

**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**

**Date of Report (Date of Earliest Event Reported): June 1, 2023**

**MKS Instruments, Inc.**

(Exact name of registrant as specified in its charter)

**Massachusetts**  
(State or other jurisdiction  
of incorporation)

**000-23621**  
(Commission  
File Number)

**04-2277512**  
(IRS Employer  
Identification No.)

**2 Tech Drive, Suite 201, Andover,**  
**Massachusetts**  
(Address of principal executive offices)

**01810**  
(Zip Code)

**Registrant's telephone number, including area code: 978-645-5500**

**Not Applicable**

(Former name or former address, if changed since last report)

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	MKSI	Nasdaq Global Select Market

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 1.01 Entry into a Material Definitive Agreement.**

On June 1, 2023, MKS Instruments, Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with J.P. Morgan Securities LLC, as underwriter (the “Underwriter”), and entities affiliated with Carlyle (collectively, the “Selling Stockholders”).

Pursuant to the terms of the Underwriting Agreement, the Selling Stockholders agreed to sell an aggregate of 2,000,000 shares (the “Shares”) of the Company’s common stock, no par value per share (the “Common Stock”), to the Underwriter at a price per share of \$96.76. The Company will not receive any proceeds from the sale of the Shares by the Selling Stockholders. The offering is expected to close on or about June 6, 2023, subject to the satisfaction of customary closing conditions.

The offering was registered under the Securities Act of 1933, as amended, pursuant to the Company’s registration statement on Form S-3ASR (File No. 333-267046) filed with the Securities and Exchange Commission on August 24, 2022, which became automatically effective upon filing.

The Underwriting Agreement contains customary representations, warranties, covenants and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriter, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties and termination provisions. The representations, warranties and covenants contained in the Underwriting Agreement were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to such agreement, and may be subject to limitations agreed upon by the contracting parties. A copy of the Underwriting Agreement is attached as Exhibit 1.1 hereto and is incorporated herein by reference. The foregoing description of the material terms of the Underwriting Agreement does not purport to be complete and is qualified in its entirety by reference to such exhibit.

A copy of the legal opinion and consent of Wilmer Cutler Pickering Hale and Dorr LLP relating to the Shares is attached as Exhibit 5.1 hereto.

**Item 8.01 Other Events.**

On June 1, 2023, the Company issued a press release announcing the pricing of the offering. A copy of this press release is filed as Exhibit 99.1 to this report and is incorporated herein by reference.

**Item 9.01 Financial Statements and Exhibits.****(d) Exhibits**

<u>Exhibit No.</u>	<u>Exhibit</u>
1.1	<a href="#"><u>Underwriting Agreement, dated June 1, 2023, by and among MKS Instruments, Inc., J.P. Morgan Securities LLC, as underwriter, and the selling stockholders named therein.</u></a>
5.1	<a href="#"><u>Opinion of Wilmer Cutler Pickering Hale and Dorr LLP.</u></a>
23.1	<a href="#"><u>Consent of Wilmer Cutler Pickering Hale and Dorr LLP (contained in Exhibit 5.1).</u></a>
99.1	<a href="#"><u>Pricing Press Release issued by MKS Instruments, Inc., dated June 1, 2023.</u></a>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

---

**SIGNATURES**

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

MKS Instruments, Inc.

Date: June 5, 2023

By: /s/ Kathleen F. Burke

Name: Kathleen F. Burke

Title: Executive Vice President, General Counsel and Secretary

MKS INSTRUMENTS, INC.

2,000,000 Shares of Common Stock

Underwriting Agreement

June 1, 2023

J.P. Morgan Securities LLC  
383 Madison Avenue  
New York, New York 10179

Ladies and Gentlemen:

The selling stockholders named in Schedule 2 hereto (the “Selling Stockholders”), each a stockholder of MKS Instruments, Inc., a Massachusetts corporation (the “Company”), propose to sell to the several Underwriters listed in Schedule 1 hereto (the “Underwriters”), for whom you are acting as representatives (the “Representatives”), an aggregate of 2,000,000 shares of common stock, with no par value, of the Company (collectively, the “Shares”). The outstanding shares of common stock of the Company are referred to herein as the “Common Stock”. To the extent there are no additional Underwriters listed on Schedule 1 other than you, the term “Representatives” as used herein shall mean you, as Underwriter, and the terms Representatives and Underwriters shall mean either the singular or plural as the context requires.

The Company and each Selling Stockholder hereby confirm their agreement with the several Underwriters concerning the purchase and sale of the Shares, as follows:

1. Registration Statement. The Company has prepared and filed with the Securities and Exchange Commission (the “Commission”) under the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder (collectively, the “Securities Act”), a registration statement on Form S-3ASR (File No. 333-267046), including a prospectus, relating to the Shares. Such registration statement, as amended at the time it became effective, including the information, if any, deemed pursuant to Rule 430A, 430B or 430C under the Securities Act to be part of the registration statement at the time of its effectiveness (“Rule 430 Information”), is referred to herein as the “Registration Statement”; and as used herein, the term “Preliminary Prospectus” means each prospectus included in such registration statement (and any amendments thereto) before effectiveness, any prospectus filed with the Commission pursuant to Rule 424 under the Securities Act and the prospectus included in the Registration Statement at the time of its effectiveness that omits Rule 430 Information, and the term “Prospectus” means the prospectus in the form first used (or made available upon request of purchasers pursuant to Rule 173 under the Securities Act) in connection with confirmation of sales of the Shares. If the Company has filed an abbreviated registration statement pursuant to Rule 462(b) under the Securities Act (the “Rule 462 Registration Statement”), then any reference herein to the term “Registration Statement” shall be deemed to include such Rule 462 Registration Statement. Any reference in this underwriting agreement (this “Agreement”) to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any document incorporated by reference therein as of the effective date of the Registration Statement or the date of such Preliminary Prospectus or the Prospectus, as the case may be, and any reference to

“amend”, “amendment” or “supplement” with respect to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any documents filed after such date under the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission thereunder (collectively, the “Exchange Act”) that are deemed to be incorporated by reference therein. Capitalized terms used but not defined herein shall have the meanings given to such terms in the Registration Statement and the Prospectus.

