PROSPECTUS

Imunon, Inc.

5,000,000 SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF OUTSTANDING WARRANTS

This prospectus relates to the proposed resale from time to time, by the selling security holders identified in this prospectus, of up to 5,000,000 shares of the common stock, \$0.01 par value per share, of Imunon, Inc., or the Company, which are issuable upon the exercise of certain outstanding warrants.

These shares will be resold from time to time by the entities or individuals listed in the section titled "Selling Stockholders" beginning on page 9, which entities or individuals we refer to as the Selling Stockholders. The shares of common stock offered under this prospectus by the Selling Stockholders are issuable upon exercise of warrants, or the Warrants, issued in a private placement pursuant to a securities purchase agreement, or the Purchase Agreement, dated as of July 30, 2024, by and among the Company and the Selling Stockholders. The Warrants are subject to a blocker provision, or the Warrant Beneficial Ownership Limitation, which restricts the exercise of a Warrant if, as a result of such exercise, the Selling Stockholder, together with its affiliates and any other person whose beneficial ownership of common stock would be aggregated with the Selling Stockholder's for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, would beneficially own in excess of 4.99% or, at the election of the Selling Stockholder, 9.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise; provided, however, that upon 61 days' prior notice to us, the Selling Stockholder may increase the Warrant Beneficial Ownership Limitation, but not to above 9.99%. We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of securities by the Selling Stockholders. However, the Company will receive the proceeds of any cash exercise of the Warrants. See "Use of Proceeds" beginning on page 6 of this prospectus for more information.

The Selling Stockholders may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. We provide more information about how a Selling Stockholder may sell its shares of common stock in the section titled "Plan of Distribution" on page 11. We will pay the expenses incurred in registering the securities covered by the prospectus, including legal and accounting fees.

Our common stock is listed on The Nasdaq Capital Market, or Nasdaq, under the symbol "IMNN." On September 26, 2024, the last reported sale price of our common stock was \$1.01 per share.

Investing in our securities involves a high degree of risk. Before making an investment decision, please read "Risk Factors" on page 4 of this prospectus and in the documents incorporated by reference herein.

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 September 27, 2024.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, under which the Selling Stockholders may, from time to time, sell the securities described in this prospectus in one or more offerings.

This prospectus contains information that you should consider when making your investment decision. Neither we nor the Selling Stockholders have authorized anyone to provide you with information that is different from or in addition to the information contained in this prospectus. Accordingly, neither we nor any Selling Stockholder takes any responsibility for, or can provide any assurance as to the reliability of, any information that others may give. The Selling Stockholders are offering to sell, and seeking offers to buy, our securities only in jurisdictions where it is lawful to do so. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any securities other than where offers and sales of these securities are permitted or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus is accurate only as of the date of this prospectus and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Unless the context otherwise requires, "Imunon," "IMNN," "the Company," "we," "us," "our" and similar terms refer to Imunon, Inc. and our subsidiary, CLSN Laboratories, Inc., also a Delaware corporation. All brand names or trademarks appearing in this prospectus are the property of their respective holders. Use or display by us of other parties' trademarks, trade dress, or products in this prospectus is not intended to, and does not, imply a relationship with, or endorsements or sponsorship of, us by the trademark or trade dress owners.

PROSPECTUS SUMMARY

The following is a summary of what we believe to be the most important aspects of our business and the offering of our securities under this prospectus. We urge you to read this entire prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information incorporated by reference from our other filings with the SEC. Investing in our securities involves risks. Therefore, carefully consider the risk factors set forth in our most recent annual and quarterly filings with the SEC, as well as other information in this prospectus and the documents incorporated by reference herein, before purchasing our securities. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities.

About Imunon, Inc.

Imunon is a clinical-stage biotechnology company focused on advancing a portfolio of innovative treatments that harness the body's natural mechanisms with the aim to generate safe, effective and durable responses across a broad array of human diseases, constituting a differentiating approach from conventional therapies. Imunon is developing its non-viral DNA technology across its modalities. The first modality, TheraPlas®, is developed for the coding of proteins and cytokines in the treatment of solid tumors where an immunological approach is deemed promising. The second modality, PlaCCine®, is developed for the coding of viral antigens that can elicit a strong immunological response. This technology may represent a promising platform for the development of vaccines in infectious diseases.

