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

FORM 10-Q

(Mark One)

X **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended **March 31, 2025**

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____

Commission File Number: **000-55264**



DYADIC INTERNATIONAL, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**45-0486747**
State or Other Jurisdiction of Incorporation or Organization	I.R.S. Employer Identification No.
1044 North U.S. Highway One, Suite 201 **Jupiter, Florida**	**33477**
Address of Principal Executive Offices	Zip Code

(561) 743-8333
Registrant's Telephone Number, Including Area Code
N/A
Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	DYAI	The NASDAQ Stock Market LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes X No ☐

Indicate by check mark whether the registrant has submitted electronically, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes X No ☐

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 X Smaller reporting company X

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 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No X

The number of shares outstanding of the registrant's Common Stock as of May 13, 2025 was 30,090,661.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This quarterly report on Form 10-Q ("Quarterly Report") contains forward-looking statements within the meaning of the federal securities laws, particularly under Item 2 "Management's Discussion and Analysis." All statements other than statements of historical fact are forward-looking. Examples of forward-looking statements include, but are not limited to, statements regarding industry prospects, future business, future results of operations or financial condition, future liquidity and capital resources, our ability to implement our agreements with third parties, management strategies, and our competitive position. Forward-looking statements generally can be identified by use of the words "expect," "should," "intend," "anticipate," "will," "project," "may," "might," "potential," or "continue" and other similar terms or variations of them or similar terminology. Dyadic International, Inc., and its subsidiaries caution readers that any forward-looking information is not a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking information. Such statements reflect the current views of our management with respect to our operations, results of operations and future financial performance.

Forward-looking statements involve many risks, uncertainties, or other factors beyond Dyadic's control. These factors include, but are not limited to (i) our history of net losses; (ii) market and regulatory acceptance of our microbial protein production platforms and other technologies; (iii) failure to commercialize our microbial protein production platforms or our other technologies; (iv) competition, including from alternative technologies; (v) the results of nonclinical studies and clinical trials; (vi) our capital needs; (vii) changes in global economic and financial conditions; (viii) our reliance on information technology; (ix) our dependence on third parties; (x) government regulations and environmental, social and governance issues; (x) intellectual property risks and (xi) other factors discussed in Dyadic's publicly available filings, including information set forth under the caption "Risk Factors" in this Quarterly Report and in our annual report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 26, 2025 (the "Annual Report"). We caution you that the foregoing list of important factors is not exclusive. Any forward-looking statements are based on our beliefs, assumptions, and expectations of future performance, considering the information currently available to us. Before investing in our common stock, investors should carefully read the information set forth under the caption "Risk Factors" and elsewhere in this Quarterly Report, in our Annual Report and in our other SEC filings, which could have a material effect on our business, results of operations and financial condition. The forward-looking statements contained in this Quarterly Report are made only as of the date hereof, and except as required by law, we undertake no obligation to publicly update any forward-looking statements for any reason after the date of this Quarterly Report to conform these statements to actual results or to changes in our expectations.

PART I

Item 1. Financial Statements

DYADIC INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	March 31, 2025 (Unaudited)	December 31, 2024 (Audited)
Assets		
Current assets:		
Cash and cash equivalents	$ 5,064,941	$ 6,506,750
Short-term investment securities	2,284,472	2,756,577
Interest receivable	23,213	24,248
Accounts receivable	221,719	237,027
Prepaid expenses and other current assets	210,867	303,066
Total current assets	7,805,212	9,827,668
Non-current assets:		
Operating lease right-of-use asset, net	79,229	92,211
Other assets	10,437	10,396
Total assets	$ 7,894,878	$ 9,930,275
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 448,390	$ 482,320
Accrued expenses	690,859	970,462
Deferred research and development obligations	665,216	833,813
Operating lease liability, current portion	55,895	54,249
Accrued interest	80,000	80,000
Accrued interest- related party	21,800	27,173
Total current liabilities	1,962,160	2,448,017
Non-current liabilities:		
Convertible notes, net of issuance costs	3,920,714	3,911,471
Convertible notes, net of issuance costs - related party	1,068,395	1,065,876
Operating lease liability, net of current portion	19,998	34,621
Total liabilities	6,971,267	7,459,985
Commitments and contingencies (Note 5)		
Stockholders' equity:		
Preferred stock, $.0001 par value:		
Authorized shares - 5,000,000; none issued and outstanding	—	—
Common stock, $.001 par value:		
Authorized shares - 100,000,000; issued shares - 42,367,748 and 42,089,301, outstanding shares - 30,090,661 and 29,835,799 as of March 31, 2025, and December 31, 2024, respectively	42,368	42,090
Additional paid-in capital	107,925,217	107,444,595
Treasury stock, shares held at cost - 12,253,502	(18,929,915)	(18,929,915)
Accumulated deficit	(88,114,059)	(86,086,480)
Total stockholders' equity	923,611	2,470,290
Total liabilities and stockholders' equity	$ 7,894,878	$ 9,930,275

The accompanying notes are an integral part of these unaudited consolidated financial statements.

DYADIC INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

(Unaudited)

	Three Months Ended March 31,	
	2025	**2024**
Revenues:		
Research and development revenue	$ 183,100	$ 334,617
Grant revenue	210,472	—
Total revenue	393,572	334,617
Costs and expenses:		
Costs of research and development revenue	126,480	143,955
Costs of grant revenue	171,178	—
Research and development	494,979	522,723
General and administrative	1,596,338	1,788,594
Foreign currency exchange loss	7,072	4,903
Total costs and expenses	2,396,047	2,460,175
Loss from operations	(2,002,475)	(2,125,558)
Other income (expense):		
Interest income	88,458	87,443
Gain on sale of Alphazyme	—	60,977
Interest expense	(89,243)	(21,639)
Interest expense - related party	(24,319)	(10,819)
Total other income (expense), net	(25,104)	115,962
Net loss	$ (2,027,579)	$ (2,009,596)
Basic and diluted net loss per common share	$ (0.07)	$ (0.07)
Basic and diluted weighted-average common shares outstanding	29,886,665	28,828,282

The accompanying notes are an integral part of these unaudited consolidated financial statements.

DYADIC INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(Unaudited)

	Three Months Ended March 31, 2025						
	Common Stock		Treasury Stock		Additional Paid-In	Accumulated	
	Shares	Amount	Shares	Amount	Capital	Deficit	Total
January 1, 2025	42,089,301	$ 42,090	(12,253,502)	$ (18,929,915)	$ 107,444,595	$ (86,086,480)	$ 2,470,290
Stock-based compensation expense	—	—	—	—	225,030	—	225,030
Issuance of common stock upon vesting of restricted stock units	250,964	251	—	—	231,370	—	231,621
Issuance of common stock upon exercise of stock options	27,483	27	—	—	24,222	—	24,249
Net loss	—	—	—	—	—	(2,027,579)	(2,027,579)
March 31, 2025	42,367,748	$ 42,368	(12,253,502)	$ (18,929,915)	$ 107,925,217	$ (88,114,059)	$ 923,611

	Three Months Ended March 31, 2024						
	Common Stock		Treasury Stock		Additional Paid-In	Accumulated	
	Shares	Amount	Shares	Amount	Capital	Deficit	Total
January 1, 2024	41,064,563	$ 41,065	(12,253,502)	$ (18,929,915)	$ 105,044,756	$ (80,277,321)	$ 5,878,585
Stock-based compensation expense	—	—	—	—	306,478	—	306,478
Issuance of common stock upon vesting of restricted stock units	375,753	376	—	—	339,959	—	340,335
Net loss	—	—	—	—	—	(2,009,596)	(2,009,596)
March 31, 2024	41,440,316	$ 41,441	(12,253,502)	$ (18,929,915)	$ 105,691,193	$ (82,286,917)	$ 4,515,802

The accompanying notes are an integral part of these unaudited consolidated financial statements.

DYADIC INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(Unaudited)

	Three Months Ended March 31,	
	2025	**2024**
Cash flows from operating activities		
Net loss	$ (2,027,579)	$ (2,009,596)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	225,030	306,478
Amortization of held-to-maturity securities, net	(9,999)	(3,828)
Amortization of debt issuance costs	11,762	3,125
Gain from the sale of investment in Alphazyme	—	(60,977)
Foreign currency exchange loss (gain), net	7,072	4,903
Changes in operating assets and liabilities:		
Interest receivable	1,035	(5,144)
Accounts receivable	15,278	216,383
Prepaid expenses and other current assets	92,202	85,657
Operating lease assets and liabilities	5	436
Accounts payable	(42,585)	5,201
Accrued expenses	(47,982)	271,144
Accrued interest	—	19,556
Accrued interest - related party	(5,373)	9,778
Deferred research and development obligation	(168,597)	43,905
Net cash used in operating activities	**(1,949,731)**	**(1,112,979)**
Cash flows from investing activities		
Purchases of held-to-maturity investment securities	(1,458,896)	(1,615,884)
Proceeds from maturities of investment securities	1,941,000	900,000
Proceeds from the sale of investment in Alphazyme	—	60,977
Net cash provided by (used in) investing activities	**482,104**	**(654,907)**
Cash flows from financing activities		
Proceeds from exercise of stock	24,249	—
Proceeds from issuance of convertible notes, net of issuance costs	—	3,882,884
Proceeds from issuance of convertible notes, net of issuance costs - related party	—	1,941,442
Net cash provided by financing activities	**24,249**	**5,824,326**
Effect of exchange rate changes on cash	1,569	(1,654)
Net (decrease) increase in cash and cash equivalents	**(1,441,809)**	**4,054,786**
Cash and cash equivalents at beginning of period	6,506,750	6,515,028
Cash and cash equivalents at end of period	$ **5,064,941**	$ **10,569,814**
Supplemental cash flow information		
Vesting of restricted stock units	$ 231,621	$ 340,335
Cash paid for interest	$ 107,173	$ —

The accompanying notes are an integral part of these unaudited consolidated financial statements.

Note 1: Organization and Summary of Significant Accounting Policies

Description of Business

Dyadic International, Inc. ("Dyadic", "we", "us", "our", or the "Company") is a global biotechnology platform company based in Jupiter, Florida with operations in the United States and a satellite office in the Netherlands, and it utilizes several third-party consultants and contract research organizations to carry out the Company's activities. Over the past two plus decades, the Company developed a gene expression platform for producing commercial quantities of industrial enzymes and other proteins, and previously licensed this technology to third parties, such as Abengoa Bioenergy SA, BASF SE, Codexis, Inc. and others, for use in industrial (non-pharmaceutical) applications. This technology is based on the *Thermothelomyces heterothallica* (formerly known as *Myceliophthora thermophila*) fungus, which the Company named C1.

For the past nine years since the Company sold its industrial technology business to Danisco USA ("Danisco"), the industrial biosciences business of DuPont (NYSE: DD) (the "DuPont Transaction"), the Company has been focused on building innovative microbial protein production platforms to address the growing demand for global protein bioproduction and unmet clinical needs for effective, affordable, and accessible biopharmaceutical products for human and animal health and for other biologic products for use in non-pharmaceutical applications. As part of the DuPont Transaction, Dyadic retained co-exclusive rights to its proprietary and patented C1 protein production platform (the "C1 platform") for use in all human and animal pharmaceutical applications, and currently, the Company has the exclusive ability to enter into sub-license agreements (subject to the terms of the license and to certain exceptions) for use in all human and animal pharmaceutical applications. Danisco retained certain rights to utilize the C1 platform in pharmaceutical applications, including the development and production of pharmaceutical products, for which it will be required to make royalty payments to Dyadic upon commercialization. In certain circumstances, Dyadic may owe a royalty to either Danisco or certain licensors of Danisco, depending upon whether Dyadic elects to utilize certain patents either owned by Danisco or licensed in by Danisco.

