

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

FORM S-1

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

IMUNON, INC.

(Exact name of registrant as specified in its charter)

DELAWARE  
(State or other jurisdiction  
of incorporation or organization)

52-1256615  
(I.R.S. Employer  
Identification No.)

997 Lenox Drive, Suite 100  
Lawrenceville, New Jersey 08648  
(609) 896-9100

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

Michael H. Tardugno  
Executive Chairman of the Board  
997 Lenox Drive, Suite 100  
Lawrenceville, New Jersey 08648  
(609) 896-9100

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:  
Megan Gates, Esq.  
Michael Riella, Esq.  
Covington & Burling LLP  
One International Place, Suite 1020  
Boston, Massachusetts 02110  
(617) 603-8800

Approximate date of commencement of proposed sale to the public:

From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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

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

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

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

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

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

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

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THE SELLING SECURITY HOLDERS IDENTIFIED IN THIS PROSPECTUS MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED AUGUST 29, 2024

**PRELIMINARY 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 August 28, 2024, the last reported sale price of our common stock was \$1.15 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 , 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
Progression Free Survival (primary endpoint)	PARP treated patients n=43	NE vs 37.1	0.41 (0.13; 1.28) pNS
	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](http://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.

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**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.

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**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 forward-looking 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.

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## 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.

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## 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.

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## 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.

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## 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 1, 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 1, 2024. As of such date, 14,400,889 shares of common stock were outstanding.

<b>Selling Stockholder (1)</b>	<b>Number of Shares of Common Stock Beneficially Owned Prior to Offering (2)</b>	<b>% (3)</b>	<b>Maximum Number of shares of Common Stock to be Sold Pursuant to this Prospectus</b>	<b>Number of shares of Common Stock Owned After Offering (4)</b>	<b>% (4)</b>
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Alto Opportunity Master Fund, SPC – Segregated Master Portfolio B (5)	1,250,000	8.0%	1,250,000	-	-
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 1, 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 1, 2024 and (ii) the number of shares of common stock underlying securities that are convertible or exercisable within 60 days of August 1, 2024 that are beneficially owned by the applicable Selling Stockholder.

- (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 (the "Master Fund") and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC ("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 1, 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. ("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

filings 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 [Schedule 14A](#) 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](#), and [August 1, 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.

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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.

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**Imunon, Inc.**  
**5,000,000 Shares of Common Stock**  
**Issuable Upon Exercise of Outstanding Warrants**  
**PROSPECTUS**

, 2024

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**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 13. Other Expenses of Issuance and Distribution**

The following table sets forth the estimated costs and expenses payable by the registrant in connection with the offering of the securities being registered.

SEC registration fee	\$ 1,476
Accounting fees and expenses	10,000
Legal fees and expenses	30,000
Miscellaneous expenses	1,000
<b>Total</b>	<b>\$ 42,476</b>

**Item 14. Indemnification of Directors and Officers**

The Company is incorporated under the laws of the State of Delaware. Our bylaws provide that we shall, to the maximum extent and in the

manner permitted by the Delaware General Corporation Law, or the DGCL, indemnify each of our directors and officers against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the Company; provided, however, that the Company may modify the extent of such indemnification by individual contracts with its directors and executive officers and, provided, further, that the Company shall not be required to indemnify any director or officer in connection with any proceeding (or part thereof) initiated by such person unless (i) such indemnification is expressly required to be made by law, (ii) the proceeding was authorized in advance by our board, (iii) such indemnification is provided by the Company, in its sole discretion, pursuant to the powers vested in the corporation under the DGCL or (iv) such indemnification is required to be made pursuant to an individual contract.

The DGCL provides that a Delaware corporation has the power generally to indemnify its current and former directors, officers, employees and other agents (each, a Corporate Agent) against expenses and liabilities, including amounts paid in settlement, in connection with any proceeding involving such person by reason of his being a Corporate Agent, other than a proceeding by or in the right of the corporation, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal proceeding, such person had no reasonable cause to believe his conduct was unlawful.

In the case of an action brought by or in the right of the corporation, indemnification of a Corporate Agent is permitted if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation. However, no indemnification is permitted in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which such proceeding was brought shall determine upon application that despite the adjudication of liability, but in view of all the circumstances of the case, such person is fairly and reasonably entitled to such indemnification.