The Company's lead clinical program, IMNN-001, is a DNA-based immunotherapy for the localized treatment of advanced ovarian cancer currently in Phase II development. IMNN-001 works by instructing the body to produce durable levels, within certain safety parameters, of powerful cancer-fighting molecules, such as interleukin-12 and interferon gamma, at the tumor site. Additionally, the Company initiated a first-in-human study of its COVID-19 booster vaccine (IMNN-101) in the second quarter of 2024. We will continue to leverage these modalities and to advance the technological frontier of plasmid DNA to better serve patients with difficult-to-treat conditions.

Recent Developments

On July 30, 2024, the Company announced positive topline data from its Phase 2 OVATION 2 trial of IMNN-001 in combination with neoadjuvant and adjuvant chemotherapy in patients with advanced ovarian cancer. The following table summarizes the data readout:

		Median time to event, experimental vs control (months)	Hazard Ratio, experimental vs control
Overall Survival (secondary endpoint)	ITT n=112	40.5 m vs 29.4	0.74 (0.42; 1.30) pNS
	≥20% of protocol-specified treatments in both arms n=102	45.1 m vs 29.4	0.64 (0.35; 1.19) pNS
	PARP treated patients n=43	NE vs 37.1	0.41 (0.13; 1.28) pNS
Progression Free Survival (primary endpoint)	ITT n=112	14.9 m vs 11.9	0.79 (0.51; 1.23) pNS
	≥20% of protocol-specified treatments in both arms n=102	14.6 m vs 11.9	0.76 (0.48; 1.22) pNS
	PARP treated patients n=31	33.8 m vs 22.1	0.80 (0.31; 2.12) pNS

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 Documents by Reference" on page 12 of this prospectus.

Our Corporate Information

We were founded in 1982 under the corporate name Celsion Corporation and are a Delaware corporation. Our principal executive offices are located at 997 Lenox Drive, Suite 100, Lawrenceville, NJ 08648. Our telephone number is (609) 896-9100. Our website is *www.imunon.com*. On September 19, 2022, Celsion Corporation announced a corporate name change to Imunon, Inc., reflecting the evolution of the Company's business focus and its commitment to developing cutting-edge immunotherapies and next-generation vaccines to treat cancer and infectious diseases. The information contained on or that can be accessed through our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus or in deciding to purchase our common stock.

THE OFFERING

Shares Offered by the Selling Stockholders

5,000,000 shares of common stock issuable upon exercise of Warrants, which have an exercise price of \$2.00 and will expire five and one half years from the initial exercisability date of August 1, 2024.

Terms of the Offering

The Selling Stockholders and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their shares covered hereby on Nasdaq or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. See "Plan of Distribution."

Common stock to be outstanding after this offering, assuming cash exercise of the Warrants

14,400,889 shares

Use of Proceeds

We will not receive any of the proceeds from the sale of our common stock by the Selling Stockholders. However, the Company will receive the proceeds of any cash exercise of the Warrants. If all of the Warrants were exercised for cash, we would receive aggregate proceeds of \$10.0 million. If we receive any cash proceeds, we currently intend to use those proceeds for general corporate purposes, including working capital.

Risk Factors

Investing in our securities involves a high degree of risk. See "Risk Factors" on page 4 of this prospectus to read about factors that you should consider carefully before buying our securities.

Trading Markets and Ticker Symbols

IMNN

The number of shares of common stock to be outstanding after this offering is based on 9,400,889 shares of common stock outstanding as of June 30, 2024 and excludes the 5,000,000 shares of common stock that were issued on August 1, 2024 in a registered direct offering, as well as, in each case as of June 30, 2024:

- 1,342,470 shares of common stock issuable upon the exercise of outstanding options as of June 30, 2024, having a weighted average exercise price of \$2.19 per share;
- 789,297 shares of common stock issuable upon the vesting of common stock awards as of June 30, 2024, having a weighted average grant day fair value of \$2.87 per share;
- 160,060 shares of common stock issuable upon the exercise of outstanding warrants as of June 30, 2024 having a weighted average exercise price of \$18.86 per share; and
- 779,020 shares of common stock reserved for future issuance pursuant to our existing stock incentive plan.