After the DuPont Transaction, the Company has directed its efforts towards advancing the C1 platform to address the increasing global demand for the development and manufacturing of prophylactic and therapeutic biopharmaceuticals for human and animal health. The Company's biopharmaceutical development efforts have been centered on enhancing the capability of the C1 platform to produce stable, properly folded, and functional proteins for pharmaceutical applications, including vaccines and monoclonal antibodies. In addition to improving the quality and productivity of the C1 platform, the Company has sought to validate its platform for human use through a series of fully funded biopharmaceutical projects, extensive animal studies utilizing C1-produced proteins, and, in 2024, the successful completion of a Phase 1 first-in-human study for a vaccine antigen produced using C1, which demonstrated its safety for human applications.

Recognizing the longer development timelines, clinical testing, and regulatory requirements associated with human and animal pharmaceutical products, the Company has refined its core business strategy to expand into functional recombinant (non-animal derived) solutions for non-pharmaceutical applications in research, nutrition, and industrial markets. To address these opportunities, the Company has developed and launched the Dapibus™ Protein Production Platform ("Dapibus™"), which supports various applications within the functional recombinant protein and enzyme field, namely in Life Sciences, Bioactives & Ingredients, and Bioindustrial applications. Given the reduced developmental costs, shorter timelines, and fewer regulatory requirements associated with functional recombinant solutions, Dapibus™ has enabled the Company to generate near- term recurring revenue while continuing to build long-term value through C1 for pharmaceutical applications. The Company anticipates achieving commercialization of certain functional recombinant products in 2025 through a combination of existing collaborations and internal manufacturing efforts.

Liquidity and Capital Resources

In accordance with FASB Accounting Standards Codification ("ASC") 205-40, Presentation of Financial Statements – Going Concern ("Topic 205-40"), management is required to evaluate whether there are conditions and events, considered in the aggregate that raise substantial doubt about the Company's ability to continue as a going concern for at least 12 months from the issuance date of the Company's condensed interim financial statements. This evaluation does not take into consideration the potential mitigating effect of management's plans that have not been fully implemented or are not within control of the Company as of the date the financial statements are issued. When substantial doubt exists under this methodology, management evaluates whether the mitigating effect of its plans sufficiently alleviates substantial doubt about the Company's ability to continue as a going concern. The mitigating effect of management's plans, however, is only considered if both (1) it is probable that the plans will be effectively implemented within one year after the date that the financial statements are issued, and (2) it is probable that the plans, when implemented, will mitigate the relevant conditions or events that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued.

The Company expects to incur losses and have negative net cash flows from operating activities as it continues developing its microbial protein production platforms and related products, and as it expands its pipelines and engages in further research and development activities for internal products as well as for its third-party collaborators and licensees. The success of the Company depends on its ability to develop its technologies and products to the point of regulatory approval and subsequent revenue generation or through the sublicensing of the Company's technologies and products, and its ability to raise capital to finance these developmental efforts.

On March 8, 2024, the Company issued an aggregate principal amount of $6.0 million of its 8.0% Senior Secured Convertible Promissory Notes due March 8, 2027 (the "Convertible Notes") in a private placement. The purchasers of the Convertible Notes included immediate family members and family trusts related to Mark Emalfarb, our President and Chief Executive Officer and a member of our Board of Directors, including The Francisco Trust, an existing holder of more than 5% of the Company's outstanding common stock, (collectively, the "Purchasers"). The net proceeds from the sale of the Convertible Notes, after deducting offering expenses, were $5,824,000. The Company intends to use the net proceeds from the offering of the Convertible Notes for working capital and general corporate purposes.

The Convertible Notes are senior, secured obligations of Dyadic and its affiliates, and interest is payable quarterly in cash on the principal amount equal to 8% per annum. The Convertible Notes will mature on March 8, 2027 (the "Maturity Date"), unless earlier converted, repurchased, or redeemed in accordance with the terms of the Convertible Notes. The Convertible Notes can be converted into shares of Dyadic's Class A common stock (the "Common Stock"), at the option of the holders of the Convertible Notes (the "Noteholders") at any time prior to the Maturity Date.

This private placement funding is expected to support our near-term revenue growth and accelerate our strategic objective of commercialization opportunities for pharmaceutical and non-pharmaceutical applications.

On October 4, 2024, the Company entered into an amendment (the "Amendment") to the Convertible Notes. Pursuant to the Amendment, (i) the conversion price upon which the Convertible Notes will be convertible into shares of the Company's common stock is $1.40 per share of common stock, and (ii) the Redemption Date (as defined in the Amendment) will fall on any of the 26, 29 and 32-month anniversaries of the original issue date of the Convertible Notes.

During the year ended December 31, 2024, $910,000 of the Convertible Notes were converted into 556,623 shares of Common Stock. For more information regarding the Convertible Notes, including the covenants related thereto, see Note 4 to the Consolidated Financial Statements.

On May 1, 2025, the Company entered into a second amendment (the "Second Amendment") to the Form of Senior Secured Convertible Promissory Note due March 8, 2027 (the "Convertible Notes") with a majority of the current holders of the Convertible Notes. Pursuant to the Second Amendment, the Redemption Date (as defined in the Second Amendment) now will fall on December 1, 2026.

The Convertible Notes contain customary covenants, and the Securities Purchase Agreement relating to the Convertible Notes also contains certain affirmative and negative covenants (including, without limitation, restrictions on our ability to incur indebtedness, permit liens, make dividends or certain debt payments or consummate certain affiliate transactions). The Company was in compliance with its covenants with respect to the Convertible Notes as of March 31, 2025.

On November 16, 2024, Dyadic entered into an agreement with the Gates Foundation relating to a grant in the amount of $3,092,136 awarded from the Gates Foundation for the cell line development of monoclonal antibodies targeting respiratory syncytial virus and malaria utilizing the Company's C1 platform to provide globally accessible treatment options for underserved populations (the "Gates Foundation Grant").

On March 20, 2025, the Company received a funding award from Coalition for Epidemic Preparedness ("CEPI") to advance Dyadic's C1 platform through a $4.5 million grant through Fondazione Biotecnopolo di Siena ("FBS") to accelerate recombinant protein vaccine development and manufacturing. The funding will support antigen design, cell line development, optimization, characterization, and scale-up to cGMP manufacturing. If successful, the next phase will focus on selecting a CEPI-priority pathogen antigen. Dyadic, as a subcontractor, will receive up to $2.4 million of the total grant funding.

As of March 31, 2025, the Company had $5,064,941 cash and $2,307,685 short-term investment securities (including accrued interest) totaling $7,349,413. The Company expects its existing cash, cash equivalents and its investment securities will be sufficient to meet its operational, business, and other liquidity requirements for at least the next twelve (12) months from the date of issuance of the financial statements contained in this Quarterly Report. However, the Company has based this estimate on assumptions that may prove to be wrong, and its operating plan may change as a result of many factors currently unknown to it. In the event our financing needs are not able to be met by our existing cash, cash equivalents and investments, we would seek to raise additional capital through strategic financial opportunities that could include, but are not limited to, future public or private equity offerings, collaboration agreements, convertible notes or other debt instruments, and/or other means. Any amounts raised may be used for the further development and commercialization of product candidates, and for other working capital purposes. There is no guarantee that any of these strategic or financing opportunities will be executed or realized on favorable terms, if at all, and some could be dilutive to existing shareholders.

Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements, including the accounts of the Company and its wholly owned subsidiaries, have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP") as found in the Accounting Standards Codification ("ASC"), Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB") and applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial reporting. Certain information and footnote disclosures normally included in consolidated financial statements have been condensed or omitted pursuant to such rules and regulations. All significant intra-entity transactions and balances have been eliminated in consolidation. The information included in this Quarterly Report should be read in conjunction with the audited consolidated financial statements and footnotes as of and for the year ended December 31, 2024, included in our Annual Report.

In the opinion of management, the accompanying unaudited interim consolidated financial statements reflect all adjustments, which are of a normal recurring nature, considered necessary for a fair presentation of all periods presented. The results of the Company's operations for any interim periods are not necessarily indicative of the results of operations for any other interim period or for a full fiscal year.

The Company conducts business in one operating segment, which is identified by the Company based on how resources are allocated, and operating decisions are made. Management evaluates performance and allocates resources based on the Company as a whole.

Segment Information

Operating segments are defined as components of an entity about which separate discrete information is available for evaluation by the chief operating decision maker, or CODM, in deciding how to allocate resources and in assessing performance. The CODM is the Company's senior management team that includes the Chief Executive Officer, Chief Operating Officer, and Chief Financial Officer. The Company views its operations as and manages its business in one operating segment, which is the business of developing and commercializing synthetic protein products using the Company's proprietary microbial platforms, including C1 and Dapibus™. Segment information is further described in Note 8 to the consolidated financial statements included in this Quarterly Report on Form 10-Q.

Use of Estimates

The preparation of these consolidated financial statements in accordance with GAAP requires management to make estimates and judgments that affect the reported amount of assets and liabilities and related disclosure of contingent assets and liabilities at the date of our consolidated financial statements and the reported amounts of revenues and expenses during the applicable period. Estimates inherent in the preparation of these consolidated financial statements include, but are not limited to, estimates related to revenue recognition, accrued expenses, stock-based compensation expense, and income taxes. The Company bases its estimates on historical experience and other market specific or other relevant assumptions it believes to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates as there are changes in circumstances, facts, and experience. Actual results may differ from these estimates under different assumptions or conditions. Such differences could be material to the consolidated financial statements.

Concentrations and Credit Risk

The Company's financial instruments that are potentially subject to concentrations of credit risk consist primarily of cash and cash equivalents, investment securities, and accounts receivable. At times, the Company has cash, cash equivalents, and investment securities at financial institutions exceeding the Federal Depository Insurance Company ("FDIC") and the Securities Investor Protection Corporation ("SIPC") insured limit on domestic currency and the Netherlands' FDIC counterpart for foreign currency. The Company currently deals with four reputable financial institutions and has not experienced any losses in those accounts.

For the three months ended March 31, 2025 and 2024, the Company's revenue was generated from seven and ten customers, respectively. Significant customers are those that account for greater than 10% of the Company's revenues. For the three months ended March 31, 2025 and 2024, four significant customers accounted for $350,000 or 89.0% and $225,000 or 67.2% of revenue, respectively.

As of March 31, 2025 and December 31, 2024, accounts receivable was from ten and four customers, of which, four customers accounted for $191,000 or 86.0% and $146,000 or 61.5% of total accounts receivable, respectively. The loss of business from one or a combination of the Company's customers could adversely affect its operations.

The Company conducts operations in the Netherlands through its foreign subsidiary and generates a portion of its revenues from customers that are located outside of the United States. For the three months ended March 31, 2025 and 2024, the Company had one and eight customers outside of the United States (i.e., European customers) that accounted for $48,000 or 65.8% and $274,000 or 81.8% of revenue, respectively.

As of March 31, 2025 and December 31, 2024, the Company had two and four customers outside of the United States (i.e., European customers) that accounted for $39,000 or 17.3% and $146,000 or 61.5% of accounts receivable, respectively.