At or prior to the Applicable Time (as defined below), the Company had prepared the following information (collectively with the pricing information set forth on Annex B, the “Pricing Disclosure Package”): a Preliminary Prospectus dated June 1, 2023 and any “free-writing prospectus” (as defined pursuant to Rule 405 under the Securities Act) listed on Annex B hereto.

“Applicable Time” means 4:20 P.M., New York City time, on June 1, 2023.

2. Purchase of the Shares by the Underwriters. The Selling Stockholders agree to sell the Shares to the Underwriters as provided in this Agreement, and each Underwriter, on the basis of the representations, warranties and agreements set forth herein and subject to the conditions set forth herein, agrees, severally and not jointly, to purchase at a price per share of \$96.76 (the “Purchase Price”) from the Selling Stockholders the respective number of Shares set forth opposite such Underwriter’s name in Schedule 1 hereto.

(a) The Selling Stockholders understand that the Underwriters intend to make a public offering of the Shares, and initially to offer the Shares on the terms set forth in the Pricing Disclosure Package. The Selling Stockholders acknowledge and agree that the Underwriters may offer and sell Shares to or through any affiliate of an Underwriter.

(b) Payment for the Shares shall be made by wire transfer in immediately available funds to the accounts specified by the Selling Stockholders at the offices of Milbank LLP, 55 Hudson Yards, New York, NY 10001 at 9:00 A.M., New York City time, on June 6, 2023. The time and date of such payment for the Shares is referred to herein as the “Closing Date.”

Payment for the Shares to be purchased on the Closing Date shall be made against delivery to the Representatives for the respective accounts of the several Underwriters of the Shares to be purchased on such date with any transfer taxes payable in connection with the initial sale of such Shares duly paid by the applicable Selling Stockholder. Delivery of the Shares shall be made through the facilities of The Depository Trust Company (“DTC”) unless the Representatives shall otherwise instruct.

(c) (i) Each of the Company and each Selling Stockholder acknowledges and agrees that each Underwriter is acting solely in the capacity of an arm’s length contractual counterparty to the Company and the Selling Stockholders with respect to the offering of Shares contemplated hereby (including in connection with determining the terms of the offering) and not as a financial advisor or a fiduciary to, or an agent of, the Company, the Selling Stockholders or any other person. Additionally, neither the Representatives nor any other Underwriter is advising the Company, the Selling Stockholders or any other person as to any legal, tax, investment, accounting or

regulatory matters in any jurisdiction. The Company and the Selling Stockholders shall consult with their own advisors concerning such matters and shall be responsible for making their own independent investigation and appraisal of the transactions contemplated hereby, and no Underwriter shall have any responsibility or liability to the Company or the Selling Stockholders with respect thereto. Any review by any of the Underwriters of the Company, the transactions contemplated hereby or other matters relating to such transactions will be performed solely for the benefit of such Underwriter and shall not be on behalf of the Company or the Selling Stockholders. Moreover, each Selling Stockholder acknowledges and agrees that, although the Representatives may be required or choose to provide certain Selling Stockholders with certain Regulation Best Interest and Form CRS disclosures in connection with the offering, the Representatives and the other Underwriters are not making a recommendation to any Selling Stockholder to participate in the offering, enter into a "lock-up" agreement, or sell any Shares at the price determined in the offering, and nothing set forth in such disclosures is intended to suggest that the Representatives or any Underwriter is making such a recommendation.

(ii) Without limiting the applicability of this Section 2(c) or any other provision of this Agreement, with respect to any Underwriter who is affiliated with any person or entity engaged to act as an investment adviser on behalf of a client who has a direct or indirect interest in the Shares being sold by the Selling Stockholder, the Shares being sold to such Underwriter shall not include any securities attributable to such client (with any such Shares instead being allocated and sold to the other Underwriters) and, accordingly, the fees or other amounts received by such Underwriter in connection with the transactions contemplated hereby shall not include any fees or other amounts attributable to such client.

3. Representations and Warranties of the Company. The Company represents and warrants to each Underwriter that:

(a) *Preliminary Prospectus*. No order preventing or suspending the use of any Preliminary Prospectus has been issued by the Commission, and each Preliminary Prospectus included in the Pricing Disclosure Package, at the time of filing thereof, complied in all material respects with the Securities Act, and no Preliminary Prospectus included in the Pricing Disclosure Package, at the time of filing thereof, contained any untrue statement of a material fact or omitted 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 that the Company makes no representation or warranty with respect to any statements or omissions made in reliance upon and in conformity with information furnished to the Company in writing by (i) any Underwriter expressly for use in any Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the Underwriter Information (as defined in Section 9(c) hereof) or (ii) the Selling Stockholders expressly for use in the Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Selling Stockholder consists of (A) the legal name and address of such Selling Stockholder set forth in the footnote relating to such Selling Stockholder under the caption "Selling Stockholders" and (B) the number of shares of common stock owned by such Selling Stockholder before and after the offering (excluding percentages) that appears in the table (and corresponding footnotes) under the caption "Selling Stockholders" (the "Selling Stockholder Information").

