

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

FORM S-1
(Post-Effective Amendment No. 1)

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933



AKERNA CORP.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

7374

Primary Standard Industrial
Classification Code Number

83-2242651

(I.R.S. Employer
Identification No.)

1550 Larimer Street #246
Denver, Colorado 80202
1-888-932-6537

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

Corporation Service Company
251 Little Falls Drive
Wilmington, Delaware 19808
(302) 636-5400

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

Copies to:

Jason K Brenkert, Esq.
Sudeep Simkhada, Esq.
Dorsey & Whitney LLP
1400 Wewatta Street, Suite 400
Denver, Colorado 80202
Telephone: (303) 352-1133
Fax Number: (303) 629-3450

Faith L. Charles, Esq.
Naveen Pogula, Esq.
Thompson Hine LLP
335 Madison Avenue, 12th Floor
New York, New York 10017
Telephone: (212) 344-5680
Facsimile: (212) 344-6101

As soon as practicable after the effective date of this Registration Statement.

(Approximate date of commencement of proposed sale to the public)

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

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

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

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. File No. 333-265641

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

Large accelerated filer Accelerated filer
Non-accelerated filer Smaller reporting company
Emerging Growth Company

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

The Registrant shall become effective upon filing in accordance with Rule 462(d) promulgated under the Securities Act of 1933, as amended.

EXPLANATORY NOTE

This Post-Effective Amendment No. 1 to Form S-1 Registration Statement is filed pursuant to Rule 462(d) of the Securities Act of 1933, as amended (the “Securities Act”) and relates to the public offering of units and pre-funded units of Akerna Corp. (the “Registrant”), contemplated by the Registration Statement on Form S-1, as amended (File No. 333-265641), initially filed by the Registrant with the Securities and Exchange Commission (the “Commission”) on June 15, 2022 (as amended, the “Prior Registration Statement”) pursuant to the Securities Act, which was declared effective by the Commission on June 29, 2022.

The Registrant is filing this Amendment No. 1 solely to add exhibits to the previously effective Prior Registration Statement by (i) removing the previously filed Exhibit 5.1 and replacing it with Exhibit 5.1 filed herewith in order to reflect an increase in the number of shares covered by the legal opinion of Dorsey & Whitney LLP, (ii) removing the previously filed Exhibit 1.1 and replacing with the Exhibit 1.1 filed herewith in order to reflect the executed form of the underwriting agreement, (iii) removing the previously filed Exhibit 4.9 and replacing with the Exhibit 4.9 filed herewith in order to reflect final form of the warrant underlying units covered by the Prior Registration Statement, and (iv) removing the previously filed Exhibit 4.11 and replacing with the Exhibit 4.11 filed herewith in order to reflect final form of the underwriter’s warrant covered by the Prior Registration Statement. Accordingly, this Post-Effective Amendment No. 1 consists only of a facing page, this explanatory note and Part II Item 16(a) of the Registration Statement on Form S-1 setting forth the exhibits to the Registration Statement. This Post-Effective Amendment No. 1 does not modify any other part of the Prior Registration Statement. Pursuant to Rule 462(d) under the Securities Act, this Post-Effective Amendment No. 1 shall become effective immediately upon filing with the Commission. The contents of the Prior Registration Statement, including all amendments and exhibits thereto, are hereby incorporated by reference.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 16. *Exhibits and Financial Statement Schedules*

- (a) Exhibits.

See the Exhibit Index on the page immediately preceding the exhibits for a list of the additional exhibits filed as part of this registration statement on Form S-1, which Exhibit Index is incorporated herein by reference.

SIGNATURES

In accordance with the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Denver, State of Colorado, on July 1, 2022.

AKERNA CORP.

By: /s/ Jessica Billingsley
Name: Jessica Billingsley
Title: Chief Executive Officer

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Jessica Billingsley</u> Jessica Billingsley	Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	July 1, 2022
<u>/s/ Larry Dean Ditto Jr.</u> Larry Dean Ditto Jr.	Interim Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	July 1, 2022
<u>*</u> Scott Sozio	Director	July 1, 2022
<u>*</u> Matthew Kane	Director	July 1, 2022
<u>*</u> Tahira Rehmatullah	Director	July 1, 2022
<u>*</u> Barry Fishman	Director	July 1, 2022
<u>* By: /s/ Jessica Billingsley</u> Jessica Billingsley Attorney-in-Fact		

EXHIBIT INDEX

Exhibit Number	Description
1.1*	Underwriting Agreement between the Registrant and A.G.P./Alliance Global Partners dated June 30, 2022
4.9*	Form of warrant underlying unit
4.11*	Form of underwriter's warrant
5.1*	Opinion of Dorsey & Whitney LLP
23.2*	Consent of Dorsey & Whitney LLP (included as part of Exhibit 5.1 hereto)
24.1	Power of Attorney (incorporated by reference to the signature page to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-265641), originally filed with the Securities and Exchange Commission on June 15, 2022)

* Filed herewith.

UNDERWRITING AGREEMENT

between

AKERNA CORP.
andA.G.P./ALLIANCE GLOBAL PARTNERS,
as Representative of the Several UnderwritersNew York, New York
June 30, 2022

A.G.P./Alliance Global Partners
As Representative of the several Underwriters named on Schedule 1 attached hereto
590 Madison Avenue, 28th Floor
New York, New York 10022

Ladies and Gentlemen:

The undersigned, Akerna Corp., a Delaware corporation (collectively with its subsidiaries and affiliates, including, without limitation, all entities disclosed or described in the Registration Statement (as hereinafter defined) as being subsidiaries or affiliates of Akerna Corp., the “**Company**”), hereby confirms its agreement (this “**Agreement**”) with A.G.P./Alliance Global Partners (hereinafter referred to as “**you**” (including its correlatives) or the “**Representative**”) and with the other underwriters named on Schedule 1 hereto for which the Representative is acting as representative (the Representative and such other underwriters being collectively called the “**Underwriters**” or, individually, an “**Underwriter**”) as follows:

1. Purchase and Sale of Securities.1.1 Firm Securities.1.1.1 Nature and Purchase of Firm Securities.

(i) On the basis of the representations and warranties herein contained, but subject to the terms and conditions herein set forth, the Company agrees to issue and sell to the several Underwriters, (a) an aggregate of 29,382,861 shares (“**Firm Shares**”) of the Company’s common stock, \$0.0001 par value (the “**Common Stock**”), (b) Common Stock purchase warrants (the “**Firm Common Warrants**”) in the form filed as an exhibit to the Registration Statement to purchase up to an aggregate of 43,478,261 shares of Common Stock (the “**Common Warrant Shares**”), which shall have an exercise price of \$0.23 (subject to adjustment as provided in the Firm Warrants), and (c) Common Stock purchase warrants (the “**Firm Pre-Funded Warrants**”) and together with the Firm Common Warrants, the “**Firm Warrants**”) in the form filed as an exhibit to the Registration Statement to purchase up to an aggregate of 14,095,400 shares of Common Stock (the “**Pre-Funded Warrant Shares**” and together with the Common Warrant Shares, the “**Warrant Shares**”), which shall have an exercise price of \$0.0001 (subject to adjustment as provided in the Firm Pre-Funded Warrants). The Firm Shares and the Firm Warrants are referred to herein as the “**Firm Securities**.” The Firm Shares and the Firm Warrants shall be sold together as a fixed combination, each consisting of (i) one Firm Share and (ii) one Firm Warrant to purchase one share of Common Stock, with each combination consisting of one Firm Share and one Firm Warrant to purchase one share of Common Stock being referred to herein as a “**Unit**.” The Firm Pre-Funded Warrants and Firm Warrants shall be sold together as a fixed combination consisting of one Firm Pre-Funded Warrant and one Firm Warrant to purchase one share of Common Stock being referred to herein as a “**Pre-Funded Unit**”.

(ii) The Underwriters, severally and not jointly, agree to purchase from the Company the number of Firm Securities set forth opposite their respective names on Schedule 1 attached hereto and made a part hereof at a purchase price of \$0.2139 per Unit (93% of the per Unit offering price) and \$0.2138 per Pre-Funded Unit (93% of the per Pre-Funded Unit offering price). The Units and Pre-Funded Units are to be offered initially to the public at the offering price set forth on the cover page of the Prospectus (as defined in Section 2.1 hereof). The price per Unit and Pre-Funded Unit shall reflect the sum of the prices of each applicable component Firm Security set forth herein, with each Firm Common Warrant having a value of \$0.01.

(iii) The Company shall issue to the Representative or its designees on the Closing Date warrants (the “**Underwriter Warrants**”) to purchase that number of shares of Common Stock equal to 5% of the aggregate number of the shares of Common Stock issued and issuable upon exercise of Pre-Funded Warrants on the Closing Date and any Option Closing Date (as defined below), in each case in compliance with FINRA Rules 5110(e) and 5110(g)(8). The Underwriter Warrants shall have the same terms as the Firm Warrants.

1.1.2 Securities Payment and Delivery.

(i) Delivery and payment for the Firm Securities shall be made at 10:00 a.m., Eastern time, on the second (2nd) Business Day following the effective date (the “**Effective Date**”) of the Registration Statement (as defined in Section 2.1 below) under the Securities Act of 1933, as amended (the “**Securities Act**”) (or the third (3rd) Business Day following the Effective Date if the pricing for the Offering (as defined in Section 1.2 below) occurs after 4:01 p.m., Eastern time on the Effective Date) or at such earlier time as shall be agreed upon by the Representative and the Company, at the offices of Thompson Hine LLP, 335 Madison Avenue, 12th Floor, New York, New York 10017 (“**Representative Counsel**”), or at such other place (or remotely by facsimile or other electronic transmission) as shall be agreed upon by the Representative and the Company. The hour and date of delivery and payment for the Firm Securities is called the “**Closing Date**.”

(ii) Payment for the Firm Securities shall be made on the Closing Date by wire transfer in Federal (same day) funds, payable to the order of the Company upon delivery of the Firm Securities, of which the Firm Shares shall be delivered via the Depository Trust Company (“**DTC**”) and the Firm Warrants shall be delivered in certificated form, for the account of the Underwriters. The Firm Securities shall be registered in such name or names and in such authorized denominations as the Representative may request in writing at least two (2) full Business Days prior to the Closing Date. The Company shall not be obligated to sell or deliver the Firm Securities except upon tender of payment by the Representative for all of the Firm Securities. The term “**Business Day**” means any day other than a Saturday, a Sunday or a legal holiday or a day on which banking institutions are authorized or obligated by law to close in New York, New York.

1.2 Over-allotment Option.

1.2.1 Option Securities. For the purposes of covering any over-allotments in connection with the distribution and sale of the Firm Securities, the Company hereby grants to the Underwriters an option (the “**Over-allotment Option**”) to purchase (a) additional shares of Common Stock from the Company (the “**Option Shares**”) and/or (b) warrants to purchase additional shares of Common Stock (the “**Common Option Warrants**”) and/or (c) pre-funded warrants to purchase additional shares of Common Stock (the “**Pre-Funded Option Warrants**”) and together with the Common Option Warrants, the “**Option Warrants**”), in any combination thereof, up to, and not to exceed, 13,043,478 shares of Common Stock or Common Stock underlying Common Option Warrants or Pre-Funded Option Warrants in the aggregate. The Option Warrants and the Option Shares are herein after referred to together as the “**Option Securities**”). The purchase price and exercise price, as applicable, to be paid per Option Security shall be equal to the prices per applicable Firm Security set forth in Section 1.1.1 hereof. The Warrant Shares and the Common Stock underlying the Option Warrants, are hereinafter referred to collectively as the “**Registered Warrant Shares**.” The Firm Securities, the Option Securities and the Registered Warrant Shares are hereinafter referred to together as the “**Public Securities**.” The offering and sale of the Public Securities is hereinafter referred to as the “**Offering**.”

1.2.2 Exercise of Option. The Over-allotment Option granted pursuant to Section 1.2.1 hereof may be exercised by the Representative as to all (at any time) or any part (from time to time) of the Option Securities within forty-five (45) days after the Effective Date. The Underwriters shall not be under any obligation to purchase any Option Securities prior to the exercise of the Over-allotment Option. The Over-allotment Option granted hereby may be exercised by the giving of oral notice to the Company from the Representative, which must be confirmed on the same day as such oral notice is given in writing by facsimile or other electronic transmission setting forth the number of Option Securities to be purchased and the date and time for delivery of and payment for the Option Securities (the “**Option Closing Date**”), which shall not be later than five (5) full Business Days after the date of the notice or such other time as shall be agreed upon by the Company and the Representative, at the offices of Representative Counsel, or at such other place (including remotely by facsimile or other electronic transmission) as shall be agreed upon by the Company and the Representative. If such delivery and payment for the Option Securities does not occur on the Closing Date, the Option Closing Date will be as set forth in the notice. Upon exercise of the Over-allotment Option with respect to all or any portion of the Option Securities, subject to the terms and conditions set forth herein, (i) the Company shall become obligated to sell to the Underwriters the number of Option Securities specified in such notice and (ii) each of the Underwriters, acting severally and not jointly, shall purchase that portion of the total number of Option Securities then being purchased as set forth in Schedule 1 opposite the name of such Underwriter.