The Company uses several contract research organizations ("CROs") to conduct its research projects. For the three months ended March 31, 2025 and 2024, two and three CROs accounted for $483,000 or 77.9% and $359,000 or 81.4% of total research services we purchased, respectively. As of March 31, 2025 and December 31, 2024, two CROs accounted for $184,000 or 40.9% and $284,000 or 58.9% of accounts payable, respectively. The loss of one CRO or a combination of the Company's CROs could adversely affect its operations.

Cash and Cash Equivalents

We treat highly liquid investments with original maturities of three months or less when purchased as cash equivalents, including money market funds, which are unrestricted for withdrawal or use.

Investment Securities

The Company's investment policy requires investment securities to be investment grade and held to maturity with the primary objective to maintain a high degree of liquidity while maximizing yield. The Company invests excess cash balances in short-term and long-term investment grade securities. Short-term investment securities mature within twelve (12) months or less, and long-term investment securities mature over twelve (12) months from the applicable reporting date. Management determines the appropriate classification of each investment at the time of purchase and reevaluates the classifications at each balance sheet date.

The Company classifies its investments in debt securities as held-to-maturity. Held-to-maturity securities are those securities that the Company has the ability and intent to hold until maturity. Held-to-maturity securities are recorded at amortized cost, net of allowance for credit losses if applicable, and adjusted for the amortization or accretion of premiums or discounts. Premiums and discounts are amortized over the life of the related held-to-maturity security. When a debt security is purchased at a premium, both the face value of the debt and premium amount are reflected as investing outflow.

When evaluating an investment for other-than-temporary impairment, the Company reviews factors such as the length of time and extent to which fair value has been below its cost basis, the financial condition of the issuer and any changes thereto, changes in market interest rates, and whether it is more likely than not the Company will be required to sell the investment before recovery of the investment's cost basis. The Company measures expected credit losses on held to maturity debt securities on an individual security basis. The estimate of expected credit losses considers historical credit information from external sources. The impairment of the investment that is related to the credit loss, if any, is expensed in the period in which the event or change occurred.

The Company classifies its investments in money market funds as available-for-sale securities and presented as cash equivalents on the consolidated balance sheets. As of March 31, 2025 and December 31, 2024, all of our money market funds were invested in U.S. Government money market funds, for which the risk of loss is minimal.

As of March 31, 2025, and December 31, 2024, the Company did not have any investment securities classified as trading.

Accounts Receivable

Accounts receivable consist of billed receivables currently due from customers and unbilled receivables. Unbilled receivables represent the excess of contract revenue (or amounts reimbursable under contracts) over billings to date. Such amounts become billable in accordance with the contract terms, which usually consider the passage of time, achievement of certain milestones or completion of the project.

Accounts receivable are stated net of an allowance for credit losses, if deemed necessary based on the Company's evaluation of collectability and potential credit losses. Management assesses the collectability of its accounts receivable using the specific identification of account balances and considers the credit quality and financial condition of its significant customers, historical information regarding credit losses and the Company's evaluation of current and expected future economic conditions and changes in our customer collection trends. If necessary, an allowance for credit losses is recorded against accounts receivable such that the carrying value of accounts receivable reflects the net amount expected to be collected. Accounts receivable balances are written off against the allowance for credit losses when the potential for collectability is considered remote. Substantially all of our accounts receivable were current and include unbilled amounts that will be billed and collected over the next twelve (12) months. Management determined that no allowance for credit losses was required as of March 31, 2025, and December 31, 2024.

Accounts receivable consist of the following:

	March 31, 2025	December 31, 2024
	(Unaudited)	(Audited)
Billed receivable	$ 173,524	$ 173,993
Unbilled receivable	48,195	63,034
	$ 221,719	$ 237,027

Accounts Payable

Accounts payable consist of the following:

	March 31, 2025	December 31, 2024
	(Unaudited)	(Audited)
Research and development expenses	$ 223,573	$ 340,698
Legal expenses	45,380	68,420
Other	179,437	73,202
	$ 448,390	$ 482,320

Accrued Expenses

Accrued expenses consist of the following:

	March 31, 2025	December 31, 2024
	(Unaudited)	(Audited)
Employee wages and benefits	$ 225,453	$ 496,906
Research and development expenses	385,393	437,196
Legal expenses	60,000	25,000
Other	20,013	11,360
	$ 690,859	$ 970,462

Deferred Financing Costs

Deferred financing costs represent costs incurred in connection with the issuance of debt instruments and equity financings. Deferred financing costs related to the issuance of debt are amortized over the term of the financing instrument using the effective interest method and are presented in the consolidated balance sheets as an offset against the related debt. Offering costs from equity financings are netted against the gross proceeds received from the equity financings. See Note 4 for the amortization amount.

Revenue Recognition

The Company has no products approved for sale. All our revenue to date has been research revenue from third-party collaborations and government grants, as well as revenue from sublicensing agreements and collaborative arrangements, which may include upfront payments, options to obtain a license, payment for research and development services, milestone payments and royalties, in the form of cash or non-cash considerations (e.g., minority equity interest).

Revenue related to research collaborations and agreements: The Company typically performs research and development services as specified in each respective agreement on a best-efforts basis, and recognizes revenue from research funding under collaboration agreements in accordance with the 5-step process outlined in ASC Topic 606 ("Topic 606"): (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) a locate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. We recognize revenue when we satisfy a performance obligation by transferring control of the service to a customer in an amount that reflects the consideration that we expect to receive. Depending on how the performance obligation under our license and collaboration agreements is satisfied, we recognize the revenue either at a point in time or over time by using the input method under Topic 606 to measure the progress toward complete satisfaction of a performance obligation.

Under the input method, revenue will be recognized based on the entity's efforts or inputs to the satisfaction of a performance obligation (e.g., resources consumed, labor hours expended, costs incurred, or time elapsed) relative to the total expected inputs to the satisfaction of that performance obligation. The Company believes that the cost-based input method is the best measure of progress to reflect how the Company transfers its performance obligation to a customer. In applying the cost-based input method of revenue recognition, the Company uses actual costs incurred relative to budgeted costs to fulfil the performance obligation. These costs consist primarily of full-time equivalent effort and third-party contract costs. Revenue will be recognized based on actual costs incurred as a percentage of total budgeted costs as the Company completes its performance obligations.

A cost-based input method of revenue recognition requires management to make estimates of costs to complete the Company's performance obligations. In making such estimates, significant judgment is required to evaluate assumptions related to cost estimates. The cumulative effect of revisions to estimated costs to complete the Company's performance obligations will be recorded in the period in which changes are identified and amounts can be reasonably estimated. A significant change in these assumptions and estimates could have a material impact on the timing and amount of revenue recognized in future periods.

Revenue related to grants: The Company receives grants from governments, agencies, and other private and not-for-profit organizations. These grants are intended to be used to partially or fully fund the Company's research collaborations. However, most, if not all, of such grant revenues, is expected to be earmarked for third parties to advance the research required, including preclinical and clinical trials. Revenue related to grants are presented on a gross basis on the Consolidated Statements of Operations.

Revenue related to sublicensing agreements: If the sublicense to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue a located to the license when technology is transferred to the customer and the customer can use and benefit from the license.

Customer options: If the sublicensing agreement includes customer options to purchase additional goods or services, the Company will evaluate if such options are considered material rights to be deemed as separate performance obligations at the inception of each arrangement.

Milestone payments: At the inception of each arrangement that includes development, commercialization, and regulatory milestone payments, the Company evaluates whether the achievement of the milestones is considered probable and estimates the amount to be included in the transaction price. If the milestone payment is in exchange for a sublicense and is based on the sublicensee's subsequent sale of product, the Company recognizes milestone payment by applying the accounting guidance for royalties.

Royalties: With respect to licenses deemed to be the predominant item to which the sales-based royalties relate, including milestone payments based on the level of sales, the Company recognizes revenue at the later of (i) when the related sales occur or (ii) when the performance obligation to which some or a the royalty has been a located has been satisfied (or partially satisfied). To date, the Company has not recognized any royalty revenue resulting from any of its sublicensing arrangements.

We invoice customers based on our contractual arrangements with each customer, which may not be consistent with the period that revenues are recognized. When there is a timing difference between when we invoice customers and when revenues are recognized, we record either a contract asset (unbilled accounts receivable) or a contract liability (deferred research and development obligations), as appropriate. If upfront fees or considerations related to sublicensing agreement are received prior to the technology transfer, the Company will record the amount received as deferred revenue from licensing agreement.

Research and Development Costs

Research and development ("R&D") costs are expensed as incurred. R&D costs are for the Company's internally funded pharmaceutical programs and other governmental and commercial projects.

Research and development costs consist of personnel-related costs, facilities, research-related overhead, services from independent contract research organizations, and other external costs. Research and development costs, including related party, for the three months ended March 31, 2025 and 2024 were as follows:

	Three Months Ended March 31,	
	2025	**2024**
	(Unaudited)	(Unaudited)
Outside contracted services	$ 356,256	$ 388,246
Personnel related costs	121,716	106,327
Facilities, overhead and other	17,007	28,150
	$ 494,979	$ 522,723

Foreign Currency Transaction Gain or Loss

The Company and its foreign subsidiary use the U.S. dollar as its functional currency and initially measure the foreign currency denominated assets and liabilities at the transaction date. Monetary assets and liabilities are then re-measured at exchange rates in effect at the end of each period, and property and non-monetary assets and liabilities are carried at historical rates.

Fair Value Measurements

The Company applies fair value accounting for certain financial instruments that are recognized or disclosed at fair value in the financial statements. The Company defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

- *Level 1* – Quoted prices in active markets for identical assets or liabilities.
- *Level 2* – Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- *Level 3* – Inputs that are generally unobservable and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

The Company's financial instruments included cash and cash equivalents, investment in debt securities, accounts receivable, accounts payable and accrued expenses, accrued payroll and related liabilities, deferred research and development obligations, deposits, and the Company's 8% Senior Secured Convertible Promissory Notes (the "Convertible Notes"), due March 2027. The carrying amount of these financial instruments, except for investment in debt securities and Convertible Notes, approximates fair value due to the short-term maturities of these instruments. The Company's short-term and long-term investments in debt securities are recorded at amortized cost, and their estimated fair value amounts are provided by the third-party broker service for disclosure purposes. See Note 4 for additional information related to the Convertible Notes.

Income Taxes

For the three months ended March 31, 2025, there was no provision for income taxes or unrecognized tax benefits recorded. As of March 31, 2025 and December 31, 2024, deferred tax assets were $19.1 million and $17.6 million, respectively. Due to the Company's history of operating losses and the uncertainty regarding our ability to generate taxable income in the future, the Company has established a 100% valuation allowance against deferred tax assets as of March 31, 2025 and December 31, 2024.

Stock-Based Compensation

We recognize all share-based payments to employees, consultants, and our Board of Directors (the "Board"), as non-cash compensation expense, in research and development expenses or general and administrative expenses in the consolidated statement of operations based on the grant date fair values of such payments. Stock-based compensation expense recognized each period is based on the value of the portion of share-based payment awards that is ultimately expected to vest during the period. Forfeitures are recorded as they occur.

For performance-based awards, the Company recognizes related stock-based compensation expenses based upon its determination of the potential likelihood of achievement of the specified performance conditions at each reporting date.