---

(b) *Pricing Disclosure Package*. The Pricing Disclosure Package as of the Applicable Time did not, and as of the Closing Date, will not, contain any untrue statement of a material fact or 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 that the Company makes no representation or warranty with respect to any statements or omissions made in reliance upon and in conformity with information furnished to the Company in writing by (i) any Underwriter expressly for use in such Pricing Disclosure Package, it being understood and agreed that the only such information furnished by any Underwriter consists of the Underwriter Information or (ii) the Selling Stockholders expressly for use in the Pricing Disclosure Package, it being understood and agreed that the only such information furnished by the Selling Stockholders consists of the Selling Stockholder Information.

(c) *Issuer Free Writing Prospectuses*. Other than the Registration Statement, the Preliminary Prospectus and the Prospectus, the Company (including its agents and representatives, other than the Underwriters in their capacity as such) has not prepared, used, authorized, approved or referred to and will not prepare, use, authorize, approve or refer to any “written communication” (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or solicitation of an offer to buy the Shares (each such communication by the Company or its agents and representatives (other than a communication referred to in clause (i) below) an “Issuer Free Writing Prospectus”) other than (i) any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134 under the Securities Act or (ii) the documents listed on Annex B hereto, each electronic road show, if any, and any other written communications approved in writing in advance by the Representatives. Each such Issuer Free Writing Prospectus complies in all material respects with the Securities Act, has been or will be (within the time period specified in Rule 433) filed in accordance with the Securities Act (to the extent required thereby) and does not conflict with the information contained in the Registration Statement or the Pricing Disclosure Package and, when taken together with the Preliminary Prospectus accompanying, or delivered prior to delivery of, such Issuer Free Writing Prospectus, did not, and as of the Closing Date, will not, contain any untrue statement of a material fact or 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 that the Company makes no representation or warranty with respect to any statements or omissions made in each such Issuer Free Writing Prospectus or Preliminary Prospectus in reliance upon and in conformity with information furnished to the Company in writing by (i) any Underwriter expressly for use in such Issuer Free Writing Prospectus or Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the Underwriter Information or (ii) the Selling Stockholders expressly for use in such Issuer Free Writing Prospectus or Preliminary Prospectus, it being understood and agreed that the only such information furnished by the Selling Stockholders consists of the Selling Stockholder Information.

---

(d) *Testing the Waters Communications.* The Company has not engaged in Testing-the-Waters Communication in connection with the offering to which this Agreement relates. The Company has not distributed any Written Testing-the-Waters Communications in connection with the offering to which this Agreement relates. “Testing-the-Waters Communication” means any oral or written communication with potential investors undertaken in reliance on either Section 5(d) of, or Rule 163B under, the Securities Act. “Written Testing-the-Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Securities Act.

(e) *Registration Statement and Prospectus.* The Registration Statement is an “automatic shelf registration statement” as defined under Rule 405 of the Securities Act that has been filed with the Commission not earlier than three years prior to the date hereof; and no notice of objection of the Commission to the use of such registration statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Securities Act has been received by the Company. No order suspending the effectiveness of the Registration Statement has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act against the Company or related to the offering of the Shares has been initiated or, to the Company’s knowledge, threatened by the Commission; as of the applicable effective date of the Registration Statement and any post-effective amendment thereto, the Registration Statement and any such post-effective amendment complied and will comply in all material respects with the Securities Act, and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading; and as of the date of the Prospectus and any amendment or supplement thereto and as of the Closing Date, the Prospectus will not contain any untrue statement of a material fact or 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 that the Company makes no representation or warranty with respect to any statements or omissions made in reliance upon and in conformity with information furnished to the Company in writing by (i) such Underwriter expressly for use in the Registration Statement and the Prospectus and any amendment or supplement thereto, it being understood and agreed that the only such information furnished by any Underwriter consists of the Underwriter Information or (ii) the Selling Stockholders expressly for use in the Registration Statement and the Prospectus and any amendment or supplement thereto, it being understood and agreed that the only such information furnished by the Selling Stockholders consists of the Selling Stockholder Information.

(f) *Incorporated Documents.* The documents incorporated by reference in the Registration Statement, the Prospectus and the Pricing Disclosure Package and any amendment or supplement thereto, when they were filed with the Commission conformed in all material respects to the requirements of the Exchange Act, and none of such documents, in each case when filed with the Commission, contained any untrue statement of a material fact or omitted to state a material fact 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 Registration Statement, the Prospectus or the Pricing Disclosure Package, when such documents are filed with the Commission, will conform in all material respects to the requirements of the Exchange Act and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.



(g) *Financial Statements.*

(i) The consolidated financial statements and the related notes thereto of the Company and its consolidated subsidiaries included or incorporated by reference in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly in all material respects the financial position of the Company and its consolidated subsidiaries as of the dates indicated and the results of their operations and the changes in their cash flows for the periods specified; such financial statements have been prepared in conformity with generally accepted accounting principles (“GAAP”) in the United States applied on a consistent basis throughout the periods covered thereby (except in the case of unaudited financial statements, which are subject to normal year-end adjustments and do not contain certain footnotes as permitted by the applicable rules of the Commission), and any supporting schedules included or incorporated by reference in the Registration Statement present fairly in all material respects the information required to be stated therein;

(ii) the consolidated financial statements and the related notes thereto of Atotech Limited (“Atotech”) and its consolidated subsidiaries included or incorporated by reference in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly in all material respects the financial position of Atotech and its consolidated subsidiaries as of the dates indicated and the results of their operations and the changes in their cash flows for the periods specified; such financial statements have been prepared in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board (“IFRS”) applied on a consistent basis throughout the periods covered thereby, and any supporting schedules included or incorporated by reference in the Registration Statement present fairly in all material respects the information required to be stated therein;

(iii) the other financial information included in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus has been derived from the accounting records of the Company and its consolidated subsidiaries, and presents fairly, in all material respects, the information shown thereby;

(iv) the pro forma financial information and the notes related thereto included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus have been prepared in accordance with the Commission’s rules and regulations and guidelines with respect to pro forma financial information and comply as to form in all material respects with the application requirements of Regulation S-X under the Exchange Act, the assumptions underlying such pro forma financial information set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus are reasonable to give effect to the transactions and circumstances referred to therein, and no other pro forma financial information or schedules are required under the Securities Act, the Exchange Act, or the rules and regulations thereunder to be included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package or the Prospectus; and

---

(v) all disclosures included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of Commission) comply in all material respects with Regulation G of the Exchange Act and Item 10 of Regulation S-K of the Securities Act, to the extent applicable.

