

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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

August 16, 2023

Date of Report (Date of earliest event reported)



EMCORE CORPORATION

Exact Name of Registrant as Specified in its Charter

New Jersey
State of Incorporation

001-36632
Commission File Number

22-2746503
*IRS Employer Identification
Number*

2015 W. Chestnut Street, Alhambra, California, 91803
Address of principal executive offices, including zip code

(626) 293-3400
Registrant's telephone number, including area code

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

| Title of Each Class | Trading symbol(s) | Name of Each Exchange on Which Registered |
|----------------------------|-------------------|-------------------------------------------|
| Common stock, no par value | EMKR | The Nasdaq Stock Market LLC |

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 8.01 Other Events.

On August 16, 2023, EMCORE Corporation (the “Company”) announced that it commenced an underwritten public offering of its common stock and, to certain investors, pre-funded warrants to purchase shares of common stock.

On August 17, 2023, the Company entered into an underwriting agreement (the “Underwriting Agreement”) with Craig-Hallum Capital Group LLC as the sole managing underwriter (the “Underwriter”), relating to the public offering (the “Offering”) by the Company of 19,652,174 shares of its common stock, no par value (“Common Stock”), and, to certain investors, pre-funded warrants (each, a “Pre-Funded Warrant”) to purchase 11,900,000 shares of Common Stock. The offering price to the public in the Offering was \$0.50 per share of Common Stock and \$0.49999999 for each pre-funded warrant, which represents the per share public offering price for the Common Stock less the \$0.00000001 per share exercise price for each such Pre-Funded Warrant. Under the terms of the Underwriting Agreement, the Company granted the Underwriter a 30-day option to purchase up to an additional 2,947,826 shares of Common Stock. The net proceeds to the Company from the Offering will be approximately \$14.2 million, after deducting the underwriting discounts and commissions and other estimated offering expenses payable by the Company. The Offering is expected to close on August 21, 2023, subject to the satisfaction of customary closing conditions.

The Offering is being made pursuant to the Company’s effective shelf registration statement on Form S-3 (File No. 333-256090), including the related prospectus, that was filed with the Securities and Exchange Commission on May 13, 2021 and declared effective on May 20, 2021, as supplemented by a prospectus supplement dated August 17, 2023. The Underwriting Agreement and the Form of Pre-Funded Warrant are attached hereto as Exhibit 1.1 and Exhibit 4.1, respectively, to this Current Report on Form 8-K, and are incorporated herein by reference. The foregoing is only a brief description of the terms of the Underwriting Agreement and the Form of Pre-Funded Warrant, does not purport to be a complete description of the rights and obligations of the parties thereunder, and is qualified in its entirety by reference to the Underwriting Agreement and the Form of Pre-Funded Warrant that is filed as Exhibit 1.1 and Exhibit 4.1 to this Current Report on Form 8-K and incorporated by reference herein. A copy of the legal opinion relating to the legality of the issuance and sale of Common Stock in the Offering is attached as Exhibit 5.1 to this Current Report on Form 8-K.

On August 16, 2023, the Company issued a press release announcing the launch of the Offering, and on August 17, 2023, the Company issued a press release announcing the pricing of the Offering. Copies of the press releases are attached hereto as Exhibit 99.1 and Exhibit 99.2 to this Current Report on Form 8-K and are incorporated herein by reference.

Certain information contained in the investor presentation used in connection with the Offering is attached hereto as Exhibit 99.3 and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

| Exhibit Number | Exhibit Description |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.1</u> | <u>Underwriting Agreement dated as of August 17, 2023 by and between the Company and Craig-Hallum Capital Group LLC, as sole underwriter.</u> |
| <u>4.1</u> | <u>Form of Pre-Funded Warrant.</u> |
| <u>5.1</u> | <u>Opinion of Connell Foley LLP.</u> |
| <u>23.1</u> | <u>Consent of Connell Foley LLP (included in Exhibit 5.1).</u> |
| <u>99.1</u> | <u>Press Release dated August 16, 2023.</u> |
| <u>99.2</u> | <u>Press Release dated August 17, 2023.</u> |
| <u>99.3</u> | <u>Information from Investor Presentation.</u> |
| 104 | Cover Page Interactive Data File (embedded within the Inline XBRL document). |

SIGNATURE

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

EMCORE CORPORATION

Date: August 17, 2023

By: /s/ Tom Minichiello

Name: Tom Minichiello

Title: Chief Financial Officer

EMCORE Corporation
19,652,174 Shares of Common Stock
11,900,000 Pre-Funded Warrants to Purchase Common Stock
UNDERWRITING AGREEMENT

August 17, 2023

CRAIG-HALLUM CAPITAL GROUP LLC
222 South Ninth Street, Suite 350
Minneapolis, Minnesota 55402

Ladies and Gentleman:

1. **INTRODUCTORY.** EMCORE Corporation, a New Jersey corporation (the “**Company**”), proposes to sell, pursuant to the terms of this Agreement, to Craig-Hallum Capital Group LLC (the “**Underwriter**”), an aggregate of 19,652,174 shares of common stock, no par value (the “**Common Stock**”), of the Company. The aggregate of 19,652,174 shares so proposed to be sold is hereinafter referred to as the “**Firm Stock**”. The Company also proposes to sell to the Underwriter, upon the terms and conditions set forth in Section 3 hereof, up to an additional 2,947,826 shares of Common Stock (the “**Optional Stock**”). The Company also proposes to sell to the Underwriter 11,900,000 pre-funded warrants (the “**Pre-Funded Warrants**”) to purchase shares of Common Stock (the “**Pre-Funded Warrant Shares**”) at an exercise price of \$0.00000001 per share. The terms of the Pre-Funded Warrants are set forth in the form of Pre-Funded Warrant attached hereto as Exhibit II hereto. The Firm Stock and the Optional Stock are hereinafter collectively referred to as the “**Stock**”. The Stock and the Pre-Funded Warrants are hereinafter collectively referred to as the “**Securities**”.

2. **REPRESENTATIONS AND WARRANTIES OF THE COMPANY**

(i) **REPRESENTATIONS AND WARRANTIES OF THE COMPANY.** The Company represents and warrants to the Underwriter, as of the date hereof and as of each Closing Date (as defined below), and agrees with the Underwriter, that:

(a) **Registration Statement.** A registration statement of the Company on Form S-3 (File No. 333-256090) (including all amendments thereto, the “**Initial Registration Statement**”) in respect of the Securities has been filed with the Securities and Exchange Commission (the “**Commission**”) pursuant to Rule 415 under the Securities Act of 1933, as amended (the “**Securities Act**”). The Company meets the requirements for use of Form S-3 under the Securities Act, and the rules and regulations of the Commission thereunder (the “**Rules and Regulations**”). The Initial Registration Statement and any post-effective amendment thereto, each in the form heretofore delivered to you have been declared effective by the Commission in such form and meet the requirements of the Securities Act, and the Rules and Regulations. The proposed offering of the Securities may be made pursuant to General Instruction I.B.1 of Form S-3. Other than (i) the Initial Registration Statement, (ii) a registration statement, if any, increasing the size of the offering filed pursuant to Rule 462(b) under the Securities Act and the Rules and Regulations (a “**Rule 462(b) Registration Statement**”), (iii) any Preliminary Prospectus (as defined below), (iv) the Prospectus (as defined below) contemplated by this Agreement to be filed pursuant to Rule 424(b) of the Rules and Regulations in accordance with Section 4(a) hereof and (v) any Issuer Free Writing Prospectus (as defined below), no other document with respect to the offer or sale of the Securities has heretofore been filed with the Commission. No stop order suspending the effectiveness of the Initial Registration Statement, any post-effective amendment thereto or the Rule 462(b) Registration Statement, if any, has been issued and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been initiated or threatened by the Commission (any preliminary prospectus included in the Initial Registration Statement or filed with the Commission pursuant to Rule 424 of the Rules and Regulations is hereinafter called a “**Preliminary Prospectus**”). The Initial Registration Statement including all exhibits thereto and including the information contained in the Prospectus filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations and deemed by virtue of Rule 430B under the Securities Act to be part of the Initial Registration Statement at the time it became effective is hereinafter collectively called the “**Registration Statement**.” If the Company has filed a Rule 462(b) Registration Statement, then any reference herein to the term “Registration Statement” shall be deemed to include such Rule 462 Registration Statement. The base prospectus included in the Initial Registration Statement at the time of effectiveness thereof, as supplemented by the final prospectus supplement relating to the offer and sale of the Common Stock, in the form filed pursuant to and within the time limits described in Rule 424(b) under the Rules and Regulations, is hereinafter called the “**Prospectus**.”

Any reference herein to the Registration Statement, Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein. Any reference to any amendment or supplement to any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any documents filed after the date of such Preliminary Prospectus or the Prospectus under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), and incorporated by reference in such Preliminary Prospectus or Prospectus, as the case may be. Any reference to any amendment to the Registration Statement shall be deemed to refer to and include any annual report of the Company filed pursuant to Section 13(a) or 15(d) of the Exchange Act after the date of this Agreement that is incorporated by reference in the Registration Statement.

(b) General Disclosure Package. As of the Applicable Time (as defined below) and as of the Closing Date or the Option Closing Date (as defined below), as the case may be, neither (i) the General Use Free Writing Prospectus(es) (as defined below) issued at or prior to the Applicable Time, the Pricing Prospectus (as defined below) and the information included on Schedule C hereto, all considered together (collectively, the “**General Disclosure Package**”), (ii) any individual Limited Use Free Writing Prospectus (as defined below), nor (iii) the bona fide electronic roadshow (as defined in Rule 433(h)(5) of the Rules and Regulations), when considered together with the General Disclosure Package, included or will include any untrue statement of a material fact or omitted or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to information contained in or omitted from the Pricing Prospectus or any Issuer Free Writing Prospectus (as defined below), in reliance upon, and in conformity with, written information furnished to the Company through the Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter’s Information (as defined in Section 17). As used in this paragraph (b) and elsewhere in this Agreement:

“Applicable Time” means 7:00 A.M., New York time, on the date of this Agreement or such other time as agreed to by the Company and the Underwriter.

“Pricing Prospectus” means the Base Prospectus, as amended and supplemented immediately prior to the Applicable Time, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 of the Rules and Regulations relating to the Securities in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g) of the Rules and Regulations.

“General Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is identified on Schedule B to this Agreement.

“Limited Use Free Writing Prospectuses” means any Issuer Free Writing Prospectus that is not a General Use Free Writing Prospectus.

(c) No Stop Orders; No Material Misstatements. No order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus relating to the proposed offering of the Securities has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been instituted or, to the Company’s knowledge, threatened by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Securities Act and the Rules and Regulations, and did not contain 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, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to information contained in or omitted from any Preliminary Prospectus, in reliance upon, and in conformity with, written information furnished to the Company through the Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter’s Information.

(d) Registration Statement and Prospectus Contents. At the respective times, the Registration Statement and any amendments thereto became or become effective as to the Underwriter and at each Closing Date, the Registration Statement and any amendments thereto conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Prospectus and any amendments or supplements thereto, at the time the Prospectus or any amendment or supplement thereto was issued and at each Closing Date, conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain an untrue statement of a material fact or omit to state a material 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 foregoing representations and warranties in this paragraph (d) shall not apply to information contained in or omitted from the Registration Statement or the Prospectus, or any amendment or supplement thereto, in reliance upon, and in conformity with, written information furnished to the Company through the Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information.

(e) Issuer Free Writing Prospectus. Each Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Securities or until any earlier date that the Company notified or notifies the Underwriter as described in Section 4(e), did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, Pricing Prospectus or the Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof that has not been superseded or modified, or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the foregoing representations and warranties in this paragraph (e) shall not apply to information contained in or omitted from the Registration Statement or the Prospectus, or any amendment or supplement thereto, in reliance upon, and in conformity with, written information furnished to the Company through the Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information.

(f) Documents Incorporated by Reference. The documents incorporated by reference in the Prospectus, when they became effective or were filed with the Commission, as the case may be, conformed in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and none of such documents contained any untrue statement of a material fact or omitted to state any 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; and any further documents so filed and incorporated by reference in the Prospectus, when such documents are filed with Commission will conform in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and will not contain any untrue statement of a material fact or omit to state any 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.

(g) Distribution of Offering Materials. The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the offering and sale of the Securities other than any Preliminary Prospectus, the Prospectus and other materials, if any, permitted under the Securities Act and consistent with Section 4(b) below. The Company will file with the Commission all Issuer Free Writing Prospectuses (other than a “road show” as described in Rule 433(d)(8) of the Rules and Regulations) in the time and manner required under Rules 163(b)(2) and 433(d) of the Rules and Regulations.

(h) Not an Ineligible Issuer. At the time of filing the Initial Registration Statement, any Rule 462(b) Registration Statement and any post-effective amendments thereto, and at the date hereof, the Company was not, and the Company currently is not, an “ineligible issuer,” as defined in Rule 405 of the Rules and Regulations.

(i) Organization and Good Standing. The Company and each of its subsidiaries (as defined in Section 15) have been duly organized and are validly existing as corporations or other legal entities in good standing (or the foreign equivalent thereof) under the laws of their respective jurisdictions of organization. The Company and each of its subsidiaries are duly qualified to do business and are in good standing as foreign corporations or other legal entities in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification and have all power and authority (corporate or other) necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, except where the failure to so qualify or have such power or authority would not (i) have, singularly or in the aggregate, a material adverse effect on the business, properties, management, financial position, stockholders’ equity, results of operations or prospects of the Company and its subsidiaries taken as a whole, or (ii) impair in any material respect the ability of the Company to perform its obligations under this Agreement or to consummate any transactions contemplated by this Agreement, the General Disclosure Package or the Prospectus (any such effect as described in clauses (i) or (ii), a “**Material Adverse Effect**”). The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21.1 to the Annual Report on Form 10-K for the fiscal year ended September 30, 2020.

(j) Underwriting Agreement. This Agreement and the Pre-Funded Warrants have been duly authorized, executed and delivered by the Company.

(k) The Securities. The Stock to be issued and sold by the Company to the Underwriter hereunder has been duly and validly authorized and, when issued and delivered against payment therefor as provided herein, will be duly and validly issued, fully paid and non-assessable and will conform to the descriptions thereof in the Registration Statement, the General Disclosure Package and the Prospectus; and the issuance of the Stock is not subject to any preemptive or similar rights. The Pre-Funded Warrant Shares to be issued and sold by the Company to the Underwriter upon exercise of the Pre-Funded Warrants, will be duly and validly authorized and, when issued and delivered against payment therefor as provided in the Pre-Funded Warrant, will be duly and validly issued, fully paid and non-assessable and will conform to the descriptions thereof in the Registration Statement, the General Disclosure Package and the Prospectus; and the issuance of the Pre-Funded Warrant Shares is not subject to any preemptive or similar rights.

(l) Capitalization. All of the issued shares of capital stock of the Company, have been duly and validly authorized and issued, are fully paid and non-assessable, have been issued in compliance with federal and state securities laws, and conform to the description thereof contained in the General Disclosure Package and the Prospectus. All of the Company's options, warrants and other rights to purchase or exchange any securities for shares of the Company's capital stock have been duly authorized and validly issued and were issued in compliance with federal and state securities laws. None of the outstanding shares of Common Stock were issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. As of the date set forth in the General Disclosure Package, there were no authorized or outstanding shares of capital stock, options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company or any of its subsidiaries other than those described above or accurately described in the General Disclosure Package. Since such date, the Company has not issued any securities other than Common Stock issued pursuant to the exercise of warrants or upon the exercise of stock options or other awards outstanding under the Company's stock option plans, options or other securities granted or issued pursuant to the Company's existing equity compensation plans or other plans, and the issuance of Common Stock pursuant to employee stock purchase plans. The description of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, as described in the General Disclosure Package and the Prospectus, accurately and fairly present the information required to be shown with respect to such plans, arrangements, options and rights.

(m) Capitalization of Subsidiaries. All the outstanding shares of capital stock (if any) of each subsidiary of the Company have been duly authorized and validly issued, are fully paid and nonassessable and, except to the extent set forth in the General Disclosure Package or the Prospectus, are owned by the Company directly or indirectly through one or more wholly-owned subsidiaries, free and clear of any claim, lien, encumbrance, security interest, restriction upon voting or transfer or any other claim of any third party.

