and underwriters with indemnification against civil liabilities related to this offering, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

All securities we may offer, other than Common Stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. These transactions may be effected on any exchange or over-the-counter market or otherwise.

Any underwriters or agents who are qualified market makers on the Nasdaq Global Market may engage in passive market making transactions in the securities on the Nasdaq Global Market in accordance with Rule 103 of Regulation M under the Exchange Act, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

DESCRIPTION OF SECURITIES

General

The following description summarizes the most important terms of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws. This summary does not purport to be complete and is qualified in its entirety by the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, copies of which have been filed as exhibits to the Registration Statement of which this prospectus is a part, and by the applicable provisions of Delaware law.

Our authorized capital stock consists of 110,000,000 shares of capital stock, of which (i) 100,000,000 shares are Common Stock with a par value \$0.0001 per share and (ii) 10,000,000 shares are preferred stock with a par value of \$0.0001 per share. All of our authorized shares of preferred stock are undesignated.

Common Stock

Voting Rights

Holders of Common Stock are entitled to one vote per share on all matters to be voted upon by the shareholders, including the election of directors. Such holders are not entitled to vote cumulatively for the election of directors. Our amended and restated certificate of incorporation establishes a classified board of directors that is divided into three classes with staggered three-year terms. Only the directors in one class will be subject to election by a plurality of the votes cast at each annual meeting of our shareholders, with the directors in the other classes continuing for the remainder of their respective three-year terms. The affirmative vote of holders of at least 66⅔% of the voting power of all of the then-outstanding shares of capital stock, voting as a single class, will be required to amend certain provisions of our amended and restated certificate of incorporation, including provisions relating to amending our amended and restated bylaws and our amended and restated certificate of incorporation, the classified structure of our board of directors, the size of our board of directors, removal of directors, director liability, vacancies on our board of directors, special meetings, shareholder notices, actions by written consent, and exclusive jurisdiction.

Dividends

Subject to preferences that may be applicable to any outstanding preferred stock, our common shareholders are entitled to receive ratably such dividends, if any, as may be declared from time to time by the board of directors out of funds legally available for that purpose. We have never declared or paid any cash dividends on our capital stock. We currently expect to retain future earnings, if any, to finance the growth and development of our business and do not anticipate paying any cash dividends in the foreseeable future.

Liquidation Rights

In the event of our liquidation, dissolution or winding up, our common shareholders are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock, if any, then outstanding.

No Preemptive or Similar Rights

Our common shareholders have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the Common Stock.

Preferred Stock

Pursuant to our amended and restated certificate of incorporation, our board of directors is authorized, without action by the shareholders, to designate and issue up to 10,000,000 shares of preferred stock in one or more series and to designate the powers, preferences and rights of each series, which may be greater than the rights of the Common Stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of the Common Stock until the board of directors determines the specific rights of the holders of such preferred stock. However, the effects might include, among other things:

- impairing dividend rights of the Common Stock;

- diluting the voting power of the Common Stock;
- impairing the liquidation rights of the Common Stock; and
- delaying or preventing a change in control of us without further action by the shareholders.

Convertible Promissory Note

In 2022, NeOnc Technologies, Inc. issued a \$50,000 convertible note to a shareholder due August 30, 2023 (“Note”). The Note bears interest at 2% per annum and is convertible. The Note and all accrued interest thereon is convertible, at the option of the noteholder, into the class and series of equity securities (“Conversion Stock”) that is sold by us in its next issuance of equity securities in a Financing Transaction (as defined below), consummated after the issuance date of the note. A Financing Transaction is a sale, other than in an initial public offering, of equity securities by us to investors for cash. The Financing Transaction does not include the issuance of stock, options, or warrants to service providers in connection with the rendition of such services or to third parties in connection with the contribution of non-cash assets to us. The number of shares of Conversion Stock to be issued to the noteholder upon such conversion shall be equal to the quotient obtained by dividing (i) the entire principal amount of the Note plus accrued interest by (ii) the Financing Transaction conversion price, which shall be equal to 75% of the price paid for one share of Conversion Stock by the investors in the Financing Transaction. The entire principal amount of and accrued interest of the Note shall automatically be converted, without further action on the part of the noteholder or us, into the class and series of stock issued by us, at the closing of an initial public offering. The number of shares of stock to be issued to the holder upon such conversion shall be equal to the quotient obtained by dividing (i) the entire principal amount of the Note plus accrued interest by (ii) the initial public offering conversion price, which shall be equal to 75% of the price paid for one share of Conversion Stock by the investors in the initial public offering. On January 31, 2024, the Note was assigned to HCWG LLC (an entity owned by certain shareholders, directors, and officers of the Company). Additionally, as part of the assignment, the Note was amended to increase the principal balance to \$62,500, amend the maturity date to the date that the Company completes its initial public offering, and the Note was subordinated to the Bridge Loan.