(h) *No Material Adverse Change*. Except as disclosed in in the Registration Statement, the Pricing Disclosure Package and the Prospectus, since the date of the most recent financial statements of the Company and its subsidiaries included or incorporated by reference in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus:

(i) there has not been any material change in the capital stock of the Company (other than adjustments of, distributions made on or exercises of the Company’s outstanding equity awards and the grant of awards under the 2014 Employee Stock Purchase Plan, the 2014 Stock Incentive Plan, the 2022 Stock Incentive Plan or any equity plan or program described in the Registration Statement, Pricing Disclosure Package and Prospectus (collectively, the “Company Stock Plans”), or any material increase in the long-term debt of the Company or any of its subsidiaries (other than any debt incurred under the Company’s senior secured credit facilities or permitted by the credit documents governing the senior secured credit facilities), or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company or, except for dividends paid to the Company or another subsidiary, any of its subsidiaries on any class of capital stock (other than dividends or distributions described in the Registration Statement, the Pricing Disclosure Package or the Prospectus and dividends in the ordinary course of business and consistent with past practice), or any material adverse change, or any development that would reasonably be expected to result in a material adverse change, in or affecting the business, properties, management, consolidated financial position or results of operations of the Company or any of its subsidiaries taken as a whole;

(ii) none of the Company or its subsidiaries has entered into any transaction or agreement or incurred any liability or obligation, direct or contingent, that, in either case, would be required to be reported on Form 8-K, pursuant to the reporting requirements under the Exchange Act, that has not been so reported in a timely manner prior to the date of this Agreement; and

(iii) none of the Company or its subsidiaries has sustained any material loss or interference with its business, taken as a whole, from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority.

(i) *Organization and Good Standing.* Each of (a) the Company and (b) the Company's subsidiaries have been duly organized or incorporated and are validly existing and in good standing (where such concept exists) under the laws of their respective jurisdictions of formation or incorporation, are duly qualified to do business and are in good standing 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 necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, except where the failure to be so qualified, in good standing or have such power or authority would not, individually or in the aggregate, have a material adverse effect on the business, properties, management, financial position, stockholders' equity or results of operations or prospects of the Company and its subsidiaries taken as a whole or on the performance by the Company of its obligations under this Agreement (a "Material Adverse Effect").

(j) *Capitalization.* The Company has an authorized capitalization as set forth in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus under the heading "Description of Capital Stock" as of the dates indicated; all the outstanding shares of capital stock of the Company (including the Shares to be sold by the Selling Stockholders) have been duly authorized and validly issued and are fully paid and non-assessable and are not subject to any pre-emptive or similar rights; except as disclosed in or expressly contemplated by the Pricing Disclosure Package and the Prospectus, there are no outstanding rights (including, without limitation, pre-emptive rights), warrants or options to acquire, or instruments convertible into or exchangeable for, any shares of capital stock or other equity interest in the Company or any of its subsidiaries, or any contract, commitment, agreement, understanding or arrangement of any kind relating to the issuance of any capital stock of the Company or any such subsidiary, any such convertible or exchangeable securities or any such rights, warrants or options; the capital stock of the Company conforms in all material respects to the description thereof contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and all the outstanding shares of capital stock or other equity interests of each subsidiary of the Company have been duly and validly authorized and issued, are fully paid and non-assessable (except as otherwise disclosed in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus) and are owned directly or indirectly by the Company, free and clear of any lien, charge, encumbrance, security interest, restriction on voting or transfer or any other claim of any third party (excluding any lien, charge, encumbrance, security interest, restriction on voting or transfer or any other claim of any third party in connection with the Company's senior secured credit facilities or permitted by the credit documents governing the senior secured credit facilities).

(k) *Due Authorization.* The Company has full right, power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and all action required to be taken by the Company for the due and proper authorization, execution and delivery by it of this Agreement and the consummation of the transactions contemplated hereby has been duly and validly taken.

(l) *Underwriting Agreement.* This Agreement has been duly authorized, executed and delivered by the Company.

(m) *The Shares*. The Shares to be sold by the Selling Stockholders hereunder have been duly authorized by the Company and, when delivered and paid for as provided herein, will be duly and validly issued, will be fully paid and nonassessable and will conform, in all material respects, to the descriptions thereof in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and the sale and delivery of the Shares is not subject to any preemptive or similar rights.