Net Loss Per Share

Basic net loss per share is computed by dividing net loss available to common shareholders by the weighted average number of common stock shares outstanding during the reporting period. Diluted net loss per share adjusts the weighted average number of common stock shares outstanding for the potential dilution that could occur if common stock equivalents, such as stock options were exercised and converted into common stock, calculated by applying the treasury stock method.

For the three months ended March 31, 2025, a total of 6,401,581 shares of potentially dilutive securities, including 96,984 shares of unvested restrict stock units and options to purchase 6,304,597 shares of common stock, were excluded from the computation of diluted net loss per share as their effect would have been anti-dilutive. For the three months ended March 31, 2024, a total of 6,100,857 shares of potentially dilutive securities, including 191,510 shares of unvested restrict stock units and options to purchase 5,909,347 shares of common stock, were excluded from the computation of diluted net loss per share as their effect would have been anti-dilutive.

New and Recently Adopted Accounting Pronouncements as of March 31, 2025

In December 2023, the FASB issued ASU 2023-09 – Income Taxes (Topic ASC 740) Income Taxes. The ASU improves the transparency of income tax disclosures by requiring (1) consistent categories and greater disaggregation of information in the rate reconciliation and (2) income taxes paid disaggregated by jurisdiction. It also includes certain other amendments to improve the effectiveness of income tax disclosures. The amendments in ASU 2023-09 will become effective beginning with our 2025 fiscal year. We do not expect that this guidance will have a material impact on our financial position and our results of operations.

Note 2: Cash, Cash Equivalents, and Investments

The Company's investments in debt securities are classified as held-to-maturity and are recorded at amortized cost, net of allowance for credit losses, and its investments in money market funds are classified as available-for-sale securities and presented as cash equivalents on the consolidated balance sheets. The following table shows the Company's cash, available-for-sale securities, and investment securities by major security type as of March 31, 2025, and December 31, 2024:

	March 31, 2025 (Unaudited)					
	Level (1)	Fair Value	Allowance for Credit Losses	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Adjusted Cost
Cash and Cash Equivalents						
Cash		$ 1,542,566	$ —	$ —	$ —	$ 1,542,566
Money Market Funds (2)	1	3,522,375	—	—	—	3,522,375
Subtotal		5,064,941	—	—	—	5,064,941
Short-Term Investment Securities (3)						
Corporate Bonds (4)(5)	2	2,284,090	—	—	(382)	2,284,472
Total		$ 7,349,031	$ —	$ —	$ (382)	$ 7,349,413

	December 31, 2024 (Audited)					
	Level (1)	Fair Value	Allowance for Credit Losses	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Adjusted Cost
Cash and Cash Equivalents						
Cash		$ 926,287	$ —	$ —	$ —	$ 926,287
Money Market Funds (2)	1	5,580,463	—	—	—	5,580,463
Subtotal		6,506,750	—	—	—	6,506,750
Short-Term Investment Securities (3)						
Corporate Bonds (4)(5)	2	2,756,428	—	—	(149)	2,756,577
Total		$ 9,263,178	$ —	$ —	$ (149)	$ 9,263,327

Notes:

(1) Definition of the three-level fair value hierarchy:

- Level 1 - Quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2 - Other inputs that are directly or indirectly observable in the markets
- Level 3 - Inputs that are generally unobservable

(2) All our money market funds were invested in U.S. Government money market funds.

(3) Short-term investment securities will mature within 12 months or less, from the applicable reporting date.

(4) For the three months ended March 31, 2025 and 2024, the Company received discounts of $6,104 and $1,547 to purchase held-to-maturity investment securities, respectively. For the year ended December 31, 2024, the Company received discounts of $78,770 to purchase held-to-maturity investment securities.

(5) The Company considers the decline in market value of its investment portfolio to be temporary in nature. As of March 31, 2025 and December 31, 2024, the Company did not consider any of its investments to be other-than-temporarily impaired and no allowance for credit losses was recorded.

Note 3: Research and Collaboration Agreements, Sublicense Agreements, and Investments in Privately Held Companies

Gates Foundation Grant

In November 2024, Gates Foundation (the "Gates Foundation") awarded the Company a grant in the amount of $3,092,136 for the cell line development of monoclonal antibodies targeting respiratory syncytial virus and malaria utilizing the Company's C1 platform to provide globally accessible treatment options for underserved populations (the "Gates Foundation Grant").

In December 2024, the Company received approximately $0.8 million of the Gates Foundation Grant, and the remaining award will be received later in 2025 and 2026 in the amounts of approximately $1.5 million and $0.7 million, respectively, subject to potential modifications of timing and amounts. For the three months ended March 31, 2025, the Company has recognized $176,000 grant revenue and $143,000 in cost of grant revenue, in connection with the Gates Foundation Grant.

Coalition for Epidemic Preparedness Innovations (CEPI) Grant

On March 20, 2025, the Company received a funding award from CEPI to advance Dyadic's C1 platform through a $4.5 million grant through Fondazione Biotecnopolo di Siena ("FBS") to accelerate recombinant protein vaccine development and manufacturing. The funding will support antigen design, cell line development, optimization, characterization, and scale-up to cGMP manufacturing. If successful, the next phase will focus on selecting a CEPI-priority pathogen antigen. Dyadic, as a subcontractor, will receive up to $2.4 million of the total grant funding. For the three months ended March 31, 2025, the Company has recognized $34,000 in grant revenue and $28,000 in cost of grant revenue, in connection with the CEPI Grant.

Proliant

On June 27, 2024, the Company entered into a License and Development Agreement (the "Proliant Agreement") with Proliant Biologicals, LLC d/b/a Proliant Health and Biologicals ("Proliant"), pursuant to which, Proliant will license Dyadic's proprietary fungal microbial expression and production platforms and microbial strains for the production of recombinant serum albumin, for an initial period of 10 years with an option to extend for an additional 3 years under certain circumstances. Under the terms of the Proliant Agreement, Dyadic has received an initial upfront payment of $500,000 and a second payment of $500,000 upon the completion of the transfer of a Production Strain (as defined in the Proliant Agreement.) for the year ended December 31, 2024. The Company will receive a final payment of $500,000 upon the meeting of a certain productivity threshold. For the three months ended March 31, 2025, the Company did not receive any additional payments under the Proliant Agreement. Upon commencing commercial sales of animal-free recombinant serum albumin products produced pursuant to the Proliant Agreement, the Company will receive royalties based on a certain percentage of the gross margin received by Proliant, as defined in the Proliant Agreement.

Inzymes ApS

On September 18, 2023, Dyadic International (USA) Inc., a subsidiary of the Company, signed a Development and Exclusive License Agreement (the "Inzymes Agreement") with Inzymes ApS ("Inzymes"), a Denmark corporation, to develop and commercialize certain non-animal dairy enzymes used in the production of food products using Dyadic's proprietary Dapibus™ platform. In October 2023, the Company received an upfront payment of $0.6 million in accordance with the terms of the Inzymes Agreement.

On October 11, 2024, the Inzymes Agreement was amended ("the Amended Inzymes Agreement") to change the scope of research and development services required under the agreement as well as adjust the success fees upon the achievement of certain target yields, milestone payments upon first commercial sale of each product and royalties.

For the year ended December 31, 2024, the Company has completed all product research and development services and satisfied all related performance obligations under the Amended Inzymes Agreement, and recognized $890,169 in license revenues, including success fees upon the achievement of target yield of one related product. For the year ended December 31, 2024, the Company also recognized research and development revenues of $25,000 related to the Amended Inzymes Agreement. For the three months ended March 31, 2025 , there was no research and development revenue recognized related to the Inzymes Agreement.

The Company will continue evaluating the achievement of milestones related to target yields and product commercialization of each product when they are considered probable and estimable under the Inzymes Agreement.

Alphazyme

In 2019 the Company entered into a sub-licensing agreement with Alphazyme, LLC ("Alphazyme") that was subsequently amended (the "Amended Alphazyme LLC Agreement"). Under the Amended Alphazyme LLC Agreement, Alphazyme obtained additional capital contribution and Dyadic's ownership was diluted to 1.99%.

The Company evaluated the nature of its equity interest investment in Alphazyme and determined that Alphazyme is a VIE due to the capital structure of the entity. However, the Company is not the primary beneficiary of Alphazyme as Dyadic does not have the power to control or direct the activities of Alphazyme that most significantly impact the VIE. As a result, the Company does not consolidate its investment in Alphazyme. The Company reports its investment in Alphazyme under the cost method of accounting, given that it does not have the ability to exercise significant influence or control over Alphazyme.

On January 18, 2023, the Company entered into a Securities Purchase Agreement, under which the Company agreed to sell its equity interest in Alphazyme, LLC (the "Alphazyme Sale Agreement"). The Company continues to have the potential to receive additional payments based on the future sales of Alphazyme's existing products, pursuant to the Alphazyme Sale Agreement.

The Amended Sublicense Agreement between Dyadic and Alphazyme, which was previously entered on June 24, 2020, remains in effect. Under the Amended Alphazyme Sub-License Agreement, Dyadic is entitled to potential milestone and royalty payments upon the commercialization of Alphazyme products using Dyadic's proprietary C1-cell protein production platform.

For the year ended December 31, 2024, the Company received a total cash payment of $1.3 million from the sale of its equity interest in Alphazyme, LLC. In the first quarter of 2024, the Company received an additional cash payment of $60,977, which was recorded as gain on sale of Alphazyme in the consolidated statement of operations. There was no revenue recognized related to Alphazyme in 2025.

Note 4: Convertible Notes Payable

On March 8, 2024, the Company issued senior secured convertible promissory notes (the "Convertible Notes") with an aggregate principal amount of $6.0 million, of which, $2.0 million were sold to related parties, including immediate family members and family trusts related to Mark Emalfarb, our President and Chief Executive Officer and a member of our Board of Directors.

The Convertible Notes are senior, secured obligations of the Company and its affiliates, and interest is payable quarterly in cash on the principal amount equal to 8% per annum, and guaranteed by its subsidiary, Dyadic International (USA), Inc. under a subsidiary guarantee for the benefit of the holders of the Convertible Notes (each such holder, a "Holder").

The Convertible Notes mature on March 8, 2027, unless earlier converted or redeemed in accordance with the terms of the Convertible Notes. The Convertible Notes are secured by a first priority lien on substantially all assets of the Company and Dyadic International (USA), Inc.

The Convertible Notes are accounted for in accordance with ASC 470-20, *Debt with Conversion and Other Options* and ASC 815-15, *Derivatives and Hedging*. Under ASC 815, contracts that are both indexed to its own stock and classified in stockholders' equity in its statement of financial position are not considered to be derivative instruments. Based on the Company's analysis, it is determined that the Convertible Notes contain embedded features that are indexed to the Company's own stock and are classified in stockholders' equity in the Company's statement of financial position, but do not meet the requirements for bifurcation and recognition as derivatives, and therefore, do not need to be accounted for separately. Accordingly, the proceeds received from the issuance of the Convertible Notes were recorded as a single liability in accordance with ASC 470 on the Company's consolidated balance sheets.

The Company incurred $175,674 of debt issuance costs associated with the Convertible Notes, which were recorded as a reduction of the Convertible Notes on the consolidated balance sheets. The debt issuance costs are being amortized and recognized as additional interest expense over the expected life of the Convertible Notes using the effective interest method. We determined the expected life of the debt is equal to the three-year term of the Convertible Notes.