In addition, unless we specifically state otherwise, all information in this prospectus assumes no exercise of the Warrants issued on August 1, 2024 to purchase an aggregate of 5,000,000 shares of common stock and no exercise of outstanding stock options subsequent to June 30, 2024.

RISK FACTORS

Investing in our securities involves significant risk. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed with the SEC on March 28, 2024 and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety, together with other information in this prospectus and the information incorporated by reference herein. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could suffer materially. In such event, the trading price of our common stock could decline, and you might lose all or part of your investment.

Risks Related to this Offering and to Investing in our Common Stock

The sale or availability for sale of the shares of common stock pursuant to this prospectus, as well as future sales and issuances of our common stock or other securities, might result in significant dilution and could cause the price of our common stock to decline.

To the extent that the Selling Stockholders sell shares of our common stock pursuant to this prospectus, the market price of the shares of our common stock may decrease due to the additional selling pressure in the market. In addition, to raise capital, we may sell common stock, convertible securities or other equity securities in one or more future transactions, at prices and in a manner we determine from time to time.

We cannot predict what effect, if any, sales of shares of our common stock in the public market or the availability of shares for sale will have on the market price of our common stock. However, future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options, or the perception that such sales may occur, could adversely affect the market price of our common stock.

We have never paid dividends on our capital stock, and we do not anticipate paying dividends in the foreseeable future.

We have never paid dividends on any of our capital stock and currently intend to retain any future earnings to fund the growth of our business. We may also enter into credit agreements or other borrowing arrangements in the future that will restrict our ability to declare or pay cash dividends on our common stock. Any determination to pay dividends in the future will be at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant. As a result, capital appreciation, if any, of the securities will be the sole source of gain, if any, for the foreseeable future.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain of the statements contained or incorporated in this prospectus are forward-looking and constitute forward-looking statements within the meaning of Section 27A of the Securities Act. of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act. Forward-looking statements may relate to such matters as anticipated financial performance, business prospects, technological developments, product pipelines, clinical trials and research and development activities, the adequacy of capital reserves and anticipated operating results and cash expenditures, current and potential collaborations, strategic alternatives and other aspects of our present and future business operations and similar matters. These statements involve known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forwardlooking statements. Such factors include, among other things, unforeseen changes in the course of research and development activities and in clinical trials; possible changes in cost, timing and progress of development, preclinical studies, clinical trials and regulatory submissions; our collaborators' ability to obtain and maintain regulatory approval of any of our drug candidates; possible changes in capital structure, financial condition, future working capital needs and other financial items; uncertainties and assumptions regarding the potential worsening global economic conditions and the recent disruptions to, and volatility in, financial markets in the U.S. and worldwide resulting from the COVID-19 pandemic, the Russian invasion of Ukraine and the unrest in the Middle East on our business, operations, clinical trials, supply chain, strategy, goals and anticipated timelines, changes in approaches to medical treatment; introduction of new products by others; success or failure of our current or future collaboration arrangements, risks and uncertainties associated with possible acquisitions of other technologies, assets or businesses; our ability to obtain additional funds for our operations; our ability to obtain and maintain intellectual property protection for our technologies and drug candidates and our ability to operate our business without infringing the intellectual property rights of others; our reliance on third parties to conduct preclinical studies or clinical trials; the rate and degree of market acceptance of any approved drug candidates; possible actions by customers, suppliers, strategic partners, potential strategic partners, competitors and regulatory authorities; compliance with listing standards of The Nasdaq Capital Market; and those listed under "Risk Factors" this prospectus as well as in our most recent annual report on Form 10-K and our other filings made from time to time with the SEC.