Anti-Takeover Provisions

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Because our shareholders do not have cumulative voting rights, our shareholders holding a plurality of the outstanding shares of Common Stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation and our amended and restated bylaws provide for shareholder actions at a duly called meeting of shareholders. A special meeting of shareholders may be called by a majority of our board of directors, the chair of our board of directors, or our chief executive officer or president. Our amended and restated bylaws will establish an advance notice procedure for shareholder proposals to be brought before an annual meeting of our shareholders, including proposed nominations of persons for election to our board of directors.

In accordance with our amended and restated certificate of incorporation, our board of directors is divided into three classes with staggered three-year terms.

The foregoing provisions will make it more difficult for our existing shareholders 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 shareholders 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 certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are also designed to reduce our vulnerability to an unsolicited acquisition proposal 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 deterring hostile takeovers or delaying changes in our control or management.

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 shareholder for a period of three years after the date that such shareholder became an interested shareholder, 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 shareholder becoming an interested shareholder;
- upon closing of the transaction that resulted in the shareholder becoming an interested shareholder, the interested shareholder 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 shareholder) those shares owned by (i) persons who are directors and also officers and (ii) 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 shareholders, and not by written consent, by the affirmative vote of at least 66⅔% of the outstanding voting stock that is not owned by the interested shareholder.

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

- any merger or consolidation involving the corporation and the interested shareholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested shareholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested shareholder;
- any transaction involving 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 shareholder; or
- the receipt by the interested shareholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested shareholder” 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 shareholder status did own, 15% or more of the outstanding voting stock of the corporation.

Exclusive forum for adjudication of disputes provision which limits the forum to the Delaware Court of Chancery for certain shareholder litigation matters actions against us, which may limit an investor’s ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or shareholders.

Our amended and restated bylaws dictate that, unless we consent in writing to the selection of an alternative forum, the Delaware Court of Chancery (or, if the Delaware Court of Chancery does not have jurisdiction, the federal district court for the State of Delaware) is, to the fullest extent permitted by law, the sole and exclusive forum for certain actions including derivative action or proceeding brought on our behalf; an action asserting a breach of fiduciary duty owed by any current or former officer, director, employee or to the shareholders of our company; any claim arising under Delaware corporate law, our certificate of incorporation or our bylaws, as amended from time to time; and any action asserting a claim governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of our company shall be deemed to have notice of and consented to the provisions of our amended and restated bylaws.

However, this provision of our amended and restated bylaws will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. To the extent that any such claims may be based upon federal law claims, Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder.

Furthermore, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act, or the rules and regulations promulgated thereunder. We note, however, that Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. There is uncertainty as to whether a court would enforce this provision and that investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder.

A Delaware corporation is allowed to mandate in its corporate governance documents a chosen forum for the resolution of state law-based shareholder actions, derivative suits and other intra-corporate disputes. With respect to such state law claims, our management believes limiting state law based claims to Delaware will provide the most appropriate outcomes as the risk of another forum misapplying Delaware law is avoided, Delaware courts have a well-developed body of case law and limiting the forum will preclude costly and duplicative litigation and avoids the risk of inconsistent outcomes. Additionally, Delaware Chancery Courts can typically resolve disputes on an accelerated schedule when compared to other forums.

The choice of forum provisions contained in our amended and restated bylaws may limit a shareholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with our company or any of our directors, officers, other employees or shareholders, which may discourage lawsuits with respect to such claims. Alternatively, the enforceability of similar choice of forum provisions in other issuers' bylaws and certificates of incorporation has been challenged in legal proceedings, and it is possible that in connection with any applicable action brought against our company, a court could find the choice of forum provisions contained in our bylaws, as amended, to be inapplicable or unenforceable in such action. As a result, we could incur additional costs associated with resolving such actions in other jurisdictions, which could harm our business, operating results and financial condition.

Transfer Agent and Registrar

We have appointed VStock Transfer LLC, 18 Lafayette Pl Woodmere, NY 11598, telephone: (212) 828-8436, as the transfer agent for our Common Stock

Trading Symbol and Market

Our shares of Common Stock are listed on the Nasdaq Global Market under the symbol "NTHI".