To the extent that a Corporate Agent has been successful on the merits or otherwise in the defense of such proceeding, whether or not by or in the right of the corporation, or in the defense of any claim, issue or matter therein, the corporation is required to indemnify such person for expenses in connection therewith. Under the DGCL, the corporation may advance expenses incurred by a Corporate Agent in connection with a proceeding, provided that the Corporate Agent undertakes to repay such amount if it shall ultimately be determined that such person is not entitled to indemnification. Our certificate of incorporation requires us to advance expenses to any person entitled to indemnification, provided that such person undertakes to repay the advancement if it is determined in a final judicial decision from which there is no appeal that such person is not entitled to indemnification.

The power to indemnify and advance the expenses under the DGCL does not exclude other rights to which a Corporate Agent may be entitled to under our certificate of incorporation, by laws, agreement, vote of stockholders or disinterested directors or otherwise.

Our bylaws permit us to secure insurance on behalf of our directors, officers, employees and agents for any expense, liability or loss incurred in such capacities, whether or not the Company would have the power to indemnify such person against such liability under the provisions of the DGCL.

The purpose of these provisions is to assist us in retaining qualified individuals to serve as our directors, officers, employees and agents by limiting their exposure to personal liability for serving as such.

#### **Item 15. Recent Sales of Unregistered Securities**

On July 30, 2024, we entered into a securities purchase agreement with certain institutional and other accredited investors, pursuant to which we issued and sold 5,000,000 shares of our common stock in a registered direct offering and Warrants to purchase 5,000,000 shares of common stock in a concurrent private placement, for a combined purchase price of \$2.00 per share of common stock and accompanying Warrant. The closing of the private placement took place on August 1, 2024 and we received total gross proceeds of \$10.0 million. The shares of common stock issuable upon exercise of the Warrants that were sold pursuant to the securities purchase agreement are being registered pursuant to this registration statement.

H.C. Wainwright & Co., LLC acted as the lead placement agent, and Brookline Capital Markets, a division of Arcadia Securities, LLC, acted as co-placement agent for the registered direct offering and concurrent private placement. The placement agents were entitled to fees equal to 7.0% of the gross proceeds from the registered direct offering and concurrent private placement.

The sales and issuances of securities in the transaction described above were not registered under the Securities Act in reliance upon the exemption from registration provided by Section 4(a)(2) thereof or Regulation D promulgated thereunder. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients had adequate access, through their relationships with us, to information about us.

#### **Item 16. Exhibits**

The exhibits to this registration statement are listed in the Exhibit Index to this registration statement, which Exhibit Index is hereby incorporated by reference.

#### **Item 17. Undertakings**

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the fee table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; *provided, however,* that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are

incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

#### EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION
3.1	<a href="#">Amended and Restated Certificate of Incorporation of Imunon, dated March 24, 2023, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company filed on March 24, 2023 (SEC File No. 001-15911).</a>
3.2	<a href="#">Amended and Restated Bylaws of Imunon, effective on March 15, 2024, incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed on March 18, 2024 (SEC File No. 001-15911).</a>
4.1	<a href="#">Form of Representative's Common Stock Purchase Warrant, incorporated herein by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company, filed on October 31, 2017 (SEC File No. 001-15911).</a>
4.2	<a href="#">Form of Placement Agent Common Stock Purchase Warrant incorporated herein by reference to Exhibit 4.4 to the Current Report on Form 8-K of the Company, filed on July 11, 2017 (SEC File No. 001-15911).</a>
4.3	<a href="#">Form of Amended and Restated Warrant (issued under First Amendment of Venture Loan and Security Agreement, dated as of August 1, 2020, by and among Imunon, Inc., Horizon Funding I, LLC, Horizon Funding Trust 2019-1, and Horizon Technology Finance Corporation, as Collateral Agent), incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company, filed on September 4, 2020 (SEC File No. 001-15911).</a>
4.4	<a href="#">Form of Exchange Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company, filed on March 13, 2020 (SEC File No. 001-15911).<sup>1</sup></a>
4.5	<a href="#">Warrant to purchase Shares of Common Stock of Celsion Corporation between Celsion Corporation and EGWU, Inc., dated March 28, 2019, incorporated herein by reference to Exhibit 4.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2019 (SEC File No. 001-15911).</a>
4.6	<a href="#">Form of Warrant issued August 1, 2024, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company, filed on July 31, 2024 (SEC File No. 001-15911).</a>
5.1*	Opinion of Covington & Burling LLP
10.1***	<a href="#">Imunon, Inc. 2007 Stock Incentive Plan, as amended, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on May 16, 2017 (SEC File No. 001-15911).</a>
10.2	<a href="#">Form Inducement Offer to Exercise Common Stock Purchase Warrants, incorporated herein by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q of the Company for the quarter ended September 30, 2017 (SEC File No. 001-15911).</a>
10.3***	<a href="#">Imunon, Inc. 2018 Stock Incentive Plan, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed May 15, 2018 (SEC File No. 001-15911).</a>
10.4***	<a href="#">First Amendment to the Imunon, Inc. 2018 Stock Incentive Plan, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on May 15, 2019 (SEC File No. 001-15911).</a>
10.5***	<a href="#">Second Amendment to the Imunon, Inc. 2018 Stock Incentive Plan, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on June 16, 2020 (SEC File No. 001-15911).</a>
10.6***	<a href="#">Third Amendment to the Celsion Corporation 2018 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed with the Commission on June 10, 2021 (SEC File No. 001-15911).</a>
10.7***	<a href="#">Form of Incentive Stock Option Grant Agreement under the 2018 Stock Incentive Plan, incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2024 (SEC File No. 001-15911).</a>

10.9\*\*\* [Employment Offer Letter effective as of June 2, 2014, between the Company and Khursheed Anwer incorporated herein by reference to Exhibit 10.27 to the Annual Report of the Company for the year ended December 31, 2014 \(SEC File No. 001-15911\).](#)

10.10\*\*\* [Employment Agreement between the Company and Michael H. Tardugno, effective as of July 18, 2022, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K of the Company filed with the Commission on July 19, 2022 \(SEC File No. 001-15911\).](#)

10.11\*\*\* [Employment Agreement, dated as of May 3, 2024, between Imunon, Inc. and Stacy Lindborg, Ph.D., incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the company filed with the Commission on May 8, 2024 \(SEC File No. 001-15911\).](#)

10.12\*\*\* [Amended and Restated Change in Control Agreement dated as of September 6, 2016, by and between the Company and Michael H. Tardugno, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended September 30, 2016 \(SEC File No. 001-15911\).](#)

10.13\*\*\* [Retirement and Consulting Agreement, dated May 17, 2024, between Imunon, Inc. and Jeffrey Church, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the company filed with the Commission on May 20, 2024 \(SEC File No. 001-15911\).](#)

10.14\*\*\* [Consulting Agreement, dated April 15, 2024, by and between Imunon, Inc. and Monomoy Advisors, LLC, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K of the company filed with the Commission on May 20, 2024 \(SEC File No. 001-15911\).](#)

10.15\*\* [Development, Product Supply and Commercialization Agreement, effective December 5, 2008, by and between the Company and Yakult Honsha Co., Ltd., incorporated herein by reference to Exhibit 10.15 to the Annual Report of the Company for the year ended December 31, 2008 \(SEC File No. 001-15911\).](#)

10.16\*\* [The 2nd Amendment to The Development, Product Supply and Commercialization Agreement, effective January 7, 2011, by and between the Company and Yakult Honsha Co., Ltd. incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on January 18, 2011 \(SEC File No. 001-15911\).](#)

10.17\*\* [Technology Development Agreement effective as of May 7, 2012, by and between Imunon, Inc. and Zhejiang Hisun Pharmaceutical Co. Ltd., incorporated herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2012 \(SEC File No. 001-15911\).](#)

10.18\*\* [Technology Development Contract dated as of January 18, 2013, by and between Imunon, Inc. and Zhejiang Hisun Pharmaceutical Co. Ltd., incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2013 \(SEC File No. 001-15911\).](#)

10.19 [Lease Agreement, executed July 21, 2011, by and between Imunon, Inc. and Brandywine Operating Partnership, L.P., incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on July 25, 2011 \(SEC File No. 001-15911\).](#)