In some cases, you can identify forward-looking statements by terminology such as "expect," "anticipate," "estimate," "plan," "believe," "could," "intend," "predict," "may," "should," "will," "would" and words of similar import regarding the Company's expectations. Forward-looking statements are only predictions. Actual events or results may differ materially. Although we believe that our expectations are based on reasonable assumptions within the bounds of our knowledge of our industry, business and operations, we cannot guarantee that actual results will not differ materially from our expectations. In evaluating such forward-looking statements, you should specifically consider various factors, including the risks outlined under "Risk Factors" in our most recent annual report on Form 10-K and our other filings made from time to time with the SEC. The discussion of risks and uncertainties set forth herein and therein is not necessarily a complete or exhaustive list of all risks facing the Company at any particular point in time. We operate in a highly competitive, highly regulated and rapidly changing environment and our business is in a state of evolution. Therefore, it is likely that new risks will emerge, and that the nature and elements of existing risks will change, over time. It is not possible for management to predict all such risk factors or changes therein, or to assess either the impact of all such risk factors on our business or the extent to which any individual risk factor, combination of factors, or new or altered factors, may cause results to differ materially from those contained in any forward-looking statement. Except as required by law, we assume no obligation to revise or update any forward-looking statement that may be made from time to time by us or on our behalf for any reason, even if new information becomes available in the future.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of securities by the Selling Stockholders named in this prospectus. However, the Company will receive the proceeds of any cash exercise of the Warrants. If all of the Warrants were exercised for cash, we would receive aggregate proceeds of \$10.0 million. If we do receive any proceeds, we currently intend to use the proceeds for general corporate purposes, including working capital.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common stock and do not currently anticipate declaring or paying cash dividends on our common stock in the foreseeable future. We currently intend to retain all of our future earnings, if any, to finance operations. Any future determination relating to our dividend policy will be made at the discretion of our board of directors, or our board, and will depend on a number of factors, including future earnings, capital requirements, financial conditions, future prospects, contractual restrictions and other factors that our board may deem relevant.

MARKET FOR OUR COMMON STOCK

Market Information

Our common stock currently trades under the symbol "IMNN" on The Nasdaq Capital Market.

Stockholders

As of August 1, 2024, there were approximately 28,000 stockholders of record.

SELLING STOCKHOLDERS

On July 30, 2024, we entered into a Securities Purchase Agreement with certain institutional and accredited investors, pursuant to which we sold an aggregate of 5,000,000 shares of our common stock in a registered direct offering and the Warrants to purchase an aggregate of 5,000,000 shares of our common stock in a concurrent private placement. The Warrants have an exercise price of \$2.00 per share and will be exercisable immediately for a term of five and one-half years following the date of issuance.

The shares of common stock being offered by the Selling Stockholders are those issuable upon the exercise of the Warrants. This prospectus covers the resale or other disposition by the Selling Stockholders or their pledgees, donees, transferees or other successors-in-interest of the shares of common stock underlying the Warrants in the manner contemplated under "Plan of Distribution" herein.

The Selling Stockholders do not have, and within the past three years have not had, any position, office or other material relationship with us.

The Selling Stockholders might not sell any or all of the shares covered by this prospectus or may sell or dispose of some or all of the shares other than pursuant to this prospectus. Because the Selling Stockholders may not sell or otherwise dispose of some or all of the shares covered by this prospectus and because there are currently no agreements, arrangements or understandings with respect to the sale or other disposition of any of the shares, we cannot estimate the number of the shares that will be held by the Selling Stockholders after completion of the offering.

The table below lists the Selling Stockholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Exchange Act and the rules and regulations thereunder) of the shares of common stock held by each of the Selling Stockholders. The table is prepared based on information supplied to us by the Selling Stockholders. The second column lists the number of shares of common stock beneficially owned by the Selling Stockholders, based on their respective ownership of shares as of August 26, 2024. The fourth column lists the shares of common stock being offered by this prospectus by the Selling Stockholders. The fifth column assumes the sale of all of the shares offered by the Selling Stockholders pursuant to this prospectus. The percentages in the table reflect the shares beneficially owned by the Selling Stockholders as a percentage of the total number of shares of common stock outstanding as of August 26, 2024. As of such date, 14,400,889 shares of common stock were outstanding.