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms we have summarized below will apply generally to any future debt securities we may offer pursuant to this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any debt securities offered under such prospectus supplement may differ from the terms we describe below, and to the extent the terms set forth in a prospectus supplement differ from the terms described below, the terms set forth in the prospectus supplement shall control.

We may sell from time to time, in one or more offerings under this prospectus, debt securities, which may be senior or subordinated. We will issue any such senior debt securities under a senior indenture that we will enter into with a trustee to be named in the senior indenture. We will issue any such subordinated debt securities under a subordinated indenture, which we will enter into with a trustee to be named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement of which this prospectus forms a part. We use the term “indentures” to refer to either the senior indenture or the subordinated indenture, as applicable. The indentures will be qualified under the Trust Indenture Act of 1939 (the “Trust Indenture Act”) as in effect on the date of the indenture. We use the term “debenture trustee” to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities.

General

Each indenture provides that debt securities may be issued from time to time in one or more series and may be denominated and payable in foreign currencies or units based on or relating to foreign currencies. Neither indenture limits the amount of debt securities that may be issued thereunder, and each indenture provides that the specific terms of any series of debt securities shall be set forth in, or determined pursuant to, an authorizing resolution and/or a supplemental indenture, if any, relating to such series.

We will describe in each prospectus supplement the following terms relating to a series of debt securities:

- the title or designation;
- the aggregate principal amount and any limit on the amount that may be issued;
- the currency or units based on or relating to currencies in which debt securities of such series are denominated and the currency or units in which principal or interest or both will or may be payable;
- whether we will issue the series of debt securities in global form, the terms of any global securities and who the depository will be;
- the maturity date and the date or dates on which principal will be payable;
- the interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the date or dates interest will be payable and the record dates for interest payment dates or the method for determining such dates;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- the terms of the subordination of any series of subordinated debt;

- the place or places where payments will be payable;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities;
- whether the indenture will restrict our ability to pay dividends, or will require us to maintain any asset ratios or reserves;
- whether we will be restricted from incurring any additional indebtedness;
- a discussion of any material or special U.S. federal income tax considerations applicable to a series of debt securities;
- the form of debt securities;
- whether the debt securities will be convertible into shares of Common Stock or other securities and, if so, the terms and conditions upon which such debt securities will be so convertible, including the conversion price and the conversion period;
- if other than the principal amount thereof, the portion of the principal amount of debt securities which shall be payable upon declaration of acceleration of the maturity thereof;
- any additional or different events of default or restrictive covenants provided for with respect to the debt securities;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities.

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms, if any, on which a series of debt securities may be convertible into or exchangeable for our Common Stock or our other securities. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our Common Stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale; No Protection in Event of a Change of Control or Highly Leveraged Transaction

The indentures do not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate, satisfactory in form to the indenture trustee.

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions that may afford holders of the debt securities protection in the event we have a change of control or in the event of a highly leveraged transaction (whether or not such transaction results in a change of control), which could adversely affect holders of debt securities.

Events of Default Under the Indenture

The following are events of default under the indentures with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, or premium, if any, when due and the time for payment has not been extended or delayed;
- if we fail to observe or perform any other covenant set forth in the debt securities of such series or the applicable indentures, other than a covenant specifically relating to and for the benefit of holders of another series of debt securities, and our failure continues for 90 days after we receive written notice from the debenture trustee or holders of not less than a majority in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur as to us.

No event of default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an event of default with respect to any other series of debt securities. The occurrence of an event of default may constitute an event of default under any bank credit agreements we may have in existence from time to time. In addition, the occurrence of certain events of default or an acceleration under the indenture may constitute an event of default under certain of our other indebtedness outstanding from time to time.

If an event of default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than a majority in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the debenture trustee if given by the holders), declare to be due and payable immediately the principal (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) of and premium and accrued and unpaid interest, if any, on all debt securities of that series. Before a judgment or decree for payment of the money due has been obtained with respect to debt securities of any series, the holders of a majority in principal amount of the outstanding debt securities of that series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) may rescind and annul the acceleration if all events of default, other than the non-payment of accelerated principal, premium, if any, and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the applicable indenture (including payments or deposits in respect of principal, premium or interest that had become due other than as a result of such acceleration). We refer you to the applicable prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and

- subject to its duties under the Trust Indenture Act, the debenture trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will only have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies if:

- the holder previously has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least a majority in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the debenture trustee to institute the proceeding as trustee; and
- the debenture trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series (or at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) other conflicting directions within 60 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the applicable debenture trustee regarding our compliance with specified covenants in the applicable indenture.