1.2.3 Payment and Delivery. Payment for the Option Securities shall be made on the Option Closing Date by wire transfer in Federal (same day) funds, payable to the order of the Company upon delivery to you of certificates (in form and substance satisfactory to the Underwriters) representing the Option Securities (or through the facilities of DTC) for the account of the Underwriters. The Option Securities shall be registered in such name or names and in such authorized denominations as the Representative may request in writing at least two (2) full Business Days prior to the Option Closing Date. The Company shall not be obligated to sell or deliver the Option Securities except upon tender of payment by the Representative for applicable Option Securities.

2. Representations and Warranties of the Company. The Company hereby represents and warrants to the Underwriters as of the date hereof, and as of the Closing Date, except as set out in the Registration Statement as follows:

2.1 Securities Law Filings. The Company has filed with the Securities and Exchange Commission (the “**Commission**”) a registration statement on Form S-1 (Registration File No. 333-265641) under the Securities Act and the rules and regulations of the Commission (the “**Rules and Regulations**”) promulgated thereunder and under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”). At the time of the Effective Date, the Registration Statement and amendments met the requirements of Form S-1 under the Securities Act. The Company will file with the Commission pursuant to Rules 430A and 424(b) under the Securities Act, a final prospectus included in such registration statement relating to the Offering and the underwriting thereof and has advised the Representative of all further information (financial and other) with respect to the Company required to be set forth therein. Such registration statement, including all financial statements and the notes thereto, exhibits and financial schedules contained in the registration statement and including any required documents and information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430A under the Securities Act, as amended or supplemented at the date of this Agreement, is hereinafter called the “**Registration Statement**.” If the Company has filed or files an abbreviated registration statement pursuant to Rule 462(b) under the Securities Act (the “**Rule 462 Registration Statement**”), then any reference herein to the term Registration Statement shall include such Rule 462 Registration Statement. The preliminary prospectus dated June 15, 2022 included in the Registration Statement or filed with the Commission under the Securities Act is hereinafter called a “**Preliminary Prospectus**.” “**Pricing Disclosure Package**” means the Preliminary Prospectus, as amended or supplemented immediately prior to the Effective Time, together with the pricing information set forth on Schedule 2-A hereto. As used herein, the term “**Prospectus**” shall mean the prospectus in the form first used by the Underwriters to confirm sales of the Public Securities or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act. All references in this Agreement to financial statements and schedules and other information that is “contained,” “included,” “described,” “referenced,” “set forth” or “stated” in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus (and all other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information that is or is deemed to be incorporated by reference in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, as the case may be. The Registration Statement has been declared effective on the date hereof.

2.2. Assurances. The Registration Statement (and any further documents to be filed with the Commission) contains all exhibits and schedules as required by the Securities Act. Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, at all other subsequent times until the Closing Date, complied in all material respects with the Securities Act and the applicable Rules and Regulations and did not and, as amended or supplemented, if applicable, will not, contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading (*provided, however*, that the preceding representations and warranties contained in this sentence shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by the Representative expressly for use therein, which information shall consist solely of (i) the names of the Underwriters appearing in the Prospectus, (ii) the statement regarding delivery of the Common Stock set forth on the cover page of the Prospectus, (iii) the securities dealer discount referred to in the third paragraph of the section of the Prospectus captioned “Underwriting”, (iv) the information set forth in the fifth paragraph of the section of the Prospectus captioned “Underwriting” and (v) the table showing the number of securities to be purchased by each Underwriter (the “**Underwriter Information**”). Each Preliminary Prospectus, as of its date, complies in all material respects with the Securities Act and the applicable Rules and Regulations. The Prospectus, as of its date, complies in all material respects with the Securities Act and the applicable Rules and Regulations. As of its date, each Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus did not and will not contain as of the date thereof any untrue statement of a material fact or omit to state a fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading (*provided, however*, that the preceding representations and warranties contained in this sentence shall not apply to any Underwriter Information). All post-effective amendments to the Registration Statement reflecting facts or events arising after the date thereof which represent, individually or in the aggregate, a fundamental change in the information set forth therein have been so filed with the Commission. There are no documents required to be filed with the Commission in connection with the transaction contemplated hereby that (x) have not been filed as required pursuant to the Securities Act or (y) will not be filed within the requisite time period. The Company is not eligible to use “free writing prospectuses” in connection with the Offering pursuant to Rules 164 and 433 under the Securities Act. The Company has not and will not, prepare, use or refer to, any free writing prospectus.

2.3 Offering Materials. The Company has delivered, or will as promptly as practicable deliver, to the Underwriters complete conformed copies of the Registration Statement and of each consent and certificate of experts, as applicable, filed as a part thereof, and conformed copies of the Registration Statement (without exhibits), any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus, as amended or supplemented, in such quantities and at such places as the Underwriters reasonably request. Neither the Company nor any of its directors and officers has distributed and none of them will distribute, prior to the Closing Date, any offering material in connection with the offering and sale of the Public Securities other than the Prospectus, the Registration Statement.

2.4 Subsidiaries. All of the direct and indirect subsidiaries of the Company (the “**Subsidiaries**”) are described in the Registration Statement to the extent required by the Rules and Regulations. Except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and Prospectus, the Company owns, directly or indirectly, all of its capital stock or other equity interests of each Subsidiary free and clear of any liens, charges, security interests, encumbrances, rights of first refusal, preemptive rights or other restrictions (collectively, “**Liens**”), and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of preemptive or similar rights to subscribe for or purchase securities.

2.5 Organization and Qualification. The Company and each of the Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing (where applicable) under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation or material default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and the Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of this Agreement, the Firm Warrants or any other agreement or instrument entered into between the Company and the Underwriters pursuant to the Offering (“**Transaction Documents**”), (ii) a material adverse effect on the results of operations, assets, business or condition (financial or otherwise) of the Company and the Subsidiaries, taken as a whole, or (iii) a material adverse effect on the Company’s ability to perform in any material respect on a timely basis its obligations under this Agreement (any of (i), (ii) or (iii), a “**Material Adverse Effect**”) and to the knowledge of the Company, no action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened (“**Proceeding**”) has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

2.6 Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and each of the other Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of this Agreement by the Company and each of the other Transaction Documents and the consummation by it of the transactions contemplated hereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Company's Board of Directors (the "**Board of Directors**") or the Company's shareholders in connection therewith other than in connection with the Required Approvals (as defined below). This Agreement, and each other Transaction Document to which it is a party, has been duly executed by the Company and, when delivered in accordance with the terms hereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

2.7 No Conflicts. The execution, delivery and performance by the Company of this Agreement, the other Transaction Documents to which it is a party and the transactions contemplated hereby do not and will not (i) conflict with or violate any provision of the Company's or any Subsidiary's memorandum and articles of association, certificate or articles of incorporation, bylaws or other organizational or charter documents, or (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any Lien upon any of the properties or assets of the Company or any Subsidiary, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing a Company or Subsidiary debt or otherwise) or other understanding to which the Company or any Subsidiary is a party or by which any property or asset of the Company or any Subsidiary is bound or affected, or (iii) subject to the Required Approvals, conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company or a Subsidiary is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company or a Subsidiary is bound or affected; except in the case of each of clauses (ii) and (iii), such conflict, default or violation could not reasonably be expected to result in a Material Adverse Effect.

2.8 Filings, Consents and Approvals. Except as disclosed in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, the Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of this Agreement, the other Transaction Documents to which it is a party and the transactions contemplated hereby where the failure to obtain any such consent, waiver, authorization or order of, give any notice to, or make any filing or registration would not, singularly or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, other than: (i) the filing with the Commission of the final Prospectus as required by Rule 424 under the Securities Act and (ii) such filings as are required to be made under applicable state securities laws (collectively, the "**Required Approvals**").

2.9 Issuance of the Securities. The Firm Shares and Option Shares are duly authorized and, when issued and paid for in accordance with this Agreement, the other Transaction Documents to which it is a party, and the terms of the Offering as described in the Prospectus, will be duly and validly issued, fully paid and non-assessable, and free and clear of all Liens. The Firm Warrants and the Option Warrants have been duly authorized for issuance, and the Registered Warrant Shares, when issued, paid for and delivered upon due exercise of the Firm Warrants and/or the Option Warrants, will be duly authorized and validly issued, fully paid and nonassessable, free and clear of all Liens. The Company has sufficient authorized Common Stock for the issuance of the maximum number of Securities issuable pursuant to the Offering as described in the Prospectus.

2.10 Capitalization. The capitalization of the Company as of the date hereof is as set forth in the Registration Statement and the Prospectus. The Company has not issued any Common Stock since its most recently filed periodic report under the Exchange Act, other than (i) pursuant to the Company's equity incentive plans as described in the Registration Statement and the Prospectus (the "**Company Incentive Plans**"), and (ii) pursuant to the conversion and/or exercise of any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire Common Stock at any time, including, without limitation, any debt, preferred shares, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock ("**Common Stock Equivalents**") as described in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus. Except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus, no Person has any right of first refusal, preemptive right or right of participation, or any similar right to participate in the transactions contemplated by this Agreement. Except as a result of the purchase and sale of the Public Securities or as disclosed in the Registration Statement and the Prospectus, there are no outstanding options, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire, any Common Stock or the capital stock of any Subsidiary, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional Common Stock or Common Stock Equivalents or capital stock of any Subsidiary. The issuance and sale of the Public Securities will not obligate the Company or any Subsidiary to issue Common Stock or other securities to any Person (other than the Underwriters) and, except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus, will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. There are no securities of the Company or any Subsidiary that have any anti-dilution rights (other than adjustments for stock splits, recapitalizations, and the like) to the exercise or conversion price, have any exchange rights, or reset rights. Except as set forth in the Registration Statement and the Prospectus, there are no outstanding securities or instruments of the Company or any Subsidiary that contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to redeem a security of the Company or such Subsidiary. The Company does not have any share appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement relating to rights in Common Stock. All of the outstanding Common Stock are duly authorized, validly issued, fully paid and non-assessable, have been issued in compliance in all material respects with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. No further approval or authorization of any shareholder, the Board of Directors or others is required for the issuance and sale of the Public Securities. Except as set forth in the Registration Statement and the Prospectus, there are no shareholders agreements, voting agreements or other similar agreements with respect to the Common Stock or other securities of the Company to which the Company is a party or, to the knowledge of the Company, between or among any of the Company's shareholders.

2.11 Material Changes; Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the Registration Statement, except as disclosed in the Registration Statement and the Prospectus, (i) there has been no event, occurrence or development that has had or that could reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company's financial statements pursuant to accounting principles generally accepted in the United States of America ("**U.S. GAAP**"), or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its shareholders or purchased, redeemed or made any agreements to purchase or redeem any Common Stock and (v) the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company stock option plans, if any. For purposes hereof, "**Affiliate**" means any person or entity that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person or entity as such terms are used in and construed under Rule 405 under the Securities Act. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Public Securities contemplated by the Prospectus or disclosed in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective business, prospects (as such prospects are described in the Prospectus), properties, operations, assets or financial condition that would be required to be disclosed by the Company under the Securities Act, the Exchange Act or the Rules and Regulations as of the date of this Agreement.

2.12 Financial Statements. The financial statements of the Company, together with the related notes and schedules, included in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act and the Rules and Regulations, and fairly present, in all material respects, the financial condition of the Company as of the dates indicated and the results of operations and changes in cash flows for the periods therein specified in conformity with U.S. GAAP consistently applied throughout the periods involved. No other financial statements or schedules are required under the Securities Act, the Exchange Act, or the Rules and Regulations to be included in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus. The pro forma financial statements included in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus include assumptions that provide a reasonable basis for presenting the significant effects directly attributable to the transactions and events described therein, the related pro forma adjustments give appropriate effect to those assumptions, and the pro forma adjustments reflect the proper application of those adjustments to the historical financial statements amounts in the pro forma financial statements included in the Registration Statement, any Preliminary Prospectus and the Prospectus. The pro forma financial statements included in the Registration Statement, any Preliminary Prospectus and the Prospectus comply as to form in all material respects with the application requirements of Regulation S-X under the Exchange Act. No other pro forma financial information or schedules are required under the Securities Act, the Exchange Act, or the rules and regulations thereunder to be included in the Registration Statement, any Preliminary Prospectus and the Prospectus.

2.13 Litigation. Except as disclosed in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, there is no action, suit, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary, any of their respective properties or any of the Company's officers or directors before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an "Action") which (i) adversely affects or challenges the legality, validity or enforceability of this Agreement or any of the Transaction Documents or the Offering or the Securities or (ii) could, if there were an unfavorable decision, reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has within the last 10 years been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company.

2.14 Labor Relations. No material labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which could reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. No executive officer, to the knowledge of the Company, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. The Company and its Subsidiaries are in compliance with all applicable laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

2.15 Compliance. Except as set forth in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or governmental body or (iii) is or has been in violation of any statute, rule, ordinance or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws relating to taxes, environmental protection, immigration, intellectual property, occupational health and safety, product quality and safety, social security and employment and labor matters, except in each case as could not reasonably be expected to result in a Material Adverse Effect.

2.16 Regulatory Permits. The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct their respective businesses as described in the Prospectus, except where the failure to possess such permits could not reasonably be expected to result in a Material Adverse Effect (“**Material Permits**”), and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any Material Permit.