(n) **No Conflicts.** The execution, delivery and performance of this Agreement and the Pre-Funded Warrants by the Company, the issue and sale of the Securities by the Company, and the consummation of the transactions contemplated hereby will not (with or without notice or lapse of time or both) (i) conflict with or result in a breach or violation of any of the terms or provisions of, constitute a default or a Debt Repayment Triggering Event (as defined below) under, or result in the creation or imposition of any lien, encumbrance, security interest, claim or charge upon any property or assets of the Company or any subsidiary pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject, (ii) result in any violation of the provisions of the charter or by-laws (or analogous governing instruments, as applicable) of the Company or any of its subsidiaries or (iii) result in the violation of any law, statute, rule, regulation, judgment, order or decree of any court or governmental or regulatory agency or body, domestic or foreign, having jurisdiction over the Company or any of its subsidiaries or any of their properties or assets except, in the case of clauses (i) and (iii) above, for any such conflict, breach, violation or default that would not, individually or in the aggregate, have a Material Adverse Effect. A “**Debt Repayment Triggering Event**” means any event or condition that gives, or with the giving of notice or lapse of time would give the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder’s behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

(o) **No Consents Required.** Except for the registration of the Securities under the Securities Act and applicable state securities laws, and such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Financial Industry Regulatory Authority (“**FINRA**”) and the Nasdaq Global Market in connection with the purchase and distribution of the Securities by the Underwriter and the listing of the Stock on the Nasdaq Global Market, no consent, approval, authorization or order of, or filing, qualification or registration (each an “**Authorization**”) with, any court, governmental or regulatory agency or body, foreign or domestic, which has not been made, obtained or taken and is not in full force and effect, is required for the execution, delivery and performance of this Agreement and the Pre-Funded Warrants by the Company, the issuance and sale of the Securities or the consummation of the transactions contemplated hereby; and no event has occurred that allows or results in, or after notice or lapse of time or both would allow or result in, revocation, suspension, termination or invalidation of any such Authorization or any other impairment of the rights of the holder or maker of any such Authorization.

(p) Independent Auditors. KPMG LLP, who have certified certain financial statements of the Company and its subsidiaries included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus, and have audited the Company's internal control over financial reporting and management's assessment thereof, is an independent registered public accounting firm with respect to the Company and its subsidiaries within the meaning of Article 2-01 of Regulation S-X and the Public Company Accounting Oversight Board (United States) (the "**PCAOB**").

(q) Financial Statements. The financial statements, together with the related notes, included or incorporated by reference in the General Disclosure Package, the Prospectus and in the Registration Statement fairly present in all material respects the financial position and the results of operations and changes in financial position of the Company and its consolidated subsidiaries at the respective dates or for the respective periods therein specified. Such statements and related notes have been prepared in accordance with the generally accepted accounting principles in the United States ("**GAAP**") applied on a consistent basis throughout the periods involved except as may be set forth in the related notes included or incorporated by reference in the General Disclosure Package. The financial statements, together with the related notes, included or incorporated by reference in the General Disclosure Package and the Prospectus comply in all material respects with Regulation S-X. No other financial statements or supporting schedules or exhibits are required by Regulation S-X to be described, included or incorporated by reference in the Registration Statement, the General Disclosure Package or the Prospectus. The summary and selected financial data included or incorporated by reference in the General Disclosure Package, the Prospectus and the Registration Statement fairly present in all material respects the information shown therein as at the respective dates and for the respective periods specified and are derived from the consolidated financial statements set forth incorporated by reference in the Registration Statement, the Pricing Prospectus and the Prospectus and other financial information. All information contained in the Registration Statement, the General Disclosure Package and the Prospectus regarding "non-GAAP financial measures" (as defined in Regulation G) complies with Regulation G and Item 10 of Regulations S-K, to the extent applicable.

(r) eXtensible Business Reporting Language. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(s) No Material Adverse Change. Neither the Company nor any of its subsidiaries has sustained, since the date of the latest audited financial statements included or incorporated by reference in the General Disclosure Package, (i) any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or action, order or decree of any court or governmental or regulatory authority, otherwise than as set forth or contemplated in the General Disclosure Package; (ii) any change in the capital stock (other than the issuance of shares of Common Stock (A) upon (x) exercise of stock options and warrants or (y) issuance of shares of Common Stock pursuant to the vesting of awards under existing equity incentive plans, described in, and the grant of options and awards under existing equity incentive plans and (B) pursuant to that certain securities purchase agreement dated February 15, 2023, in each case, described in, the Registration Statement, the General Disclosure Package and the Prospectus) or long-term debt of the Company or any of its subsidiaries, or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse changes, or any development involving a prospective material adverse change, in or affecting the business, properties, assets, general affairs, management, financial position, prospects, stockholders' equity or results of operations of the Company and its subsidiaries taken as a whole, otherwise than as set forth or contemplated in the General Disclosure Package.

(t) Legal Proceedings. Except as set forth in the General Disclosure Package, there is no legal or governmental proceeding pending to which the Company or any of its subsidiaries is a party or of which any property or assets of the Company or any of its subsidiaries is the subject that is required to be described in the Registration Statement, the General Disclosure Package or the Prospectus or a document incorporated by reference therein and is not described therein, or which, singularly or in the aggregate, if determined adversely to the Company or any of its subsidiaries, could reasonably be expected to have a Material Adverse Effect; and no such proceedings are threatened or, to the Company's knowledge, contemplated by governmental or regulatory authorities or threatened by others.

(u) No Violation or Default. Neither the Company nor any of its subsidiaries is (i) in violation of its charter or by-laws (or analogous governing instrument, as applicable), (ii) in default in any respect, and no event has occurred which, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it is bound or to which any of its property or assets is subject or (iii) in violation in any respect of any law, ordinance, governmental rule, regulation or court order, decree or judgment to which it or its property or assets may be except, in the case of clauses (ii) and (iii) above, for any such violation or default that would not, singularly or in the aggregate, have a Material Adverse Effect.

(v) Licenses or Permits. The Company and each of its subsidiaries possess all licenses, certificates, authorizations and permits issued by, and have made all declarations and filings with, the appropriate local, state, federal or foreign governmental or regulatory agencies or bodies that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the General Disclosure Package and the Prospectus (collectively, the “**Governmental Permits**”) except where any failures to possess or make the same would not, singularly or in the aggregate, have a Material Adverse Effect. The Company and its subsidiaries are in material compliance with all such Governmental Permits; all such Governmental Permits are valid and in full force and effect, except where the validity or failure to be in full force and effect would not, singularly or in the aggregate, have a Material Adverse Effect. Neither the Company nor any subsidiary has received notification of any revocation, modification, suspension, termination or invalidation (or proceedings related thereto) of any such Governmental Permit and the Company has no reason to believe that any such Governmental Permit will not be renewed.

(w) Investment Company Act. Neither the Company nor any of its subsidiaries is or, after giving effect to the offering of the Securities and the application of the proceeds thereof as described in the General Disclosure Package and the Prospectus, will be required to register as an “investment company” or an entity “controlled” by an “investment company” within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder.

(x) No Stabilization. Neither the Company nor, to the Company’s knowledge, any of its officers, directors or affiliates has taken or will take, directly or indirectly, any action designed or intended to stabilize or manipulate the price of any security of the Company, or which caused or resulted in, or which might in the future reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company.

(y) Intellectual Property.

(A) The Company and its subsidiaries own or have the right to use pursuant to a valid and enforceable written license or other legally enforceable right, all Intellectual Property (as defined below) necessary for the conduct of the Company’s and its subsidiaries respective business as now conducted or as described in the Registration Statement, the General Disclosure Package and the Prospectus to be conducted (the “**Company IP**”). “**Intellectual Property**” means all patents, patent applications, trade and service marks, trade and service mark registrations, trade names, copyrights, licenses, inventions, trade secrets, domain names, technology, know-how and other intellectual property.

(B) To the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any Company IP. There is no pending or, to the knowledge of the Company, threatened, action, suit, proceeding or claim by others challenging the Company’s rights in or to any Company IP, and the Company is unaware of any facts which would form a reasonable basis for any such claim. The Intellectual Property owned by the Company and its subsidiaries, and to the knowledge of the Company, the Intellectual Property licensed to the Company and its subsidiaries, has not been adjudged invalid or unenforceable, in whole or in part, and there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the validity or scope of any Company IP, and the Company is unaware of any facts which would form a reasonable basis for any such claim. There is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others that the Company or its subsidiaries infringe, misappropriate or otherwise violate any Intellectual Property or other proprietary rights of others, and the Company and its subsidiaries have not has received any written notice of such claim and the Company is unaware of any other fact which would form a reasonable basis for any such claim.

(C) To the Company's knowledge, no employee of the Company or its subsidiaries is in or has ever been in material violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company or its subsidiaries or actions undertaken by the employee while employed with the Company or its subsidiaries.

(D) The Company and its subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of its material Intellectual Property.

(E) All patent applications owned by the Company or its subsidiaries and filed with the U.S. Patent and Trademark Office (the "**PTO**") or any foreign or international patent authority that have resulted in patents or currently pending applications that describe inventions necessary to conduct the business of the Company as now conducted or as described in the Registration Statement, the General Disclosure Package and the Prospectus to be conducted (collectively, the "**Company Patent Applications**") have been or were duly and properly filed.

(F) The Company and its subsidiaries have complied with their duty of candor and disclosure to the PTO for the Company Patent Applications. To the Company's knowledge, there are no facts required to be disclosed to the PTO that were not disclosed to the PTO and which would preclude the grant of a patent for the Company Patent Applications. The Company has no knowledge of any facts which would preclude it from having clear title to the Company Patent Applications that have been identified by the Company or its subsidiaries as being exclusively owned by the Company or its subsidiaries.

(z) IT Systems. (i)(x) To the knowledge of the Company, there has been no security breach or attack or other compromise of or relating to any of the Company's and its subsidiaries' information technology and computer systems, networks, hardware, software, data (including the data of their respective customers, employees, suppliers, vendors and any third party data maintained by or on behalf of them), equipment or technology ("**IT Systems and Data**"), and (y) the Company and its subsidiaries have not been notified of, and have no knowledge of any event or condition that would reasonably be expected to result in any security breach, attack or compromise to their IT Systems and Data, (ii) the Company and its subsidiaries have complied, and are presently in material compliance with, all applicable laws, statutes or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority and all contractually mandated industry guidelines, standards, internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification and (iii) the Company and its subsidiaries have implemented backup and disaster recovery technology consistent with industry standards and practice.

(aa) Title to Real and Personal Property. Neither the Company nor any of its subsidiaries owns any real property. The Company and each of its subsidiaries have good and marketable title in and have valid and marketable rights to lease or otherwise use, all items of personal property which are material to the business of the Company and its subsidiaries taken as a whole, in each case free and clear of all liens, encumbrances, security interests, claims and defects that (i) do not, singularly or in the aggregate, 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 or any of its subsidiaries or (ii) could not reasonably be expected, singularly or in the aggregate, to have a Material Adverse Effect.

(bb) No Labor Dispute. There is (A) no significant unfair labor practice complaint pending against the Company, or any of its subsidiaries, nor to the Company's knowledge, threatened against it or any of its subsidiaries, before the National Labor Relations Board, any state or local labor relation board or any foreign labor relations board, and no significant grievance or significant arbitration proceeding arising out of or under any collective bargaining agreement is so pending against the Company or any of its subsidiaries, or, to the Company's knowledge, threatened against it and (B) no labor disturbance by or dispute with, employees of the Company or any of its subsidiaries exists or, to the Company's knowledge, is contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or its subsidiaries' principal suppliers, manufacturers, customers or contractors, that could reasonably be expected, singularly or in the aggregate, to have a Material Adverse Effect. Except as described in the General Disclosure Package and the Prospectus, the Company is not aware that any key employee or significant group of employees of the Company or any subsidiary plans to terminate employment with the Company or any such subsidiary.

(cc) Compliance with ERISA. No "prohibited transaction" (as defined in Section 406 of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder ("**ERISA**"), or Section 4975 of the Internal Revenue Code of 1986, as amended from time to time (the "**Code**")) or "accumulated funding deficiency" (as defined in Section 302 of ERISA) or any of the events set forth in Section 4043(b) of ERISA (other than events with respect to which the thirty (30)-day notice requirement under Section 4043 of ERISA has been waived) has occurred or could reasonably be expected to occur with respect to any employee benefit plan of the Company or any of its subsidiaries which could, singularly or in the aggregate, have a Material Adverse Effect. Each employee benefit plan of the Company or any of its subsidiaries is in compliance in all material respects with applicable law, including ERISA and the Code. The Company and its subsidiaries have not incurred and could not reasonably be expected to incur liability under Title IV of ERISA with respect to the termination of, or withdrawal from, any pension plan (as defined in ERISA). Each pension plan for which the Company or any of its subsidiaries would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified, and nothing has occurred, whether by action or by failure to act, which could, singularly or in the aggregate, cause the loss of such qualification.

(dd) Environmental Laws and Hazardous Materials. The Company and its subsidiaries are in compliance in all material respects with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to their respective businesses (“**Environmental Laws**”). There has been no storage, generation, transportation, handling, treatment, disposal, discharge, emission, or other release of any kind of toxic or other wastes or other hazardous substances by, due to, or caused by the Company or any of its subsidiaries (or, to the Company’s knowledge, any other entity for whose acts or omissions the Company or any of its subsidiaries is or may otherwise be liable) upon any of the property now or previously owned or leased by the Company or any of its subsidiaries, or upon any other property, in violation of any law, statute, ordinance, rule, regulation, order, judgment, decree or permit or which would, under any law, statute, ordinance, rule (including rule of common law), regulation, order, judgment, decree or permit, give rise to any liability which could reasonably be expected, singularly or in the aggregate, to have a Material Adverse Effect; and there has been no disposal, discharge, emission or other release of any kind onto such property or into the environment surrounding such property of any toxic or other wastes or other hazardous substances with respect to which the Company or any of its subsidiaries has knowledge and which could reasonably be expected, singularly or in the aggregate, to have a Material Adverse Effect.

(ee) Compliance with Occupational Laws. The Company and its subsidiaries (A) are in compliance, in all material respects, with any and all applicable foreign, federal, state and local laws, rules, regulations, treaties, statutes and codes promulgated by any and all Governmental Authorities (including pursuant to the Occupational Health and Safety Act) relating to the protection of human health and safety in the workplace (“**Occupational Laws**”); (B) have received all material permits, licenses or other approvals required of them under applicable Occupational Laws to conduct their businesses as currently conducted; and (C) are in compliance, in all material respects, with all terms and conditions of such permit, license or approval. No action, proceeding, revocation proceeding, writ, injunction or claim is pending or, to the Company’s knowledge, threatened against the Company or its subsidiaries relating to Occupational Laws, and the Company does not have knowledge of any facts, circumstances or developments relating to its operations or cost accounting practices that could reasonably be expected to form the basis for or give rise to such actions, suits, investigations or proceedings.

(ff) Taxes. The Company and its subsidiaries each (i) have timely filed all necessary federal, state, local and foreign tax returns, and all such returns were true, complete and correct, (ii) have paid all federal, state, local and foreign taxes, for which it is liable, including, without limitation, all sales and use taxes and all taxes which the Company or any of its subsidiaries is obligated to withhold from amounts owing to employees, creditors and third parties, and (iii) do not have any tax deficiency or claims outstanding or assessed or, to its knowledge, proposed against any of them, except those, in each of the cases described in clauses (i), (ii) and (iii) above, that would not, singularly or in the aggregate, have a Material Adverse Effect.

(gg) Insurance. The Company and each of its subsidiaries carry, or are covered by, insurance in such amounts and covering such risks as is adequate for the conduct of their respective businesses and the value of their respective properties. Neither the Company nor any of its subsidiaries has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect. Neither the Company nor any of its subsidiaries has received written notice from any insurer, agent of such insurer or the broker of the Company or any of its subsidiaries that any material capital improvements or any other material expenditures (other than premium payments) are required or necessary to be made in order to continue such insurance.