(n) *No Violation or Default*. Neither the Company nor any of its significant subsidiaries is (i) in violation of its charter or by-laws or similar organizational documents; (ii) in default, and no event has occurred that, 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 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 property or asset of the Company or any of its subsidiaries is subject; or (iii) in violation of any applicable law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of clauses (ii) and (iii) above, for any such default or violation that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(o) *No Conflicts*. The execution, delivery and performance by the Company of this Agreement, the allotment, sale and delivery of the Shares by the Selling Stockholders and the consummation of the transactions contemplated by this Agreement or the Pricing Disclosure Package and the Prospectus will not:

(i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, result in the termination, modification or acceleration of, or result in the creation or imposition of any lien, charge or encumbrance upon any property, right or asset of the Company or any of its significant subsidiaries 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 property, right or asset 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 similar organizational documents of the Company or any of its subsidiaries or

(iii) result in the violation of any applicable law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority,

except, in the case of clauses (i) and (iii) above, for any such conflict, breach, violation, default, lien, charge or encumbrance that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(p) *No Consents Required*. No consent, approval, authorization, order, registration or qualification of or filing with any court or arbitrator or governmental or regulatory authority is required for the execution, delivery and performance by the Company of this Agreement, the sale and delivery of the Shares by the Selling Stockholders, and compliance by, the Company with the terms thereof and the consummation of the transactions contemplated by this Agreement, except as have been obtained or made, or will have been obtained at the Closing Date (other than

any filings on Form 8-K, which may be filed on or after the applicable Closing Date), (i) for the registration of the Shares under the Securities Act and (ii) for such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Nasdaq Market, the Financial Industry Regulatory Authority, Inc. (“FINRA”) and under applicable state or foreign securities laws in connection with the purchase and distribution of the Shares by the Underwriters.

(q) *Legal Proceedings*. Except as disclosed in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus:

(i) there are no legal, governmental or regulatory investigations, actions, demands, claims, suits, arbitrations, inquiries or proceedings (“Actions”) pending to which the Company or any of its subsidiaries is or may reasonably be expected to be a party or to which any property of the Company or any of its subsidiaries is or, to the Company’s knowledge, may be the subject that, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect and

(ii) no such Actions have been threatened in writing or, to the Company’s knowledge, contemplated by any governmental or regulatory authority or by others, except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect; and (A) there are no current or pending Actions that are required under the Securities Act to be described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so described in the Registration Statement, the Pricing Disclosure Package and the Prospectus and (B) there are no statutes, regulations or contracts or other documents that are required under the Securities Act to be filed or incorporated by reference as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so filed or incorporated by reference as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(r) *Independent Accountants*. (i) PricewaterhouseCoopers LLP, who have audited certain financial statements of the Company and its subsidiaries, is an independent registered public accounting firm with respect to the Company and its subsidiaries, and (ii) KPMG AG Wirtschaftsprüfungsgesellschaft, who have audited certain historical financial information of Atotech and its consolidated subsidiaries, was an independent registered public accounting firm with respect to Atotech and its consolidated subsidiaries during all periods covered by such historical financial information up to and including the date of their audit opinion thereon, in each case, within the applicable rules and regulations adopted by the Commission and the Public Company Accounting Oversight Board (United States) and as required by the Securities Act.

(s) *Title to Real and Personal Property*. Except (i) as described in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus or (ii) as would not reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries have good and marketable title in fee simple (in the case of real property) to, or have valid rights to lease or otherwise use, all items of real and personal property that are material to the respective businesses of the Company and its subsidiaries, in each case free and clear of all liens (excluding any liens securing the Company’s senior secured credit facilities or permitted by the credit documents governing the senior secured credit facilities), encumbrances, claims, defects and imperfections of title.

---

(t) *Title to Intellectual Property.* Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect:

(i) Each of the Company and its subsidiaries own or have adequate rights to use all patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, domain names and other source indicators, copyrights and copyrightable works, works of authorship, rights in computer programs, including any and all software implementations of algorithms, database rights, know-how, systems, procedures, and other proprietary or confidential information, including trade secrets and other confidential or proprietary information embodied in unpatentable inventions, data, systems or procedures, and all other worldwide intellectual property, industrial property and proprietary rights (collectively, "Intellectual Property") and all goodwill arising therefrom, used in or necessary for the conduct of their respective businesses, and none of the foregoing will be adversely affected by the consummation of the transactions contemplated hereby;

(ii) the Company and its subsidiaries exclusively own free and clear of all liens (excluding any liens securing the Company's senior secured credit facilities or permitted by the credit documents governing the senior secured credit facilities) all Intellectual Property described in the Registration Statement, the Pricing Disclosure Package and the Prospectus;

(iii) the Company's and its subsidiaries' conduct of their respective businesses does not infringe, misappropriate or otherwise violate any Intellectual Property of any person;

(iv) the Company and its subsidiaries have not received any written notice of any claim challenging the validity, enforceability or ownership of any of Intellectual Property, or alleging that the conduct of its business infringes, misappropriates, dilutes or otherwise violates any person's Intellectual Property; and

(v) to the knowledge of the Company, the Intellectual Property of the Company and its subsidiaries is not being infringed, misappropriated or otherwise violated by any person.

(u) *No Undisclosed Relationships.* No relationship, direct or indirect, exists between or among the Company and its subsidiaries, on the one hand, and, to the Company's knowledge, the directors, officers, stockholders or other affiliates of the of the Company and its subsidiaries, on the other, that is required by the Securities Act to be described in the Registration Statement and the Prospectus and that is not so described in such documents and in the Pricing Disclosure Package.

---

(v) *Investment Company Act.* The Company is not, and, after giving effect to the offer and sale of the Shares as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, will not be required to register as, an “investment company” or an entity “controlled” by an “investment company” within the meaning of the U.S. Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder.

(w) *Taxes.* Except as would not reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries have paid all U.S. federal, state, local and non-U.S. taxes and filed all tax returns required to be paid or filed through the date hereof unless (i) such taxes are being contested in good faith and (ii) adequate reserves are being maintained for such taxes; and except as otherwise disclosed in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus or as would not reasonably be expected to have a Material Adverse Effect, no tax deficiency has been asserted, or to the Company’s knowledge threatened, against the Company or any of its subsidiaries or any of their respective properties or assets.