On October 4, 2024, the Company entered into an amendment (the "Amendment") to the Convertible Notes. Under the Amendment, (i) the conversion price upon which the Convertible Notes will be convertible into shares of the Company's common stock is $1.40 per share of common stock, and (ii) the Redemption Date (as defined in the Amendment) will fall on any of the 26, 29 and 32-month anniversaries of the original issue date of the Convertible Notes.

On May 1, 2025, the Company entered into a second amendment (the "Second Amendment") to the Form of Senior Secured Convertible Promissory Note due March 8, 2027 (the "Convertible Notes") with a majority of the current holders of the Convertible Notes. Pursuant to the Second Amendment, the Redemption Date (as defined in the Second Amendment) now will fall on December 1, 2026.

The Company assessed the Amendment and Second Amendment for a debt extinguishment or modification in accordance with ASC 470-50. As both the change in the present value of future cash flows of the modified Convertible Notes to that of the original Convertible Notes (including callable features) and the change in fair value of the embedded conversion option to that of the carrying value of the Convertible Notes immediately before modification resulted in a less than 10% change, neither Amendments was deemed substantial and they are regarded as a note modifications. The Company did not incur any gain or loss relating to the modifications and any incremental costs related to the Amendments were expensed.

For the three months ended March 31, 2025, $107,173 of interest was paid and debt issuance costs of $11,762 were amortized and recorded in interest expense in the consolidated statements of operations. As of March 31, 2025, the accrued interest on the Convertible Notes to related parties and other third parties were $21,800 and $80,000, respectively. As of March 31, 2025, accumulated amortized debt issuance costs are $48,138. For the three months ended March 31, 2024, there were no payments of interest made and debt issuance costs of $4,000 were amortized and recorded in interest expenses on the consolidated statements of operations. As of March 31, 2024, accumulated amortized debt issuance costs are $3,125.

During the year ended December 31, 2024, $910,000 of the Convertible Notes were converted into 556,623 shares of the Company's common stock. As of March 31, 2025, convertible notes payable consisted of the following:

Holder	Issuance Date	Due Date	Interest Rate	Convertible Note Principal	Principal Repayments	Conversion to Common Stock	Principal Outstanding
Francisco Trust dated 2/28/1996 (1)	03/08/24	03/08/27	8%	$ 1,000,000	$ —	$ —	$ 1,000,000
Bradley Emalfarb (2)	03/08/24	03/08/27	8%	500,000	—	(500,000)	-
Bradley Scott Emalfarb Irrevocable Trust (2)	03/08/24	03/08/27	8%	410,000	—	(410,000)	-
Emalfarb Descendent Trust (3)	03/08/24	03/08/27	8%	90,000	—	—	90,000
Convertible Notes - Related Party				**$ 2,000,000**	$ —	**$ (910,000)**	**1,090,000**
Unamortized Debt Issuance Costs - Related Party							**(21,605)**
Net Carrying Amount							**$ 1,068,395**
Convertible Notes - Third Party	03/08/24	03/08/27	8%	**$ 4,000,000**	$ —	$ —	**4,000,000**
Unamortized Debt Issuance Costs - Third Party							**(79,286)**
Net Carrying Amount							**$ 3,920,714**

Notes:

(1) Mr. Thomas Emalfarb, nephew of Mr. Mark A. Emalfarb, our President and Chief Executive Officer, is the Trustee of the Francisco Trust. Mr. Thomas Emalfarb may be deemed to have voting, dispositive and investment power with respect to the shares of common stock held by the Francisco Trust and disclaims any such beneficial ownership other than to the extent of any pecuniary interest he may have therein, directly or indirectly. The amount of accrued interest as of March 31, 2025, is $20,000.

(2) Mark A. Emalfarb, our President and Chief Executive Officer, is the Trustee of the Irrevocable Trust and the brother of Mr. Bradley S. Emalfarb, who is the sole beneficiary of the Irrevocable Trust. Mr. Bradley S. Emalfarb, as sole beneficiary of the Irrevocable Trust, therefore, may be deemed to have voting, dispositive and investment power with respect to the shares of common stock held by the Irrevocable Trust and disclaims any such beneficial ownership other than to the extent of any pecuniary interest he may have therein, directly or indirectly. In 2024, $500,000 of the Convertible Notes held by Mr. Bradley S. Emalfarb were converted into 294,891 shares of the Company's common stock and $410,000 of the Convertible Notes held by Bradley Scott Emalfarb Irrevocable Trust were converted into 261,732 shares of the Company's common stock. As of March 31, 2025, there is no accrued interest for Bradley Emalfarb and Bradley Scott Emalfarb Irrevocable Trust.

(3) Messrs. Thomas Emalfarb, Scott Emalfarb and Michael Emalfarb, nephews of Mr. Mark A. Emalfarb, our President and Chief Executive Officer, are co-trustees of the Descendant Trust and may therefore be deemed to have shared voting, dispositive and investment power over the shares of common stock held by the Descendant Trust. The amount of accrued interest as of March 31, 2025, is $1,800.

Note 5: Commitments and Contingencies

Legal Proceedings

We are not currently involved in any litigation that we believe could have a materially adverse effect in our financial condition or results of operations. From time to time, the Company is subject to legal proceedings, asserted claims and investigations in the ordinary course of business, including commercial claims, employment and other matters, which management considers immaterial, individually and in the aggregate. The Company makes a provision for a liability when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. The requirement for these provisions is reviewed at least quarterly and adjusted to reflect the impact of negotiations, settlements, rulings, advice of legal counsel and other information and events pertaining to a particular case. Litigation is inherently unpredictable and costly. Protracted litigation and/or an unfavorable resolution of one or more of proceedings, claims or investigations against the Company could have a material adverse effect on the Company's consolidated financial position, cash flows or results of operations.

VTT Research Contract

On January 31, 2024, the Company entered into a Third Amendment to the commission contract concerning VTT Technical Research Centre of Finland Ltd. ("VTT") to develop Dyadic's C1 fungal expression system for therapeutic protein production (the "Third Amendment"). The original contract was entered on June 28, 2019, and subsequently amended by the First Amendment on June 21, 2022, and the Second Amendment on September 9, 2022. Under the terms of the Third Amendment, the contract duration was extended to January 31, 2025, and Dyadic has paid VTT a total of EUR €186,000 to continue developing Dyadic's C1-cell protein production platform for therapeutic protein production, including our C1 host system. Dyadic has the right to terminate the contract with 90 days' notice. As of March 31, 2025, the Company has completed its obligation under the Third Amendment.

Note 6: Share-Based Compensation

Description of Equity Plans

The 2021 Equity Incentive Award Plan (the "2021 Plan") was adopted by the Company's Board of Directors on April 9, 2021 and approved by the Company's Annual Meeting of Shareholders (the "Annual Meeting") on June 11, 2021. The 2021 Plan serves as a successor to the Company's 2011 Equity Incentive Plan (the "2011 Plan"). Since the adoption of the 2021 Plan, all equity awards were made from the 2021 Plan and no additional awards will be granted under the 2011 Plan. The 2021 Plan provides for the issuance of a variety of share-based compensation awards, including stock options, restricted stock awards, restricted stock unit awards, performance awards, dividend equivalents awards, deferred stock awards, stock payment awards and stock appreciation rights. As of April 16, 2021, the 2021 Plan increased the number of shares available for grant by 3,000,000 in addition to the number of shares remaining available for the grant of new awards under the 2011 Plan.

As of March 31, 2025, the Company had 6,304,597 stock options outstanding and 96,984 unvested restricted stock units in addition to 1,255,606 shares of common stock available for grant under the 2021 Plan. As of December 31, 2024, the Company had 5,788,597 stock options outstanding and 117,925 unvested restricted stock units in addition to 2,056,629 shares of common stock available for grant under the 2021 Plan.

Stock Options

Options are granted to purchase common stock at prices that are equal to the fair value of the common stock on the date the option is granted. Vesting is determined by the Board of Directors at the time of grant. The term of any stock option awards under the Company's 2011 Plan and 2021 Plan is ten years, except for certain options granted to the contractors which are either two or five years.

The grant-date fair value of each option grant is estimated using the Black-Scholes option pricing model and amortized on a straight-line basis over the requisite service period, which is generally the vesting period, for each separately vesting portion of the award as if the award was, in substance, multiple awards. Use of a valuation model requires management to make certain assumptions with respect to selected model inputs, including the following.

Risk-free interest rate. The risk-free interest rate is based on U.S. Treasury rates with securities approximating the expected lives of options at the date of grant.

Expected dividend yield. The expected dividend yield is zero, as the Company has never paid dividends to common shareholders and does not currently anticipate paying any in the foreseeable future.

Expected stock price volatility. The expected stock price volatility was calculated based on the Company's own volatility since the DuPont Transaction in 2015. The Company reviews its volatility assumption on an annual basis and has used the Company's historical volatilities since 2016, as the DuPont Transaction resulted in significant changes in the Company's business and capital structure.

Expected life of option. The expected life of option was based on the contractual term of the option and expected employee exercise and post-vesting employment termination behavior. The Company uses the weighted average vesting period and contractual term of the option as the best estimate of the expected life of a new option.

The assumptions used in the Black-Scholes option pricing model for stock options granted for the three months ended March 31, 2025, are as follows:

Risk-Free interest rate	4.20% - 4.43%
Expected dividend yield	—%
Expected stock price volatility	65.4%
Expected life of options (in years)	0.83-6.25

The following table summarizes the stock option activities for the three months ended March 31, 2025:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2024	5,788,597	$ 2.97	5.34	$ 655,578
Granted (1)	673,500	1.74		
Exercised (2)	(55,000)	1.17		
Canceled (3)	(102,500)	3.47		
Outstanding at March 31, 2025	6,304,597	$ 2.85	5.53	$ —
Exercisable at March 31, 2025	5,055,247	$ 3.09	4.71	$ —

Notes:

(1) Represents the following options granted:

- Annual share-based compensation awards on January 2, 2025, with an exercise price of $1.74, including: (a) 356,500 stock options granted to executives and key personnel, vesting upon one year anniversary, or annually in equal installments over four years, (b) 277,500 stock options granted to members of the Board of Directors, vesting upon one year anniversary, (c) 19,500 stock options granted to employees, vesting annually in equal installments over four years, and (d) 20,000 stock options granted to a consultant, vesting upon one year anniversary.

(2) Repre sents the following options exercised:
(a) 25,000 stock options with an exercise price of $0.97 per share exercised by a board member (b) 30,000 stock options with an exercise price of $1.33 per share exercised by a board member.

(3) Represents the following options canceled:
(a) 27,500 stock options with an exercise price of $1.75 per share granted to a consultant and (b) 75,000 stock option with an exercise price of $4.10 per share granted to key personnel.

Restricted Stock Units

Restricted stock units (the "RSUs") are granted subject to certain restrictions. Vesting conditions are determined at the discretion of the Board of Directors. The fair market value of RSUs is generally determined based on the closing market price of the stock on the grant date.

The following table summarizes the restricted stock award activity for the three months ended March 31, 2025:

	Shares	Weighted-Average Grant Date Fair Value
Outstanding at December 31, 2024	117,925	$ 1.59
Granted (1)	230,023	1.74
Vested (2)	(250,964)	1.67
Outstanding at March 31, 2025	96,984	$ 1.74

Notes:

(1) On January 2, 2025, the Company granted 96,984 restricted stock units, vesting upon one year anniversary, to the Board of Directors as a result of reduction in director cash compensation of 2025, and an aggregate of 133,039 restricted stock units, vested in full, to executives and key personnel in lieu of cash bonus earned for the year ended December 31, 2024.