(hh) Accounting Controls. The Company and each of its subsidiaries maintains a system of “internal control over financial reporting” (as such term is defined in Rule 13a-15(f) of the General Rules and Regulations under the Exchange Act (the “**Exchange Act Rules**”)) that complies with the requirements of the Exchange Act and has been designed by their respective principal executive and principal financial officers, or under their supervision, to provide reasonable assurances 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 GAAP and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences and (v) interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the Commission’s rules and guidelines applicable thereto. The Company’s internal control over financial reporting is effective. Except as described in the General Disclosure Package, since the end of the Company’s most recent audited fiscal year, there has been (A) no material weakness in the Company’s internal control over financial reporting (whether or not remediated) and (B) no change in the Company’s internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

(ii) Disclosure Controls. The Company and its subsidiaries maintain disclosure controls and procedures (as such is defined in Rule 13a-15(e) of the Exchange Act Rules) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that information required to be disclosed by the Company and its subsidiaries in reports that they file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company's management to allow timely decisions regarding disclosures. The Company and its subsidiaries have conducted evaluations of the effectiveness of their disclosure controls as required by Rule 13a-15 of the Exchange Act.

(jj) Minute Books. The minute books of the Company since October 1, 2019 have been made available to the Underwriter and counsel for the Underwriter, and such books (i) contain a complete summary of all meetings and actions of the board of directors (including each board committee) and stockholders of the Company (or analogous governing bodies and interest holders, as applicable) since the time of its respective incorporation or organization through the date of the latest meeting and action, and (ii) accurately in all material respects reflect all transactions referred to in such minutes.

(kk) 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, stockholders (or analogous interest holders), customers or suppliers of the Company or any of its affiliates on the other hand, which is required to be described in the General Disclosure Package and the Prospectus or a document incorporated by reference therein and which is not so described.

(ll) No Registration Rights. No person or entity has the right to require registration of shares of Common Stock or other securities of the Company or any of its subsidiaries because of the filing or effectiveness of the Registration Statement or otherwise, except for persons and entities who have expressly waived such right in writing or who have been given timely and proper written notice and have failed to exercise such right within the time or times required under the terms and conditions of such right. Except as described in the General Disclosure Package, there are no persons with registration rights or similar rights to have any securities registered by the Company or any of its subsidiaries under the Securities Act.

(mm) Margin Rules. The application of the proceeds received by the Company from the issuance, sale and delivery of the Securities as described in the General Disclosure Package and the Prospectus will not violate Regulation T, U or X of the Board of Governors of the Federal Reserve system or any other regulation of such Board of Governors.

(nn) No Broker's Fees. Neither the Company nor any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than this Agreement and the Pre-Funded Warrants) that would give rise to a valid claim against the Company or any of its subsidiaries or the Underwriter for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Securities or any transaction contemplated by this Agreement, the Registration Statement, the General Disclosure Package or the Prospectus.

(oo) No Restrictions on Subsidiaries. Except as described in the General Disclosure Package and the Prospectus, no subsidiary of the Company is currently prohibited, directly or indirectly, under any agreement or other instrument to which it is a party or is subject, from paying any dividends to the Company, from making any other distribution on such subsidiary's capital stock, from repaying to the Company any loans or advances to such subsidiary from the Company or from transferring any of such subsidiary's properties or assets to the Company or any other subsidiary of the Company.

(pp) PFIC. The Company is not a Passive Foreign Investment Company ("**PFIC**") within the meaning of Section 1296 of the United States Internal Revenue Code of 1966, and the Company is not likely to become a PFIC.

(qq) 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 General Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(rr) Listing. The Company is subject to and in compliance in all material respects with the reporting requirements of Section 13 or Section 15(d) of the Exchange Act. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act and is listed on the Nasdaq Global Market (the "**Exchange**"), and the Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the Exchange, nor has the Company received any notification that the Commission or FINRA is contemplating terminating such registration or listing.

(ss) Sarbanes-Oxley Act. There is and has been no failure on the part of the company or, to the Company's knowledge, any of the Company's officers or directors, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith (the "**Sarbanes-Oxley Act**"), including Section 402 related to loans and Sections 302 and 906 related to certifications.

(tt) No Unlawful Payments. Neither the Company nor any of its subsidiaries nor, to the Company's knowledge, any director, officer, employee, agent, affiliate or other person acting on behalf of the Company or any subsidiary, has (i) used any corporate funds for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity, (ii) made any direct or indirect unlawful payment to foreign or domestic government officials or employees, political parties or campaigns, political party officials, or candidates for political office from corporate funds, (iii) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended, or any applicable anti-corruption laws, rules, or regulation of any other jurisdiction in which the Company or any subsidiary conducts business, or (iv) made any other unlawful bribe, rebate, payoff, influence payment, kickback, or other unlawful payment to any person.

(uu) Statistical and Market Data. The statistical and market related data included in the Registration Statement, the General Disclosure Package and the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate, and such data agree with the sources from which they are derived.

(vv) Compliance with Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with all applicable financial recordkeeping and reporting requirements, including those of the U.S. Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable anti-money laundering statutes of jurisdictions where the Company and its subsidiaries conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "**Anti-Money Laundering Laws**"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(ww) Compliance with OFAC.

(A) Neither the Company nor any of its subsidiaries, nor, to the Company's knowledge, any director, officer, employee, agent, affiliate, representative or other person acting on behalf of the Company or any of its subsidiaries, is an individual or entity ("**Person**") that is, or is owned or controlled by a Person that is: (i) the subject of any sanctions administered or enforced by the U.S. Department of Treasury's Office of Foreign Assets Control ("**OFAC**"), the United Nations Security Council ("**UNSC**"), the European Union ("**EU**"), His Majesty's Treasury ("**HMT**"), or other relevant sanctions authority (collectively, "**Sanctions**"), nor (ii) located, organized or resident in a country or territory that is the subject of a U.S. government embargo (including, without limitation, the Crimea Region of Ukraine, the so-called Donetsk People's Republic, the so-called Luhansk People's Republic and the non-government controlled areas of the Zaporizhzhia and Kherson Regions, Cuba, Iran, North Korea and Syria).

- (B) The Company will not, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person: (i) to fund or facilitate any activities or business of or with any Person that, at the time of such funding or facilitation, is the subject of Sanctions, or in any country or territory that, at the time of such funding or facilitation, is the subject of a U.S. government embargo; or (ii) in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise).
- (C) For the past five years, the Company and its subsidiaries have not knowingly engaged in, are not now knowingly engaged in, and will not engage in, any direct or indirect dealings or transactions with any Person that at the time of the dealing or transaction is or was the subject of Sanctions or any country or territory that, at the time of the dealing or transaction is or was the subject of a U.S. government embargo.

(xx) No Associated Persons; FINRA Matters. Neither the Company nor any of its affiliates (within the meaning of FINRA Rule 5121(f)(1)) directly or indirectly controls, is controlled by, or is under common control with, or is an associated person (within the meaning of Article I, Section 1(ee) of the By-laws of FINRA) of, any member firm of FINRA.

(yy) Certification Regarding Beneficial Owners. The Company has delivered to the Underwriter a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, and, if required, copies of identifying documentation.

(zz) No Acquisitions or Dispositions. Except as are described in the Registration Statement, the General Disclosure Package and the Prospectus, there are no contracts, letters of intent, term sheets, agreement, arrangements or understandings with respect to the direct or indirect acquisition or disposition by the Company of material interests in real or personal property.

(aaa) Defense Contract Audit Agency. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, to the knowledge of the Company, there is no outstanding allegation of improper or illegal activities arising from any government audit or non-audit review, including without limitation, by the Defense Contract Audit Agency, of the Company or any of its subsidiaries or work performed by the Company or any of its subsidiaries that would have a Material Adverse Effect. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there are no civil or criminal penalties or administrative sanctions that have been imposed upon the Company or any of its subsidiaries, or to the knowledge of the Company, are pending or threatened, arising from a government audit or non-audit review of the Company or any of its subsidiaries or work performed by the Company or any of its subsidiaries, including, but not limited to, termination of contracts, forfeiture of profits, suspension of payments, fines, or suspension or debarment from doing business with any of the United States Government or any agency thereof that would have a Material Adverse Effect.

(bbb) Federal Acquisition Regulation. With respect to each Government Contract to which the Company or any of its subsidiaries is currently a party or has received final payment within three years prior to the date hereof and to each Government Bid and except as disclosed in the Pricing Prospectus: (i) the Company and each of its subsidiaries has complied and is in compliance in all material respects with all material terms and conditions of each Government Contract and Government Bid, including all incorporated clauses, provisions, certifications, representations, requirements, schedules, attachments, regulations and applicable laws, including without limitation, FAR 52.204-24, Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment, FAR 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment, FAR 52.204-26, Covered Telecommunications Equipment or Services-Representation, the Truth in Negotiations Act, the Federal Acquisition Regulation ("**FAR**"), and the Cost Accounting Standards, as applicable; (ii) the Company and each of its subsidiaries has complied in all material respects with all material requirements of statute, rule, regulation, order or agreements with the U.S. Government pertaining to, and as applicable, such Government Contract or Government Bid; and (iii) neither the U.S. Government, nor any prime contractor, subcontractor or other person has notified the Company or any of its subsidiaries, in writing, that the Company or any of its subsidiaries has breached or violated any statute, rule, regulation, certification, representation, clause, provision or requirement, except as would not, individually or in the aggregate, have a Material Adverse Effect; and (iv) to the knowledge of the Company, no reasonable basis exists to give rise to a material claim by a Governmental Authority for fraud (as such concept is defined under the state or federal laws of the United States) in connection with any such Government Contract; for the purposes of this Agreement, "**Governmental Authority**" means any federal, state, local or foreign court or tribunal, governmental, judicial, arbitral, legislative, executive or regulatory body (or subdivision thereof), administrative agency, self-regulatory authority, instrumentality, agency commission or other governmental authority or body; "**Government Bid**" means any offer made by the Company or any of its affiliates (including its subsidiaries), which, if accepted, would result in a Government Contract; "**Government Contract**" means any contract, including any arrangement, joint venture, basic ordering agreement, pricing agreement, letter agreement or other similar arrangement of any kind, between the Company or any of its subsidiaries on the one hand, and (A) the United States Government, (B) any prime contractor to the United States Government in its capacity as a prime contractor, or (C) any subcontractor with respect to any contract described in clause (A) or clause (B) above, on the other hand. A task, purchase or delivery order under a Government Contract shall not constitute a separate Government Contract, for purposes of this definition, but shall be part of the Government Contract to which it relates.

(ccc) Termination for Cause. The Company and its subsidiaries have not received any written notice of termination for cause, “show cause” or cure notice (that has resulted in a termination for cause) pertaining to any Government Contract; provided that this clause (bbb) shall not apply to any notice received more than three years prior to the date hereof.

(ddd) Trade Controls. To the knowledge of the Company, there is no charge, proceeding or investigation by any Governmental Authority with respect to a material violation by the Company of any applicable United States national customs or export control laws and regulations, including the Export Administration Regulations, the Arms Export Control Act, and the International Traffic in Arms Regulations (“Trade Controls”). The Company has not, in the past three (3) years, made any mandatory or voluntary disclosure with respect to a possible violation of Trade Controls to any Governmental Authority.

(eee) No Consent Order. Within the past three (3) years, the Company has not entered into any consent order or administrative agreement relating directly or indirectly to any Government Contract or Government Bid that has had or would reasonably be expected to result in a Material Adverse Effect.

(fff) No Conflict of Interest. The Company has a written code of business ethics and conduct, a business ethics awareness and compliance program, and an internal control system that are in material compliance with all requirements of the Government Contracts of the Company and of applicable laws (including without limitation FAR 52.203-13, where applicable). Within the past three years, the Company has not performed any activities under any Government Contract nor has it had any other relationship with any other person or entity that at the time constituted an “Organizational Conflict of Interest” (as defined by FAR 9.501) or a violation of the Procurement Integrity Act (41 U.S.C. §§ 2101-2107).

(ggg) No Disbarment or Suspension. None of the Company nor, to the knowledge of the Company, any of its officers, employees, agents, nor any “Principal” (as defined in FAR 52.209-5) of the Company has been debarred, or suspended from participation in the award of contracts with any Authority, or been the subject of a debarment, suspension or exclusion from participation in programs funded by any Authority, nor are any of them listed on the Excluded Party Listing, nor to the knowledge of the Company has any such debarment, suspension or exclusion proceeding or proposed Excluded Party Listing been initiated in the past three years. The Company is not, nor has it ever been, suspended or debarred from doing business with an Authority or, to the knowledge of the Company, proposed for suspension or debarment by an Authority and has not been the subject of a finding of non-responsibility or ineligibility for contracting with an Authority.

(hhh) Domestic Preference Laws. The Company has complied in all material respects with all applicable domestic preference statutes and regulations, including the Buy American Act and the Trade Agreements Act.

Any certificate signed by or on behalf of the Company and delivered to the Underwriter shall be deemed to be a representation and warranty by the Company to the Underwriter as to the matters covered thereby.

3. *PURCHASE, SALE AND DELIVERY OF OFFERED SECURITIES*. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company agrees to sell to the Underwriter, and the Underwriter agrees to purchase from the Company the numbers of shares of Firm Stock and/or Pre-Funded Warrants set forth opposite the name of the Underwriter in Schedule A hereto.

The purchase price per share to be paid by the Underwriter to the Company for the Stock will be \$0.4650 per share (the “**Stock Purchase Price**”). The purchase price per warrant to be paid by the Underwriter to the Company for the Pre-Funded Warrants will be \$0.46499999 per share (the “**Warrant Purchase Price**”).

The Company will deliver the Firm Stock to the Underwriter, through the facilities of The Depository Trust Company, in each such case, issued in such names and in such denominations as the Underwriter may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, on the second (2nd) full business day preceding the Closing Date against payment of the aggregate Stock Purchase Price therefor by wire transfer in federal (same day) funds to an account at a bank specified by the Company payable to the order of the Company. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of the Underwriter hereunder. The time and date of the delivery and closing shall be at 10:00 A.M., New York time, on August 21, 2023, in accordance with Rule 15c6-1 of the Exchange Act. The time and date of such payment and delivery are herein referred to as the “**Closing Date**”. Delivery of the Pre-Funded Warrants shall be made by physical delivery to be received or directed by the Underwriter (or by an applicable investor purchasing Pre-Funded Warrants) no later than one business day following the Closing Date. In the event that an investor purchasing Pre-Funded Warrants delivers an Exercise Notice (as defined in the Pre-Funded Warrants) prior to the Closing Date, to exercise any Pre-Funded Warrants between the date hereof and the Closing Date, the Company shall deliver the Pre-Funded Warrant Shares with respect to any exercise to such investor on the Closing Date as specified in such Exercise Notice. The Closing Date and the location of delivery of, and the form of payment for, the Firm Stock and Pre-Funded Warrants may be varied by agreement between the Company and the Underwriter.

The Underwriter may purchase all or less than all of the Optional Stock. The price per share to be paid for the Optional Stock shall be the Stock Purchase Price. The Company agrees to sell to the Underwriter the number of shares of Optional Stock specified in the written notice delivered by the Underwriter to the Company described below and the Underwriter agrees to purchase such shares of Optional Stock. Such shares of Optional Stock shall be purchased from the Company for the account of the Underwriter in the same proportion as the number of shares of Firm Stock set forth opposite the Underwriter's name on Schedule A bears to the total number of shares of Firm Stock. The option granted hereby may be exercised as to all or any part of the Optional Stock at any time, and from time to time, *provided however*, that notice of such exercise must be delivered not more than thirty (30) days subsequent to the date of this Agreement. No Optional Stock shall be sold and delivered unless the Firm Stock previously has been, or simultaneously is, sold and delivered. The right to purchase the Optional Stock or any portion thereof may be surrendered and terminated at any time upon notice by Underwriter to the Company.

The option granted hereby shall be exercised by written notice being given to the Company setting forth the number of shares of the Optional Stock to be purchased by the Underwriter and the date and time for delivery of and payment for the Optional Stock. Each date and time for delivery of and payment for the Optional Stock (which may be the Closing Date, but not earlier) is herein called the "***Option Closing Date***" and shall in no event be earlier than two (2) business days nor later than five (5) business days after written notice is given. The Option Closing Date and the Closing Date are herein called the "***Closing Dates***."

The Company will deliver the Optional Stock to the Underwriter through the facilities of The Depository Trust Company issued in such names and in such denominations as the Underwriter may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, on the second (2nd) full business day preceding the Option Closing Date against payment of the aggregate Stock Purchase Price therefor by wire transfer in federal (same day) funds to an account at a bank acceptable to the Underwriter payable to the order of the Company all at the offices of Faegre Drinker Biddle & Reath LLP. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of the Underwriter hereunder. The Option Closing Date and the location of delivery of, and the form of payment for, the Optional Stock may be varied by agreement between the Company and the Underwriter.