Modification of Indenture; Waiver

The debenture trustee and we may change the applicable indenture without the consent of any holders with respect to specific matters, including:

- to fix any ambiguity, defect or inconsistency in the indenture; and
- to change anything that does not materially adversely affect the interests of any holder of debt securities of any series issued pursuant to such indenture.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) that is affected. However, the debenture trustee and we may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or any premium payable upon the redemption of any debt securities;
- reducing the principal amount of discount securities payable upon acceleration of maturity;
- making the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment or waiver.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series or in respect of a covenant or provision, which cannot be modified or amended without the consent of the holder of each outstanding debt security of the series affected; *provided, however*, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for obligations to:

- maintain a register;
- the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- duly and punctually pay or cause to be paid amounts owing with respect to the debt securities;
- maintain paying agencies;
- hold monies for payment in trust;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged with respect to a series, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, the premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange, and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange or in the applicable indenture, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under the applicable indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the debenture trustee under such indenture must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check which we will mail to the holder. Unless we otherwise indicate in a prospectus supplement, we will designate the corporate trust office of the debenture trustee in the City of New York as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any debt securities which remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the security thereafter may look only to us for payment thereof.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Subordination of Subordinated Debt Securities

Our obligations pursuant to any subordinated debt securities will be unsecured and will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The subordinated indenture does not limit the amount of senior indebtedness we may incur. It also does not limit us from issuing any other secured or unsecured debt.

DESCRIPTION OF WARRANTS

General

We may issue warrants to purchase shares of our Common Stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in the applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the warrant agreements and the prospectus supplement relating to the warrants.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

- the specific designation and aggregate number of, and the price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the designation, amount and terms of the securities purchasable upon exercise of the warrants;
- if applicable, the exercise price for shares of our Common Stock and the number of shares of Common Stock to be received upon exercise of the warrants;
- if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise, and a description of that series of our preferred stock;
- if applicable, the exercise price for our debt securities, the amount of debt securities to be received upon exercise, and a description of that series of debt securities;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- if applicable, the date from and after which the warrants and the Common Stock, preferred stock and/or debt securities will be separately transferable;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of the warrants, if any;
- any redemption or call provisions;
- whether the warrants may be sold separately or with other securities as parts of units; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Transfer Agent and Registrar

The transfer agent and registrar for any warrants will be set forth in the applicable prospectus supplement.

DESCRIPTION OF RIGHTS

General

We may issue rights to our stockholders to purchase shares of our Common Stock, preferred stock or the other securities described in this prospectus. We may offer rights separately or together with one or more additional rights, debt securities, preferred stock, Common Stock or warrants, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. Each series of rights will be issued under a separate rights agreement to be entered into between us and a bank or trust company, as rights agent. The rights agent will act solely as our agent in connection with the certificates relating to the rights of the series of certificates and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights. The following description sets forth certain general terms and provisions of the rights to which any prospectus supplement may relate. The particular terms of the rights to which any prospectus supplement may relate and the extent, if any, to which the general provisions may apply to the rights so offered will be described in the applicable prospectus supplement. To the extent that any particular terms of the rights, rights agreement or rights certificates described in a prospectus supplement differ from any of the terms described below, then the terms described below will be deemed to have been superseded by that prospectus supplement. We encourage you to read the applicable rights agreement and rights certificate for additional information before you decide whether to purchase any of our rights. We will provide in a prospectus supplement the following terms of the rights being issued:

- the date of determining the stockholders entitled to the rights distribution;
- the aggregate number of shares of Common Stock, preferred stock or other securities purchasable upon exercise of the rights;
- the exercise price;
- the aggregate number of rights issued;
- whether the rights are transferrable and the date, if any, on and after which the rights may be separately transferred;
- the date on which the right to exercise the rights will commence, and the date on which the right to exercise the rights will expire;
- the method by which holders of rights will be entitled to exercise;
- the conditions to the completion of the offering, if any;
- the withdrawal, termination and cancellation rights, if any;
- whether there are any backstop or standby purchaser or purchasers and the terms of their commitment, if any;
- whether stockholders are entitled to oversubscription rights, if any;
- any applicable material U.S. federal income tax considerations; and
- any other terms of the rights, including terms, procedures and limitations relating to the distribution, exchange and exercise of the rights, as applicable.