(x) *Licenses and Permits.* Except as disclosed in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus or as would not reasonably be expected to have a Material Adverse Effect: (i) the Company and its subsidiaries possess all licenses, sub-licenses, certificates, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate U.S. federal, state, local or non-U.S. governmental or regulatory authorities that are necessary for the ownership or lease of the properties of their respective businesses or the conduct of their respective businesses as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and (ii) none of the Company or its subsidiaries has received notice of any revocation or modification of any such license, sub-license, certificate, permit or authorization or has any reason to believe that any such license, sub-license, certificate, permit or authorization will not be renewed in the ordinary course.

(y) *No Labor Disputes.* Except as would not reasonably be expected to have a Material Adverse Effect, no labor disturbance by, or dispute with, employees of the Company or its subsidiaries exists or, to the knowledge of the Company, is contemplated or threatened and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of the Company’s or its subsidiaries’ principal suppliers, contractors or customers. None of the Company or its subsidiaries has received any notice of cancellation or termination with respect to any collective bargaining agreement to which it is a party, except as would not reasonably be expected to have a Material Adverse Effect.

(z) *Certain Environmental Matters.* Except as described in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus, or as would not reasonably be expected to have a Material Adverse Effect:

(i) there is no proceeding that is pending, or that is known by the Company or its subsidiaries to be threatened alleging potential liability under or responsibility for violation of any Environmental Law (as defined below) in which a Governmental Authority is also a party that is related to the respective businesses, operations and properties of the Company and its subsidiaries that the Company reasonably expects will result in fines or penalties in excess of \$500,000; and their respective businesses, operations and properties are in compliance with applicable Environmental Laws;

(ii) none of the properties currently or formerly owned or operated by the Company or its subsidiaries is listed or, to the knowledge of the Company, proposed for listing on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 or on the Comprehensive Environmental Response, Compensation and Liability Information System maintained by the U.S. Environmental Protection Agency or on any analogous state, local or foreign (non-U.S.) list;

(iii) there are no and, to the knowledge of the Company, never have been any underground or aboveground storage tanks or any surface impoundments, septic tanks, pits, sumps or lagoons in which Hazardous Materials (as defined below) are being or have been treated, stored or disposed on any property currently owned or operated by the Company or any of its subsidiaries that are not in compliance with applicable Environmental Law;

(iv) there is no asbestos or asbestos-containing material on or at any property currently owned or operated by the Company or any of its subsidiaries requiring investigation, remediation, mitigation, removal, or assessment, or other response, remedial or corrective action, pursuant to Environmental Law (as defined below);

(v) there have been no Releases (as defined below) of Hazardous Material on, at, under or from any property currently or, to the knowledge of the Company, formerly owned or operated by the Company or any of its subsidiaries;

(vi) properties currently owned or operated by the Company or any of its subsidiaries do not contain any Hazardous Materials in amounts or concentrations which (x) constitute a violation of, (y) require remediation or other corrective action under, or (z) could be reasonably expected to give rise to liability under, Environmental Laws,

(vii) none of the Company or any of its subsidiaries is undertaking, and has not completed, either individually or together with other parties, any investigation, response or other corrective action relating to any actual or threatened Release of Hazardous Materials at any location, either voluntarily or pursuant to the order of any Governmental Authority or the requirements of any Environmental Law; and

(viii) all Hazardous Materials generated, used, treated, handled, or stored at, or transported or arranged for transport by or on behalf of the Company to or from, any property or facility currently or formerly owned or operated by the Company or any of its subsidiaries have been disposed of in a manner that would not reasonably be expected to result in a claim against, or require remediation or other corrective action by, the Company or its subsidiaries under any Environmental Law.

As used herein: (i) "Environmental Laws" means any and all current or future U.S. federal, state, local and foreign (non-U.S.) statutes, laws, including common law, regulations or ordinances, rules, judgments, orders, decrees, permits, licenses or restrictions imposed by a Governmental Authority relating to pollution or protection of the environment and protection of human health (to the extent relating to exposure to Hazardous Materials), including those relating to the



generation, use, handling, storage, transportation, treatment or Release or threat of Release of, or exposure to, Hazardous Materials; (ii) "Hazardous Materials" means all explosive or radioactive substances or wastes and all hazardous or toxic materials, substances, wastes or other pollutants, including petroleum or petroleum distillates, per- and polyfluoroalkyl substances, asbestos or asbestos-containing materials, toxic mold, polychlorinated biphenyls, radon gas, infectious or medical wastes and all other materials, substances or wastes of any nature regulated as "hazardous" or "toxic," or as a "pollutant" or "contaminant," pursuant to any Environmental Law; (iii) "Release" means any release, spill, emission, leaking, pumping, pouring, injection, escaping, deposit, disposal, discharge, dispersal, dumping, leaching or migration of any Hazardous Material (including the abandonment or disposal of any barrels, containers or other closed receptacles containing any Hazardous Material) into the environment or into, from or through any building or structure; and (iv) "Governmental Authority" means any government, state or other political subdivision thereof, agency, authority, instrumentality, regulatory body, court, administrative tribunal, or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government.