The Underwriter proposes to offer the Securities for sale upon the terms and conditions set forth in the Prospectus.

4. *FURTHER AGREEMENTS OF THE COMPANY.* The Company agrees with the Underwriter:

(a) Required Filings; Amendments or Supplements; Notice to the Underwriter. To prepare the Rule 462(b) Registration Statement, if necessary, in a form approved, which approval may not be unreasonably withheld, conditioned or delayed, by the Underwriter and file such Rule 462(b) Registration Statement with the Commission by 10:00 P.M., New York time, on the date hereof, and the Company shall at the time of filing either pay to the Commission the filing fee for the Rule 462(b) Registration Statement or give irrevocable instructions for the payment of such fee pursuant to Rule 111(b) under the Rules and Regulations; to prepare the Prospectus in a form approved, which approval may not be unreasonably withheld, conditioned or delayed by the Underwriter containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rules 430A, 430B or 430C of the Rules and Regulations and to file such Prospectus pursuant to Rule 424(b) of the Rules and Regulations not later than the second business (2nd) day following the execution and delivery of this Agreement or, if applicable, such earlier time as may be required by the Securities Act; to notify the Underwriter promptly of the Company's intention to file or prepare any supplement or amendment to the Registration Statement or to the Prospectus and to make no amendment or supplement to the Registration Statement, the General Disclosure Package or to the Prospectus to which the Underwriter shall reasonably object by notice to the Company after a reasonable period to review; to advise the Underwriter, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any supplement to the General Disclosure Package or the Prospectus or any amended Prospectus or any Issuer Free Writing Prospectus has been filed and to furnish the Underwriter with copies thereof; to file promptly all material required to be filed by the Company with the Commission pursuant to Rules 433(d) or 163(b)(2) of the Rules and Regulations, as the case may be; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) is required in connection with the offering or sale of the Securities; to advise the Underwriter, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus, the Prospectus or any Written Testing-the-Waters Communication, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement, the General Disclosure Package or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus or suspending any such qualification, and promptly to use its best efforts to obtain the withdrawal of such order.

(b) Permitted Free Writing Prospectus. The Company represents and agrees that, unless it obtains the prior consent of the Underwriter, it has not made and will not, other than any final term sheet prepared and filed pursuant to Section 4(d) hereof, make any offer relating to the Securities that would constitute a "free writing prospectus" as defined in Rule 405 of the Rules and Regulations unless the prior written consent of the Underwriter has been received (each, a "**Permitted Free Writing Prospectus**"); *provided* that the prior written consent of the Underwriter hereto shall be deemed to have been given in respect of any Issuer Free Writing Prospectuses included in Schedule B hereto. The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Issuer Free Writing Prospectus, including the requirements relating to timely filing with the Commission, legending and record keeping and will not take any action that would result in the Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) of the Rules and Regulations a free writing prospectus prepared by or on behalf of the Underwriter that the Underwriter otherwise would not have been required to file thereunder.

(c) Ongoing Compliance. If at any time prior to the date when a prospectus relating to the Securities is required to be delivered (or in lieu thereof, the notice referred to in Rule 173(a) under the Securities Act) any event occurs or condition exists as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact, or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made when the Prospectus is delivered (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations), not misleading, or if it is necessary at any time to amend or supplement the Registration Statement or the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus to comply with the Securities Act or the Exchange Act, that the Company will promptly notify the Underwriter thereof and upon their request will prepare an appropriate amendment or supplement or upon their request make an appropriate filing pursuant to Section 13 or 14 of the Exchange Act in form and substance satisfactory to the Underwriter which will correct such statement or omission or effect such compliance and will use its reasonable best efforts to have any amendment to the Registration Statement declared effective as soon as possible. The Company will furnish without charge to the Underwriter and to any dealer in securities as many copies as the Underwriter may from time to time reasonably request of such amendment or supplement. In case the Underwriter is required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) relating to the Securities, the Company upon the request of the Underwriter will prepare promptly an amended or supplemented Prospectus as may be necessary to permit compliance with the requirements of Section 10(a)(3) of the Securities Act and deliver to the Underwriter as many copies as the Underwriter may request of such amended or supplemented Prospectus complying with Section 10(a)(3) of the Securities Act.

(d) Amendment to General Disclosure Package. If the General Disclosure Package is being used to solicit offers to buy the Securities at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Underwriter, it becomes necessary to amend or supplement the General Disclosure Package in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, or to make the statements therein not conflict with the information contained or incorporated by reference in the Registration Statement then on file and not superseded or modified, or if it is necessary at any time to amend or supplement the General Disclosure Package to comply with any law, the Company promptly will either (i) prepare, file with the Commission (if required) and furnish to the Underwriter and any dealers an appropriate amendment or supplement to the General Disclosure Package or (ii) prepare and file with the Commission an appropriate filing under the Exchange Act which shall be incorporated by reference in the General Disclosure Package so that the General Disclosure Package as so amended or supplemented will not, in the light of the circumstances then prevailing, be misleading or conflict with the Registration Statement then on file, or so that the General Disclosure Package will comply with law.

(e) Amendment to Issuer Free Writing Prospectus. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or will conflict with the information contained in the Registration Statement, Pricing Prospectus or Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof and not superseded or modified or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading, the Company has promptly notified or will promptly notify the Underwriter so that any use of the Issuer Free Writing Prospectus may cease until it is amended or supplemented and has promptly amended or will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company through the Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information.

(f) Delivery of Registration Statement. To the extent not available on the Commission's Electronic Data Gathering, Analysis and Retrieval system or any successor system ("**EDGAR**"), upon the request of the Underwriter, to furnish promptly to the Underwriter and to counsel for the Underwriter a signed copy of the Registration Statement as originally filed with the Commission, and of each amendment thereto filed with the Commission, including all consents and exhibits filed therewith.

(g) Delivery of Copies. Upon request of the Underwriter, to the extent not available on EDGAR, to deliver promptly to the Underwriter in New York City such number of the following documents as the Underwriter shall reasonably request: (i) conformed copies of the Registration Statement as originally filed with the Commission (in each case excluding exhibits), (ii) each Preliminary Prospectus, (iii) any Issuer Free Writing Prospectus, (iv) the Prospectus (the delivery of the documents referred to in clauses (i), (ii), (iii) and (iv) of this paragraph (h) to be made not later than 10:00 A.M., New York time, on the business day following the execution and delivery of this Agreement), (v) conformed copies of any amendment to the Registration Statement (excluding exhibits), (vi) any amendment or supplement to the General Disclosure Package or the Prospectus (the delivery of the documents referred to in clauses (v) and (vi) of this paragraph (g) to be made not later than 10:00 A.M., New York City time, on the business day following the date of such amendment or supplement) and (vii) any document incorporated by reference in the General Disclosure Package or the Prospectus (excluding exhibits thereto) (the delivery of the documents referred to in clause (vi) of this paragraph (g) to be made not later than 10:00 A.M., New York City time, on the business day following the date of such document).

(h) Earnings Statement. To make generally available to its stockholders as soon as practicable, but in any event not later than sixteen (16) months after the effective date of the Registration Statement (as defined in Rule 158(c) of the Rules and Regulations), an earnings statement of the Company and its subsidiaries (which need not be audited) complying with Section 11(a) of the Securities Act (including, at the option of the Company, Rule 158); provided that the Company will be deemed to have furnished such statement to its stockholders to the extent it is filed on EDGAR.

(i) Blue Sky Compliance. To take promptly from time to time such actions as the Underwriter may reasonably request to qualify the Securities for offering and sale under the securities or Blue Sky laws of such jurisdictions (domestic or foreign) as the Underwriter may reasonably designate and to continue such qualifications in effect, and to comply with such laws, for so long as required to permit the offer and sale of Securities in such jurisdictions; *provided* that the Company and its subsidiaries shall not be obligated to (i) qualify as foreign corporations in any jurisdiction in which they are not so qualified, (ii) file a general consent to service of process in any jurisdiction or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(j) Reports. Upon request, during the period of two (2) years from the date hereof, to deliver to the Underwriter, (i) as soon as they are available, copies of all reports or other communications (financial or other) furnished to stockholders, and (ii) as soon as they are available, copies of any reports and financial statements furnished or filed with the Commission or any national securities exchange on which the Stock is listed; provided that, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act and is timely filing reports EDGAR, it is not required to furnish such reports or statements to the Underwriter.

(k) Lock-Up. During the period commencing on and including the date hereof and ending on and including the ninetieth (90th) day following the date of this Agreement, (the “**Lock-Up Period**”) the Company will not, without the prior written consent of the Underwriter (which consent may be withheld at the sole discretion of the Underwriter), (A) directly or indirectly offer, sell (including, without limitation, any short sale), assign, transfer, pledge, contract to sell, establish an open “put equivalent position” within the meaning of Rule 16a-1(h) under the Exchange Act, or otherwise dispose of, or announce the offering of, or submit or file any registration statement under the Securities Act in respect of, any Common Stock, options, rights or warrants to acquire Common Stock or securities exchangeable or exercisable for or convertible into Common Stock (other than is contemplated by this Agreement with respect to the Stock and the Pre-Funded Warrants with respect to the Pre-Funded Warrant Shares) or (B) 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 publicly announce any intention to do any of the foregoing; *provided, however*, that the Company may (i) issue Common Stock and options to purchase Common Stock, shares of Common Stock underlying options granted and other securities, each pursuant to any director or employee equity incentive plan, stock ownership plan or dividend reinvestment plan of the Company in effect on the date hereof and described in the General Disclosure Package; (ii) issue Common Stock pursuant to the conversion of securities or the exercise of warrants, which securities or warrants are outstanding on the date hereof and described in the General Disclosure Package; (iii) file a registration statement on Form S-8 under the Securities Act to register the offer and sale of securities to be issued pursuant to equity incentive plans described as outstanding in the Registration Statement, Pricing Prospectus or Prospectus; and (iv) enter into a plan to preserve its net operating loss carryovers under Section 382 of the Code.

(l) Delivery of SEC Correspondence. To the extent not available on EDGAR, supply the Underwriter with copies of all correspondence to and from, and all documents issued to and by, the Commission in connection with the registration of the Securities under the Securities Act or any of the Registration Statement, any Preliminary Prospectus or the Prospectus, or any amendment or supplement thereto or document incorporated by reference therein.

(m) Press Releases. Prior to the Closing Date, not to issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Underwriter is notified), without the prior consent of the Underwriter, unless in the judgment of the Company and its counsel, and after notification to the Underwriter, such press release or communication is required by law.

(n) Compliance with Regulation M. Until the Underwriter shall have notified the Company of the completion of the resale of the Securities, that the Company will not, and will use its reasonable best efforts to cause its affiliated purchasers (as defined in Regulation M under the Exchange Act) not to, either alone or with one or more other persons, bid for or purchase, for any account in which it or any of its affiliated purchasers has a beneficial interest, any Securities, or attempt to induce any person to purchase any Securities; and not to, and to use its reasonable best efforts to cause its affiliated purchasers not to, make bids or purchase for the purpose of creating actual, or apparent, active trading in or of raising the price of the Securities.

(o) Registrar and Transfer Agent. To maintain, at its expense, a registrar and transfer agent for the Stock.

(p) Use of Proceeds. To apply the net proceeds from the sale of the Securities as set forth in the Registration Statement, the General Disclosure Package and the Prospectus under the heading "Use of Proceeds," and except as disclosed in the General Disclosure Package, the Company does not intend to use any of the proceeds from the sale of the Securities hereunder to repay any outstanding debt owed to any affiliate of the Underwriter.

(q) Exchange Listing. To use its reasonable best efforts to list, subject to notice of issuance, for quotation the Stock on the Exchange.

(r) Performance of Covenants and Satisfaction of Conditions. To use its reasonable best efforts to do and perform all things required to be done or performed under this Agreement by the Company prior to each Closing Date and to satisfy all conditions precedent to the delivery of the Securities.

(s) Pre-Funded Warrant Share Reserve. For so long as any Pre-Funded Warrants remain outstanding, the Company shall continue to reserve and keep available at all times, free of preemptive rights, a sufficient number of authorized shares of Common Stock for the purpose of enabling the Company to effect the issuance of the Pre-Funded Warrant Shares.

5. PAYMENT OF EXPENSES. The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is terminated, will pay or cause to be paid (A) all expenses (including transfer taxes allocated to the respective transferees) incurred by the Company in connection with the delivery to the Underwriter of the Securities, (B) all expenses and fees (including, without limitation, fees and expenses of the Company's accountants and counsel) in connection with the preparation, printing, filing, delivery, and shipping of the Registration Statement (including the financial statements therein and all amendments, schedules, and exhibits thereto), the Securities, each Preliminary Prospectus, the General Disclosure Package, the Prospectus, any issuer free writing prospectus and any amendment thereof or supplement thereto, and the printing, delivery, and shipping of this Underwriting Agreement and other underwriting documents, including Blue Sky Memoranda (covering the states and other applicable jurisdictions), (C) all filing fees incurred in connection with the qualification of the Securities for offering and sale by the Underwriter or by dealers under the securities or blue sky laws of the states and other jurisdictions which you shall designate, (D) the fees and expenses of the transfer agent or registrar, (E) the filing fees and fees and disbursements of Underwriter's counsel incident to any required review and approval by FINRA of the terms of the sale of the Securities, (F) listing fees, if any, (G) the cost and expenses of the Company relating to investor presentations or any "roadshow" undertaken in connection with marketing of the Securities, including any bookbuilding or similar software, (H) all out-of-pocket expenses of the Underwriter (including, but not limited to, fees and disbursements of the Underwriter's counsel and the Underwriter's reasonable travel, database, printing, postage, facsimile and telephone expenses) incurred in connection with the Underwriter's investigation of the Company (including background checks of officers and directors), preparing to market and marketing the Securities, sale of the Securities or in contemplation of performing its obligations hereunder, which amount shall not exceed \$110,000 in the aggregate, and (I) all other costs and expenses of the Company incident to the performance of its obligations hereunder that are not otherwise specifically provided for herein.

6. *CONDITIONS OF UNDERWRITER'S OBLIGATIONS.* The respective obligations of the Underwriter hereunder are subject to the accuracy, when made and as of the Applicable Time and on such Closing Date, of the representations and warranties of the Company contained herein, to the accuracy of the statements of the Company made in any certificates pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder, and to each of the following additional terms and conditions:

(a) Registration Compliance; No Stop Orders. The Registration Statement has become effective under the Securities Act, and no stop order suspending the effectiveness of the Registration Statement or any part thereof, preventing or suspending the use of any Base Prospectus, any Preliminary Prospectus, the Prospectus or any Permitted Free Writing Prospectus or any part thereof shall have been issued and no proceedings for that purpose or pursuant to Section 8A under the Securities Act shall have been initiated or threatened by the Commission, and all requests for additional information on the part of the Commission (to be included or incorporated by reference in the Registration Statement or the Prospectus or otherwise) shall have been complied with to the reasonable satisfaction of the Underwriter; the Rule 462(b) Registration Statement, if any, each Issuer Free Writing Prospectus and the Prospectus shall have been filed with, the Commission within the applicable time period prescribed for such filing by, and in compliance with, the Rules and Regulations and in accordance with Section 4(a), and the Rule 462(b) Registration Statement, if any, shall have become effective promptly upon its filing with the Commission; and FINRA shall have raised no unresolved objection to the fairness and reasonableness of the terms of this Agreement or the transactions contemplated hereby.

(b) No Material Misstatements. The Underwriter shall not have discovered and disclosed to the Company on or prior to such Closing Date that the Registration Statement or any amendment or supplement thereto contains an untrue statement of a fact which, in the opinion of counsel for the Underwriter, is material or omits to state any fact which, in the opinion of such counsel, is material and is required to be stated therein or is necessary to make the statements therein not misleading, or that the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus or any amendment or supplement thereto contains an untrue statement of fact which, in the opinion of such counsel, is material or omits to state any fact which, in the opinion of such counsel, is material and is necessary in order to make the statements, in the light of the circumstances in which they were made, not misleading.