Selling Stockholder (1)	Number of Shares of Common Stock Beneficially Owned Prior to Offering (2)	% (3)	Maximum Number of shares of Common Stock to be Sold Pursuant to this Prospectus	Number of shares of Common Stock Owned After Offering (4)	% (4)
Alto Opportunity Master Fund, SPC – Segregated Master Portfolio B (5)	1,250,000	8.0%	1,250,000		
romono B (5)	1,220,000	0.070	1,220,000		
Armistice Capital, LLC (6)	1,250,000	8.0%	1,250,000	-	-
CVI Investments, Inc. (7)	1,293,333	8.2%	1,220,000	73,333	*
Sabby Volatility Warrant Master Fund, Ltd. (8)	2,007,205	12.8%	1,280,000	727,205	5.0%

^{*} Less than 1.0%.

- (1) This table and the information in the notes below are based upon information supplied by the Selling Stockholders, including reports and amendments thereto filed with the SEC on Schedule 13D.
- (2) The number of shares of common stock beneficially owned includes shares of common stock underlying securities that are convertible or exercisable within 60 days of August 26, 2024. The Warrants became exercisable on August 1, 2024.
- (3) Percentage ownership is based on a denominator equal to the sum of (i) 14,400,889 shares of common stock outstanding as of August 26, 2024 and (ii) the number of shares of common stock underlying securities that are convertible or exercisable within 60 days of August 26, 2024 that are beneficially owned by the applicable Selling Stockholder. The percentages shown above do not take into account the Warrant Beneficial Ownership Limitations discussed further below.

- (4) Assumes that all shares of common stock being registered under the registration statement of which this prospectus forms a part are sold in this offering, and that none of the Selling Stockholders acquire additional shares of our common stock after the date of this prospectus and prior to completion of this offering.
- (5) Consists of 1,250,000 shares of common stock issuable upon exercise of the Warrants. The Warrants are subject to a beneficial ownership limitation of 9.99%, which limitation restricts the Selling Stockholder from exercising that portion of the warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation. Alto Opportunity Master Fund, SPC Segregated Master Portfolio B is a private investment vehicle for which Ayrton Capital LLC, a Delaware limited liability company, serves as the investment manager, or the Investment Manager. Waqas Khatri serves as the managing member of the Investment Manager. The address of Alto Opportunity Master Fund, SPC Segregated Master Portfolio B is c/o Ayrton Capital LLC, 55 Post Rd West, 2nd Floor, Westport, CT 06880. Ayrton Capital LLC, the investment manager to Alto Opportunity Master Fund, SPC Segregated Master Portfolio B, has discretionary authority to vote and dispose of the shares held by Alto Opportunity Master Fund, SPC Segregated Master Portfolio B and may be deemed to be the beneficial owner of these shares. Waqas Khatri, in his capacity as Managing Member of Ayrton Capital LLC, may also be deemed to have investment discretion and voting power over the shares held by Alto Opportunity Master Fund, SPC Segregated Master Portfolio B. Ayrton Capital LLC and Mr. Khatri each disclaim any beneficial ownership of these shares.
- (6) Consists of 1,250,000 shares of common stock issuable upon exercise of the Warrants without giving effect to the beneficial ownership limitation of 4.99%, which limitation restricts the Selling Stockholder from exercising that portion of the Warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of 4.99% of the Company's outstanding common stock. The securities are directly held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company, or the Master Fund, and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC, or Armistice Capital, as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. The address of Armistice Capital Master Fund Ltd. is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.
- (7) Consists of 73,333 shares of common stock issuable upon exercise of warrants exercisable within 60 days of August 26, 2024 as well as 1,220,000 shares of common stock issuable upon exercise of the Warrants, without giving effect to the beneficial ownership limitation of 4.99%, which limitation restricts the Selling Stockholder from exercising that portion of the Warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of 4.99% of the Company's outstanding common stock. Heights Capital Management, Inc., the authorized agent of CVI Investments, Inc., or CVI, has discretionary authority to vote and dispose of the shares held by CVI and may be deemed to be the beneficial owner of these shares. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc., may also be deemed to have investment discretion and voting power over the shares held by CVI. Mr. Kobinger disclaims any such beneficial ownership of the shares. CVI Investments, Inc. is affiliated with one or more FINRA member, none of whom are currently expected to participate in the sale pursuant to the prospectus contained in the Registration Statement of Shares purchased by the Investor in this Offering. The address of CVI Investments, Inc. is C/O Heights Capital Management, Inc., 101 California Street, Suite 3250, San Francisco, CA 94111
- (8) Consists of 727,205 shares of common stock and 1,280,000 shares of common stock issuable upon exercise of the Warrants without giving effect to the beneficial ownership limitation of 4.99%, which limitation restricts the Selling Stockholder from exercising that portion of the Warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of 4.99% of the Company's outstanding common stock. Sabby Management, LLC, the investment manager to Sabby Volatility Warrant Master Fund, Ltd., or Sabby, has discretionary authority to vote and dispose of the shares held by Sabby and may be deemed to be the beneficial owner of these shares. Hal Mintz, in his capacity as manager of Sabby Management, LLC, may also be deemed to have investment discretion and voting power over the shares held by Sabby. Sabby Management, LLC and Mr. Mintz each disclaim any beneficial ownership of these shares. The address for Sabby is c/o Captiva (Cayman) Ltd, Governors Square, Bldg 4, 2nd Floor, 23 Lime Tree Bay Avenue, Grand Cayman KY1-1209, Cayman Islands.