2.17 Regulatory Matters. The studies and tests conducted by or on behalf of or sponsored by the Company or its Subsidiaries that are described or referred to in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus were and, if still pending, are being conducted in accordance in all material respects with all statutes, laws, rules and regulations, as applicable. The descriptions of the results of such studies and tests that are described or referred to in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus are accurate and complete in all material respects and fairly present the published data derived from such studies and tests, and each of the Company and its Subsidiaries has no knowledge of other studies or tests the results of which are materially inconsistent with or otherwise call into question the results described or referred to in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus. Except as would not be reasonably expected to result in a Material Adverse Effect, neither the Company nor any of its Subsidiaries has failed to file with the applicable regulatory authorities any filing, declaration, listing, registration, report or submission that is required to be so filed.

2.18 Title to Assets. The Company and the Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and the Subsidiaries, in each case free and clear of all Liens, except for Liens disclosed in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus, Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries and Liens for the payment of federal, state or other taxes, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the Subsidiaries are in compliance.

2.19 Patents and Trademarks. The Company and the Subsidiaries have, or have rights to use, all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses and other intellectual property rights and similar rights necessary or required for use in connection with their respective businesses as described in the Registration Statement or the Prospectus and which the failure to so have could have a Material Adverse Effect (collectively, the “**Intellectual Property Rights**”). None of, and neither the Company nor any Subsidiary has received a notice (written or otherwise) that any of, the Intellectual Property Rights has expired, terminated or been abandoned, or is expected to expire or be abandoned, within two (2) years from the date of this Agreement, except where such action would not reasonably be expected to have a Material Adverse Effect. Except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, neither the Company nor any Subsidiary has received, since the date of the latest audited financial statements included within the Registration Statement and the Prospectus, a written notice of a claim or otherwise has any knowledge that the Intellectual Property Rights violate or infringe upon the rights of any Person, except as would not have or reasonably be expected to not have a Material Adverse Effect. To the knowledge of the Company, all such Intellectual Property Rights are enforceable and there is no existing infringement by another Person of any of the Intellectual Property Rights. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their intellectual properties, except where failure to do so would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The Company has no knowledge that it lacks or will be unable to obtain any rights or licenses to use all Intellectual Property Rights that are necessary to conduct its business.

2.20 Transactions With Affiliates and Employees. Except as set forth in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus, none of the officers or directors of the Company and, to the knowledge of the Company, none of the employees of the Company is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee or partner, in each case in excess of \$120,000 other than for (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

2.21 No Undisclosed Contracts. There is no contract or document required by the Securities Act or by the Rules and Regulations to be described in the Registration Statement or in the Prospectus or to be filed as an exhibit to the Registration Statement which is not so described or filed therein as required. All descriptions of any such contracts or documents contained in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package and in the Prospectus are accurate and complete descriptions of such documents in all material respects. Other than as described in the Registration Statement and the Prospectus, no such contract has been suspended or terminated for convenience or default by the Company or any Subsidiary party thereto or any of the other parties thereto, and neither the Company nor any of its Subsidiaries has received notice, and the Company has no knowledge, of any such pending or threatened suspension or termination, except for suspensions or terminations that are not reasonably likely to result in a Material Adverse Effect.

2.22 No Undisclosed Relationships. No relationship, direct or indirect, exists between or among the Company or any of its Subsidiaries on the one hand, and the directors, officers, shareholders (or analogous interest holders), customers or suppliers of the Company or any of its Subsidiaries on the other hand, which is required to be described in or filed as an exhibit to the Registration Statement or the Prospectus and which is not so described or filed.

2.23 Continued Business. No supplier, customer, distributor or sales agent of the Company or any Subsidiary has notified the Company or any Subsidiary that it intends to discontinue or decrease the rate of business done with the Company or any Subsidiary, except where such discontinuation or decrease has not resulted in and could not reasonably be expected to result in a Material Adverse Effect.

2.24 Sarbanes-Oxley: Accounting and Disclosure Controls. Except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and in the Prospectus, the Company is in compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective and applicable to the Company as a smaller reporting company and non-accelerated filer as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date. Except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and in the Prospectus, the Company maintains a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and in the Prospectus, the Company has established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and designed such disclosure controls and procedures to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms.

2.25 Certain Fees, FINRA Affiliation. Except as set forth herein and in the Preliminary Prospectus, the Pricing Disclosure Package, the Registration Statement and the Prospectus, no brokerage or finder's fees or commissions are or will be payable by the Company or any Subsidiary to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. Except as set forth in the Registration Statement, and the Prospectus, to the Company's knowledge, there are no other arrangements, agreements or understandings of the Company or, to the Company's knowledge, any of its stockholders that may affect the Underwriters' compensation, as determined by Financial Industry Regulatory Authority, Inc. ("FINRA"). The Company has not made any direct or indirect payments (in cash, securities or otherwise) to (i) any person, as a finder's fee, investing fee or otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who provided capital to the Company, (ii) except with in connection with the Company's initial public offering, any FINRA member, or (iii) any person or entity that has any direct or indirect affiliation or association with any FINRA member within the 12-month period prior to the date on which the Registration Statement was filed with the Commission (the "Filing Date") or thereafter. To the Company's knowledge, no (i) officer or director of the Company or its subsidiaries, (ii) owner of 10% or more of the Company's unregistered securities or that of its subsidiaries or (iii) owner of any amount of the Company's unregistered securities acquired within the 180-day period prior to the Filing Date, has any direct or indirect affiliation or association with any FINRA member. The Company will advise the Representative if it becomes aware that any officer, director or stockholder of the Company or its Subsidiaries is or becomes an affiliate or associated person of a FINRA member participating in the Offering.

2.26 Investment Company Status. The Company is not, and is not an Affiliate of, and immediately after receipt of payment for the Public Securities, will not be or be an Affiliate of, an "investment company" within the meaning of the Investment Company Act of 1940, as amended.

2.27 Registration Rights. Except as set forth in the Registration Statement or the Prospectus, no Person has any right to cause the Company to effect the registration under the Securities Act of any securities of the Company.

2.28 Solvency. Based on the consolidated financial condition of the Company as of the Closing Date, after giving effect to the receipt by the Company of the proceeds from the sale of the Public Securities hereunder, and based upon management of the Company's current beliefs and assumptions regarding the Company's projected revenues, costs and cash flow, and subject to the risks set forth in the Registration Statement and the Prospectus, as of the date hereof management of the Company believes that the Company will have sufficient working capital to fund the Company's operations for the next 12 months as currently planned. The Registration Statement and the Prospectus sets forth all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$200,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$200,000 due under leases required to be capitalized in accordance with U.S. GAAP. Except as set forth in the Registration Statement and the Prospectus, neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

2.29 Tax Status. Except for matters that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect, the Company and each Subsidiary (i) has made or filed all income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due in the ordinary course by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

2.30 Auditors. Marcum LLP (the "Auditor") is the Company's independent registered public accounting firm. To the knowledge and belief of the Company, such accounting firm (i) is a registered public accounting firm as required by the Exchange Act and (ii) has expressed its opinion with respect to the financial statements of the Company for the years ended December 31, 2021 and 2020.

2.31 Office of Foreign Assets Control. Neither the Company nor any of its Subsidiaries, nor, to the knowledge of the Company, any director, officer, employee, agent, affiliate or representative of the Company or any Subsidiary, or any employee, representative, agent or affiliate of the Company or any of its Subsidiaries or any other person acting on behalf of the Company or any of its Subsidiaries is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department (“OFAC”), and the Company will not directly or indirectly use the proceeds of the offering of the Securities contemplated hereby, or lend, contribute or otherwise make available such proceeds to any person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

2.32 Insurance. The Company and each of its Subsidiaries carries, or is covered by, insurance in such amounts and covering such risks as, in the Company’s reasonable belief, is adequate for the conduct of its business and the value of its properties.

2.33 Company Not Ineligible Issuer. (i) At the time of filing the Registration Statement relating to the Public Securities and (ii) as of the date of the execution and delivery of this Agreement (with such date being used as the determination date for purposes of this clause (ii)), the Company was not and is not an “ineligible issuer,” as defined in Rule 405.

2.34 [Reserved].

2.35 Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in either the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

2.36 Statistical or Market-Related Data. Any statistical, industry-related and market-related data included or incorporated by reference in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, are based on or derived from sources that the Company reasonably and in good faith believes to be reliable and accurate, and such data agree with the sources from which they are derived.

2.37 Listing and Maintenance Requirements. The Securities are registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Securities under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. Subject to the notice received from Nasdaq advising the Company that it was not in compliance with Nasdaq Listing Rule 5550(a)(2) since the closing bid price of the Company’s common stock listed on Nasdaq was below \$1.00 for 30 consecutive business days, the Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of Nasdaq.

2.38 Foreign Corrupt Practices. Neither the Company nor any Subsidiary nor any director, officer or employee of the Company or any Subsidiary nor, nor to the knowledge of the Company, any agent, affiliate or other person acting on behalf of the Company or any Subsidiary, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company (or made by any person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended.

2.39 Regulation M Compliance. The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Public Securities, (ii) sold, bid for, purchased, or, paid any compensation for soliciting purchases of, any of the Public Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company, other than, in the case of clauses (ii) and (iii), compensation paid to the Underwriters in connection with the Offering.

2.40 [Reserved].

2.41 Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the “**Money Laundering Laws**”), and no Action or Proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or any Subsidiary, threatened.

2.42 Certificates. Any certificate signed by an officer of the Company and delivered to the Underwriters or to counsel for the Underwriters shall be deemed to be a representation and warranty by the Company to the Underwriters as to the matters set forth therein.

2.43 Reliance. The Company acknowledges that the Underwriters will rely upon the accuracy and truthfulness of the foregoing representations and warranties and hereby consents to such reliance.

2.44 Cybersecurity. The Company and its Subsidiaries’ information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, “**IT Systems**”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company and its subsidiaries have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including all “**Personal Data**” (defined below) and all sensitive, confidential or regulated data (“**Confidential Data**”) used in connection with their businesses. “**Personal Data**” means (i) a natural person’s name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver’s license number, passport number, credit card number, bank information, or customer or account number; (ii) any information which would qualify as “personally identifying information” under the Federal Trade Commission Act, as amended; (iii) “personal data” as defined by GDPR; (iv) any information which would qualify as “protected health information” under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, “**HIPAA**”); (v) any “personal information” as defined by the California Consumer Privacy Act (“**CCPA**”); and (vi) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person’s health or sexual orientation. There have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and its subsidiaries are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems, Confidential Data, and Personal Data and to the protection of such IT Systems, Confidential Data, and Personal Data from unauthorized use, access, misappropriation or modification.

2.45 Compliance with Data Privacy Laws. The Company and its Subsidiaries are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, CCPA, and the European Union General Data Protection Regulation (“**GDPR**”) (EU 2016/679) (collectively, the “**Privacy Laws**”). To ensure compliance with the Privacy Laws, the Company has in place, complies with, and takes appropriate steps to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, processing, disclosure, handling, and analysis of Personal Data and Confidential Data (the “**Policies**”). The Company has at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made or contained in any Policy have been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. The Company further certifies that neither it nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

3. Covenants of the Company. The Company covenants and agrees as follows:

3.1 Amendments to Registration Statement. The Company shall deliver to the Representative, prior to filing, any amendment or supplement to the Registration Statement, Preliminary Prospectus, the Pricing Disclosure Package or Prospectus proposed to be filed after the Effective Date and not file any such amendment or supplement to which the Representative shall reasonably object in writing.

3.2 Federal Securities Laws.

3.2.1 Compliance. The Company, subject to Section 3.2.2, shall comply with the requirements of Rule 424(b) and Rule 430A of the Securities Act, and will notify the Representative promptly, and confirm the notice in writing, (i) when any post-effective amendment to the Registration Statement or any amendment or supplement to any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus shall have been filed and when any post-effective amendment to the Registration Statement shall become effective; (ii) of the receipt of any comments from the Commission; (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to any Preliminary Prospectus, the Pricing Disclosure Package, or the Prospectus or for additional information; (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, or of the suspension of the qualification of the Public Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the Securities Act concerning the Registration Statement; and (v) if the Company becomes the subject of a proceeding under Section 8A of the Securities Act in connection with the Offering of the Public Securities. The Company shall effect all filings required under Rule 424(b) of the Securities Act, in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and shall take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company shall use its commercially reasonable efforts to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof at the earliest possible moment.

3.2.2 Continued Compliance. The Company shall comply with the Securities Act, the Exchange Act and the applicable Rules and Regulations so as to permit the completion of the distribution of the Public Securities as contemplated in this Agreement and in the Registration Statement and the Prospectus. If at any time when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172 of the Securities Act (“**Rule 172**”), would be) required by the Securities Act to be delivered in connection with sales of the Public Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Underwriters or for the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; (ii) amend or supplement the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus in order that the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the Securities Act or the applicable Rules and Regulations, the Company will promptly (A) give the Representative notice of such event; (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Representative with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement; *provided, however,* that the Company shall not file or use any such amendment or supplement to which the Representative or counsel for the Underwriters shall reasonably object. The Company will furnish to the Underwriters such number of copies of such amendment or supplement as the Underwriters may reasonably request. The Company has given the Representative notice of any filings made pursuant to the Exchange Act or the applicable Rules and Regulations within 48 hours prior to the Effective Time. The Company shall give the Representative notice of its intention to make any such filing from the Effective Time until the later of the Closing Date and the exercise in full or expiration of the Over-allotment Option specified in Section 1.2 hereof and will furnish the Representative with copies of the related document(s) a reasonable amount of time prior to such proposed filing, as the case may be, and will not file or use any such document to which the Representative or counsel for the Underwriters shall reasonably object.