(c) Corporate Proceedings. All corporate proceedings incident to the authorization, form and validity of each of this Agreement, the Securities, the Registration Statement, the General Disclosure Package, each Issuer Free Writing Prospectus and the Prospectus and the transactions contemplated hereby shall be reasonably satisfactory in all material respects to counsel for the Underwriter, and the Company and the Selling stockholders shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

(d) Opinion and 10b-5 Statement of Counsel for the Company. Pillsbury Winthrop Shaw Pittman LLP shall have furnished to the Underwriter such counsel's written opinion and 10b-5 Statement, as counsel to the Company, addressed to the Underwriter and dated such Closing Date, in form and substance reasonably satisfactory to the Underwriter.

(e) Opinion of New Jersey Counsel for the Company. Connell Foley LLP shall have furnished to the Underwriter such counsel's written opinion, as New Jersey counsel to the Company, addressed to the Underwriter and dated such Closing Date, in form and substance reasonably satisfactory to the Underwriter.

(f) Opinion and 10b-5 Statement of Counsel for the Underwriter. The Underwriter shall have received from Faegre Drinker Biddle & Reath LLP, counsel for the Underwriter, such opinion or opinions and 10b-5 Statement, dated such Closing Date, with respect to such matters as the Underwriter may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

(g) Comfort Letter. At the time of the execution of this Agreement, the Underwriter shall have received from KPMG LLP a letter, addressed to the Underwriter, executed and dated such date, in form and substance satisfactory to the Underwriter (i) confirming that they are an independent registered accounting firm with respect to the Company and its subsidiaries within the meaning of the Securities Act and the Rules and Regulations and PCAOB and (ii) stating the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial statements and certain financial information contained or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus.

(h) Bring Down Comfort. On the effective date of any post-effective amendment to the Registration Statement and on such Closing Date, the Underwriter shall have received a letter (the “**bring-down letter**”) from KPMG LLP addressed to the Underwriter and dated such Closing Date confirming, as of the date of the bring-down letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the General Disclosure Package and the Prospectus, as the case may be, as of a date not more than three (3) business days prior to the date of the bring-down letter), the conclusions and findings of such firm, of the type ordinarily included in accountants’ “comfort letters” to underwriters, with respect to the financial information and other matters covered by its letter delivered to the Underwriter concurrently with the execution of this Agreement pursuant to paragraph (h) of this Section 6.

(i) Officer’s Certificate. The Company shall have furnished to the Underwriter a certificate, dated as of such Closing Date, of its Chief Executive Officer and its Chief Financial Officer stating in their respective capacities as officers of the Company on behalf of the Company that (i) no stop order suspending the effectiveness of the Registration Statement (including, for avoidance of doubt, any Rule 462(b) Registration Statement), or any post-effective amendment thereto, shall be in effect and no proceedings for such purpose shall have been instituted or, to their knowledge, threatened by the Commission, (ii) for the period from and including the date of this Agreement through and including such Closing Date, there has not occurred any Material Adverse Effect, (iii) to their knowledge, after reasonable investigation, as of such Closing Date, the representations and warranties of the Company in this Agreement are true and correct and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to such Closing Date, and (iv) there has not been, subsequent to the date of the most recent audited financial statements included or incorporated by reference in the General Disclosure Package, any Material Adverse Effect in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would reasonably be expected to involve a Material Adverse Effect, except as set forth in the General Disclosure Package and the Prospectus.

(j) No Material Adverse Effect. Since the date of the latest audited financial statements included in the General Disclosure Package or incorporated by reference in the General Disclosure Package as of the date hereof, (i) neither the Company nor any of its subsidiaries shall have sustained any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth in the General Disclosure Package, and (ii) there shall not have been any change in the capital stock or long-term debt of the Company or any of its subsidiaries, or any change, or any development involving a prospective change, in or affecting the business, general affairs, management, financial position, stockholders’ equity or results of operations of the Company and its subsidiaries, otherwise than as set forth in the General Disclosure Package, the effect of which, in any such case described in clause (i) or (ii) of this paragraph (j), is, in the judgment of the Underwriter, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or delivery of the Securities on the terms and in the manner contemplated in the General Disclosure Package.

(k) No Legal Impediment to Issuance. No action shall have been taken and no law, statute, rule, regulation or order shall have been enacted, adopted or issued by any governmental or regulatory agency or body which would prevent the issuance or sale of the Securities; and no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued which would prevent the issuance or sale of the Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company.

(l) No Downgrade. Subsequent to the execution and delivery of this Agreement (i) no downgrading shall have occurred in the Company's corporate credit rating or the rating accorded the Company's debt securities by any "nationally recognized statistical rating organization," as that term is defined by the Commission for purposes of Rule 436(g)(2) of the Rules and Regulations and (ii) no such organization shall have publicly announced that it has under surveillance or review (other than an announcement with positive implications of a possible upgrading), the Company's corporate credit rating or the rating of any of the Company's debt securities.

(m) Market Conditions. Subsequent to the execution and delivery of this Agreement there shall not have occurred any of the following: (i) trading in any of the Company's securities shall have been suspended or materially limited by the Commission or the Exchange, or trading in securities generally on the New York Stock Exchange, Nasdaq Global Select Market, Nasdaq Global Market, Nasdaq Capital Market or the NYSE MKT LLC or in the over-the-counter market, or trading in any securities of the Company on any exchange or in the over-the-counter market, shall have been suspended or materially limited, or minimum or maximum prices or maximum range for prices shall have been established on any such exchange or such market by the Commission, by such exchange or market or by any other regulatory body or governmental authority having jurisdiction, (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, or the subject of an act of terrorism, or there shall have been an outbreak of or 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 such a material adverse change in general economic, political or financial conditions (or the effect of international conditions on the financial markets in the United States shall be such) as to make it, in the judgment of the Underwriter, impracticable to proceed with the sale or delivery of the Securities on the terms and in the manner contemplated in the General Disclosure Package and the Prospectus.

(n) Exchange Listing. The Company shall have filed a Notification: Listing of Additional Shares with the Exchange and shall have received no objection thereto from the Exchange.

(o) Good Standing. The Underwriter shall have received on and as of such Closing Date satisfactory evidence of the good standing of the Company and its subsidiaries in their respective jurisdictions of organization and their good standing as foreign entities in such other jurisdictions as the Underwriter may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate Governmental Authorities of such jurisdictions.

(p) Lock Up Agreements. The Underwriter shall have received the written agreements, substantially in the form of Exhibit I hereto, of the officers and directors of the Company listed in Schedule D to this Agreement.

(q) Secretary's Certificate. The Company shall have furnished to the Underwriter a Secretary's Certificate of the Company, in form and substance reasonably satisfactory to counsel for the Underwriter and customary for the type of offering contemplated by this Agreement.

(r) CFO Certificate. On the date hereof and on each Closing Date, the Company shall have furnished to you, as the Underwriter, a certificate, dated as of such date, signed on behalf of the Company by its chief financial officer, regarding certain financial information included in or incorporated by reference into the Preliminary Prospectus and the Prospectus, respectively, in form and substance reasonably satisfactory to you.

(s) Additional Documents. On or prior to such Closing Date, the Company shall have furnished to the Underwriter such further certificates and documents as the Underwriter may reasonably request.

(t) Warrant Delivery. The Underwriter shall have received electronic copies of the Pre-Funded Warrants executed by the Company.

All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Underwriter.

(a) Indemnification of Underwriter by the Company. The Company shall indemnify and hold harmless: the Underwriter, its affiliates, directors, officers, managers, members, employees, representatives and agents and each person, if any, who controls the 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 loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Underwriter Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (A) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, the Registration Statement, the Prospectus, or in any amendment or supplement thereto or document incorporated by reference therein or in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Common Stock, including any roadshow or investor presentations made to investors by the Company (whether in person or electronically) (“**Marketing Materials**”) or (B) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, the Registration Statement or the Prospectus, or in any amendment or supplement thereto or document incorporated by reference therein, or in any Marketing Materials, a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading, and shall reimburse each Underwriter Indemnified Party promptly upon demand for any legal fees or other expenses reasonably incurred by that Underwriter Indemnified Party in connection with investigating, or preparing to defend, or defending against, or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding, as such fees and expenses are incurred; *provided, however*, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage, expense or liability arises out of or is based upon an untrue statement or alleged untrue statement in, or omission or alleged omission from any Preliminary Prospectus, the Registration Statement or the Prospectus, or any such amendment or supplement thereto, any Issuer Free Writing Prospectus or any Marketing Materials made in reliance upon and in conformity with written information furnished to the Company through the Underwriter specifically for use therein, which information the parties hereto agree is limited to the Underwriter’s Information.

The indemnity agreement in this Section 7(a) is not exclusive and is in addition to each other liability which the Company might have under this Agreement or otherwise, and shall not limit any rights or remedies which may otherwise be available under this Agreement, at law or in equity to any Underwriter Indemnified Party.

(b) Indemnification of Company by the Underwriter. The Underwriter shall indemnify and hold harmless the Company and its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the “**Company Indemnified Parties**” and each a “**Company Indemnified Party**”) against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Company Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, the Registration Statement or the Prospectus, or in any amendment or supplement thereto, or (ii) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, the Registration Statement or the Prospectus, or in any amendment or supplement thereto, a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading, but in each case only to the extent that the untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company through the Underwriter specifically for use therein, which information the parties hereto agree is limited to the Underwriter’s Information, and shall reimburse the Company Indemnified Parties for any legal or other expenses reasonably incurred by such party in connection with investigating or preparing to defend or defending against or appearing as third party witness in connection with any such loss, claim, damage, liability, action, investigation or proceeding, as such fees and expenses are incurred. This indemnity agreement is not exclusive and will be in addition to any liability which the Underwriter might otherwise have and shall not limit any rights or remedies which may otherwise be available under this Agreement, at law or in equity to the Company Indemnified Parties.

(c) Promptly after receipt by an indemnified party under this Section 7 of notice of the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against an indemnifying party under this Section 7, notify such indemnifying party in writing of the commencement of that action; *provided, however*, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 7 except to the extent it has been materially prejudiced by such failure; and, *provided, further*, that the failure to notify an indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 7. If any such action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense of such action with counsel reasonably satisfactory to the indemnified party (which counsel shall not, except with the written consent of the indemnified party, be counsel to the indemnifying party). After notice from the indemnifying party to the indemnified party of its election to assume the defense of such action, except as provided herein, the indemnifying party shall not be liable to the indemnified party under Section 7 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense of such action other than reasonable costs of investigation; *provided, however*, that any indemnified party shall have the right to employ separate counsel in any such action and to participate in the defense of such action but the fees and expenses of such counsel (other than reasonable costs of investigation) shall be at the expense of such indemnified party unless (i) the employment thereof has been specifically authorized in writing by the Company in the case of a claim for indemnification under Section 7(a) or the Underwriter in the case of a claim for indemnification under Section 7(b), (ii) such indemnified party shall have been advised by its counsel that there may be one or more legal defenses available to it which are different from or additional to those available to the indemnifying party, or (iii) the indemnifying party has failed to assume the defense of such action and employ counsel reasonably satisfactory to the indemnified party within a reasonable period of time after notice of the commencement of the action or the indemnifying party does not diligently defend the action after assumption of the defense, in which case, if such indemnified party notifies the indemnifying party in writing that it elects to employ separate counsel at the expense of the indemnifying party, the indemnifying party shall not have the right to assume the defense of (or, in the case of a failure to diligently defend the action after assumption of the defense, to continue to defend) such action on behalf of such indemnified party and the indemnifying party shall be responsible for legal or other expenses subsequently incurred by such indemnified party in connection with the defense of such action; *provided, however*, that the indemnifying party shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys at any time for all such indemnified parties (in addition to any local counsel), which firm shall be designated in writing by the Underwriter if the indemnified parties under this Section 7 consist of any Underwriter Indemnified Party or by the Company if the indemnified parties under this Section 7 consist of any Company Indemnified Parties. Subject to this Section 7(c), the amount payable by an indemnifying party under Section 7 shall include, but not be limited to, (x) reasonable legal fees and expenses of counsel to the indemnified party and any other expenses in investigating, or preparing to defend or defending against, or appearing as a third party witness in respect of, or otherwise incurred in connection with, any action, investigation, proceeding or claim, and (y) all amounts paid in settlement of any of the foregoing. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of judgment with respect to any pending or threatened action or any claim whatsoever, in respect of which indemnification or contribution could be sought under this Section 7 (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party in form and substance reasonably satisfactory to such indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party. Subject to the provisions of the following sentence, no indemnifying party shall be liable for settlement of any pending or threatened action or any claim whatsoever that is effected without its written consent (which consent shall not be unreasonably withheld or delayed), but if settled with its written consent, if its consent has been unreasonably withheld or delayed or if there be a judgment for the plaintiff in any such matter, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss or liability by reason of such settlement or judgment. In addition, if at any time an indemnified party shall have requested that an indemnifying party reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 7(a) effected without its written consent if (i) such settlement is entered into more than forty-five (45) days after receipt by such indemnifying party of the request for reimbursement, (ii) such indemnifying party shall have received notice of the terms of such settlement at least thirty (30) days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

(d) If the indemnification provided for in this Section 7 is unavailable or insufficient to hold harmless an indemnified party under Section 7(a) or 7(b), then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid, payable or otherwise incurred by such indemnified party as a result of such loss, claim, damage, expense or liability (or any action, investigation or proceeding in respect thereof), as incurred, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriter on the other from the offering of the Securities, or (ii) if the allocation provided by clause (i) of this Section 7(d) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) of this Section 7(d) but also the relative fault of the Company on the one hand and the Underwriter on the other with respect to the statements, omissions, acts or failures to act which resulted in such loss, claim, damage, expense or liability (or any action, investigation or proceeding in respect thereof) as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriter 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 Securities purchased under this Agreement (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriter with respect to the Securities purchased under this Agreement, in each case as set forth in the table on the cover page of the Prospectus. The relative fault of the Company on the one hand and the Underwriter on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriter on the other, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such untrue statement, omission, act or failure to act; *provided* that the parties hereto agree that the written information furnished to the Company through the Underwriter for use in the Preliminary Prospectus, the Registration Statement or the Prospectus, or in any amendment or supplement thereto, consists solely of the Underwriter's Information.

(e) The Company and the Underwriter agree that it would not be just and equitable if contributions pursuant to Section 7(d) above were to be determined by pro rata allocation or by any other method of allocation which does not take into account the equitable considerations referred to Section 7(d) above. The amount paid or payable by an indemnified party as a result of the loss, claim, damage, expense, liability, action, investigation or proceeding referred to in Section 7(d) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating, preparing to defend or defending against or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding. Notwithstanding the provisions of this Section 7, the Underwriter shall not be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by the Underwriter with respect to the offering of the Securities exceeds the amount of any damages which the Underwriter has otherwise paid or become liable to pay by reason of any untrue or alleged untrue statement, omission or alleged omission, act or alleged act or failure to act or alleged failure to act. 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. The Underwriter's obligations to contribute as provided in this Section 7 are several in proportion to their respective underwriting obligations and not joint.

8. *TERMINATION.* The obligations of the Underwriter hereunder may be terminated by in its absolute discretion by notice given to the Company prior to delivery of and payment for the Firm Stock and Pre-Funded Warrants if, prior to that time, any of the events described in Sections 6(m) or 6(n) have occurred or if the Underwriter shall decline to purchase the Securities for any reason permitted under this Agreement.

9. *REIMBURSEMENT OF UNDERWRITER'S EXPENSES.* Notwithstanding anything to the contrary in this Agreement, if (a) this Agreement shall have been terminated pursuant to Section 8 or 10, (b) the Company shall fail to tender the Securities for delivery to the Underwriter for any reason not permitted under this Agreement or (c) the sale of the Securities is not consummated because any condition to the obligations of the Underwriter set forth herein is not satisfied or because of the refusal, inability or failure on the part of the Company to perform any agreement herein or to satisfy any condition or to comply with the provisions hereof, then in addition to the payment of amounts in accordance with Section 5, the Company shall reimburse the Underwriter for the reasonable and documented fees and expenses of Underwriter's counsel and for such other out-of-pocket expenses as shall have been reasonably incurred by them in connection with this Agreement and the proposed purchase of the Securities, including, without limitation, travel and lodging expenses of the Underwriter, and upon demand the Company shall pay the full amount thereof to the Underwriter.