(aa) *Compliance with ERISA*. Except as would not reasonably be expected to have a Material Adverse Effect:

(i) Each employee benefit plan, within the meaning of, and subject to, Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), for which the Company or any member of its "Controlled Group" (defined as (A) any organization which is a member of a controlled group of corporations or considered under common control and treated as one employer within the meaning of Section 414(b), (c), (m) or (o) of the Code or (B) any entity, whether or not incorporated, that is under common control with the Company within the meaning of Section 4001(a)(14) of ERISA) would have any actual or contingent liability (each, a "Plan") has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code;

(ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan excluding transactions effected pursuant to a statutory or administrative exemption;

(iii) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no Plan has failed (whether or not waived), or is reasonably expected to fail, to satisfy the minimum funding standards (within the meaning of Section 302 of ERISA or Section 412 or Section 430 of the Code), applicable to such Plan;

(iv) no Plan is or is reasonably expected to be in "at risk status" (within the meaning of Section 303(i) of ERISA) or "endangered status," "critical status" or "critical and declining status" (within the meaning of Section 305 of ERISA);

(v) the fair market value of the assets of each Plan that is required to be funded exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan);

---

(vi) no “reportable event” (within the meaning of Section 4043(c) of ERISA and the Pension Benefit Guaranty Corporation regulations promulgated thereunder) has occurred or is reasonably expected to occur;

(vii) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified, and to the knowledge of the Company, nothing has occurred, whether by action or by failure to act, which would reasonably be expected to cause the loss of such qualification;

(viii) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guaranty Corporation, in the ordinary course and without default) in respect of a Plan (including a “multiemployer plan”, within the meaning of Section 4001(a)(3) of ERISA); and

(ix) none of the following events has occurred or is reasonably likely to occur: (A) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its Controlled Group affiliates in the current fiscal year of the Company and its Controlled Group affiliates compared to the amount of such contributions made in the Company’s and its Controlled Group affiliates’ most recently completed fiscal year; or (B) a material increase in the Company and its subsidiaries’ “accumulated post-retirement benefit obligations” (within the meaning of Accounting Standards Codification Topic 715-60) compared to the amount of such obligations in the Company and its subsidiaries’ most recently completed fiscal year.

(bb) *Compliance with Employee Arrangements.* Except as would not reasonably be expected to have a Material Adverse Effect, (i) each benefit and compensation plan, agreement, policy and arrangement that is maintained, administered or contributed to by the Company or any of its subsidiaries for current or former employees or directors of the Company or any of its subsidiaries in foreign jurisdictions, or with respect to which any of such entities could reasonably be expected to have any current, future or contingent liability or responsibility, has been maintained in compliance with its terms and the requirements of any applicable foreign statutes, orders, rules and regulations; (ii) the Company and each of its subsidiaries have complied with all applicable foreign statutes, orders, rules and regulations in regard to such plans, agreements, policies and arrangements under applicable law; (iii) the fair market value of the assets of each such plan, agreement, policy and arrangement which is required or intended to be funded (excluding for these purposes accrued but unpaid contributions) exceeds the present value of all benefits accrued or earned or payments due under such plan, agreement, policy or arrangement determined using reasonable actuarial assumptions; and (iv) the liabilities reflected on the relevant entity’s financial statements with respect to each such plan, agreement, policy and arrangement which is not required or intended to be funded accurately reflects the present value of all benefits earned or accrued or payments due under such plan, agreement, policy or arrangement determined using reasonable actuarial assumptions.

---

(cc) *Disclosure Controls*. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company and its subsidiaries have established a system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) of the Exchange Act) that complies with the requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission’s rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company’s management as appropriate to allow timely decisions regarding required disclosure. The Company and its subsidiaries have carried out an evaluation of the effectiveness of their disclosure controls and procedures as required by Rule 13a-15 of the Exchange Act.

(dd) *Accounting Controls*. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus:

(i) The Company and its subsidiaries maintain systems of “internal control over financial reporting” (as defined in Rule 13a-15(f) of the Exchange Act) that have been designed to comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

(ii) The Company and its subsidiaries maintain internal accounting controls sufficient to provide reasonable assurance that (a) transactions are executed in accordance with management’s general or specific authorizations; (b) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (c) access to assets is permitted only in accordance with management’s general or specific authorization; and (d) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(iii) The Company is not aware of any material weaknesses in the Company’s internal controls over financial reporting. The Company’s auditors and the Audit Committee of the board of directors of the Company have been advised of: (a) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which have adversely affected or are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal controls over financial reporting.

(ee) *eXtensible Business Reporting Language*. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Prospectus and the Pricing Disclosure Package 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.

---

(ff) *Insurance*. Except as would not reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries have insurance covering their respective properties, operations, personnel and businesses as is customary in their respective industries, including business interruption insurance, which insurance is in amounts and insures against such losses and risks as are customarily deemed adequate to protect the Company and its subsidiaries and their respective businesses; and none of the Company or its subsidiaries has (i) received written notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) 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 at reasonable cost from similar insurers as may be necessary to continue its business in all material respects as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(gg) *No Unlawful Payments*. None of the Company or any of its subsidiaries nor, to the knowledge of the Company, any director, officer, employee, authorized agent or controlled affiliate, in each case, acting on behalf of the Company or any of its subsidiaries has (i) used any company funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made or taken an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment or benefit to any foreign or domestic government or regulatory official or employee, including any government owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office, in each case in this clause (ii) in violation of any applicable anti-bribery or anti-corruption laws; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom, or any other applicable anti-bribery or anti-corruption laws; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful bribe or other unlawful benefit, including, without limitation, any unlawful rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit in the case of this clause (iv) in violation of any applicable anti-bribery or anti-corruption laws. The Company and its subsidiaries have instituted, maintain and enforce, and will continue to maintain and enforce, policies and procedures designed to promote and achieve compliance with all applicable anti-bribery and anti-corruption laws.

(hh) *Compliance with Anti-Money Laundering Laws*. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the applicable money laundering statutes of all jurisdictions where the Company or any of its subsidiaries conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental or regulatory agency (collectively, the “Anti-Money Laundering Laws”) and no action, suit or proceeding by or before any court or governmental or regulatory 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.

(ii) *No Conflicts with Sanctions Laws*.