3.2.3 Exchange Act Registration. For a period of two (2) years after the date of this Agreement, the Company shall use commercially reasonable efforts to maintain the registration of the Common Stock under the Exchange Act, unless the Company is taken private or otherwise acquired in a bona fide acquisition transaction. The Company shall not deregister the Common Stock under the Exchange Act without the prior written consent of the Representative, which consent shall not be unreasonably withheld.

3.3 Delivery to the Underwriters of Registration Statements. The Company has delivered or made available or shall deliver or make available to the Representative and counsel for the Representative, without charge, signed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith or incorporated by reference therein and documents incorporated or deemed to be incorporated by reference therein) and signed copies of all consents and certificates of experts, and will also deliver to the Underwriters, without charge, a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) for each of the Underwriters. The copies of the Registration Statement and each amendment thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.4 Delivery to the Underwriters of Prospectuses. The Company has delivered or made available or will deliver or make available to each Underwriter, without charge, as many copies of each Preliminary Prospectus as such Underwriter reasonably requested, and the Company hereby consents to the use of such copies for purposes permitted by the Securities Act. The Company will furnish to each Underwriter, without charge, during the period when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the Securities Act, such number of copies of the Prospectus (as amended or supplemented) as such Underwriter may reasonably request. The Prospectus and any amendments or supplements thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.5 Events Requiring Notice to the Representative. The Company shall use its commercially reasonable efforts to cause the Registration Statement to remain effective with a current prospectus for at least nine (9) months after the Effective Time, and shall notify the Representative promptly and confirm the notice in writing: (i) of the issuance by the Commission of any stop order or of the initiation, or the threatening, of any proceeding for that purpose; (ii) of the issuance by any state securities commission of any proceedings for the suspension of the qualification of the Public Securities for offering or sale in any jurisdiction or of the initiation, or the threatening, of any proceeding for that purpose; (iii) of the mailing and delivery to the Commission for filing of any amendment or supplement to the Registration Statement or Prospectus; (iv) of the receipt of any comments or request for any additional information from the Commission; and (v) of the happening of any event during the period described in this Section 3.5 that, in the judgment of the Company, makes any statement of a material fact made in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus untrue or that requires the making of any changes in (a) the Registration Statement in order to make the statements therein not misleading, or (b) in the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus in order to make the statements therein, in light of the circumstances under which they were made, not misleading. If the Commission or any state securities commission shall enter a stop order or suspend such qualification at any time, the Company shall make every reasonable effort to obtain promptly the lifting of such order.

3.6 [Reserved].

3.7 Listing. The Company shall use its commercially reasonable efforts to maintain the listing of the Common Stock (including the Firm Shares, the Registered Warrant Shares and the Option Shares (if any)) on the Nasdaq Capital Market (the “**Exchange**”). Nothing in this Section 3.7, however, shall prevent a bona fide sale, merger or similar transaction involving the Company.

3.8 [Reserved].

3.9 Reports to the Representative.

3.9.1 Periodic Reports, etc. For a period of two (2) years after the date of this Agreement, the Company shall furnish to the Representative copies of such financial statements and other periodic and special reports as the Company from time to time furnishes generally to holders of any class of its securities and also promptly furnish to the Representative (unless the Company is taken private or otherwise acquired in a bona fide acquisition transaction): (i) a copy of each periodic report the Company shall be required to file with the Commission under the Exchange Act and the applicable Rules and Regulations; (ii) a copy of every press release and every news item and article with respect to the Company or its affairs which was released by the Company; (iii) a copy of each Form 8-K prepared and filed by the Company; (iv) five copies of each registration statement filed by the Company under the Securities Act; (v) a copy of each report or other communication furnished to stockholders and (vi) such additional documents and information with respect to the Company and the affairs of any future subsidiaries of the Company as the Representative may from time to time reasonably request; *provided, however*, the Representative shall sign, if requested by the Company, a Regulation FD compliant confidentiality agreement which is reasonably acceptable to the Representative and Representative Counsel in connection with the Representative's receipt of such information. Documents filed with or furnished to the Commission pursuant to its EDGAR system or otherwise publicly filed or made available shall be deemed to have been delivered to the Representative pursuant to this Section 3.9.1.

3.9.2 Transfer Agent. The Company will maintain, at its expense, a registrar and transfer agent for the Public Securities for so long as the Common Stock are publicly-traded.

3.9.3 [Reserved].

3.10 Payment of Expenses. The Company hereby agrees to pay on each of the Closing Date and the Option Closing Date, if any, to the extent not paid at the Closing Date, all expenses incident to the performance of the obligations of the Company under this Agreement, including, but not limited to: (i) all filing fees and communication expenses relating to the registration of the Public Securities to be sold in the Offering with the Commission; (ii) all Public Filing System filing fees associated with the review of the Offering by FINRA; (iii) all fees and expenses relating to the listing of Common Stock on the Exchange and such other stock exchanges as the Company and the Representative together determine; (iv) all reasonable and documented fees, expenses and disbursements relating to the registration, qualification or exemption of the Public Securities under the "blue sky" securities laws of such states and other jurisdictions as the Representative may reasonably designate; (v) all reasonable and documented fees, expenses and disbursements relating to the registration, qualification or exemption of the Public Securities under the securities laws of such foreign jurisdictions as the Representative may reasonably designate; (vi) the reasonable and documented costs of all mailing and printing of the underwriting documents (including, without limitation, the Underwriting Agreement, any Blue Sky Surveys, International Blue Sky Surveys and, if appropriate, any Agreement Among Underwriters, Selected Dealers' Agreement, Underwriters' Questionnaire and Power of Attorney), Registration Statements, Prospectuses and all amendments, supplements and exhibits thereto and as many preliminary and final Prospectuses as the Representative may reasonably deem necessary; (vii) the costs of preparing, printing and delivering certificates representing the Public Securities; (viii) fees and expenses of the transfer agent for the Common Stock; (ix) stock transfer and/or stamp taxes, if any, payable upon the transfer of securities from the Company to the Underwriters; (x) the fees and expenses of the Company's accountants; (ix) all fees and expenses associated with listing the Shares and the Warrant Shares on the Nasdaq; and (x) the fees and expenses of the Company's legal counsel and other agents and representatives. The Company hereby agrees to pay on each of the Closing Date and the Option Closing Date, if any, to the extent not paid at the Closing Date, to the Representative, from the gross proceeds of the Offering, for accountable legal expenses incurred by the Representative in connection with the transaction in the amount of \$70,000 as well as non-accountable expenses (the "NAE") including, but not limited to, IPREO software related expenses, background check(s), tombstones, marketing related expenses; i.e. roadshow, travel, et al. and any other expenses incurred by the Representative in connection with the transaction, (provided, however, that such reimbursement amount shall in no way limit or impair the indemnification and contribution provisions of this Agreement). The total NAE allowance shall not exceed \$15,000.

3.11 Application of Net Proceeds. The Company shall apply the net proceeds from the Offering received by it in a manner consistent with the application thereof described under the caption “Use of Proceeds” in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus.

3.12 Delivery of Earnings Statements to Security Holders. The Company shall make generally available to its security holders as soon as practicable, but not later than the first day of the fifteenth (15th) full calendar month following the date of this Agreement, an earnings statement (which need not be certified by an independent registered public accounting firm unless required by the Securities Act or the applicable Rules and Regulations, but which shall satisfy the provisions of Rule 158(a) under Section 11(a) of the Securities Act) covering a period of at least twelve (12) consecutive months beginning after the date of this Agreement. Documents filed with the Commission pursuant to its EDGAR system shall be deemed to have been made available to security holders pursuant to this Section 3.12.

3.13 Stabilization. Neither the Company nor, to its knowledge, any of its employees, directors or shareholders (without the consent of the Representative) has taken or shall take, directly or indirectly, any action designed to or that has constituted or that might reasonably be expected to cause or result in, under Regulation M of the Exchange Act, or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Public Securities.

3.14 Internal Controls. The Company shall use commercially reasonable efforts to maintain a system of internal accounting controls sufficient to provide reasonable assurances that: (i) transactions are executed in accordance with management’s general or specific authorization; (ii) transactions are recorded as necessary in order to permit preparation of financial statements in accordance with U.S. GAAP and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

3.15 Accountants. As of the date of this Agreement, the Company shall continue to retain a nationally recognized independent registered public accounting firm for a period of at least one (1) year after the date of this Agreement. The Representative acknowledges that the Auditor is acceptable to the Representative.

3.16 FINRA. The Company shall advise the Representative (who shall make an appropriate filing with FINRA) if it is or becomes aware that (i) any officer or director of the Company, (ii) any beneficial owner of 5% or more of any class of the Company’s securities or (iii) any beneficial owner of the Company’s unregistered equity securities which were acquired during the 180 days immediately preceding the filing of the Registration Statement is or becomes an affiliate or associated person of a FINRA member participating in the Offering (as determined in accordance with the rules and regulations of FINRA).

3.17 No Fiduciary Duties. The Company acknowledges and agrees that the Underwriters’ responsibility to the Company is solely contractual in nature and that none of the Underwriters or their affiliates or any selling agent shall be deemed to be acting in a fiduciary capacity, or otherwise owes any fiduciary duty to the Company or any of its affiliates in connection with the Offering and the other transactions contemplated by this Agreement.

3.18 Company Lock-Up Agreements. The Company will not, without the prior written consent of A.G.P./Alliance Global Partners, from the date of execution of this Agreement and continuing for a period of 90 days from the Effective Date (the “**Lock-Up Period**”): (i) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, or file with the Commission a registration statement under the Securities Act relating to, Common Stock or Common Stock Equivalents, (ii) file or cause to be filed any registration statement with the Commission relating to the offering of any shares of Common Stock of the Company or any securities convertible into or exercisable or exchangeable for Common Stock of the Company, or (iii) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Common Stock or any Common Stock Equivalents, whether any such transaction described in clause (i), (ii) or (iii) above is to be settled by delivery of Common Stock or any Common Stock Equivalents, in cash or otherwise, except to the Underwriters pursuant to this Agreement.

The restrictions contained in this Section 3.18 shall not apply to: (A) the Public Securities, (B) any Common Stock previously issued under Company Incentive Plans as described as outstanding in the Registration Statement and the Prospectus, (C) any options and other awards granted under a Company Incentive Plan or Common Stock issued pursuant to an employee stock purchase plan, in each case, as described in the Registration Statement and the Prospectus, (D) Common Stock or other securities issued upon exercise or conversion pursuant to the terms of outstanding securities of the Company or pursuant to agreements of the Company entered into prior to the date hereof and (E) Common Stock or other securities issued in connection with (1) a transaction with an unaffiliated third party that includes a bona fide commercial relationship (including joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements) or (2) any acquisition of assets or acquisition of not less than a majority or controlling portion of the equity of another entity, or any merger or similar transaction with another entity, whether or not the Company is the surviving entity in such transaction; provided that the recipient of any such Common Stock or other securities issued or granted pursuant to clauses (B), (C), (D) and (E) (except for any Common Stock or other securities issued in a transaction described in clause (E)(2) that are issued in a transaction registered under the Securities Act, to which this proviso shall not apply) during the Lock-Up Period shall enter into an agreement substantially in the form of **Exhibit A** hereto.

3.19 **Blue Sky Qualifications.** The Company shall use its commercially reasonable efforts, in cooperation with the Underwriters, if necessary, to qualify the Public Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Representative may designate with the consent of the Company and to maintain such qualifications in effect so long as required to complete the distribution of the Public Securities; *provided, however*, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

3.20 **Reporting Requirements.** The Company, during the period when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the Securities Act, will file all documents required to be filed with the Commission pursuant to the Exchange Act within the time periods required by the Exchange Act and the applicable Rules and Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Public Securities as may be required under Rule 463 under the Securities Act.

3.21 **Sarbanes-Oxley.** Except as disclosed in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package and the Prospectus, the Company shall at all times comply with all applicable provisions of the Sarbanes-Oxley Act in effect from time to time.

3.22 **Compensation to Underwriters.** In consideration of the services to be provided for hereunder and in addition to the underwriting discount provided for in Section 1.1.1, the Company shall pay to the Representative and/or its respective designees the following compensation:

A. A cash fee of 7.0% of the aggregate gross proceeds raised from the exercise of the Firm Common Warrants (the “**Cash Fee**”), in consideration of the Underwriter’s soliciting the exercise of the Firm Common Warrants, payable within 48 hours of the receipt by the Company of any cash exercise price proceeds from the exercise of any Firm Common Warrants, provided that no such fee is due and payable hereunder in the event the Firm Common Warrants are not exercised for cash, in each case in compliance with FINRA Rule 5110(g)(10).