10. *ABSENCE OF FIDUCIARY RELATIONSHIP.* The Company hereby acknowledges that the Underwriter is acting solely as underwriter in connection with the purchase and sale of the Company's securities. The Company further acknowledges that the Underwriter is acting pursuant to a contractual relationship created solely by this Agreement entered into on an arm's length basis, and in no event do the parties intend that the Underwriter acts or be responsible as a fiduciary to the Company, its management, stockholders or creditors or any other person in connection with any activity that the Underwriter may undertake or has undertaken in furtherance of the purchase and sale of the Company's securities, either before or after the date hereof. The Underwriter hereby expressly disclaims any fiduciary or similar obligations to the Company, either in connection with the transactions contemplated by this Agreement or any matters leading up to such transactions, and the Company hereby confirms its understanding and agreement to that effect. The Company and the Underwriter agree that they are each responsible for making their own independent judgments with respect to any such transactions and that any opinions or views expressed by the Underwriter to the Company regarding such transactions, including, but not limited to, any opinions or views with respect to the price or market for the Company's securities, do not constitute advice or recommendations to the Company. The Company and the Underwriter agree that the Underwriter is acting as principal and not the agent or fiduciary of the Company (irrespective of whether the Underwriter has advised or is currently advising the Company on other matters). The Company hereby waives and releases, to the fullest extent permitted by law, any claims that the Company may have against the Underwriter with respect to any breach or alleged breach of any fiduciary, advisory or similar duty to the Company in connection with the transactions contemplated by this Agreement or any matters leading up to such transactions.

11. *SUCCESSORS; PERSONS ENTITLED TO BENEFIT OF AGREEMENT.* This Agreement shall inure to the benefit of and be binding upon the Underwriter, the Company and their respective successors and assigns. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, other than the persons mentioned in the preceding sentence, any legal or equitable right, remedy or claim under or in respect of this Agreement, or any provisions herein contained, this Agreement and all conditions and provisions hereof being intended to be and being for the sole and exclusive benefit of such persons and for the benefit of no other person; except that the representations, warranties, covenants, agreements and indemnities of the Company contained in this Agreement shall also be for the benefit of the Underwriter Indemnified Parties and the indemnities of the Underwriter shall be for the benefit of the Company Indemnified Parties. It is understood that the Underwriter's responsibility to the Company is solely contractual in nature and the Underwriter does not owe the Company, or any other party, any fiduciary duty as a result of this Agreement. No purchaser of any of the Securities from the Underwriter shall be deemed to be a successor or assign by reason merely of such purchase.

12. *SURVIVAL OF INDEMNITIES, REPRESENTATIONS, WARRANTIES, ETC.* The respective indemnities, covenants, agreements, representations, warranties and other statements of the Company and the Underwriter, as set forth in this Agreement or made by them respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation made by or on behalf of the Underwriter, the Company or any person controlling any of them and shall survive delivery of and payment for the Securities. Notwithstanding any termination of this Agreement, including without limitation any termination pursuant to Section 8, the indemnities, covenants, agreements, representations, warranties and other statements forth in Sections 2, 5, 7 and 9 and Sections 10 through 20, inclusive, of this Agreement shall not terminate and shall remain in full force and effect at all times.

13. *RECOGNITION OF THE U.S. SPECIAL RESOLUTION REGIMES.*

(a) In the event that the Underwriter is a Covered Entity and becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from the Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that the Underwriter is a Covered Entity or a BHC Act Affiliate of the Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against the Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

14. *NOTICES.* All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement shall be in writing, unless otherwise specified, and if sent to the Underwriter, shall be delivered to:

Craig-Hallum Capital Group LLC
222 South 9th Street, Suite 350
Minneapolis, MN 55402
Attention: Chris Jensen
Telephone:
Facsimile:

with a copy to:

Faegre Drinker Biddle & Reath LLP
2200 Wells Fargo Center
90 South Seventh Street
Minneapolis, MN 55402-3901
Attention: Jonathan R. Zimmerman
Email: jon.zimmerman@faegredrinker.com

and if to the Company, shall be delivered to:

EMCORE Corporation
2015 West Chestnut Street
Alhambra, CA 91803
Attention: Ryan Hochgesang
Email:

with a copy to:

Pillsbury Winthrop Shaw Pittman LLP
4 Embarcadero Center, 22nd Floor
San Francisco, CA 94111
Attention: Julie Park and James Masetti
Email: julie.park@pillsburylaw.com; jim.masetti@pillsburylaw.com

Any such statements, requests, notices or agreements shall take effect at the time of receipt thereof.

15. *DEFINITION OF CERTAIN TERMS.* For purposes of this Agreement, (a) “**affiliate**” has the meaning set forth in Rule 405 under the Securities Act, (b) “**business day**” means any day on which the New York Stock Exchange, Inc. is open for trading (c) “**subsidiary**” has the meaning set forth in Rule 405 of the Rules and Regulations; (d) “**BHC Act Affiliate**” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k), (e) “**Covered Entity**” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b), (f) “**Default Right**” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable, (g) “**U.S. Special Resolution Regime**” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

16. *GOVERNING LAW, JURISDICTION, WAIVER OF JURY TRIAL.* This Agreement shall be governed by and construed in accordance with the laws of the State of New York, including without limitation Section 5-1401 of the New York General Obligations. The Company irrevocably (a) submits to the exclusive jurisdiction of the Federal and state courts in the Borough of Manhattan in The City of New York for the purpose of any suit, action or other proceeding arising out of this Agreement or the transactions contemplated by this Agreement, the Registration Statement and any Preliminary Prospectus or the Prospectus, (b) agrees that all claims in respect of any such suit, action or proceeding may be heard and determined by any such court, (c) waives to the fullest extent permitted by applicable law, any immunity from the jurisdiction of any such court or from any legal process, (d) agrees not to commence any such suit, action or proceeding other than in such courts, and (e) waives, to the fullest extent permitted by applicable law, any claim that any such suit, action or proceeding is brought in an inconvenient forum. **Each of the parties to this Agreement hereby waives any right to trial by jury in any suit or proceeding arising out of or relating to this Agreement**

17. *UNDERWRITER'S INFORMATION.* The parties hereto acknowledge and agree that, for all purposes of this Agreement, the Underwriter's Information consists solely of the following information in the Prospectus: paragraphs eight, nine and the first sentence of paragraph ten under the heading "Underwriting."

18. *PARTIAL UNENFORCEABILITY.* The invalidity or unenforceability of any section, paragraph, clause or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph, clause or provision hereof. If any section, paragraph, clause or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

19. *GENERAL.* This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. In this Agreement, the masculine, feminine and neuter genders and the singular and the plural include one another. The section headings in this Agreement are for the convenience of the parties only and will not affect the construction or interpretation of this Agreement. This Agreement may be amended or modified, and the observance of any term of this Agreement may be waived, only by a writing signed by the Company and the Underwriter.

20. *COUNTERPARTS.* This Agreement may be signed in any number of counterparts, including by facsimile or other electronic transmission, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com or www.echosign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

If the foregoing is in accordance with your understanding please indicate your acceptance of this Agreement by signing in the space provided for that purpose below.

Very truly yours,
EMCORE CORPORATION

By: /s/ Jeffrey Rittichier
Name: Jeffrey Rittichier
Title: President and Chief Executive Officer

Accepted as of the date first above written:
CRAIG-HALLUM CAPITAL GROUP LLC

By: /s/ Rick Hartfiel
Name: Rick Hartfiel
Title: Head of Investment Banking

SCHEDULE A

| | Number of Shares of Firm Stock to be Purchased | Number of Shares of Optional Stock to be Purchased | Number of Pre-Funded Warrants to be Purchased |
|--------------------------------|------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------|
| Craig-Hallum Capital Group LLC | 19,652,174 | 2,947,826 | 11,900,000 |
| Total | 19,652,174 | 2,947,826 | 11,900,000 |

SCHEDULE B

General Use Free Writing Prospectuses

None.

SCHEDULE C

Pricing Information

Firm Stock to be Sold: 19,652,174 shares

Stock Public Offering Price: \$0.50 per share

Pre-Funded Warrants: warrants to purchase 11,900,000 shares

Pre-Funded Warrants Public Offering Price: \$0.49999999 per warrant

Underwriting Discounts and Commissions: 7.0%

Estimated Net Proceeds to the Company (after underwriting discounts and commissions, but before transaction expenses): \$14,671,760.91

SCHEDULE D

Jeffrey Rittichier
Tom Minichiello
Iain Black
Stephen L. Domenik
Rex S. Jackson
Bruce E. Grooms
Noel Heiks

Exhibit I

Lock-Up Agreement

August __, 2023

Craig-Hallum Capital Group LLC
As representative of the Underwriters named
In the Underwriting Agreement referred to below

Craig-Hallum Capital Group LLC
222 South Ninth Street, Suite 350
Minneapolis, Minnesota 55402

Ladies and Gentlemen:

This Lock-Up Agreement is being delivered to you pursuant to the Underwriting Agreement (the “Underwriting Agreement”) to be entered into by EMCORE Corporation, a New Jersey corporation (the “Company”), and Craig-Hallum Capital Group LLC, as representative (the “Representative”) of the underwriters named in Schedule A thereto (the “Underwriters”). Upon the terms and subject to the conditions of the Underwriting Agreement, the Underwriters intend to effect an underwritten public offering (the “Offering”) of shares of common stock, no par value per share, of the Company (“Common Stock”). Capitalized terms used herein, but not defined, shall have the meaning ascribed to them in the Underwriting Agreement.

In order to induce you to enter into the Underwriting Agreement, the undersigned agrees that, for a period (the “Lock-Up Period”) beginning on the date hereof and ending on, and including, the date that is 90 days after the date of the final prospectus supplement relating to the Offering, the undersigned will not, without the prior written consent of the Representative, (i) sell, offer to sell, contract or agree to sell, hypothecate, pledge, grant any option to purchase or otherwise dispose of or agree to dispose of, directly or indirectly, or file (or participate in the filing of) a registration statement with the Securities and Exchange Commission (the “Commission”) in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission promulgated thereunder (the “Exchange Act”) with respect to, any Common Stock, or any securities convertible into or exchangeable or exercisable for, or any warrants or other rights to purchase, the foregoing, (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of Common Stock, or any securities convertible into or exchangeable or exercisable for, or any warrants or other rights to purchase, the foregoing, whether any such transaction is to be settled by delivery of Common Stock or such other securities, in cash or otherwise or (iii) publicly announce an intention to effect any transaction specified in clause (i) or (ii). The foregoing sentence shall not apply to (a) the registration of the offer and sale of Common Stock as contemplated by the Underwriting Agreement and the sale of the Common Stock to the Underwriters (as defined in the Underwriting Agreement) in the Offering, (b) bona fide gifts, (c) dispositions to any trust for the direct or indirect benefit of the undersigned and/or the immediate family of the undersigned, (d) by operation of law, such as pursuant to a qualified domestic order or in connection with a divorce settlement, (e) by testate succession or intestate succession, (f) forfeitures to the Company or broker-assisted sales to satisfy tax withholding obligations of the undersigned in connection with the vesting or exercise of equity awards currently outstanding pursuant to the Company’s equity incentive plans, in each case solely to cover any tax withholding obligations due as a result of such vesting or exercise, (g) sales or transfers pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction made to all holders of the Company’s securities involving a change in control of the Company, *provided, however*, that until such tender offer, merger, consolidation or other such transaction is completed, the Common Stock owned by the undersigned shall remain subject to the restrictions contained in this Lock-Up Agreement, or (h) sales or transfers of Common Stock or securities convertible into Common Stock pursuant to a trading plan entered into prior to the date hereof pursuant to Rule 10b5-1 under the Exchange Act; *provided*, that in the cases of clauses (b) through (e) that (1) such transfer shall not involve a disposition for value, (2) the transferee agrees in writing with the Representative to be bound by the terms of this Lock-Up Agreement and (3) no filing by any party under Section 16(a) of the Exchange Act, shall be made voluntarily in connection with such transfer, and any filings that are required by law under Section 16(a) of the Exchange Act shall include a statement, by footnote disclosure or otherwise, that any shares of Common Stock and other securities subject to the Lock-Up Agreement that continue to be held by the undersigned remain subject to the terms of the Lock-Up Agreement. To the extent a Form 4 or Form 5 is required to be filed under the Exchange Act by the undersigned in connection with a forfeiture or broker-assisted sales to satisfy tax withholding obligations pursuant to clause (f) of this paragraph, and such Form 4 or Form 5 is filed during the Lock-Up Period, such Form 4 or Form 5 shall indicate by footnote disclosure or otherwise that such Form 4 or Form 5 relates to a forfeiture or broker-assisted sales to satisfy tax withholding obligations, as applicable and that any shares of Common Stock and other securities subject to the Lock-Up Agreement continue to be held by the undersigned remain subject to the terms of the Lock-Up Agreement. For purposes of this paragraph, “immediate family” shall mean the undersigned and the spouse, any lineal descendent, father, mother, brother or sister of the undersigned. In addition, the restrictions sets forth herein shall not prevent the undersigned from entering into a trading plan pursuant to Rule 10b5-1 under the Exchange Act after the date hereof; *provided, however*, that (i) no sales or transfers may be made under such plan until the Lock-Up Period ends or this Lock-Up Agreement is terminated in accordance with its terms and (ii) to the extent a public announcement or filing under the Exchange Act or otherwise, if any, is required of or voluntarily made by or on behalf of the undersigned or the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of Common Stock may be made under such plan during the Lock-Up Period. For the purposes of this paragraph, “change in control” shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an Underwriter pursuant to the Offering), of the Company’s voting securities if, after such transfer, such person or group of affiliated persons would hold more than 50% of the outstanding voting securities of the Company (or the surviving entity).

In addition, the undersigned hereby waives any rights the undersigned may have to require registration of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock in connection with the filing of a registration statement relating to the Offering. The undersigned further agrees that, for the Lock-Up Period, the undersigned will not, without the prior written consent of the Representative, make any demand for, or exercise any right with respect to, the registration of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, or warrants or other rights to purchase Common Stock or any such securities.

The undersigned hereby confirms that the undersigned has not, directly or indirectly, taken, and hereby covenants that the undersigned will not, directly or indirectly, take, any action designed, or which has constituted or will constitute or might reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of shares of Common Stock.

In the event that as of the execution of the Underwriting Agreement, Craig-Hallum Capital Group LLC is the sole underwriter for the Offering, all references to the “Representative” and the “underwriters” or “Underwriters” in this Lock-Up Agreement shall be deemed to refer to Craig-Hallum Capital Group LLC in its role as sole underwriter for the Offering.

This Lock-Up Agreement shall be governed by and construed in accordance with the laws of the State of New York. The undersigned hereby submit to the exclusive jurisdiction of the federal and New York State courts located in The City of New York (and appellate courts thereof) in connection with any dispute related to this Lock-Up Agreement or any matter contemplated hereby, and irrevocably and unconditionally waives any objection to the laying of such venue of any such suit, action or proceeding brought in any such court and any claim that any such suit, action or proceeding has been brought in an inconvenient forum. THE UNDERSIGNED HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY SUIT, ACTION, PROCEEDING OR CLAIM (WHETHER BASED UPON CONTRACT, TORT, EQUITY OR OTHERWISE) ARISING OUT OF OR IN ANY WAY RELATING TO THIS LOCK-UP AGREEMENT AND ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL TERM HEREOF.

* * *

If (i) the Company notifies you in writing that it does not intend to proceed with the Offering, (ii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold thereunder or (iii) the Offering is not completed by August 31, 2023, this Lock-Up Agreement shall be terminated and the undersigned shall be released from its obligations hereunder.

Yours very truly,

Name:

Exhibit II

Form of Pre-Funded Warrant

Warrant Shares: [●]

Initial Exercise Date: August [●], 2023

Issue Date: August [●], 2023

THIS PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK (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 [●], 2023 (the “**Initial Exercise Date**”) until this Warrant is exercised in full or earlier terminated in accordance with Section 4(d) (the “**Termination Date**”) but not thereafter, to subscribe for and purchase from EMCORE Corporation, a New Jersey corporation (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 3(b).

1. Definitions. In addition to the terms defined elsewhere in this Warrant, the following terms have the meanings indicated in this Section 1:

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

“**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 L.P. (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 in the “**Pink Sheets**” published by OTC Markets Group, Inc. (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 Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“**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.