Each right will entitle the holder of rights to purchase for cash the principal amount of shares of Common Stock, preferred stock or other securities at the exercise price provided in the applicable prospectus supplement. Rights may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement.

Holders may exercise rights as described in the applicable prospectus supplement. Upon receipt of payment and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, forward the shares of Common Stock, preferred stock or other securities, as applicable, purchasable upon exercise of the rights. If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

Rights Agent

The rights agent for any rights we offer will be set forth in the applicable prospectus supplement.

DESCRIPTION OF UNITS

The following description, together with the additional information that we include in any applicable prospectus supplements summarizes the material terms and provisions of the units that we may offer under this prospectus. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and any supplemental agreements that contain the terms of the units.

General

We may issue units consisting of Common Stock, preferred stock, one or more debt securities, warrants or rights for the purchase of Common Stock, preferred stock and/or debt securities in one or more series, in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each security included in the unit. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units being offered, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those set forth in any prospectus supplement or as described under “Description of Common Stock,” “Description of Preferred Stock,” “Description of Debt Securities,” “Description of Warrants” and “Description of Rights” will apply to each unit, as applicable, and to any Common Stock, preferred stock, debt security, warrant or right included in each unit, as applicable.

Unit Agent

The name and address of the unit agent, if any, for any units we offer will be set forth in the applicable prospectus supplement.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, certain legal matters in connection with the offering and the validity of the securities offered by this prospectus, and any supplement thereto, will be passed upon by Manatt, Phelps & Phillips, LLP, Costa Mesa, California.

EXPERTS

The financial statements of NeOnc Technologies Holdings Inc. incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2025 have been so incorporated in reliance on (i) the report of CBIZ CPAs P.C., an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting, with respect to the financial statements of the Company for the year ended December 31, 2025, and (ii) the report of Marcum LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting, with respect to the financial statements of the Company for the year ended December 31, 2024. Such financial reports are incorporated by reference in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Any statement made in this prospectus or the applicable prospectus supplement concerning the contents of any contract, agreement or other document is only a summary of the actual contract, agreement or other document. If we have filed or incorporated by reference any contract, agreement or other document as an exhibit to the registration statement, you should read the exhibit for a more complete understanding of the document or matter involved. Each statement regarding a contract, agreement or other document is qualified by reference to the actual document. You should rely only on the information contained in the registration statement this prospectus, and the applicable prospectus supplement or the information incorporated by reference into this prospectus or the applicable prospectus supplement. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including NeOnc. The address of the SEC website is www.sec.gov.

We maintain a website at www.neonc.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus, and our reference to the address for our website is intended to be an inactive textual reference only.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus and information we file later with the SEC will automatically update and supersede this information. We incorporate by reference into this prospectus the documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (1) after the date of this prospectus and prior to the time that we sell all of the securities offered by this prospectus or the earlier termination of the offering, and (2) after the date of the initial registration statement of which this prospectus forms a part and prior to the effectiveness of the registration statement (except in each case the information contained in such documents to the extent “furnished” and not “filed”). The documents we are incorporating by reference as of their respective dates of filing are:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2025, as filed with the Commission on [March 31, 2026](#); and
- the description of our common stock, which is contained in the Registrant’s Annual Report on Form 10-K for the fiscal year ended December 31, 2025 filed on [March 31, 2026](#), including any amendments or supplements thereto.

In addition, all reports and other documents filed by us pursuant to the Exchange Act after the date of the initial registration statement and prior to effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus and deemed to be a part of this prospectus from the date of filing of such reports and documents. Notwithstanding the foregoing, we are not incorporating by reference any documents or portions thereof that are not deemed “filed” with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of the registration statement of which this prospectus forms a part to the extent that a statement contained in any subsequently filed document, which also is deemed to be incorporated by reference herein, modifies or supersedes such statement.

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost, by calling us at (310) 663-7831 or by contacting: 23975 Park Sorrento, Suite 205 Calabasas, California 91302, Attn: Corporate Secretary. In addition, copies of any or all of the documents incorporated herein by reference may be accessed at our website at www.neonc.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus, and our reference to the address for our website is intended to be an inactive textual reference only.



2,610,715 shares of Common Stock
960,715 Pre-Funded Warrants to Purchase up to 960,715 shares of Common Stock
3,571,430 Warrants to Purchase up to 3,571,430 shares of Common Stock
Up to 4,532,145 shares of Common Stock underlying the Pre-Funded Warrants and Warrants

PROSPECTUS SUPPLEMENT

Roth Capital Partners

A.G.P.

September 8, 2026