B. The Underwriter Warrants.

C. The Underwriters shall be entitled to compensation under clauses (A) and (B) above, calculated in the manner set forth herein, with respect to any public or private offering or other financing or capital-raising transaction of any kind (“**Tail Financing**”) to the extent that such financing is both (i) provided to the Company by investors that were, during the term of this Agreement, brought “over-the-wall” by the Underwriter or were contacted by the Underwriter and (ii) such Tail Financing is consummated at any time within the 12-month period following the date of execution of this Agreement.

4. Conditions of the Obligations of the Underwriters. The obligations of the Underwriters hereunder shall be subject to the accuracy of the representations and warranties on the part of the Company set forth in Section 2 hereof, in each case as of the date hereof and as of the Closing Date as though then made, to the timely performance by each of the Company of its covenants and other obligations hereunder on and as of such dates, and to each of the following additional conditions:

4.1 Accountants' Comfort Letter. On the date hereof, the Representative shall have received, and the Company shall have caused to be delivered to the Representative, a letter from the Auditor addressed to the Representative, dated as of the date hereof, in form and substance satisfactory to the Representative. The letter shall not disclose any change in the condition (financial or other), earnings, operations, business or prospects of the Company from that set forth in the Prospectus, which, in the Representative's sole judgment, is material and adverse and that makes it, in the Representative's sole judgment, impracticable or inadvisable to proceed with the Offering of the Public Securities as contemplated by the Prospectus.

4.2 Bring-down Comfort Letter. On the Closing Date, the Representative shall have received from the Auditor a letter dated as of such Closing Date, in form and substance satisfactory to the Representative, to the effect that they reaffirm the statements made in the letter furnished pursuant to this Section 4.1, except that the specified date referred to therein for the carrying out of procedures shall be no more than three business days prior to such Closing Date.

4.3 Compliance with Registration Requirements; No Stop Order; No Objection from FINRA. The Registration Statement shall have become effective and all necessary regulatory and Exchange listing approvals shall have been received not later than 5:30 P.M., New York City time, on the date of this Agreement, or at such later time and date as shall have been consented to in writing by the Representative. The Prospectus (in accordance with Rule 424(b)) shall have been duly filed with the Commission in a timely fashion in accordance with the terms thereof. At or prior to the Closing Date and the actual time of the Closing, no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission; no order preventing or suspending the use of the Prospectus shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission; no order having the effect of ceasing or suspending the distribution of the Public Securities or any other securities of the Company shall have been issued by any securities commission, securities regulatory authority or stock exchange and no proceedings for that purpose shall have been instituted or shall be pending or, to the knowledge of the Company, contemplated by any securities commission, securities regulatory authority or stock exchange; all requests for additional information on the part of the Commission shall have been complied with; and the FINRA shall have raised no objections to the fairness and reasonableness of the placement terms and arrangements.

4.4 Corporate Proceedings. All corporate proceedings and other legal matters in connection with this Agreement, the Registration Statement and the Prospectus, and the registration, sale and delivery of the Public Securities, shall have been completed or resolved in a manner reasonably satisfactory to the Underwriters' counsel.

4.5 No Material Adverse Effect. Subsequent to the execution and delivery of this Agreement and prior to the Closing Date, in the Underwriter's sole judgment after consultation with the Company, there shall not have occurred any Material Adverse Effect.

4.6 Closing Date Opinion of Counsel for the Company. The Representative shall have received on the Closing Date the favorable opinion and negative assurance letter of Dorsey & Whitney LLP, counsel to the Company, dated as of such Closing Date and addressed to the Representative in customary form reasonably satisfactory to the Representative.

4.7 Option Closing Date Opinions of Counsel. The Representative shall have received on the Option Closing date the favorable opinions of counsel listed in Section 4.6, dated as of the Option Closing Date, addressed to the Representative in customary form reasonably satisfactory to the Representative, confirming as of the Option Closing Date, the statements made by such counsel in their respective opinions delivered on the Closing Date.

4.8 [Reserved].

4.9 [Reserved].

4.10 Officers' Certificate. The Representative shall have received on the Closing Date a certificate of the Company, dated as of such Closing Date, signed by the Chief Executive Officer and Chief Financial Officer of the Company, to the effect that, and the Representative shall be satisfied that, the signers of such certificate have reviewed the Registration Statement and the Prospectus, and this Agreement and to the further effect that:

4.10.1 The representations and warranties of the Company in this Agreement are true and correct, as if made on and as of such Closing Date, and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to such Closing Date;

4.10.2 No stop order suspending the effectiveness of the Registration Statement or the use of the Prospectus has been issued and no proceedings for that purpose have been instituted or are pending or, to the Company's knowledge, threatened under the Securities Act; no order having the effect of ceasing or suspending the distribution of the Public Securities or any other securities of the Company has been issued by any securities commission, securities regulatory authority or stock exchange in the United States and no proceedings for that purpose have been instituted or are pending or, to the knowledge of the Company, contemplated by any securities commission, securities regulatory authority or stock exchange in the United States;

4.10.3 Subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus, there has not been: (a) any Material Adverse Effect; (b) any transaction that is material to the Company and the Subsidiaries taken as a whole, except transactions entered into in the ordinary course of business; (c) any obligation, direct or contingent, that is material to the Company and the Subsidiaries taken as a whole, incurred by the Company or any Subsidiary, except obligations incurred in the ordinary course of business; (d) any material change in the capital stock (except changes thereto resulting from the exercise of outstanding options or warrants or conversion of outstanding indebtedness into Common Stock) or outstanding indebtedness of the Company or any Subsidiary (except for the conversion of such indebtedness into Common Stock); (e) any dividend or distribution of any kind declared, paid or made on Common Stock; or (f) any loss or damage (whether or not insured) to the property of the Company or any Subsidiary which has been sustained or will have been sustained which has a Material Adverse Effect.

4.11 Secretary's Certificate. As of the Closing Date the Representative shall have received a certificate of the Company signed by the Secretary of the Company, dated the Closing Date, certifying: (i) that each of the Company's Articles of Incorporation and Bylaws attached to such certificate is true and complete, has not been modified and is in full force and effect; (ii) that each of the Subsidiaries Articles of Incorporation and Bylaws or charter documents attached to such certificate is true and complete, has not been modified and is in full force and effect; (iii) that the resolutions of the Company's Board of Directors relating to the Offering attached to such certificate are in full force and effect and have not been modified; and (iv) the good standing of the Company and each of the Subsidiaries, but only to the extent good standing is a concept applicable in the jurisdiction of formation of a Subsidiary. The documents referred to in such certificate shall be attached to such certificate.

4.12 CFO Certificate. On the date hereof and on the Closing Date the Representative shall have received a certificate of the Company's Chief Financial Officer with respect to certain financial data contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus, providing "management comfort" with respect to such information, in form and substance reasonably satisfactory to the Representative.

4.13. On or before the Closing Date, the Representative and counsel for the Underwriters shall have received such customary information and documents as they may reasonably require for the purposes of enabling them to pass upon the issuance and sale of the Public Securities as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained. If any condition specified in this Section 4 is not satisfied when and as required to be satisfied, this Agreement may be terminated by the Representative by notice to the Company at any time on or prior to the Closing Date, which termination shall be without liability on the part of any party to any other party, except that Section 5 (Indemnification) and Section 8.3 (Expenses) shall at all times be effective and shall survive such termination.

4.14 Subsequent to the execution and delivery of this Agreement or, if earlier, the dates as of which information is given in the Registration Statement (exclusive of any amendment thereof) and the Prospectus (exclusive of any supplement thereto), there shall not have been any change in the capital stock or long-term debt of the Company (other than as described in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus) or any change or development involving a change, whether or not arising from transactions in the ordinary course of business, in the business, condition (financial or otherwise), results of operations, shareholders' equity, properties or prospects of the Company, taken as a whole, including but not limited to the occurrence of any fire, flood, storm, explosion, accident, act of war or terrorism or other calamity, the effect of which, in any such case described above, is, in the sole judgment of the Representative, so material and adverse as to make it impracticable or inadvisable to proceed with the sale of Public Securities or Offering as contemplated hereby.

4.15 Subsequent to the execution and delivery of this Agreement and up to a Closing Date, there shall not have occurred any of the following: (i) trading in securities generally on the Nasdaq or any of the New York Stock Exchange, the NYSE American, or any tier of the markets operated by OTC Markets Group, Inc. shall not have commenced, (ii) a banking moratorium shall have been declared by federal or state authorities or a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States, (iii) the United States shall have become engaged in hostilities in which it is not currently engaged, the subject of an act of terrorism, there shall have been an escalation in hostilities involving the United States, or there shall have been a declaration of a national emergency or war by the United States, or (iv) there shall have occurred any other calamity or crisis or any actual or prospective change in general economic, political or financial conditions in the United States or elsewhere, if the effect of any such event in clause (ii) or (iv) makes it, in the sole judgment of the Representative, impracticable or inadvisable to proceed with the sale or delivery of the Public Securities on the terms and in the manner contemplated by the Prospectus.

4.16 The Representative shall have received a lock-up agreement from each person or entity set forth on Schedule 3 (each, a "**Lock-Up Party**"), duly executed by the applicable Lock-Up Party, in each case substantially in the form attached as Exhibit A.

4.17 No action shall have been taken and no statute, rule, regulation or order shall have been enacted, adopted or issued by any federal, state or foreign governmental or regulatory authority that would, as of the Closing Date, prevent the issuance or sale of the Public Securities; and no injunction or order of any federal, state or foreign court shall have been issued that would, as of the Closing Date, prevent the issuance or sale of the Public Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company.

If any of the conditions specified in this Section 4 shall not have been fulfilled when and as required by this Agreement, or if any of the certificates, opinions, written statements or letters furnished to the Representative or to Underwriters' counsel pursuant to this Section 4 shall not be reasonably satisfactory in form and substance to the Representative and to Underwriters' counsel, all obligations of the Underwriters hereunder may be cancelled by the Representative at, or at any time prior to, the consummation of the Offering. Notice of such cancellation shall be given to the Company in writing.

5. Indemnification

5.1 Indemnification of the Underwriters

5.1.1 General. Subject to the conditions set forth below, the Company agrees to indemnify and hold harmless each Underwriter, its affiliates and each of its and their respective directors, officers, members, employees, representatives and agents and each person, if any, who controls any such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the "**Underwriter Indemnified Parties**," and each an "**Underwriter Indemnified Party**"), against any and all loss, liability, claim, damage and expense whatsoever (including but not limited to any and all reasonable, out-of-pocket legal or other expenses reasonably incurred in investigating, preparing or defending against any litigation, commenced or threatened, or any claim whatsoever, whether arising out of any action between any of the Underwriter Indemnified Parties and the Company or between any of the Underwriter Indemnified Parties and any third party, or otherwise) to which they or any of them may become subject under the Securities Act, the Exchange Act or any other statute or at common law or otherwise or under the laws of foreign countries, arising out of or based upon any untrue statement or alleged untrue statement of a material fact contained in (i) the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus (as from time to time each may be amended and supplemented); (ii) any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the Offering, including any "road show" or investor presentations made to investors by the Company (whether in person or electronically); or (iii) any application or other document or written communication (in this Section 5, collectively called "**application**") executed by the Company or based upon written information furnished by the Company in any jurisdiction in order to qualify the Public Securities under the securities laws thereof or filed with the Commission, any state securities commission or agency, the Exchange or any other national securities exchange; or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, unless such statement or omission was made in reliance upon, and in conformity with, the Underwriters' Information. With respect to any untrue statement or omission or alleged untrue statement or omission made in the Preliminary Prospectus, the indemnity agreement contained in this Section 5.1.1 shall not inure to the benefit of any Underwriter Indemnified Party to the extent that any loss, liability, claim, damage or expense of such Underwriter Indemnified Party results from the fact that a copy of the Prospectus was not given or sent to the person asserting any such loss, liability, claim or damage at or prior to the written confirmation of sale of the Public Securities to such person as required by the Securities Act and the applicable Rules and Regulations, and if the untrue statement or omission has been corrected in the Prospectus, unless such failure to deliver the Prospectus was a result of non-compliance by the Company with its obligations under Section 3.1 hereof.

5.1.2 Procedure. If any action is brought against an Underwriter Indemnified Party in respect of which indemnity may be sought against the Company pursuant to Section 5.1.1, such Underwriter Indemnified Party shall promptly notify the Company in writing of the institution of such action and the Company shall assume the defense of such action, including the employment and fees of counsel (subject to the reasonable approval of such Underwriter Indemnified Party) and payment of actual expenses. Such Underwriter Indemnified Party shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such Underwriter Indemnified Party unless (i) the employment of such counsel at the expense of the Company shall have been authorized in writing by the Company in connection with the defense of such action, or (ii) the Company shall not have employed counsel to have charge of the defense of such action, or (iii) such indemnified party or parties shall have reasonably concluded that there may be defenses available to it or them which are different from or additional to those available to the Company (in which case the Company shall not have the right to direct the defense of such action on behalf of the indemnified party or parties), in any of which events the reasonable fees and expenses of not more than one additional firm of attorneys selected by the Underwriter Indemnified Party (in addition to local counsel if necessary) shall be borne by the Company. Notwithstanding anything to the contrary contained herein, if any Underwriter Indemnified Party shall assume the defense of such action as provided above, the Company shall have the right to approve the terms of any settlement of such action, which approval shall not be unreasonably withheld.