10.20 [First Amendment to Lease Agreement, executed April 20, 2017, by and between Imunon, Inc. and Lenox Drive Office Park, LLC, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 10-Q of the Company filed on November 14, 2017 \(SEC File No. 001-15911\).](#)

10.21 [Second Amendment to Lease Agreement, dated January 9, 2019, by and between Celsion Corporation and Lenox Drive Office Park, LLC, successor in interest to Brandywine Operating Partnership, L.P., incorporated herein by reference to Exhibit 10-Q to the Current Report on Form 10-Q of the Company for the quarter ended March 31, 2019 \(SEC File No. 001-15911\).](#)

10.22 [Lease Agreement dated January 15, 2018, by and between Imunon, Inc. and HudsonAlpha Institute of Biotechnology for office and lab space located in Huntsville, Alabama incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2018 \(SEC File No. 001-15911\).](#)

10.23 [Settlement Agreement and Release, by and between the plaintiff to the shareholder action captioned O'Connor v. Braun, et al., N.J. Super., Dkt. No. MERC-00068-19, William J. O'Connor, derivatively on behalf of Imunon, Inc. and individually on behalf of himself and all other similarly situated stockholders of Imunon, Inc. and defendants, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K of the Company, filed on June 16, 2020 \(SEC File No. 001-15911\).](#)

10.24 [Form of Exercise Agreement, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on March 13, 2020 \(SEC File No. 001-15911\).](#)

10.25 [At the Market Offering Agreement, dated May 25, 2022 by and between Celsion Corporation and H.C. Wainwright & Co. LLC, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on May 25, 2022 \(SEC File No. 001-15911\).](#)

10.26 [Amendment No. 1, dated May 15, 2024, to At the Market Offering Agreement, by and between Imunon, Inc. and H.C. Wainwright & Co. LLC, incorporated by reference to Exhibit 1.3 to the Registration Statement on Form S-3 of the Company, filed on May 15, 2024 \(SEC File No 333-279425\).](#)

10.27 [Form of Securities Purchase Agreement, dated as of July 30, 2024, by and among Imunon, Inc. and each purchaser party thereto, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on July 31, 2024 \(SEC File No. 001-15911\).](#)

21.1 [Subsidiaries of Imunon, Inc., incorporated by reference to Exhibit 21.1 to the Annual Report on Form 10-K of the Company for the year ended December 31, 2023 \(SEC File No. 001-15911\).](#)

23.1\* [Consent of Independent Registered Public Accounting Firm.](#)

23.2\* [Consent of Covington & Burling LLP \(contained in Exhibit 5.1 hereto\).](#)

24.1\* [Powers of Attorney \(included in the signature page of this registration statement\).](#)

107\* Filing Fee Table

\* Filed herewith.

\*\* Portions of this exhibit have been omitted pursuant to a request for confidential treatment under Rule 24b-2 of the Securities Exchange Act of 1934, amended, and the omitted material has been separately filed with the Securities and Exchange Commission.

\*\*\* Management contract or compensatory plan or arrangement.

#### SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Lawrenceville, State of New Jersey, on the 29<sup>th</sup> day of August, 2024.

#### IMUNON, INC.

By: /s/ Stacy Lindborg

Stacy Lindborg

President and Chief Executive Officer

#### POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Stacy Lindborg and David Gaiero, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution and resubstitution, for him or her and in his or her name, place or stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, and (iii) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Name	Position	Date
<u>/s/ Stacy Lindborg</u> Stacy Lindborg, Ph. D.	President and Chief Executive Officer (Principal Executive Officer)	August 29, 2024
<u>/s/ David Gaiero</u> David Gaiero	Chief Financial Officer and Corporate Secretary (Principal Financial and Accounting Officer)	August 29, 2024
<u>/s/ Donald Braun</u> Donald Braun, Ph.D.	Director	August 29, 2024
<u>/s/ James E. Dentzer</u> James E. Dentzer	Director	August 29, 2024
<u>/s/ Frederick J. Fritz</u> Frederick J. Fritz	Director	August 29, 2024
<u>/s/ Christine Pellizzari</u> Christine Pellizzari, J.D.	Director	August 29, 2024
<u>/s/ Michael H. Tardugno</u> Michael H. Tardugno	Executive Chairman of the Board	August 29, 2024