“**Commission**” means the United States Securities and Exchange Commission.

“Common Stock” means the common stock of the Company, no par value per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or any subsidiaries of the Company which would entitle the holder thereof to acquire at any time 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.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“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.

“Registration Statement” means the Company’s Registration Statement on Form S-3 (File No. 333-256090), declared effective on May 20, 2021.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Trading Day” means a day on which the Common Stock is traded on a Trading Market.

“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 Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange (or any successors to any of the foregoing).

“Transfer Agent” means American Stock Transfer & Trust Company, LLC, the current transfer agent of the Company, and any successor transfer agent of 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 L.P. (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 in the **“Pink Sheets”** published by OTC Markets Group, Inc. (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 Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

2. Issuance of Securities; Registration of Warrants. The Warrant, as initially issued by the Company, is offered and sold pursuant to the Registration Statement. As of the Issue Date, the Warrant Shares are issuable under the Registration Statement. Accordingly, the Warrant and, assuming issuance pursuant to the Registration Statement or an exchange meeting the requirements of Section 3(a)(9) of the Securities Act, the Warrant Shares, are not “restricted securities” under Rule 144 promulgated under the Securities Act as of the Issue Date. The Company shall register ownership of this Warrant, upon records to be maintained by the Company for that purpose (the “**Warrant Register**”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any assignee to which this Warrant is assigned hereunder) 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.

3. Exercise.

(a) Exercise of Warrants. 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 (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy (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 3(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the unpaid portion of the aggregate Exercise Price to the Company for the Warrant 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 3(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.

Without limiting the rights of a Holder to receive Warrant Shares on a “cashless exercise” and without limiting the liquidated damages provision in Section 3(d)(i) and the buy-in provision in Section 3(d)(iv), in no event will the Company be required to net cash settle a Warrant exercise.

(b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.00000001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and no additional consideration (other than the nominal exercise price of \$0.00000001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant. The exercise price per Warrant Share under this Warrant shall be \$0.00000001 subject to adjustment hereunder (the “**Exercise Price**”).

(c) Cashless Exercise. This Warrant may be exercised, in whole or in part, 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)(C)] 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 3(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 3(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b)(64) 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. 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 3(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 3(a) hereof after the close of “regular trading hours” on such Trading Day;

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

(C) = 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.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in such a “cashless exercise” transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the Issue Date (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise). In the event that the Registration Statement or another registration statement registering the issuance of Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then this Warrant may only be exercised through a cashless exercise, as set forth in this Section 3(c). For the avoidance of doubt, in the event that the Registration Statement or another registration statement registering the issuance of the Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then a cashless exercise pursuant to this Section 3(c) in exchange for unregistered Warrant Shares in accordance with Section 3(a)(9) of the Securities Act shall be permitted.

(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 Transfer Agent 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 the 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 earlier of (i) the earlier of (A) two (2) Trading Days after the delivery to the Company of the Notice of Exercise and (B) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (ii) 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 (5th) Trading Day after such liquidated damages begin to accrue) 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.

(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 3(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 for any reason to deliver to the Holder the Warrant Shares in accordance with the provisions of Section 3(d)(i) by the third Trading Day following the Warrant Share Delivery Date, and if after such Warrant Share Delivery Date the Holder is required by its brokerage firm 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 was entitled to receive upon the exercise relating to such Warrant Share Delivery Date (a "**Buy-In**"), then the Company shall (A) pay in cash to the Holder (in addition to any other remedies available to or elected by the Holder) the amount, if any, by which (x) the Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of Warrant Shares that the Holder was entitled to receive from the exercise at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions), 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 if the Company had 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 respect to which the actual sale price of the Warrant Shares (including any brokerage commissions) giving rise to such purchase obligation was a total 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 3 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 3(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 3(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 3(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 (1) 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% 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 3(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 3(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 3(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.

4. 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 4(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) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 4(a) above, and subject to the last sentence of this Section 4(b), 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, 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).

(c) 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 other than as set forth in Section 4(a), 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, 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).

(d) 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, 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 is 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 or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of 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 3(e) on the exercise of this Warrant), the number of shares 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 shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 3(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 share of Common Stock 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 4(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) 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 shares of 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 shares of 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. Notwithstanding the foregoing, in the event of a Fundamental Transaction where all holders of the Company’s Common Stock receive solely cash as consideration for their shares of Common Stock, at closing of the Fundamental Transaction this Warrant shall be deemed automatically exercised pursuant to Section 3(c) without the requirement for any additional payments by the Holder and without regard to any Beneficial Ownership Limitations or other limitations contained herein.

(e) Calculations. All calculations under this Section 4 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 4, 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.

(f) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 4, 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 any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, 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, liquidation, 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, liquidation, 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.

5. Transfer of Warrant.

(a) Transferability. Subject to compliance with all applicable securities laws and, if applicable, the rules of the principal Trading Market, 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 two (2) 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 5(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 Issue 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.

6. Miscellaneous.

(a) No Rights as Stockholder Until Exercise. 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 3(d)(i), except as expressly set forth in Section 4.

(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 Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business 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. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant (whether brought against a party hereto or their respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

(f) [Reserved].

(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 2015 West Chestnut Street Alhambra, CA 91803, Attention: Ryan Hochgesang, Email: _____, or such 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 date 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 date 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.

EMCORE CORPORATION

By: _____
Tom Minichiello
Chief Financial Officer

NOTICE OF EXERCISE

TO: EMCORE CORPORATION

(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 Section 3(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in Section 3(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:

EXHIBIT A

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:

Address:

Phone Number:

Email Address:

Dated:

Holder's Signature:

Holder's Address:

Form of Pre-Funded Warrant

Warrant Shares: [●]

Initial Exercise Date: August [●], 2023

Issue Date: August [●], 2023

THIS **PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK** (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 [●], 2023 (the “**Initial Exercise Date**”) until this Warrant is exercised in full or earlier terminated in accordance with Section 4(d) (the “**Termination Date**”) but not thereafter, to subscribe for and purchase from EMCORE Corporation, a New Jersey corporation (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 3(b).

1. Definitions. In addition to the terms defined elsewhere in this Warrant, the following terms have the meanings indicated in this Section 1:

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

“**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 L.P. (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 in the “**Pink Sheets**” published by OTC Markets Group, Inc. (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 Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“**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.

“**Commission**” means the United States Securities and Exchange Commission.

“Common Stock” means the common stock of the Company, no par value per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or any subsidiaries of the Company which would entitle the holder thereof to acquire at any time 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.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“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.

“Registration Statement” means the Company’s Registration Statement on Form S-3 (File No. 333-256090), declared effective on May 20, 2021.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Trading Day” means a day on which the Common Stock is traded on a Trading Market.

“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 Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange (or any successors to any of the foregoing).

“Transfer Agent” means American Stock Transfer & Trust Company, LLC, the current transfer agent of the Company, and any successor transfer agent of 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 L.P. (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 in the **“Pink Sheets”** published by OTC Markets Group, Inc. (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 Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

2. Issuance of Securities; Registration of Warrants. The Warrant, as initially issued by the Company, is offered and sold pursuant to the Registration Statement. As of the Issue Date, the Warrant Shares are issuable under the Registration Statement. Accordingly, the Warrant and, assuming issuance pursuant to the Registration Statement or an exchange meeting the requirements of Section 3(a)(9) of the Securities Act, the Warrant Shares, are not “restricted securities” under Rule 144 promulgated under the Securities Act as of the Issue Date. The Company shall register ownership of this Warrant, upon records to be maintained by the Company for that purpose (the “**Warrant Register**”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any assignee to which this Warrant is assigned hereunder) 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.

3. Exercise.

(a) Exercise of Warrants. 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 (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy (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 3(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the unpaid portion of the aggregate Exercise Price to the Company for the Warrant 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 3(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.

Without limiting the rights of a Holder to receive Warrant Shares on a “cashless exercise” and without limiting the liquidated damages provision in Section 3(d)(i) and the buy-in provision in Section 3(d)(iv), in no event will the Company be required to net cash settle a Warrant exercise.

(b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.00000001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and no additional consideration (other than the nominal exercise price of \$0.00000001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant. The exercise price per Warrant Share under this Warrant shall be \$0.00000001 subject to adjustment hereunder (the “**Exercise Price**”).

(c) Cashless Exercise. This Warrant may be exercised, in whole or in part, 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)(C)] 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 3(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 3(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b)(64) 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. 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 3(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 3(a) hereof after the close of “regular trading hours” on such Trading Day;

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

(C) = 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.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in such a “cashless exercise” transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the Issue Date (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise). In the event that the Registration Statement or another registration statement registering the issuance of Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then this Warrant may only be exercised through a cashless exercise, as set forth in this Section 3(c). For the avoidance of doubt, in the event that the Registration Statement or another registration statement registering the issuance of the Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then a cashless exercise pursuant to this Section 3(c) in exchange for unregistered Warrant Shares in accordance with Section 3(a)(9) of the Securities Act shall be permitted.

(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 Transfer Agent 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 the 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 earlier of (i) the earlier of (A) two (2) Trading Days after the delivery to the Company of the Notice of Exercise and (B) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (ii) 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 (5th) Trading Day after such liquidated damages begin to accrue) 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.

(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 3(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 for any reason to deliver to the Holder the Warrant Shares in accordance with the provisions of Section 3(d)(i) by the third Trading Day following the Warrant Share Delivery Date, and if after such Warrant Share Delivery Date the Holder is required by its brokerage firm 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 was entitled to receive upon the exercise relating to such Warrant Share Delivery Date (a "**Buy-In**"), then the Company shall (A) pay in cash to the Holder (in addition to any other remedies available to or elected by the Holder) the amount, if any, by which (x) the Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of Warrant Shares that the Holder was entitled to receive from the exercise at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions), 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 if the Company had 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 respect to which the actual sale price of the Warrant Shares (including any brokerage commissions) giving rise to such purchase obligation was a total 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 3 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 3(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 3(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 3(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 (1) 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% 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 3(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 3(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 3(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.

4. 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 4(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) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 4(a) above, and subject to the last sentence of this Section 4(b), 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, 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).

(c) 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 other than as set forth in Section 4(a), 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, 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).

(d) 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, 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 is 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 or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of 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 3(e) on the exercise of this Warrant), the number of shares 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 shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 3(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 share of Common Stock 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 4(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) 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 shares of 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 shares of 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. Notwithstanding the foregoing, in the event of a Fundamental Transaction where all holders of the Company’s Common Stock receive solely cash as consideration for their shares of Common Stock, at closing of the Fundamental Transaction this Warrant shall be deemed automatically exercised pursuant to Section 3(c) without the requirement for any additional payments by the Holder and without regard to any Beneficial Ownership Limitations or other limitations contained herein.

(e) Calculations. All calculations under this Section 4 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 4, 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.

(f) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 4, 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 any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, 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, liquidation, 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, liquidation, 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.

5. Transfer of Warrant.

(a) Transferability. Subject to compliance with all applicable securities laws and, if applicable, the rules of the principal Trading Market, 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 two (2) 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 5(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 Issue 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.

6. Miscellaneous.

(a) No Rights as Stockholder Until Exercise. 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 3(d)(i), except as expressly set forth in Section 4.

(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 Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business 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. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant (whether brought against a party hereto or their respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

(f) [Reserved].

(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 2015 West Chestnut Street Alhambra, CA 91803, Attention: Ryan Hochgesang, Email: _____, or such 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 date 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 date 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.

EMCORE CORPORATION

By: _____
Tom Minichiello
Chief Financial Officer

NOTICE OF EXERCISE

TO: EMCORE CORPORATION

(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 Section 3(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in Section 3(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: _____

EXHIBIT A

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:

Address:

Phone Number:

Email Address:

Dated:

Holder's Signature:

Holder's Address:



Connell Foley LLP
 56 Livingston Avenue
 Roseland, NJ 07068
 P 973.535.0500 F 973.535.9217

August 17, 2023

EMCORE Corporation
 2015 W. Chestnut Street
 Alhambra, CA 91803

Re: EMCORE Corporation – Form 8-K

Ladies and Gentlemen:

We have acted as special New Jersey corporate counsel for EMCORE Corporation, a New Jersey corporation (the “Company”), in connection with the Company’s filing of a Prospectus Supplement (the “Prospectus Supplement”) on August 17, 2023 with the Securities and Exchange Commission (the “SEC”) under the Securities Act of 1933, as amended (the “Securities Act”), relating to the issuance and sale by the Company of (i) an aggregate of 22,600,000 shares of the Company’s common stock, no par value (the “Shares”), and (ii) pre-funded common stock purchase warrants (the “Pre-Funded Warrants”) to purchase up to an aggregate of 11,900,000 shares of common stock, no par value (the “Pre-Funded Warrant Shares” and together with the Shares, the “Securities”), pursuant to the Registration Statement on Form S-3 (Registration No. 333-256090) (the “Registration Statement”) filed with the SEC under the Securities Act. The Securities are being issued and sold pursuant to that certain Underwriting Agreement between the Company and Craig-Hallum Capital Group LLC, as representative of the underwriters, dated August 17, 2023 (the “Underwriting Agreement”).

We are delivering this opinion letter in connection with the Prospectus Supplement. No opinion is expressed herein as to any matter pertaining to the contents of the Prospectus Supplement other than as expressly stated herein with respect to the issuance of the Securities.

In so acting, we have examined the Underwriting Agreement, the Pre-Funded Warrants, the Registration Statement, the Prospectus Supplement, the resolutions and/or written consents adopted by the Board of Directors of the Company relating to the offering of the Securities, and such other documents, corporate records, certificates of public officials and of officers and representatives of the Company, and have made such inquiries of such officers and representatives, as we have deemed appropriate as a basis for the opinion hereinafter set forth.

Roseland

Jersey City

Newark

New York

Cherry Hill

Philadelphia

www.connellfoley.com

In such examination, we have assumed the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified, conformed or scanned copies and the authenticity of the originals of such latter documents. We have also assumed that all Securities will be issued and sold in the manner specified in the Underwriting Agreement, Pre-Funded Warrants, Registration Statement and Prospectus Supplement in compliance with applicable federal and state securities laws, and that (i) certificates representing the Securities have been duly executed, countersigned, registered and delivered (or non-certificated Securities shall have been properly issued); and (ii) the Pre-Funded Warrants have been duly executed, countersigned, registered and delivered.

As to any facts material to our opinion, we have relied to the extent we deemed appropriate and without independent investigation upon statements and representations of officers of the Company and others.

Based on the foregoing, and subject to the qualifications stated herein, we are of the opinion that the Securities have been duly authorized by all necessary corporate action on the part of the Company and, when issued and delivered against payment therefor in accordance with the Underwriting Agreement (and, in the case of the Pre-Funded Warrant Shares, when exercised pursuant to the terms of the Pre-Funded Warrants), will be validly issued, fully paid and non-assessable.

The opinion expressed herein is limited to the corporate law of the State of New Jersey. We express no opinion as to the laws, rules or regulations of any other jurisdiction, including, without limitation, the federal laws of the United States of America or any state securities or blue sky laws. Our opinion is provided as of the date hereof, and we undertake no obligation to advise you of any change in any matter set forth herein.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Company's Current Report on Form 8-K filed by the Company with the SEC on the date hereof, and the incorporation thereof in the Registration Statement and to the use of our name under the caption "Legal Matters" in the Prospectus Supplement constituting a part of the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the SEC promulgated thereunder.

Very truly yours,

/s/ Connell Foley LLP

Connell Foley LLP



EMCORE Announces Proposed Public Offering

Alhambra, CA – August 16, 2023 – EMCORE Corporation (Nasdaq: EMKR) today announced that it intends to offer and sell shares of its common stock and, to certain investors, pre-funded warrants to purchase shares of common stock, in an underwritten public offering. The purchase price of each pre-funded warrant will equal the price per share at which shares of common stock are being sold to the public in this offering, minus \$0.00000001, which will be the per share exercise price of each pre-funded warrant. All of the shares and warrants in the offering are being offered by EMCORE. The offering is subject to market and other conditions, and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering.

Craig-Hallum Capital Group is acting as sole book-running manager for the offering.