5.2 Indemnification of the Company. Each Underwriter, severally and not jointly, agrees to indemnify and hold harmless the Company, its directors, its officers who signed the Registration Statement and persons who control the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act against any and all loss, liability, claim, damage and expense described in the foregoing indemnity from the Company to the several Underwriters, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions made in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or Prospectus or any amendment or supplement thereto or in any application, in reliance upon, and in strict conformity with, the Underwriters' Information. In case any action shall be brought against the Company or any other person so indemnified based on any Preliminary Prospectus, , the Pricing Disclosure Package the Registration Statement or Prospectus or any amendment or supplement thereto or any application, and in respect of which indemnity may be sought against any Underwriter, such Underwriter shall have the rights and duties given to the Company, and the Company and each other person so indemnified shall have the rights and duties given to the several Underwriters by the provisions of Section 5.1.2. The Company agrees promptly to notify the Representative of the commencement of any litigation or proceedings against the Company or any of its officers, directors or any person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, in connection with the issuance and sale of the Public Securities or in connection with the Registration Statement or the Prospectus.

5.3 Contribution.

5.3.1 Contribution Rights. If the indemnification provided for in this Section 5 shall for any reason be unavailable to or insufficient to hold harmless an indemnified party under Section 5.1 or 5.2 in respect of any loss, claim, damage or liability, or any action in respect thereof, referred to therein, then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability, or action in respect thereof, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other, from the Offering of the Public Securities, or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriters, on the other, with respect to the statements or omissions that resulted in such loss, claim, damage or liability, or action in respect thereof, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriters, on the other, with respect to such Offering shall be deemed to be in the same proportion as the total net proceeds from the Offering of the Public Securities purchased under this Agreement (before deducting expenses) received by the Company, as set forth in the table on the cover page of the Prospectus, on the one hand, and the total underwriting discounts and commissions received by the Underwriters with respect to the shares of the Common Stock purchased under this Agreement, as set forth in the table on the cover page of the Prospectus, on the other hand. The relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriters, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to this Section 5.3.1 were to be determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section 5.3.1 shall be deemed to include, for purposes of this Section 5.3.1, any reasonable, out-of-pocket legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 5.3.1 in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the Offering of the Public Securities exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

5.3.2 Contribution Procedure. Within fifteen (15) days after receipt by any party to this Agreement (or its representative) of notice of the commencement of any action, suit or proceeding, such party will, if a claim for contribution in respect thereof is to be made against another party (“contributing party”), notify the contributing party of the commencement thereof, but the failure to so notify the contributing party will not relieve it from any liability which it may have to any other party other than for contribution hereunder. In case any such action, suit or proceeding is brought against any party, and such party notifies a contributing party or its representative of the commencement thereof within the aforesaid 15 days, the contributing party will be entitled to participate therein with the notifying party and any other contributing party similarly notified. Any such contributing party shall not be liable to any party seeking contribution on account of any settlement of any claim, action or proceeding affected by such party seeking contribution on account of any settlement of any claim, action or proceeding affected by such party seeking contribution without the written consent of such contributing party. The contribution provisions contained in this Section 5.3.2 are intended to supersede, to the extent permitted by law, any right to contribution under the Securities Act, the Exchange Act or otherwise available. Each Underwriter’s obligations to contribute pursuant to this Section 5.3 are several and not joint.

6. Default by an Underwriter.

6.1 Default Not Exceeding 10% of Firm Securities or Option Securities. If any Underwriter or Underwriters shall default in its or their obligations to purchase the Firm Securities or the Option Securities, if the Over-allotment Option is exercised hereunder, and if the number of the Firm Securities or Option Securities with respect to which such default relates does not exceed in the aggregate 10% of the number of Firm Securities or Option Securities that all Underwriters have agreed to purchase hereunder, then such Firm Securities or Option Securities to which the default relates shall be purchased by the non-defaulting Underwriters in proportion to their respective commitments hereunder.

6.2 Default Exceeding 10% of Firm Securities or Option Securities. In the event that the default addressed in Section 6.1 relates to more than 10% of the Firm Securities or Option Securities, you may in your discretion arrange for yourself or for another party or parties to purchase such Firm Securities or Option Securities to which such default relates on the terms contained herein. If, within one (1) Business Day after such default relating to more than 10% of the Firm Securities or Option Securities, you do not arrange for the purchase of such Firm Securities or Option Securities, then the Company shall be entitled to a further period of one (1) Business Day within which to procure another party or parties satisfactory to you to purchase said Firm Securities or Option Securities on such terms. In the event that neither you nor the Company arrange for the purchase of the Firm Securities or Option Securities to which a default relates as provided in this Section 6, this Agreement will automatically be terminated by you or the Company without liability on the part of the Company (except as provided in Sections 3.9 and 5 hereof) or the several Underwriters (except as provided in Section 5 hereof); *provided, however*, that if such default occurs with respect to the Option Securities, this Agreement will not terminate as to the Firm Securities; and *provided, further*, that nothing herein shall relieve a defaulting Underwriter of its liability, if any, to the other Underwriters and to the Company for damages occasioned by its default hereunder.

6.3 Postponement of Closing Date. In the event that the Firm Securities or Option Securities to which the default relates are to be purchased by the non-defaulting Underwriters, or are to be purchased by another party or parties as aforesaid, you or the Company shall have the right to postpone the Closing Date or Option Closing Date for a reasonable period, but not in any event exceeding five (5) Business Days, in order to effect whatever changes may thereby be made necessary in the Registration Statement, the Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus or in any other documents and arrangements, and the Company agrees to file promptly any amendment to the Registration Statement, the Preliminary Prospectus or the Prospectus that in the opinion of counsel for the Underwriter may thereby be made necessary. The term “**Underwriter**” as used in this Agreement shall include any party substituted under this Section 6 with like effect as if it had originally been a party to this Agreement with respect to such Public Securities.

7. Board Composition and Board Designations. The Company shall ensure that: (i) the qualifications of the persons serving as members of the Board of Directors and the overall composition of the Board comply with the Sarbanes-Oxley Act, with the Exchange Act and with the listing rules of the Exchange or any other national securities exchange, as the case may be, in the event the Company seeks to have its Public Securities listed on another exchange or quoted on an automated quotation system, and (ii) if applicable, at least one member of the Audit Committee of the Board of Directors qualifies as an “audit committee financial expert,” as such term is defined under Regulation S-K and the listing rules of the Exchange.

8. Effective Date of this Agreement and Termination Thereof.

8.1 Effective Date. This Agreement shall become effective when both the Company and the Representative have executed the same and delivered counterparts of such signatures to the other party.

8.2 Termination. The Representative shall have the right to terminate this Agreement at any time prior to any Closing Date, (i) if any domestic or international event or act or occurrence has materially disrupted, or in your opinion will in the immediate future materially disrupt, general securities markets in the United States; or (ii) if trading on the New York Stock Exchange or the Nasdaq Stock Market LLC shall have been suspended or materially limited, or minimum or maximum prices for trading shall have been fixed, or maximum ranges for prices for securities shall have been required by FINRA or by order of the Commission or any other government authority having jurisdiction; or (iii) if the United States shall have become involved in a new war or a substantial increase in major hostilities; or (iv) if a banking moratorium has been declared by a New York State or federal authority; or (v) if a moratorium on foreign exchange trading has been declared which materially adversely impacts the United States securities markets; or (vi) if the Company shall have sustained a material loss by fire, flood, accident, hurricane, earthquake, theft, sabotage or other calamity or malicious act which, whether or not such loss shall have been insured, will, in your judgment, make it inadvisable to proceed with the delivery of the Firm Securities or Option Securities; or (vii) if the Company is in material breach of any of its representations, warranties or covenants hereunder; or (viii) if the Representative shall have become aware after the date hereof of a material adverse change in the conditions or prospects of the Company, or such an adverse material change in general market conditions as in the Representative’s reasonable judgment would make it impracticable to proceed with the offering, sale and/or delivery of the Public Securities or to enforce contracts made by the Underwriters for the sale of the Public Securities.

8.3 Expenses. Notwithstanding anything to the contrary in this Agreement, except in the case of a default by the Underwriters, pursuant to Section 6.2 above, in the event that either party to this Agreement elects to terminate their further participation in the proposed transactions contemplated hereby, or this Agreement shall be terminated for any reason whatsoever, within the time specified herein or any extensions thereof pursuant to the terms herein, the Company shall be obligated to pay to the Underwriters their actual and accountable expenses related to the transactions contemplated herein then due and payable (including the fees and disbursements of Representative Counsel) up to a maximum of \$70,000 and upon demand the Company shall pay the full amount thereof to the Representative on behalf of the Underwriters; *provided, however*, that such expense cap in no way limits or impairs the indemnification and contribution provisions of this Agreement. All such expenses will include, but will not be limited to, all reasonable fees and disbursements of the Representative's counsel, travel, lodging and other "road show" expenses, mailing, printing and reproduction expenses, and any expenses incurred by the Representative in conducting its due diligence, including background checks of the Company's officers and directors, less amounts, if any, previously paid to the Representative in reimbursement for such expenses; provided, however, that the Representative will not be entitled to any such reimbursement if: (i) the Representative terminates its engagement prior to the execution of this Underwriting Agreement for other than Good Reason (as defined below) or (ii) the Company terminates the Representative's engagement prior to the execution of this Underwriting Agreement on account of the Representative's gross negligence or willful misconduct.

As used herein, the term "**Good Reason**" means: (i) the failure of the Company to proceed with the Offering in good faith, (ii) the gross negligence or willful misconduct of the Company, (iii) the occurrence of any domestic or international event or act or occurrence which materially disrupts or in the Representative's sole opinion will, in the immediate future, materially disrupt, general securities markets in the United States, (iv) the Company will have sustained a material loss by fire, flood, accident, hurricane, earthquake, theft, sabotage or other calamity or malicious act which, whether or not such loss will have been insured, will, in the Representative's sole judgment, make it inadvisable to proceed with the Offering; (v) a material adverse change in the conditions or prospects of the Company which would make it, in the Representative's sole judgment impracticable to proceed with the Offering.

8.4 Survival of Indemnification. Notwithstanding any contrary provision contained in this Agreement, any election hereunder or any termination of this Agreement, and whether or not this Agreement is otherwise carried out, the provisions of Section 5 shall remain in full force and effect and shall not be in any way affected by, such election or termination or failure to carry out the terms of this Agreement or any part hereof.

8.5 Representations, Warranties, Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or its Affiliates or selling agents, any person controlling any Underwriter, its officers or directors or any person controlling the Company or (ii) delivery of and payment for the Public Securities.

9. Miscellaneous.

9.1 Notices. All communications hereunder, except as herein otherwise specifically provided, shall be in writing and shall be mailed (registered or certified mail, return receipt requested), personally delivered or sent by facsimile transmission and confirmed and shall be deemed given when so delivered or faxed and confirmed or if mailed, two (2) days after such mailing.

If to the Representative:
A.G.P./Alliance Global Partners
590 Madison Avenue, 28th Floor
New York, New York 10022
Attn: Mr. David Bocchi, Managing Director of Investment Banking
Fax No.: (212) 813-1047

with a copy (which shall not constitute notice) to:

Thompson Hine LLP
335 Madison Avenue, 12th Floor
New York, NY 10017
Attention: Faith Charles
Email: faith.charles@thompsonhine.com

If to the Company:
Akerna Corp.
1550 Larimer Street #246
Denver, CO 80202
Attention: Jessica Billingsley, Chair & CEO
Email: jlb@akerna.com

with a copy (which shall not constitute notice) to:

Jason K Brenkert, Esq.
Dorsey & Whitney LLP
1400 Wewatta Street, Suite 400
Denver, Colorado 80202
Attention: Jason K. Brenkert
Email: brenkert.jason@dorsey.com

9.2 Research Analyst Independence. The Company acknowledges that each Underwriter's research analysts and research departments are required to be independent from its investment banking division and are subject to certain regulations and internal policies, and that such Underwriter's research analysts may hold views and make statements or investment recommendations and/or publish research reports with respect to the Company and/or the offering that differ from the views of their investment banking division. The Company acknowledges that each Underwriter is a full service securities firm and as such from time to time, subject to applicable securities laws, rules and regulations, may effect transactions for its own account or the account of its customers and hold long or short positions in debt or equity securities of the Company; *provided, however*, that nothing in this Section 9.2 shall relieve the Underwriter of any responsibility or liability it may otherwise bear in connection with activities in violation of applicable securities laws, rules or regulations.

9.3 Headings. The headings contained herein are for the sole purpose of convenience of reference, and shall not in any way limit or affect the meaning or interpretation of any of the terms or provisions of this Agreement.

9.4 Amendment. This Agreement may only be amended by a written instrument executed by each of the parties hereto.

9.5 Entire Agreement. This Agreement (together with the other agreements and documents being delivered pursuant to or in connection with this Agreement) constitutes the entire agreement of the parties hereto with respect to the subject matter hereof and thereof, and supersedes all prior agreements and understandings of the parties, oral and written, with respect to the subject matter hereof.