PLAN OF DISTRIBUTION

We are registering the shares of common stock issuable to the Selling Stockholders upon the exercise of the Warrants purchased in a private placement to permit the resale of such shares of common stock by such Selling Stockholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the Selling Stockholders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register such shares of common stock.

Each Selling Stockholder of the shares of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on Nasdaq or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker-dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the securities. The Company has agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We have agreed to keep this prospectus effective until all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the common stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

LEGAL MATTERS

Covington & Burling LLP, Boston, Massachusetts, will pass upon the validity of the issuance of the securities to be offered by this prospectus.

EXPERTS

WithumSmith+Brown, PC, or Withum, independent registered public accounting firm, has served as our independent accountants since 2017 and audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2023, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated herein by reference in reliance on Withum's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. You can read our SEC filings over the Internet at the SEC's website at http://www.sec.gov.

Our web site address is http://www.imunon.com. There we make available free of charge, on or through the investor relations section of our website, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with the SEC. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus. All website addresses in this prospectus are intended to be inactive textual references only.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" much of the information we file with them, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. You should refer to the registration statement, including the exhibits, for further information about us and the securities we may offer pursuant to this prospectus. Statements in this prospectus regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. 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 all of the securities offered by this prospectus are sold 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 in which the information contained in such documents is "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, 2023 that we filed with the SEC on March 28, 2024;
- the portions of our definitive proxy statement on <u>Schedule 14A</u> that we filed with the SEC on April 26, 2024, that are deemed "filed" with the SEC under the Exchange Act;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2024 and June 30, 2024 that we filed with the SEC on May 13, 2024 and August 14, 2024, respectively;
- our Current Reports on Form 8-K filed with the SEC on March 12, 2024, March 18, 2024, April 11, 2024, May 8, 2024, May 20, 2024, June 13, 2024, July 30, 2024, July 31, 2024, August 1, 2024 and September 3, 2024; and
- the description of our securities, incorporated herein by reference to Exhibit 4.5 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

All reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

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.

Any statement contained in this prospectus or in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request a free copy of any of the documents incorporated by reference in this prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents) by writing or telephoning us at the following address:

Imunon, Inc. 997 Lenox Drive, Suite 100 Lawrenceville, NJ 08648 (609) 896-9100

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus.

The documents incorporated by reference may be accessed at our website: http://www.imunon.com. We have included our website address in this prospectus solely as an inactive textual reference.

You should rely only on information contained in, or incorporated by reference into, this prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus or incorporated by reference in this prospectus. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

Imunon, Inc.

5,000,000 Shares of Common Stock

Issuable Upon Exercise of Outstanding Warrants

PROSPECTUS

September 27, 2024