(2) Represents 133,039 RSUs granted to executives and key personnel, and 117,925 RSUs granted to the Board of Directors.

Compensation Expenses

We recognize all share-based payments to employees and our Board of Directors, as non-cash compensation expense, in research and development expenses or general and administrative expenses in the consolidated statement of operations, and these charges had no impact on the Company's reported cash flows. Stock-based compensation expense is calculated on the grant date fair values of such awards, and recognized each period based on the value of the portion of share-based payment awards that is ultimately expected to vest during the period. Forfeitures are recorded as they occur. For the three months ended March 31, 2025, there were forfeitures of $16,880.

For performance-based awards, the Company recognizes related stock-based compensation expenses based upon its determination of the potential likelihood of achievement of the specified performance conditions at each reporting date.

Total non-cash share-based compensation expense was allocated among the following expense categories:

	Three Months Ended March 31,	
	2025	**2024**
General and administrative	$ 207,996	$ 294,034
Research and development	17,034	12,444
Total	$ 225,030	$ 306,478

The following table summarizes the Company's non-cash share-based compensation expense allocation between options and restricted stock units:

	Three Months Ended March 31,	
	2025	**2024**
Share based compensation expense - stock option	$ 177,294	$ 190,269
Share based compensation expense - restricted stock units	47,736	116,209
Total	$ 225,030	$ 306,478

Note 7: Shareholders' Equity

Issuances of Common Stock

For the three months ended March 31, 2025, there were 227,379 shares from the vesting of restricted stock units with a weighted average issue price of $1.67 per share and 27,483 shares from the exercise of stock options. For the three months ended March 31, 2024, there were 375,753 shares of the Company's common stock issued resulting from the vesting of restricted stock units with a weighted average issue price of $1.50 per share.

Treasury Stock

As of March 31, 2025, there were 12,253,502 shares of common stock held in treasury, at a cost of $18.9 million, representing the purchase price on the date the shares were surrendered to the Company.

Note 8: Segment

The Company operates and manages its business as one reportable segment and one operating segment, which is the business of developing and commercializing synthetic protein products using the Company's proprietary microbial platforms, including C1 and DapibusTM. The Company's chief operating decision maker, or CODM, is the Company's senior management team that includes the Chief Executive Officer, Chief Operating Officer and Chief Financial Officer. The CODM assesses performance for the segment and decides how to allocate resources based on consolidated net loss that is also reported on the consolidated statements of operations.

The measure of segment assets is reported on the consolidated balance sheets as total consolidated assets. The Company operates in the U.S. and Europe. All material long-lived assets of the Company reside in the U.S. For geographic information about the Company's product revenues, see Note 1, *Concentration*. Long-lived assets primarily consist of operating lease right-of-use assets.

The CODM uses consolidated net loss to evaluate the Company's spending and monitor budget versus actual results. The monitoring of budgeted versus actual results is used in assessing the performance of segment and in establishing resource allocation across the organization. Factors used in determining the reportable segment include the nature of the Company's operating activities, the organizational and reporting structure and the type of information reviewed by the CODM to allocate resources and evaluate financial performance. The accounting policies of the segment are the same as those described in Note 1 of the notes to the consolidated financial statements included in this Annual Report on Form 10-K.

The CODM reviews cash, cash equivalents and investment securities as a measure of segment assets. As of March 31, 2025 and December 31, 2024, the Company's cash, cash equivalents and investment securities were $7.3 million and $9.3 million, respectively.

The following table presents information about segment revenue, significant segment expenses and segment operating loss for the three months ended March 31, 2025 and 2024:

	Three Months Ended March 31,	
	2025	**2024**
Total revenues	$ 393,572	$ 334,617
Total cost of revenues	297,658	143,955
Research and development expenses:		
Outside contracted services	356,256	388,246
Personnel related costs	104,682	93,883
Facilities, overhead, and other	17,007	28,150
General and administrative expenses:	-	
Compensation and related expenses	632,522	666,480
Business consulting expenses	181,227	206,372
Legal and professional services	331,097	365,159
Other G&A expenses	243,496	256,798
Share-based compensation expenses	225,030	306,479
Foreign currency exchange loss	7,072	4,903
Other Income (expenses), net	25,104	(115,962)
Net loss	$ (2,027,579)	$ (2,009,846)

Note 9: Subsequent Events

For purpose of disclosure in the consolidated financial statements, the Company has evaluated subsequent events through May 14, 2025, the date the consolidated financial statements were available to be issued. Except for items mentioned in the notes, management is not aware of any material events that have occurred subsequent to the balance sheet date that would require adjustment to, or disclosure in the accompanying financial statements.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of financial condition and results of operations should be read in conjunction with the financial statements and the notes to those statements appearing in this Quarterly Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks, assumptions and uncertainties. Important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis include, but are not limited to, those set forth in "Item 1A. Risk Factors" in this Quarterly Report. All forward-looking statements included in this Quarterly Report are based on information available to us as of the time we file this Quarterly Report and, except as required by law, we undertake no obligation to update publicly or revise any forward-looking statements.

Overview

Description of Business

Dyadic International, Inc. ("Dyadic", "we", "us", "our", or the "Company") is a global biotechnology platform company based in Jupiter, Florida with operations in the United States and a satellite office in the Netherlands, and it utilizes several third-party consultants and contract research organizations to carry out the Company's activities. Over the past two plus decades, the Company developed a gene expression platform for producing commercial quantities of industrial enzymes and other proteins, and previously licensed this technology to third parties, such as Abengoa Bioenergy SA, BASF SE, Codexis, Inc. and others, for use in industrial (non-pharmaceutical) applications. This technology is based on the *Thermothelomyces heterothallica* (formerly known as *Myceliophthora thermophila*) fungus, which the Company named C1.

For the past nine years since the Company sold its industrial technology business to Danisco USA ("Danisco"), the industrial biosciences business of DuPont (NYSE: DD) (the "DuPont Transaction"), the Company has been focused on building innovative microbial protein production platforms to address the growing demand for global protein bioproduction and unmet clinical needs for effective, affordable, and accessible biopharmaceutical products for human and animal health and for other biologic products for use in non-pharmaceutical applications. As part of the DuPont Transaction, Dyadic retained co-exclusive rights to its proprietary and patented C1 protein production platform (the "C1 platform") for use in all human and animal pharmaceutical applications, and currently, the Company has the exclusive ability to enter into sub-license agreements (subject to the terms of the license and to certain exceptions) for use in all human and animal pharmaceutical applications. Danisco retained certain rights to utilize the C1 platform in pharmaceutical applications, including the development and production of pharmaceutical products, for which it will be required to make royalty payments to Dyadic upon commercialization. In certain circumstances, Dyadic may owe a royalty to either Danisco or certain licensors of Danisco, depending upon whether Dyadic elects to utilize certain patents either owned by Danisco or in licensed by Danisco.

After the DuPont Transaction, the Company has directed its efforts toward advancing the C1 platform to address the increasing global demand for the development and manufacturing of prophylactic and therapeutic biopharmaceuticals for human and animal health. The Company's biopharmaceutical development efforts have been centered on enhancing the capability of the C1 platform to produce stable, properly folded, and functional proteins for pharmaceutical applications, including vaccines and monoclonal antibodies. In addition to improving the quality and productivity of the C1 platform, the Company has sought to validate its platform for human use through a series of fully funded biopharmaceutical projects, extensive animal studies utilizing C1-produced proteins, and, in 2024, the successful completion of a Phase 1 first-in-human study for a vaccine antigen produced using C1, which demonstrated its safety for human applications.

Recognizing the longer development timelines, clinical testing, and regulatory requirements associated with human and animal pharmaceutical products, the Company has refined its core business strategy to expand into functional recombinant (non-animal derived) solutions for non-pharmaceutical applications in research, nutrition, and industrial markets. To address these opportunities, the Company has developed and launched the Dapibus™ Protein Production Platform ("Dapibus™"), which supports various applications within the functional recombinant protein and enzyme field, namely in Life Sciences, Bioactives & Ingredients, and Bioindustrial applications. Given the reduced developmental costs, shorter timelines, and fewer regulatory requirements associated with functional recombinant solutions, Dapibus™ has enabled the Company to generate near- term recurring revenue while continuing to build long-term value through C1 for pharmaceutical applications. The Company anticipates achieving commercialization of certain functional recombinant products in 2025 through a combination of existing collaborations and internal manufacturing efforts.

Recent Developments

Product Commercialization Targets

- Non-Animal Cell Culture Media
    - Human Serum Albumin: In partnership with Proliant Health and Biologicals("Proliant"), Dyadic is progressing toward an expected commercial launch in Q3 2025 for use in research, diagnostics, and cell culture media. Additionally, Dyadic anticipates achieving a third milestone payment in Q2 2025 related to productivity improvements and future revenue sharing payments for commercial sales.
    - Transferrin: In an initial cell proliferation study, Dyadic's recombinant transferrin demonstrated comparable performance to a recombinant reference standard in growing animal muscle cells. Protein characterization testing has been initiated to support its potential as a high-quality, cost-effective non-animal alternative for research and commercial bioprocessing applications. Dyadic is actively engaging partners and providing samples of its recombinant transferrin, an animal-free alternative to serum-derived transferrin for use in cell culture media, diagnostic, research, and biopharmaceutical applications.
    - Growth Factors: As a critical driver of cell growth and proliferation, recombinant FGF plays an essential role in biomanufacturing, regenerative medicine, and cell- based therapies, particularly in serum-free and chemically defined cell culture media. Initial cell proliferation studies have demonstrated that Dyadic's recombinant FGF products exhibit comparable performance to reference standard recombinant FGF for growing animal muscle cells. In addition to further characterization and validation efforts, sampling initiatives are expected to begin in Q2 2025.
- Non-animal Dairy Applications
    - **Alpha-Lactalbumin:** Dyadic initiated protein characterization testing to support the use of its recombinant alpha-lactalbumin, a key whey protein, in research, biochemical analyses, and nutrition. Sampling efforts have increased to accelerate collaboration and commercialization opportunities for its highly productive recombinant alpha-lactalbumin cell line use in non-pharmaceutical applications such as research-grade material and food.
    - Human lactoferrin: Dyadic has successfully developed a cell line to produce stable human lactoferrin protein for use in research and pharmaceutical applications as potential antimicrobial, anti-inflammatory, and immune-supportive products. Ongoing optimization and characterization efforts are underway, and the Company expects to begin sampling efforts in late 2025.
    - Dairy Enzymes: In addition to receiving a productivity milestone payment in 2024 for a recombinant dairy enzyme, scale up and commercialization efforts are ongoing with an anticipated launch in late 2025. Additional dairy enzymes are in development under the license agreement entered into in 2023 to commercialize certain non-animal derived dairy enzymes.
- Reagent Proteins & DNA/RNA Enzymes

- DNase1 (RNase-free): Dyadic's DNASe-1 product designed for use in molecular diagnostics, biopharma, and other industries is progressing toward commercial availability. In addition to increased sampling and ongoing licensing discussions, Dyadic has partnered with an EU-based Contract Development and Manufacturing Organization ("CDMO") to validate the production process for DNase1 (RNase-Free) and the initial manufacture of research-grade material for purchase.