9.6 Binding Effect. This Agreement shall inure solely to the benefit of and shall be binding upon the Representative, the Underwriters, the Company and the controlling persons, directors and officers referred to in Section 5 hereof, and their respective successors, legal representatives, heirs and assigns, and no other person shall have or be construed to have any legal or equitable right, remedy or claim under or in respect of or by virtue of this Agreement or any provisions herein contained. The term "successors and assigns" shall not include a purchaser, in its capacity as such, of securities from any of the Underwriters.

9.7 Governing Law; Consent to Jurisdiction; Trial by Jury. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York, without giving effect to conflict of laws principles thereof. The Company hereby agrees that any action, proceeding or claim against it arising out of, or relating in any way to this Agreement shall be brought and enforced in the New York Supreme Court, County of New York, or in the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum. Any such process or summons to be served upon the Company may be served by transmitting a copy thereof by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 9.1 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the Company in any action, proceeding or claim. The Company agrees that the prevailing party(ies) in any such action shall be entitled to recover from the other party(ies) all of its reasonable attorneys' fees and expenses relating to such action or proceeding and/or incurred in connection with the preparation therefor. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

9.8 Execution in Counterparts. This Agreement may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which shall be deemed to be an original, but all of which taken together shall constitute one and the same agreement, and shall become effective when one or more counterparts has been signed by each of the parties hereto and delivered to each of the other parties hereto. Delivery of a signed counterpart of this Agreement by facsimile or email/pdf transmission shall constitute valid and sufficient delivery thereof.

9.9 Waiver, etc. The failure of any of the parties hereto to at any time enforce any of the provisions of this Agreement shall not be deemed or construed to be a waiver of any such provision, nor to in any way effect the validity of this Agreement or any provision hereof or the right of any of the parties hereto to thereafter enforce each and every provision of this Agreement. No waiver of any breach, non-compliance or non-fulfillment of any of the provisions of this Agreement shall be effective unless set forth in a written instrument executed by the party or parties against whom or which enforcement of such waiver is sought; and no waiver of any such breach, non-compliance or non-fulfillment shall be construed or deemed to be a waiver of any other or subsequent breach, non-compliance or non-fulfillment.

[Signature Page Follows]

If the foregoing correctly sets forth the understanding between the Underwriters and the Company, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement between us.

Very truly yours,

AKERNA CORP.

By: /s/ Jessica Billingsley
Name: Jessica Billingsley
Title: Chief Executive Officer

Confirmed as of the date first written above mentioned, on behalf of itself and as Representative of the several Underwriters named on Schedule 1 hereto:

A.G.P./ALLIANCE GLOBAL PARTNERS

By: /s/ Thomas J. Higgins
Name: Thomas J. Higgins
Title: Managing Director, Investment Banking

SCHEDULE 1

Underwriter	Total Number of Firm Securities to be Purchased	Number of Option Shares/Option Warrants to be Purchased if the Over-Allotment Option is Fully Exercised by the Representative
A.G.P./Alliance Global Partners	86,956,522	13,043,478
TOTAL	_____	_____

SCHEDULE 2-A

Pricing Information

Number of Firm Shares: 29,382,861
Number of Firm Common Warrants: 43,478,261
Number of Firm Pre-Funded Warrants: 14,095,400
Number of Option Shares and/or Common Option Warrants: 6,521,739
Number of Pre-Funded Option Warrants: 6,521,739
Public Offering Price per Unit: \$0.23
Public Offering Price per Pre-Funded Unit: \$0.2299
Firm Warrant Exercise Price: \$0.23
Pre-Funded Warrant Exercise Price: \$0.0001
Underwriting Discount per Unit and Pre-Funded Unit: \$0.0161
Proceeds to Company per Unit (before expenses): \$0.2139
Proceeds to the Company per Pre-Funded Unit (before expenses): \$0.2138

SCHEDULE 3

List of Lock-Up Parties

Jessica Billingsley
Dean Ditto
Ray Thompson
David McCullough
Scott Sozio
Barry Fishman
Matthew Kane
Tahira Rehmatullah

EXHIBIT A

Form of Lock-Up Agreement

June ____, 2022

Akerna Corp.
1550 Larimer Street, #246
Denver, CO 80202
Attention: Jessica Billingsley

Re: Underwriting Agreement, to be entered into in June ____, 2022 (the “**Underwriting Agreement**”), between Akerna Corp. (the “**Company**”) and A.G.P./Alliance Global Partners (the “**Representative**”) and, collectively with the underwriters named on Schedule 1 to the Underwriting Agreement, the “**Underwriters**”), as representative of the several Underwriters

Ladies and Gentlemen:

The undersigned, a holder of shares of common stock, par value \$0.0001 (the “**Common Stock**”), of the Company, or rights to acquire shares of Common Stock, understands that you, as Representative of the several Underwriters, propose to enter into the Underwriting Agreement with the Company, providing for the purchase by the Underwriters of shares of Common Stock (the “**Shares**”), and that the Underwriters propose to reoffer the Shares to the public. Defined terms not otherwise defined in this letter agreement (this “**Letter Agreement**”) shall have the meanings set forth in the Underwriting Agreement.

Pursuant to Section 4.16 of the Underwriting Agreement and in satisfaction of a condition of the Company’s obligations under the Underwriting Agreement, the undersigned irrevocably agrees with the Company that, from the date hereof until 90 days following the Effective Date (such period, the “**Restriction Period**”), the undersigned will not offer, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or hypothecate, pledge or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by the undersigned or any Affiliate of the undersigned or any person in privity with the undersigned or any Affiliate of the undersigned), directly or indirectly, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Exchange Act, enter into any swap or other agreement, arrangement, hedge or transaction that transfers to another, in whole or in part, directly or indirectly, any of the economic consequences of ownership of shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, whether any transaction described in any of the foregoing is to be settled by delivery of shares of Common Stock, other securities, in cash or otherwise, or publicly announce an intention to do any of the foregoing with respect to, any shares of Common Stock of the Company or securities convertible, exchangeable or exercisable into, shares of Common Stock of the Company beneficially owned, held or hereafter acquired by the undersigned (the “**Lock-Up Securities**”).

Beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act. In order to enforce this covenant, the Company shall impose irrevocable stop-transfer instructions preventing the transfer agent of the Company from effecting any actions in violation of this Letter Agreement. The Company, upon the express written consent of A.G.P./Alliance Global Partners, may consent to an early release from the Restriction Period if, in its sole and absolute discretion, the market for the Lock-Up Securities would not be adversely impacted by sales and in cases of financial emergency.

Notwithstanding the foregoing, and subject to the conditions below, the undersigned may transfer the Lock-Up Securities provided that (1) the Company receives a signed lock-up letter agreement (in the form of this Letter Agreement) for the balance of the Restriction Period from each donee, trustee, distributee, or transferee, as the case may be, prior to such transfer, (2) any such transfer shall not involve a disposition for value, (3) such transfer is not required to be reported with the Commission in accordance with the Exchange Act and no report of such transfer shall be made voluntarily, and (4) neither the undersigned nor any donee, trustee, distributee or transferee, as the case may be, otherwise voluntarily effects any public filing or report regarding such transfers, with respect to transfer:

- i) as a *bona fide* gift or gifts;

- ii) to any immediate family member or to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (for purposes of this Letter Agreement, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin);
- iii) to any corporation, partnership, limited liability company, or other business entity all of the equity holders of which consist of the undersigned and/or the immediate family of the undersigned;
- iv) if the undersigned is a corporation, partnership, limited liability company, trust or other business entity (a) to another corporation, partnership, limited liability company, trust or other business entity that is an Affiliate of the undersigned or (b) in the form of a distribution to limited partners, limited liability company members or stockholders of the undersigned;
- v) if the undersigned is a trust, to the beneficiary of such trust; or
- vi) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned.

In addition, notwithstanding the foregoing, this Letter Agreement shall not restrict the delivery of shares of Common Stock to the undersigned upon (i) exercise of any options or settlement of any awards granted under any employee benefit plan of the Company; provided that any shares of Common Stock or Lock-Up Securities acquired in connection with any such exercise will be subject to the restrictions set forth in this Letter Agreement except the restrictions set forth in this Letter Agreement shall not apply to the withholding of shares of Common Stock by the Company in settlement of any tax withholding obligations in relation to the undersigned in connection with such exercise of options or settlement of awards, or (ii) the exercise of warrants; provided that such shares of Common Stock delivered to the undersigned in connection with such exercise are subject to the restrictions set forth in this Letter Agreement.

Furthermore, the undersigned may enter into any new plan established in compliance with Rule 10b5-1 of the Exchange Act; provided that (i) such plan may only be established if no public announcement or filing with the Commission, or other applicable regulatory authority, is made in connection with the establishment of such plan during the Restriction Period and (ii) no sale of shares of Common Stock are made pursuant to such plan during the Restriction Period.

The undersigned acknowledges that the execution, delivery and performance of this Letter Agreement is a material inducement to the Underwriters to complete the transactions contemplated by the Underwriting Agreement and the Company shall be entitled to specific performance of the undersigned's obligations hereunder. The undersigned hereby represents that the undersigned has the power and authority to execute, deliver and perform this Letter Agreement, that the undersigned has received adequate consideration therefor and that the undersigned will indirectly benefit from the closing of the transactions contemplated by the Underwriting Agreement.

This Letter Agreement may not be amended or otherwise modified in any respect without the written consent of each of the Company and the undersigned. This Letter Agreement shall be construed and enforced in accordance with the laws of the State of New York without regard to the principles of conflict of laws. The undersigned hereby irrevocably submits to the exclusive jurisdiction of the United States District Court sitting in the Southern District of New York and the courts of the State of New York located in Manhattan, for the purposes of any suit, action or proceeding arising out of or relating to this Letter Agreement, and hereby waives, and agrees not to assert in any such suit, action or proceeding, any claim that (i) it is not personally subject to the jurisdiction of such court, (ii) the suit, action or proceeding is brought in an inconvenient forum, or (iii) the venue of the suit, action or proceeding is improper. The undersigned hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by receiving a copy thereof sent to the Company at the address in effect for notices to it under the Underwriting Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. The undersigned hereby waives any right to a trial by jury. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. The undersigned agrees and understands that this Letter Agreement does not intend to create any relationship between the undersigned and any Underwriter and that no Underwriter is entitled to cast any votes on the matters herein contemplated and that no issuance or sale of the Lock-Up Securities is created or intended by virtue of this Letter Agreement.

The undersigned understands that, if the Underwriting Agreement is not executed by July 15, 2022, or if the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Lock-Up Securities to be sold thereunder, then this Letter Agreement shall be void and of no further force or effect.

This Letter Agreement shall be binding on successors and assigns of the undersigned with respect to the Lock-Up Securities and any such successor or assign shall enter into a similar agreement.

*** SIGNATURE PAGE FOLLOWS***

This Letter Agreement may be executed in two or more counterparts, all of which when taken together may be considered one and the same agreement.

Signature

Print Name

Position in Company, if any

Address for Notice:

Number of shares of Common Stock

Number of shares of Common Stock underlying subject to warrants, options, debentures or other convertible securities

By signing below, the Company agrees to enforce the restrictions on transfer set forth in this Letter Agreement.

AKERNA CORP.

By: _____

Name: _____

Title: _____

COMMON STOCK PURCHASE WARRANT

AKERNA CORP.

Warrant Shares: _____

Initial Exercise Date: June [], 2022

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, _____ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the "Initial Exercise Date") and on or prior to 5:00 p.m. (New York City time) on June [], 2027 (the "Termination Date") but not thereafter, to subscribe for and purchase from **Akerna Corp.**, a corporation incorporated under the laws of the state of Delaware (the "Company"), up to _____ shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions.

- a) "Affiliate" means "any person or entity that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person or entity as such terms are used in and construed under Rule 405 under the Securities Act.
- b) "Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.
- c) "Common Stock" means the Company's common stock, \$0.0001 par value.
- d) "Common Stock Equivalents" means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time shares of Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.
- e) "Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.
- f) "Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.
- g) "Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.
- h) "Subsidiary" means any subsidiary of the Company and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.
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i) "Trading Day" means a day on which the principal Trading Market is open for trading.

j) "Trading Market" means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, OTCQB or OTCQX (or any successors to any of the foregoing).