# COVINGTON

BEIJING BOSTON BRUSSELS DUBAI FRANKFURT  
 JOHANNESBURG LONDON LOS ANGELES NEW YORK  
 PALO ALTO SAN FRANCISCO SEOUL SHANGHAI WASHINGTON

Covington & Burling LLP  
 One International Place  
 Suite 1020  
 Boston, MA 02110-2600  
 T +1 617 603 8800

August 29, 2024

Imunon, Inc.  
 997 Lenox Drive, Suite 100  
 Lawrenceville, NJ 08648

Re: Securities Being Registered under Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel to Imunon, Inc., a Delaware corporation (the "Company"), in connection with the filing by the Company of a Registration Statement on Form S-1 (the "Registration Statement") with the Securities and Exchange Commission (the "Commission") relating to the registration under the Securities Act of 1933, as amended (the "Securities Act"), of the offering from time to time by the selling stockholders (the "Selling Stockholders"), as described in the Registration Statement, of up to 5,000,000 shares of the Company's common stock, par value \$0.01 per share ("Common Stock"), issuable upon the exercise of warrants held by the Selling Stockholders (the "Warrants") to purchase shares of Common Stock (the "Warrant Shares").

In connection with this opinion, we have examined the Company's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, each as currently in effect; such other records of the corporate proceedings of the Company and certificates of the Company's officers as we have deemed relevant; and the Registration Statement and the exhibits thereto.

In our examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified or photostatic copies and the authenticity of the originals of such copies and the truth and correctness of any representations and warranties contained therein. As to questions of fact material to this opinion, we have relied upon certificates or comparable documents of public officials and of officers and representatives of the Company.

Our opinion is limited to the general corporate laws of the State of Delaware and we express no opinion with respect to the laws of any other jurisdiction. No opinion is expressed herein with respect to the qualification of the Warrant Shares under the securities or blue sky laws of any state or any foreign jurisdiction.

Based upon and subject to the foregoing, it is our opinion that the Warrant Shares have been duly authorized, and when issued and sold in accordance with the terms and conditions of the Warrants and the Registration Statement, as applicable, will be validly issued, fully paid and non-assessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We understand that you wish to file this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K promulgated under the Securities Act and to reference the firm's name under the caption "Legal Matters" in the prospectus which forms part of the Registration Statement, and we hereby consent thereto. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Covington & Burling LLP

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement on Form S-1 of our report dated March 27, 2024 (which includes explanatory paragraphs relating to the Company's ability to continue as a going concern), relating to the consolidated financial statements of Imunon, Inc. as of December 31, 2023 and 2022 appearing in the entity's Annual Report on Form 10-K for the year ended December 31, 2023. We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ WithumSmith+Brown, PC

East Brunswick, New Jersey  
August 28, 2024

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## Calculation of Filing Fee Tables

Form S-1  
(Form Type)Imunon, Inc.  
(Exact Name of Registrant as Specified in its Charter)Table 1: Newly Registered and Carry-Forward Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered (1)	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forward
Newly Registered Securities											
Fees to be Paid	Equity	457(g)	5,000,000(2)	\$ 2.00(3)	\$10,000,000(3)	0.00014760	\$ 1,476.00	-	-	-	-
Fees Previously Paid											
Total Offering Amount						\$10,000,000	0.00014760	\$ 1,476.00	-	-	-
Total Fees Previously Paid						-	-	-	-	-	-
Total Fee Offsets						-	-	-	-	-	-
Net Fee Due						\$ 1,476.00	-	-	-	-	-

(1) Pursuant to Rule 416(a) promulgated under the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of common stock of Imunon, Inc. (the "Registrant") that become issuable with respect of the securities identified in the above table by reason of any stock dividend, stock split, recapitalization or other transaction effected without the Registrant's receipt of consideration that results in an increase in the number of outstanding shares of Registrant's common stock.

(2) Represents shares of common stock offered by the selling stockholders described in the registration statement issuable upon the exercise of warrants to purchase shares of common stock issued to the selling stockholders in a private placement transaction that closed on August 1, 2024.

(3) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(g) under the Securities Act of 1933, as amended, based on the price at which the warrants may be exercised.