- Expanded Nucleic Acid Enzymes Portfolio: Dyadic is developing and validating prototypes for four additional enzymes, including RNase Inhibitors and T7 RNA Polymerase, to support the growing demand for DNA/RNA manipulation tools. Development and optimization are ongoing with results expected by the end of 2025.

- Bio Industrial Products

  - In May 2024, Fermbox Bio ("Fermbox"), announced the launch of EN3ZYME, an enzyme cocktail designed to enhance both the efficiency and cost-effectiveness of transforming pre-treated Agri-based residues into fermentable, cellulosic sugars produced using Dyadic's Dapibus™ expression platform. In 1Q 2025, Fermbox received an initial large purchase order with initial enzyme delivery expected within the coming months.

C1 Platform Development Vaccines & Antibodies

- On March 20, 2025, the Company announced that Dyadic's C1 platform is being advanced through a $4.5 million Coalition for Epidemic Preparedness (CEPI) grant through Fondazione Biotecnopolo di Siena ("FBS") to accelerate recombinant protein vaccine development and manufacturing. The funding will support antigen design, cell line development, optimization, characterization, and scale-up to cGMP manufacturing. If successful, the next phase will focus on selecting a CEPI-priority pathogen antigen. Dyadic, as a subcontractor, will receive up to $2.4 million of the total grant funding.

- In January, 2025, in collaboration with the Gates Foundation, Dyadic initiated a $3 million project focused on developing low-cost monoclonal antibodies for malaria and respiratory syncytial virus (RSV) using its C1 expression platform. The program aims to demonstrate the feasibility of using C1 to produce high-yield, functional antibodies more efficiently than traditional systems. Initial data from the project is promising, supporting the potential of C1 to enable broader and more affordable access to life-saving antibody therapies in low- and middle-income countries.

- Dyadic will participate in the inaugural European Vaccines Hub for Pandemic Readiness (EVH) meeting on May 22–23, 2025. Led by Dr. Rino Rappuoli, Scientific Director of Fondazione Biotecnopolo di Siena, the EVH aims to establish a centralized EU hub for vaccine innovation, integrating R&D, clinical trials, and scalable manufacturing. Backed by approximately €100 million in EU funding over four years, the initiative brings together leading public and private developers. Dyadic's C1 microbial expression technology is expected to be among the platform technologies evaluated, highlighting its potential to accelerate development and reducing the cost of manufacturing vaccines and antibodies at scale.

- On March 23, 2025, CEPI announced a grant of $2.6 million to Uvax Bio. A portion of this funding will support the development of a MERS vaccine and research to assess capability of the C1 platform to speed vaccine production and lowering manufacturing costs.

Animal and Human Health

- **Livestock Applications**:
  - Dyadic expanded its partnership with Phibro Animal Health/Abic to develop vaccines and treatments for livestock animals.
  - *Poultry:* Early trials show the generation of neutralizing antibody responses, supporting potential for vaccine and diagnostic use.

- **Vaccines and Ferritin Nanoparticle Antigens**
  - **H5 Avian Influenza ("Bird Flu") Vaccine Candidate** *(with ViroVax, LLC)*:
    - A C1-produced ferritin nanoparticle antigen is being evaluated for diagnostics and vaccines across poultry, cattle and humans to address the ongoing outbreak.
    - Pre-commercial research is underway to support potential partnerships and licensing.
    - The C1-produced H5-2.3.4.4b A/Astrakhan vaccine candidate has shown early cross-protection against multiple H5 strains.

Critical Accounting Estimates

The preparation of these consolidated financial statements in accordance with U.S. generally accepted accounting principles ("GAAP") requires management to make estimates that affect the reported amount of assets and liabilities and related disclosure of contingent assets and liabilities at the date of our consolidated financial statements and the reported amounts of revenues and expenses during the applicable period. Actual results may differ from these estimates under different assumptions or conditions. Such differences could be material to the consolidated financial statements.

We define critical accounting estimates as those that are reflective of significant judgments and uncertainties and which may potentially result in materially different results under different assumptions and conditions. In applying these critical accounting estimates, our management uses its judgment to determine the appropriate assumptions to be used in making certain estimates. These estimates are subject to an inherent degree of uncertainty. Our critical accounting estimates include the following:

Revenue Recognition

The Company has no products approved for sale. All our revenue to date has been research revenue from third-party collaborations and government grants, as well as revenue from sublicensing agreements and collaborative arrangements, which may include upfront payments, options to obtain a license, payment for research and development services, milestone payments and royalties, in the form of cash or non-cash considerations (e.g., minority equity interest).

Revenue related to research collaborations and agreements: The Company typically performs research and development services as specified in each respective agreement on a best-efforts basis, and recognizes revenue from research funding under collaboration agreements in accordance with the 5-step process outlined in ASC Topic 606 ("Topic 606"): (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. We recognize revenue when we satisfy a performance obligation by transferring control of the service to a customer in an amount that reflects the consideration that we expect to receive. Depending on how the performance obligation under our license and collaboration agreements is satisfied, we recognize the revenue either at a point in time or over time by using the input method under Topic 606 to measure the progress toward complete satisfaction of a performance obligation.

Under the input method, revenue will be recognized based on the entity's efforts or inputs to the satisfaction of a performance obligation (e.g., resources consumed, labor hours expended, costs incurred, or time elapsed) relative to the total expected inputs to the satisfaction of that performance obligation. The Company believes that the cost-based input method is the best measure of progress to reflect how the Company transfers its performance obligation to a customer. In applying the cost-based input method of revenue recognition, the Company uses actual costs incurred relative to budgeted costs to fulfill the performance obligation. These costs consist primarily of full-time equivalent effort and third-party contract costs. Revenue will be recognized based on actual costs incurred as a percentage of total budgeted costs as the Company completes its performance obligations.

A cost-based input method of revenue recognition requires management to make estimates of costs to complete the Company's performance obligations. In making such estimates, significant judgment is required to evaluate assumptions related to cost estimates. The cumulative effect of revisions to estimated costs to complete the Company's performance obligations will be recorded in the period in which changes are identified and amounts can be reasonably estimated. A significant change in these assumptions and estimates could have a material impact on the timing and amount of revenue recognized in future periods.

Revenue related to grants: The Company receives grants from governments, agencies, and other private and not-for-profit organizations. These grants are intended to be used to fund the Company's research collaborations partially or fully, including opportunities and projects that the Company is pursuing with certain collaborators. However, most, if not all, of such potential grant revenues, is expected to be earmarked for third parties to advance the research required, including preclinical and clinical trials for vaccines and/or antibodies candidates. Revenue related to grants are presented on a gross basis on the Consolidated Statements of Operations.

Revenue related to sublicensing agreements: If the sublicense to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue allocated to the license when technology is transferred to the customer and the customer can use and benefit from the license.

Customer options: If the sublicensing agreement includes customer options to purchase additional goods or services, the Company will evaluate if such options are considered material rights to be deemed as separate performance obligations at the inception of each arrangement.

Milestone payments: At the inception of each arrangement that includes development, commercialization, and regulatory milestone payments, the Company evaluates whether the achievement of the milestones is considered probable and estimates the amount to be included in the transaction price. If the milestone payment is in exchange for a sublicense and is based on the sublicensee's subsequent sale of product, the Company recognizes milestone payment by applying the accounting guidance for royalties.

Royalties: With respect to licenses deemed to be the predominant item to which the sales-based royalties relate, including milestone payments based on the level of sales, the Company recognizes revenue at the later of (i) when the related sales occur or (ii) when the performance obligation to which some or all the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any royalty revenue resulting from any of its sublicensing arrangements.

We invoice customers based on our contractual arrangements with each customer, which may not be consistent with the period that revenues are recognized. When there is a timing difference between when we invoice customers and when revenues are recognized, we record either a contract asset (unbilled accounts receivable) or a contract liability (deferred research and development obligations), as appropriate. If upfront fees or considerations related to sublicensing agreement are received prior to the technology transfer, the Company will record the amount received as deferred revenue from licensing agreement.

We are not required to disclose the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed.

The Company adopted a practical expedient to expense sales commissions when incurred because the amortization period would be one year or less.

Accrued Research and Development Expenses

In order to properly record services that have been rendered but not yet billed to the Company, we review open contracts and purchase orders, communicate with our personnel and we estimate the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of the actual cost. The majority of our service providers invoice us monthly or quarterly in arrears for services performed or when contractual milestones are met. We make estimates of our accrued expenses as of each balance sheet date in our consolidated financial statements based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with the service providers and adjust if necessary. Examples of accrued research and development expenses include amounts owed to contract research organizations, to service providers in connection with research and development activities.

Stock-Based Compensation

We have granted stock options to employees, directors, and consultants. The fair value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model. The Black-Scholes model considers volatility in the price of our stock, the risk-free interest rate, the estimated life of the option, the closing market price of our stock and the exercise price. For purposes of the calculation, we assumed that no dividends would be paid during the life of the options. We also used the weighted-average vesting period and contractual term of the option as the best estimate of the expected life of a new option, except for the options granted to the CEO (i.e., 5 or 10 years) and certain contractors (i.e., 2 or 5 years). The expected stock price volatility was calculated based on the Company's own volatility since the DuPont Transaction. The Company reviews its volatility assumption on an annual basis and has used the Company's historical volatilities since 2016, as the DuPont Transaction resulted in significant changes in the Company's business and capital structure.

The estimates utilized in the Black-Scholes calculation involve inherent uncertainties and the application of management judgment. These estimates are neither predictive nor indicative of the future performance of our stock. As a result, if other assumptions had been used, our recorded share-based compensation expense could have been materially different from that reported. In addition, because some of the performance-based options issued to employees, consultants, and other third-parties vest upon the achievement of certain milestones, the total ultimate expense of share-based compensation is uncertain.

Accounting for Income Taxes

The Company accounts for income taxes under the asset and liability method in accordance with ASC Topic 740, "Income Taxes". Under this method, income tax expense /(benefit) is recognized for: (i) taxes payable or refundable for the current year and (ii) deferred tax consequences of temporary differences resulting from matters that have been recognized in an entity's financial statements or tax returns. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date. A valuation allowance is provided to reduce the deferred tax assets reported if based on the weight of the available positive and negative evidence, it is more likely than not some portion or all the deferred tax assets will not be realized.

In determining taxable income for the Company's consolidated financial statements, we are required to estimate income taxes in each of the jurisdictions in which we operate. This process requires the Company to make certain estimates of our actual current tax exposure and assessment of temporary differences between the tax and financial statement recognition of revenue and expense. In evaluating the Company's ability to recover its deferred tax assets, the Company must consider all available positive and negative evidence including its past operating results, the existence of cumulative losses in the most recent years and its forecast of future taxable income. Significant management judgment is required in determining our provision for income taxes, deferred tax assets and liabilities and any valuation allowance recorded against our net deferred tax assets.

The Company is required to evaluate the provisions of ASC 740 related to the accounting for uncertainty in income taxes recognized in a company's financial statements. ASC 740 prescribes a comprehensive model for how a company should recognize, present, and disclose uncertain positions that the company has taken or expects to take in its tax return. For those benefits to be recognized, a tax position must be more-likely-than-not to be sustained upon examination by taxing authorities. Differences between tax positions taken or expected to be taken in a tax return and the net benefit recognized and measured pursuant to the interpretation are referred to as "unrecognized benefits." A liability should be recognized (or amount of net operating loss carry forward or amount of tax refundable is reduced) for unrecognized tax benefits, because it represents a company's potential future obligation to the taxing authority for a tax position that was not recognized because of applying the provision of ASC 740.