Section 2. Exercise.

a) **Exercise of Warrant.** Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto (the "Notice of Exercise"). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

For the avoidance of doubt, there is no circumstance that would require the Company to net cash settle the Warrants.

b) **Exercise Price.** The exercise price per share of Common Stock under this Warrant shall be \$[●], subject to adjustment hereunder (the "Exercise Price").

c) **Cashless Exercise.** Notwithstanding anything to the contrary set forth herein, if at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B)(X)] by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. ("Bloomberg") as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the transfer agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (iii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after the Warrant Share Delivery Date) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 12:00 p.m. (New York City time) on the Initial Exercise Date, the Company agrees to deliver the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date and the Initial Exercise Date shall be the Warrant Share Delivery Date for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the transfer agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the transfer agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that, in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all transfer agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99/4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. If the Warrant is unexercisable as a result of the Holder's Beneficial Ownership Limitation, no alternate consideration is owing to the Holder.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Equitable Treatment Adjustment. In the event the Company permits or provides for a downward adjustment to the conversion price of any portion of the Company's senior secured notes having a principal amount of \$20.0 million issued on October 5, 2021 (the "Convertible Debt"), other than a downward adjustment that simultaneously impacts the Exercise Price of this Warrant pursuant to Section 3(a) above, then the Exercise Price of this Warrant shall be adjusted by the same percentage as the percentage downward adjustment of the conversion price of the Convertible Debt. By way of example only and for the avoidance of doubt, if the conversion price of the Convertible Debt is \$1.20 and such conversion price is adjusted to \$0.60 (a 50% downward adjustment), then the Exercise price of this Warrant shall be adjusted by such same percentage downward adjustment (for example only, if the Exercise Price is \$1.00 then it would be adjusted downward to \$0.50). In addition, in the event the Company issues any debt following the date of this Warrant having a conversion price less than the Exercise Price, the proceeds of which are used to, in whole or in part, repay amounts owed under the Convertible Debt, then upon the issuance of such debt, the Exercise Price shall immediately be adjusted downward to be equal to such lower conversion price.

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company (or any Subsidiary), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock are effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding Common Stock (not including any Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one Ordinary Share in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(e) pursuant to written agreements in form and substance reasonably satisfactory to the Holder prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

f) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

g) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with a Fundamental Transaction, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

h) Voluntary Adjustment By Company. Subject to the rules and regulations of the Trading Market, the Company may at any time during the term of this Warrant reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

Section 4. Transfer of Warrant.

a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

a) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3. Without limiting any rights of a Holder to receive Warrant Shares on a “cashless exercise” pursuant to Section 2(c) or to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, in no event shall the Company be required to net cash settle an exercise of this Warrant.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then such action may be taken or such right may be exercised on the next succeeding Trading Day.

d) Authorized Shares. The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York, without giving effect to conflict of laws principles thereof. The Company hereby agrees that any action, proceeding or claim against it arising out of, or relating in any way to this Agreement shall be brought and enforced in the New York Supreme Court, County of New York, or in the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum. Any such process or summons to be served upon the Company may be served by transmitting a copy thereof by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 9.1 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the Company in any action, proceeding or claim. The Company agrees that the prevailing party(ies) in any such action shall be entitled to recover from the other party(ies) all of its reasonable attorneys' fees and expenses relating to such action or proceeding and/or incurred in connection with the preparation therefor. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Exercise, shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service, addressed to the Company, at [●], Attention: Chief Executive Officer, email address: [●], or such other email address or address as the Company may specify for such purposes by notice to the Holders. Any and all notices or other communications or deliveries to be provided by the Company hereunder shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service addressed to each Holder at the e-mail address or address of such Holder appearing on the books of the Company. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

AKERNA CORP.

By: _____
Name:
Title:

[Signature Page to Common Stock Purchase Warrant]

NOTICE OF EXERCISE

TO: AKERNA CORP.

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity:

Name of Authorized Signatory:

Title of Authorized Signatory:

Date: _____

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone Number: _____

Email Address: _____

Dated: _____

Holder's Signature: _____

Holder's Address: _____

UNDERWRITER COMMON STOCK PURCHASE WARRANT

AKERNA CORP.

Warrant Shares: _____

Initial Exercise Date: June [], 2022

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, _____ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the "Initial Exercise Date") and on or prior to 5:00 p.m. (New York City time) on June [], 2027 (the "Termination Date") but not thereafter, to subscribe for and purchase from **Akerna Corp.**, a corporation incorporated under the laws of the state of Delaware (the "Company"), up to _____ shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions.

a) "Affiliate" means "any person or entity that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person or entity as such terms are used in and construed under Rule 405 under the Securities Act.

b) "Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

c) "Common Stock" means the Company's common stock, \$0.0001 par value.

d) "Common Stock Equivalents" means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time shares of Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

e) "Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

f) "Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

g) "Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

h) “Subsidiary” means any subsidiary of the Company and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.

i) “Trading Day” means a day on which the principal Trading Market is open for trading.

j) “Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, OTCQB or OTCQX (or any successors to any of the foregoing).

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto (the “Notice of Exercise”). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

For the avoidance of doubt, there is no circumstance that would require the Company to net cash settle the Warrants.

b) Exercise Price. The exercise price per share of Common Stock under this Warrant shall be \$[●], subject to adjustment hereunder (the “Exercise Price”).

c) **Cashless Exercise.** Notwithstanding anything to the contrary set forth herein, if at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B)(X)] by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. (“**Bloomberg**”) as of the time of the Holder’s execution of the applicable Notice of Exercise if such Notice of Exercise is executed during “regular trading hours” on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of “regular trading hours” on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of “regular trading hours” on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

“**Bid Price**” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the transfer agent to the Holder by crediting the account of the Holder’s or its designee’s balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system (“DWAC”) if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (iii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the “Warrant Share Delivery Date”). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after the Warrant Share Delivery Date) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, “Standard Settlement Period” means the standard settlement period, expressed in a number of Trading Days, on the Company’s primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 12:00 p.m. (New York City time) on the Initial Exercise Date, the Company agrees to deliver the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date and the Initial Exercise Date shall be the Warrant Share Delivery Date for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the transfer agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the transfer agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that, in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all transfer agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99/4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. If the Warrant is unexercisable as a result of the Holder's Beneficial Ownership Limitation, no alternate consideration is owing to the Holder.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Equitable Treatment Adjustment. In the event the Company permits or provides for a downward adjustment to the conversion price (whether in connection with a payment or conversion on an Installment Date (as defined in the Convertible Debt) or other conversion) of any portion of the Company's senior secured notes having a principal amount of \$20.0 million issued on October 5, 2021 (the "Convertible Debt"), other than a downward adjustment that simultaneously impacts the Exercise Price of this Warrant pursuant to Section 3(a) above, then the Exercise Price of this Warrant shall be adjusted by the same percentage as the percentage downward adjustment of the conversion price of the Convertible Debt. By way of example only and for the avoidance of doubt, if the conversion price of the Convertible Debt is \$1.20 and such conversion price is adjusted to \$0.60 (a 50% downward adjustment), then the Exercise price of this Warrant shall be adjusted by such same percentage downward adjustment (for example only, if the Exercise Price is \$1.00 then it would be adjusted downward to \$0.50). In addition, in the event the Company issues any debt following the date of this Warrant having a conversion price less than the Exercise Price, the proceeds of which are used to, in whole or in part, repay amounts owed under the Convertible Debt, then upon the issuance of such debt, the Exercise Price shall immediately be adjusted downward to be equal to such lower conversion price.

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “Distribution”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that, to the extent that the Holder’s right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company (or any Subsidiary), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock are effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding Common Stock (not including any Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one Ordinary Share in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(e) pursuant to written agreements in form and substance reasonably satisfactory to the Holder prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

f) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

g) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with a Fundamental Transaction, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

h) Voluntary Adjustment By Company. Subject to the rules and regulations of the Trading Market, the Company may at any time during the term of this Warrant reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

Section 4. Transfer of Warrant.

a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

Provided, however, this Warrant may not be sold, transferred, assigned, pledged, or hypothecated, or be the subject of any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the securities for a period of 180 days beginning on the Initial Exercise Date.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

a) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3. Without limiting any rights of a Holder to receive Warrant Shares on a "cashless exercise" pursuant to Section 2(c) or to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, in no event shall the Company be required to net cash settle an exercise of this Warrant.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then such action may be taken or such right may be exercised on the next succeeding Trading Day.

d) Authorized Shares. The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York, without giving effect to conflict of laws principles thereof. The Company hereby agrees that any action, proceeding or claim against it arising out of, or relating in any way to this Agreement shall be brought and enforced in the New York Supreme Court, County of New York, or in the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum. Any such process or summons to be served upon the Company may be served by transmitting a copy thereof by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 9.1 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the Company in any action, proceeding or claim. The Company agrees that the prevailing party(ies) in any such action shall be entitled to recover from the other party(ies) all of its reasonable attorneys' fees and expenses relating to such action or proceeding and/or incurred in connection with the preparation therefor. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Exercise, shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service, addressed to the Company, at [●], Attention: Chief Executive Officer, email address: [●], or such other email address or address as the Company may specify for such purposes by notice to the Holders. Any and all notices or other communications or deliveries to be provided by the Company hereunder shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service addressed to each Holder at the e-mail address or address of such Holder appearing on the books of the Company. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

AKERNA CORP.

By: _____
Name:
Title:

[Signature Page to Common Stock Purchase Warrant]

NOTICE OF EXERCISE

TO: AKERNA CORP.

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____

Signature of Authorized Signatory of Investing Entity: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Date: _____



ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone Number: _____

Email Address: _____

Dated: _____

Holder's Signature: _____

Holder's Address: _____

[Letterhead of Dorsey & Whitney LLP]

June 30, 2022

Akerna Corp.
1550 Larimer Street #246
Denver, Colorado 80202

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel to Akerna Corp., a Delaware corporation (the "Company"), in connection with (i) a Registration Statement on Form S-1 (File No. 333-265641, as amended or supplemented, the "Initial Registration Statement"), filed by the Company with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), and (ii) an additional Registration Statement on Form S-1 filed pursuant to Rule 462(b) promulgated under the Securities Act (the "462(b) Registration Statement" and together with the Initial Registration Statement, the "Registration Statements") relating to the offering by the Company of (a) 29,382,861 shares (the "Shares") of the Company's common stock, \$0.0001 par value (the "Common Stock") covered by the Registration Statements, (b) 14,095,400 pre-funded warrants (the "Pre-Funded Warrants") to purchase shares of Common Stock (the "Pre-Funded Warrant Shares") covered by the Registration Statements, (c) 43,478,261 warrants (the "Common Warrants") to purchase shares of Common Stock (the "Common Warrant Shares") covered by the Registration Statements, and (d) 2,173,913 warrants (the "Underwriter Warrants") to be issued to A.G.P./Alliance Global Partners ("A.G.P.") as underwriter compensation to purchase shares of Common Stock (the "Underwriter Warrant Shares") covered by the Registration Statements pursuant to an underwriting agreement entered into on the date hereof between the Company and A.G.P. in the form most recently filed as an exhibit to the Registration Statements (the "Underwriting Agreement"). The terms "Shares," "Pre-Funded Warrants," "Pre-Funded Warrant Shares," "Common Warrants," and "Common Warrant Shares" shall include any additional securities registered by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offering contemplated by the Registration Statements. This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statements or related prospectus, other than as expressly stated herein with respect to the issue of the Shares, the Pre-Funded Warrants, Pre-Funded Warrant Shares, the Common Warrants, the Common Warrant Shares, the Underwriter Warrants and the Underwriter Warrant Shares. This opinion also covers such additional Shares, Warrants, Pre-Funded Warrants and Underwriter Warrants and the Shares underlying such securities as may be issuable upon exercise of the option granted to A.G.P. as described in the Initial Registration Statement.

We have examined such documents and have reviewed such questions of law as we have considered necessary or appropriate for the purposes of our opinions set forth below. In rendering our opinions set forth below, we have assumed the authenticity of all documents submitted to us as originals, the genuineness of all signatures and the conformity to authentic originals of all documents submitted to us as copies. We have also assumed the legal capacity for all purposes relevant hereto of all natural persons and, with respect to all parties to agreements or instruments relevant hereto other than the Company, that such parties had the requisite power and authority (corporate or otherwise) to execute, deliver and perform such agreements or instruments, that such agreements or instruments have been duly authorized by all requisite action (corporate or otherwise), executed and delivered by such parties and that such agreements or instruments are the valid, binding and enforceable obligations of such parties. As to questions of fact material to our opinions, we have relied upon certificates or comparable documents of officers and other representatives of the Company and of public officials.

Based on the foregoing, we are of the opinion that: (i) the Shares, when issued by the Company against payment therefor in the circumstances contemplated by the Underwriting Agreement, will be validly issued, fully paid and non-assessable; (ii) the Common Warrants and the Pre-Funded Warrants, when issued by the Company against payment therefor in the circumstances contemplated by the Underwriting Agreement, will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms; (iii) The Pre-Funded Warrant Shares initially issuable upon exercise of the Pre-Funded Warrants and the Common Warrant Shares initially issuable upon exercise of the Common Warrants when issued by the Company against payment therefor in the circumstances contemplated by the Pre-Funded Warrants or Common Warrants, respectively, will be validly issued, fully paid and non-assessable; (iv) the Underwriter Warrants, when issued by the Company in the circumstances contemplated by the Underwriting Agreement, will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms; and (v) the Underwriter Warrant Shares initially issuable upon exercise of the Underwriter Warrants when issued by the Company against payment therefor in the circumstances contemplated by the Underwriter Warrants will be validly issued, fully paid and non-assessable.

Our opinions expressed above are limited to the Delaware General Corporation Law.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the 462(b) Registration Statement, to the filing of this opinion as an exhibit to an amendment to the Initial Registration Statement filed pursuant to 462(d) promulgated under the Securities Act, and to the reference to our firm under the heading "Legal Matters" in the prospectus constituting part of the Registration Statements. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ DORSEY & WHITNEY LLP