A shelf registration statement on Form S-3 (File No. 333-256090) relating to the shares was previously filed with the Securities and Exchange Commission (the “SEC”) and became effective on May 20, 2021. The offering will be made only by means of a written prospectus and prospectus supplement that form a part of the registration statement. Copies of the preliminary prospectus supplement and accompanying prospectus relating to the offering will be filed with the SEC and, when available, may be obtained by contacting: Craig-Hallum Capital Group LLC, Attention: Equity Capital Markets, 222 South 9th Street, Suite 350, Minneapolis, Minnesota 55402, by telephone at (612) 334-6300, or by email at prospectus@chlm.com.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About EMCORE Corporation

EMCORE Corporation is a leading provider of inertial navigation products for the aerospace and defense markets. We leverage industry-leading Photonic Integrated Chip (PIC), Quartz MEMS, and Lithium Niobate chip-level technology to deliver state-of-the-art component and system-level products across our end-market applications. EMCORE has vertically-integrated manufacturing capability at its facilities in Alhambra, CA, Budd Lake, NJ, Concord, CA, and Tinley Park, IL. Our manufacturing facilities maintain ISO 9001 quality management certification, and we are AS9100 aerospace quality certified at our facilities in Alhambra, CA, Budd Lake, NJ, and Concord, CA.

Safe Harbor Statement

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements may be identified by use of terms such as “will,” “expect,” “intend,” “shall,” “may” and similar terms or the negative of such terms, and include, without limitation, statements about EMCORE’s expectations regarding the timing, size and completion of the proposed offering. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include risks and uncertainties related to completion of the public offering on the anticipated terms or at all, market conditions and the satisfaction of customary closing conditions related to the public offering. More information about the risks and uncertainties faced by EMCORE is contained in the section captioned “Risk Factors” in the prospectus supplement related to the public offering and from time to time in EMCORE’s SEC filings, including its Annual Report on Form 10-K for the fiscal year ended September 30, 2022, its Quarterly Reports on Form 10-Q for the quarters ended December 31, 2022, March 31, 2023 and June 30, 2023, as well as subsequent SEC filings. The forward-looking statements contained in this release are as of the date of this release, and EMCORE does not undertake any obligation to update any such statements, whether as a result of new information, future events or otherwise.



Investor Contacts

EMCORE Corporation
Tom Minichiello
(626) 293-3400
investor@emcore.com



EMCORE Announces Pricing of \$15.8 Million Public Offering

Alhambra, CA - August 17, 2023 - EMCORE Corporation (Nasdaq: EMKR) today announced the pricing of an underwritten public offering of 19,652,174 shares of its common stock, and, to certain investors, pre-funded warrants to purchase 11,900,000 shares of its common stock. The offering price to the public in the offering was \$0.50 per share of common stock and \$0.49999999 for each pre-funded warrant, which represents the per share public offering price for the common stock less the \$0.00000001 per share exercise price for each such pre-funded warrant. All of the shares and warrants in the offering are being sold by EMCORE. The gross proceeds to EMCORE from the offering, before deducting the underwriting discounts and commissions and other offering expenses, are expected to be approximately \$15.8 million. The offering is expected to close on or about August 21, 2023, subject to customary closing conditions. In addition, EMCORE has granted the underwriter a 30-day option to purchase up to an additional 2,947,826 shares of its common stock in the underwritten public offering.

Craig-Hallum Capital Group is acting as sole managing underwriter for the offering.

A shelf registration statement on Form S-3 (File No. 333-256090) relating to the shares was previously filed with the Securities and Exchange Commission (the "SEC") and became effective on May 20, 2021. The offering will be made only by means of a written prospectus and prospectus supplement that form a part of the registration statement. Copies of the preliminary prospectus supplement and accompanying prospectus relating to the offering may be obtained by contacting: Craig-Hallum Capital Group LLC, Attention: Equity Capital Markets, 222 South 9th Street, Suite 350, Minneapolis, Minnesota 55402, by telephone at (612) 334-6300, or by email at prospectus@chlm.com.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About EMCORE Corporation

EMCORE Corporation is a leading provider of inertial navigation products for the aerospace and defense markets. We leverage industry-leading Photonic Integrated Chip (PIC), Quartz MEMS, and Lithium Niobate chip-level technology to deliver state-of-the-art component and system-level products across our end-market applications. EMCORE has vertically-integrated manufacturing capability at its facilities in Alhambra, CA, Budd Lake, NJ, Concord, CA, and Tinley Park, IL. Our manufacturing facilities maintain ISO 9001 quality management certification, and we are AS9100 aerospace quality certified at our facilities in Alhambra, CA, Budd Lake, NJ, and Concord, CA.

Safe Harbor Statement

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements may be identified by use of terms such as "will," "expect," "intend," "shall," "may" and similar terms or the negative of such terms, and include, without limitation, statements about EMCORE's expectations regarding the timing, terms, size and completion of the public offering. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include risks and uncertainties related to completion of the public offering on the anticipated terms or at all, market conditions and the satisfaction of customary closing conditions related to the public offering. More information about the risks and uncertainties faced by EMCORE is contained in the section captioned "Risk Factors" in the prospectus supplement related to the public offering and from time to time in EMCORE's SEC filings, including its Annual Report on Form 10-K for the fiscal year ended September 30, 2022, its Quarterly Reports on Form 10-Q for the quarters ended December 31, 2022, March 31, 2023 and June 30, 2023, as well as subsequent SEC filings. The forward-looking statements contained in this release are as of the date of this release, and EMCORE does not undertake any obligation to update any such statements, whether as a result of new information, future events or otherwise.

**Investor Contacts**

EMCORE Corporation
Tom Minichiello
(626) 293-3400
investor@emcore.com

With respect to our inertial navigation product line, our management estimates that (i) programs currently in production or awarded with leading prime contractors world-wide will result in approximately \$605 million of lifetime contract value and (ii) we have identified an additional approximately \$300 million of potential new opportunities. Based on industry reports, we believe the estimated global market size for high- end inertial sensors in 2021 was over \$3 billion.

Non-GAAP Financial Measures

We conform to U.S. Generally Accepted Accounting Principles (“GAAP”) in the preparation of our financial statements. We have presented below certain supplemental non-GAAP measures for gross profit, gross profit margin and adjusted EBITDA for our Inertial Navigation product line and our Broadband and Defense Optoelectronics product lines for the fiscal quarters ended December 31, 2021, March 31, 2022, June 30, 2022, September 30, 2022, December 31, 2022, March 31, 2023 and June 30, 2023.

| (\$ in thousands) | Q3 FY23 (6/30/2023) | | Q2 FY23 (3/31/2023) | | Q1 FY23 (12/31/2022) | |
|-----------------------|---------------------|---------------------------|---------------------|---------------------------|----------------------|---------------------------|
| | Inertial Nav. | Broadband/ Def. Opto.* | Inertial Nav. | Broadband/ Def. Opto.* | Inertial Nav. | Broadband/ Def. Opto.* |
| Revenue | 26,718.3 | (20.1) | 24,250.4 | 2,569.2 | 19,978.6 | 4,974.5 |
| Non-GAAP Gross Profit | 7,883.1 | (3,542.9) | 5,295.6 | (985.5) | 4,942.7 | (1,118.9) |
| Non-GAAP Gross Margin | 29.5% | 17626.4% | 21.8% | -38.4% | 24.7% | -22.5% |
| Adjusted EBITDA | (1,332.4) | (3,005.6) | (4,408.6) | (2,109.4) | | |

| | Q4 FY22 (9/30/2022) | | Q3 FY22 (6/30/2022) | | Q2 FY22 (3/31/2022) | | Q1 FY22 (12/31/2021) | |
|-----------------------|---------------------|---------------------------|---------------------|---------------------------|---------------------|---------------------------|----------------------|---------------------------|
| | Inertial Nav. | Broadband/ Def. Opto.* | Inertial Nav. | Broadband/ Def. Opto.* | Inertial Nav. | Broadband/ Def. Opto.* | Inertial Nav. | Broadband/ Def. Opto.* |
| Revenue | 19,666.8 | 5,897.6 | 9,891.3 | 13,784.8 | 7,614.7 | 25,034.8 | 8,144.8 | 34,090.8 |
| Non-GAAP Gross Profit | 521.2 | (83.3) | 631.7 | 3,589.6 | 1,263.0 | 8,384.6 | 1,561.1 | 14,401.7 |
| Non-GAAP Gross Margin | 2.7% | -1.4% | 6.4% | 26.0% | 16.6% | 33.5% | 19.2% | 42.2% |

* The totals in this column represent the defense optoelectronics product category, previously reported in the aerospace and defense segment, on a combined basis with the broadband segment.

Management believes these supplemental non-GAAP measures reflect our core ongoing operating performance and facilitates comparisons across reporting periods. We use these measures when evaluating its financial results and for planning and forecasting of future periods. We believe that these supplemental non-GAAP measures are also useful to investors in assessing our operating performance. While we believe in the usefulness of these supplemental non-GAAP measures, there are limitations. Our non-GAAP measures may not be reported by other companies in our industry and/or may not be directly comparable to similarly titled measures of other companies due to potential differences in calculation. We compensate for these limitations by using these non-GAAP measures as a supplement to GAAP and by providing the reconciliations to the most comparable GAAP measure.

Non-GAAP measures are not in accordance with or an alternative to GAAP, nor are they meant to be considered in isolation or as a substitute for comparable GAAP measures. We have, regardless of result, applied consistent rationale, methods and adjustments when presenting supplemental non-GAAP measures and reconciling non-GAAP measures to the most directly comparable GAAP measure.

Our disclosures of these measures should be read only in conjunction with the section of this prospectus supplement titled “Risk Factors” as well as the risks and uncertainties set forth in “Risk Factors” in our most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q, in the section of this prospectus supplement titled “Forward-Looking Statements”, and our consolidated financial statements and related notes incorporated by reference in this registration statement. Non-GAAP measures should not be viewed as a substitute for our GAAP results.

EMCORE GAAP to Non-GAAP Reconciliations

| | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | | 2Q23 | | 3Q23 | |
|-------------------------------------------|---------------|--------------|--------------|--------------|--------------|-----------------|--------------|-----------------|--------------|----------------|
| \$ in thousands | GP | GP | GP | GP | GP | Op Profit | GP | OP Profit | GP | OP Profit |
| EMKR GAAP | 15,797 | 9,017 | 3,898 | 1,006 | 3,059 | (11,540) | 3,711 | (12,044) | 3,500 | (9,961) |
| | 37% | 28% | 16% | 4% | 12% | | 14% | | 13% | |
| Stock Based Compensation | 151 | 178 | 275 | 348 | 387 | 1,734 | 331 | 1,535 | 436 | 1,713 |
| Asset Retirement Obligation | 9 | 9 | 9 | 64 | 51 | 51 | (18) | (18) | 51 | 51 |
| Acquisition Related | 6 | 12 | 40 | 58 | 326 | 2,386 | 287 | 287 | 353 | 353 |
| Restructuring, Separations, & Transitions | — | 432 | — | — | — | 475 | — | 1,247 | — | 2,161 |
| Litigation Related | — | — | — | — | — | 105 | — | 884 | — | (1,086) |
| Variable Compensation Adjustment | — | — | — | (1,040) | — | — | — | — | — | — |
| Asset Impairment | — | — | — | — | — | — | — | — | — | — |
| Gain/Loss on Asset Sales | — | — | — | — | — | (1,171) | — | — | — | — |
| EMKR Non-GAAP | 15,963 | 9,648 | 4,222 | 436 | 3,823 | (7,960) | 4,311 | (8,085) | 4,340 | (6,769) |
| | 38% | 30% | 18% | 2% | 15% | | 16% | | 16% | |
| Depreciation | | | | | | 1,450 | | 1,566 | | 2,431 |
| EMKR Adjusted EBITDA | | | | | | (6,510) | | (6,519) | | (4,338) |
| EMKR Adjusted EBITDA Margin | | | | | | -26% | | -24% | | -16% |

Inertial Navigation GAAP to Non-GAAP Reconciliations

| | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | | 2Q23 | | 3Q23 | |
|--------------------------------------------|--------------|--------------|------------|------------|--------------|----------------|--------------|----------------|--------------|----------------|
| \$ in thousands | GP | GP | GP | GP | GP | Op Profit | GP | OP Profit | GP | OP Profit |
| Inertial Navigation GAAP | 1,491 | 1,180 | 483 | 911 | 4,379 | (6,916) | 4,861 | (8,644) | 7,260 | (2,904) |
| | 18% | 15% | 5% | 5% | 22% | | 20% | | 27% | |
| Stock Based Compensation | 63 | 70 | 108 | 151 | 199 | 1,354 | 211 | 1,177 | 264 | 1,248 |
| Asset Retirement Obligation | 1 | 1 | 1 | 57 | 39 | 39 | (30) | (30) | 39 | 39 |
| Acquisition Related | 6 | 12 | 40 | 65 | 326 | 2,386 | 254 | 1,518 | 320 | 643 |
| Restructuring, Separations, & Transitions | — | — | — | — | — | — | — | — | — | — |
| Litigation Related | — | — | — | — | — | 105 | — | 884 | — | (1,086) |
| Variable Compensation Adjustment | — | — | — | (662) | — | — | — | — | — | — |
| Asset Impairment | — | — | — | — | — | — | — | — | — | — |
| Gain/Loss on Asset Sales | — | — | — | — | — | (1,171) | — | — | — | — |
| Inertial Navigation Non-GAAP | 1,561 | 1,263 | 632 | 522 | 4943 | (4,203) | 5,296 | (5,095) | 7,883 | (2,060) |
| | 19% | 17% | 6% | 3% | 25% | | 22% | | 30% | |
| Depreciation | | | | | | 688 | | 687 | | 728 |
| Inertial Navigation Adjusted EBITDA | | | | | | (3,515) | | (4,408) | | (1,332) |
| Inertial Nav Adjusted EBITDA Margin | | | | | | -18% | | -18% | | -5% |

Broadband and Defense Optoelectronics GAAP to Non-GAAP Reconciliations

| | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | | | 2Q23 | | | 3Q23 | | |
|--------------------------------------------------|---------------|--------------|--------------|-------------|----------------|--------------|----------------|----------------|--------------|----------------|----------------|--------------|----------------|
| \$ in thousands | GP | GP | GP | GP | GP | Opex | Op Profit | GP | Opex | Op Profit | GP | Opex | Op Profit |
| Broadband GAAP | 14,113 | 7,784 | 2,347 | 118 | (1,049) | 2,663 | (3,712) | (1,805) | 1,348 | (3,153) | (3,662) | 2,868 | (6,530) |
| Plus: Defense Optoelectronics | 193 | 53 | 1,068 | (23) | (271) | 641 | (912) | 655 | 902 | (247) | (98) | 429 | (527) |
| Broadband GAAP & Def-Opto | 14,306 | 7,837 | 3,415 | 95 | (1,320) | 3,304 | (4,624) | (1,150) | 2,250 | (3,400) | (3,760) | 3,297 | (7,057) |
| | 42% | 31% | 25% | 2% | -27% | | | -45% | | | NM | | |
| Stock Based Compensation | 88 | 108 | 167 | 197 | 188 | 192 | 380 | 120 | 238 | 358 | 172 | 293 | 465 |
| Asset Retirement Obligation | 8 | 8 | 8 | 7 | 12 | — | 12 | 12 | — | 12 | 12 | — | 12 |
| Acquisition Related | — | — | — | (7) | — | — | — | 33 | — | — | 33 | (323) | (290) |
| Restructuring, Separations, & Transitions | — | 432 | — | — | — | 475 | 475 | — | (17) | (17) | — | 2,161 | 2,161 |
| Litigation Related | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Variable Compensation Adjustment | — | — | — | (378) | — | — | — | — | — | — | — | — | — |
| Asset Impairment Charge | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Gain/Loss on Asset Sales | — | — | — | — | — | — | — | — | 24 | 24 | — | — | — |
| Broadband & Def-Opto Non-GAAP | 14,402 | 8,385 | 3,590 | (86) | (1,120) | 2,637 | (3,757) | (985) | 2,005 | (2,990) | (3,543) | 1,166 | (4,709) |
| | 42% | 33% | 26% | -1% | -23% | | | -38% | | | NM | | |
| Depreciation | | | | | | | 762 | | | 879 | | | 1,703 |
| Broadband & Def-Opto Adjusted EBITDA | | | | | | | (2,995) | | | (2,111) | | | (3,006) |
| B'band & Def-O Adjusted EBITDA Margin | | | | | | | -76% | | | -116% | | | NM |