The Company classifies accrued interest and penalties related to its tax positions as a component of income tax expense. The Company currently is not subject to U.S. federal, state, and local tax examinations by tax authorities for the years before 2021.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Recent Accounting Pronouncements

See Note 1 to the Consolidated Financial Statements for information about recent accounting pronouncements.

Results of Operations

Three Months Ended March 31, 2025 Compared to the Same Periods in 2024

Revenue and Cost of Revenue

The following table summarizes the Company's revenue and cost of revenue for the three months ended March 31, 2025 and 2024:

	Three Months Ended March 31,	
	2025	2024
Research and development revenue	$ 183,100	$ 334,617
Grant revenue	210,472	—
Costs of research and development revenue	126,480	143,955
Cost of grant revenue	171,178	—

For the three months ended March 31, 2025, the decrease in research and development revenue and cost of research and development revenue was due to the decreasing numbers of collaborations conducted in 2025. The Company's research and development revenue was generated from four collaborations compared to nine collaborations for the same period a year ago. The grant revenue and cost of grant revenue for the three months ended March 31, 2025, was related to the Gates Foundation Grant and CEPI grants. There was no grant revenue for the three months ended March 31, 2024.

Research and Development Expenses

Research and development costs are expensed as incurred and include salary and benefits of research personnel, third-party contract research organization services and supply costs.

Research and development expenses for the three months ended March 31, 2025, decreased to $495,000 compared to $523,000 for the same period a year ago. The decrease was due to a decrease in the number of ongoing internal research projects.

General and Administrative Expenses

General and administrative expenses for the three months ended March 31, 2025, decreased by 10.8% to $1,596,000 compared to $1,789,000 for the same period a year ago. The decrease reflected decreases in business development and investor relations expenses of $97,000, in management incentives of $78,000, and accounting and legal expenses of $41,000 and insurance expense of $10,000 offset by other increases of $34,000.

Loss from Operations

Loss from operations for the three months ended March 31, 2025 , decreased to $ 2,002,000 compared to $ 2,126,000 for the same period a year ago. The decrease in loss from operations was largely due to decreases in general and administrative expenses of $193,000, and an increase in research revenue of $59,000, offset by an increase of $154,000 in cost of research revenue.

Other Income (Expenses), Net

For the three months ended March 31, 2025, total other income (expenses), net, was an expense of $25,000 compared to an income of $116,000 for the same period a year ago. The decrease in other income was largely due to a $81,000 increase in interest expenses related to the Convertible Notes and the $61,000 Gain on sale of Alphazyme in 2024.

Net Loss

Net loss for the three months ended March 31, 2025, was $2,028,000 compared to $2,010,000 for the same period a year ago. The increase in net loss was largely due to the decrease $141,000 in other income and $154,000 increase in cost of research revenue, offset by decreases in general and administrative expenses of $193,000, and an increase in research revenue of $59,000.

Liquidity and Capital Resources

The Company expects to incur losses and have negative net cash flows from operating activities as it continues developing its microbial platforms and related products, and as it expands its pipelines and engages in further research and development activities for internal products as well as for its third-party collaborators and licensees. The success of the Company depends on its ability to develop its technologies and products to the point of regulatory approval and subsequent revenue generation or through the sublicensing of the Company's technologies and products, and its ability to raise capital to finance these developmental efforts.

On March 8, 2024, the Company issued an aggregate principal amount of $6.0 million of its 8.0% Senior Secured Convertible Promissory Notes due March 8, 2027 (the "Convertible Notes") in a private placement. The purchasers of the Convertible Notes included immediate family members and family trusts related to Mark Emalfarb, our President and Chief Executive Officer and a member of our Board of Directors, including The Francisco Trust, an existing holder of more than 5% of the Company's outstanding common stock, (collectively, the "Purchasers"). The net proceeds from the sale of the Convertible Notes, after deducting offering expenses, were $5,824,000. The Company intends to use the net proceeds from the offering of the Convertible Notes for working capital and general corporate purposes. This private placement funding is expected to support our near-term revenue growth and accelerate our strategic objective of commercialization opportunities for pharmaceutical and non-pharmaceutical applications.

The Convertible Notes are senior, secured obligations of Dyadic and its affiliates, and interest is payable quarterly in cash on the principal amount equal to 8% per annum. The Convertible Notes will mature on March 8, 2027 (the "Maturity Date"), unless earlier converted, repurchased, or redeemed in accordance with the terms of the Convertible Notes.

The Convertible Notes can be converted into shares of Dyadic's Class A common stock (the "Common Stock"), at the option of the holders of the Convertible Notes (the "Noteholders") at any time prior to the Maturity Date. On October 4, 2024, the Company entered into an amendment (the "Amendment") to the Convertible Notes. Pursuant to the Amendment, (i) the conversion price upon which the Convertible Notes will be convertible into shares of the Company's common stock is $1.40 per share of common stock, and (ii) the Redemption Date (as defined in the Amendment) will fall on any of the 26, 29 and 32-month anniversaries of the original issue date of the Convertible Notes.

On May 1, 2025, the Company entered into a second amendment (the "Second Amendment") to the Convertible Notes with a majority of the current holders. Pursuant to the Second Amendment, the Redemption Date (as defined in the Second Amendment) will now fall on December 1, 2026.

During the year ended December 31, 2024, $910,000 of the Convertible Notes were converted into 556,623 shares of Common Stock. For more information regarding the Convertible Notes, including the covenants related thereto, see Note 4 to the Consolidated Financial Statements.

As of March 31, 2025, the Company had $5,064,941 cash and $2,307,685 short-term investment securities (including accrued interest) totaling $7,349,413. The Company expects its existing cash, cash equivalents and its investment securities will be sufficient to meet its operational, business, and other liquidity requirements for at least the next twelve (12) months from the date of issuance of the financial statements contained in this Quarterly Report. However, the Company has based this estimate on assumptions that may prove to be wrong, and its operating plan may change as a result of many factors currently unknown to it. In the event our financing needs are not able to be met by our existing cash, cash equivalents and investments, we would seek to raise additional capital through strategic financial opportunities that could include, but are not limited to, future public or private equity offerings, collaboration agreements, convertible notes or other debt instruments, and/or other means. Any amounts raised may be used for the further development and commercialization of product candidates, and for other working capital purposes. There is no guarantee that any of these strategic or financing opportunities will be executed or realized on favorable terms, if at all, and some could be dilutive to existing shareholders

As of March 31, 2025, cash and cash equivalents were $5.1 million compared to $6.5 million as of December 31, 2024. The carrying value of investment grade securities, including accrued interest as of March 31, 2025, was $2.3 million compared to $2.8 million as of December 31, 2024.

Net cash used in operating activities for the three months ended March 31, 2025 was $2.0 million, which was principally attributable to a net loss of $2.0 million, partially offset by changes in operating assets and liabilities of $0.2 million and share-based compensation expenses of $0.2 million.

Net cash used in operating activities for the three months ended March 31, 2024 was $1.1 million, which was principally attributable to a net loss of $2.0 million, partially offset by changes in operating assets and liabilities of $0.7 million and share-based compensation expenses of $0.3 million.

Net cash provided by investing activities for the three months ended March 31, 2025 was $0.5 million, compared to a net cash used in investing activities of $0.7 million for the three months ended March 31, 2024. The change in investing activities was attributable to a reduction in purchases of investment securities of $0.2 million, increases in proceeds received from maturities of investment securities of $1.0 million, and proceeds from the sale of investment in Alphazyme in 2024 of $0.1 million.

Net cash provided by financing activities for the three months ended March 31, 2025 was $24,000, which was related to net proceeds from exercise of stock, compared to the net cash provided by financing activity of $5,824,000 for the three months ended March 31, 2024, which was related to net proceeds from the issuance of convertible notes.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act and are not required to provide the information required under this item.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this report, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective.

Changes in Internal Controls Over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the three months ended March 31, 2025, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitation on Effectiveness of Controls

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II

Item 1. Legal Proceedings

We are not currently involved in any litigation that we believe could have a materially adverse effect in our financial condition or results of operations. From time to time, we may become involved in various lawsuits and legal proceedings which arise in the ordinary course of business. Litigation is subject to inherent uncertainties, and an adverse result in these or other matters may arise from time to time that may harm our business. See Note 5 to the Consolidated Financial Statements for commitments and contingencies.

Item 1A. Risk Factors

There have been no changes to our risk factors from those disclosed in our Annual Report for the 2024 fiscal year filed on March 26, 2025.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

(a) None.

(b) None.

(c) For the quarter ended March 31, 2025, none of our directors or officers (as defined in Section 16 of the Exchange Act) adopted or terminated a "Rule 10b5-1 trading arrangement" or a "non-Rule 10b5-1 trading arrangement" (each as defined in Item 408(a) and (c), respectively, of Regulation S-K).

Item 6. Exhibits

The following Exhibits are filed as part of this report pursuant to Item 601 of Regulation S-K:

		Incorporated by Reference			
Exhibit No.	Description of Exhibit	Form	Original No.	Date Filed	Filed Herewith
3.1	Restated Certificate of Incorporation dated November 1, 2004	10-12G	3.1	January 14, 2019	
3.2	Third Amended and Restated Bylaws dated March 28, 2023	8-K	3.1	March 29, 2023	
4.1	Second Amendment to Form of Senior Secured Convertible Promissory Note due March 8, 2027	8-K	4.1	May 5, 2025	
31.1	Certification of Principal Executive Officer of Dyadic Pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				x
31.2	Certification of Principal Financial Officer of Dyadic Pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				x
32.1	Certification of Principal Executive Officer of Dyadic Pursuant to18 U.S.C Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (2)				
32.2	Certification of Principal Financial Officer of Dyadic Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (2)				
101.INS	Inline XBRL Instance Document				
101.SCH	Inline XBRL Taxonomy Extension Schema Document				
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase Document				
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document				
104	Cover Page Interactive Data File (embedded within the Inline XBRL and contained in Exhibit 101)				

(1) Identifies a management contract or compensatory plan or arrangement.
(2) Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

DYADIC INTERNATIONAL, INC.

May 14, 2025 By: /s/ Mark A. Emalfarb
Mark A. Emalfarb
President and Chief Executive Officer
(Principal Executive Officer)

May 14, 2025 By: /s/ Ping W. Rawson
Ping W. Rawson
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 31.1

Certification of Principal Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
and Securities and Exchange Commission Release 34-46427

I, Mark A. Emalfarb, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Dyadic International, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:

    a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 14, 2025
By: /s/ Mark A. Emalfarb

Name: Mark A. Emalfarb
Title: Chief Executive Officer

Exhibit 31.2

Certification of Principal Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
and Securities and Exchange Commission Release 34-46427

I, Ping W. Rawson, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Dyadic International, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:

    a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 14, 2025
By: /s/ Ping W. Rawson

Name: Ping W. Rawson
Title: Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Dyadic International, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2025 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Mark A. Emalfarb, certify, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 14, 2025
By: /s/ Mark A. Emalfarb

Name: Mark A. Emalfarb
Title: Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Dyadic International, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2025 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ping W. Rawson, certify, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 14, 2025
By: /s/ Ping W. Rawson

Name: Ping W. Rawson
Title: Chief Financial Officer