(i) None of the Company or any of its subsidiaries nor, to the knowledge of the Company, any director, officer, employee, authorized agent or controlled affiliate acting on behalf of the Company or any of its subsidiaries is currently the subject or the target of any sanctions imposed, administered or enforced by the U.S. Government (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury (“OFAC”) and the U.S. Department of State), the United Nations Security Council, the European Union, His Majesty’s Treasury, the Swiss Secretariat of Economic Affairs or other relevant sanctions authority (collectively, “Sanctions”), including, without limitation, by virtue of being identified on any Sanctions-related list of designated persons or vessels (including, without limitation, the list of Specially Designated Nationals and Blocked Persons maintained by OFAC).

(ii) Except as listed on Exhibit 21.1 to the Company’s Annual Report on Form 10-K for its most recently completed fiscal year, none of the Company or any of its subsidiaries is located, organized, incorporated or resident in (1) Belarus or Russia or (2) any country or territory that is the subject or the target of Sanctions broadly prohibiting dealings in, with or involving such country or territory (including, as of the date hereof, without limitation, Cuba, Iran, North Korea, Syria, the Crimea region of Ukraine, the so-called Donetsk People’s Republic, the so-called Luhansk People’s Republic, Kherson and Zaporizhzhia) (together with Belarus and Russia, until such time such country or territory is no longer the subject or the target of Sanctions, each, a “Sanctioned Jurisdiction”).

(iii) None of the Company or any of its subsidiaries is owned or controlled by any person described in the foregoing sub-clause (i) or (ii) (any such person that is the subject or target of Sanctions, a “Sanctioned Person”).

(iv) 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 dealing or transaction with (A) any person that, at the time of such dealing or transaction, is or was a Sanctioned Person, or (B) any Sanctioned Jurisdiction, in each case that was or is in violation of Sanctions.

(jj) *No Restrictions on Subsidiaries.* 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 or similar ownership interest, 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, except, in each case, any prohibitions or limitations in connection with the Company’s senior secured credit facilities or set forth in the credit documents governing the senior secured credit facilities.

(kk) *No Broker’s Fees.* None of the Company or any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against any of them or any Underwriter for a brokerage commission, finder’s fee or like payment in connection with the offering and sale of the Shares by the Selling Stockholders hereunder.

---

(ll) *No Registration Rights*. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus or those that have been exercised or waived, no person has the right to require the Company to register any securities for sale under the Securities Act by reason of the filing of the Registration Statement with the Commission, or, to the knowledge of the Company, the sale of the Shares to be sold by any Selling Stockholder hereunder.

(mm) *No Stabilization*. The Company has not taken, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Shares.

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

(oo) *Industry Statistical and Market Data*. Nothing has come to the attention of the Company that has caused the Company to believe that the industry statistical and market-related data included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus is not based on or derived from sources that are reliable and accurate in all material respects.

(pp) *Sarbanes-Oxley Act*. There is and has been no failure on the part of the Company or, to the knowledge of the Company, any of the Company's directors or officers, in their capacities as such, to comply with any applicable provision of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated in connection therewith (the "Sarbanes-Oxley Act").

(qq) *Status under the Securities Act*. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or any offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) under the Securities Act) of the Shares and at the date hereof, the Company was not and is not an "ineligible issuer," and is a well-known seasoned issuer, in each case, as defined in Rule 405 under the Securities Act.

(rr) *Cybersecurity; Data Protection*. Except as disclosed in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company and its subsidiaries' information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "IT Systems") are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted, and are, to the Company's knowledge, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company and its subsidiaries have implemented and maintained commercially reasonable controls, policies, procedures, and safeguards designed to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data (including all personal, personally

identifiable, sensitive, confidential or regulated data (“Personal Data”)) used in connection with their businesses, and, except as disclosed in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus, there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, the Company and its subsidiaries are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(ss) *Significant Subsidiaries.* The only subsidiaries of the Company are the subsidiaries of the Company listed on Exhibit 21.1 to the Company’s Annual Report on Form 10-K for its most recently completed fiscal year, and such subsidiaries that are not significant subsidiaries listed on Exhibit 21.1, when considered in the aggregate as a single subsidiary, do not constitute a “significant subsidiary,” as defined in Rule 1-02 of Regulation S-X.

4. Representations and Warranties of the Selling Stockholders. Each Selling Stockholder, severally and not jointly, represents and warrants to each Underwriter and the Company that:

(a) *Required Consents; Authority.* Except (i) as will have been obtained on or prior to the Applicable Time for the registration under the Securities Act of the Shares, (ii) as may be required under foreign or state securities (or Blue Sky) laws or by FINRA or by the Nasdaq Market in connection with the purchase and distribution of the Shares by the Underwriters and (iii) as would not impair in any material respect the ability of any such Selling Stockholder to consummate its obligations hereunder, all consents, approvals, authorizations and orders necessary for the execution and delivery by such Selling Stockholder of this Agreement and for the sale and delivery of the Shares to be sold by such Selling Stockholder hereunder, have been obtained; and such Selling Stockholder has full right, power and authority to enter into this Agreement and to sell, assign, transfer and deliver the Shares to be sold by such Selling Stockholder hereunder; this Agreement has been duly authorized, executed and delivered by such Selling Stockholders.

(b) *No Conflicts.* The execution, delivery and performance by such Selling Stockholder of this Agreement, the sale of the Shares to be sold by such Selling Stockholder and the consummation by such Selling Stockholder of the transactions contemplated herein or therein will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under or result in the creation or imposition of any lien, charge or encumbrance upon any property, right or assets of the Selling Stockholder pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Selling Stockholder is a party or by which the Selling Stockholder is bound or to which any of the property, right or asset of the Selling Stockholder is subject, (ii) result in any violation of the provisions of the charter or by-laws or similar organizational documents of the Selling

---

Stockholder, if applicable, or (iii) result in the violation of any applicable law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory agency having jurisdiction over the Selling Stockholder or any of its properties, except in the case of (i) and (iii), as would not, individually or in the aggregate, reasonably be expected to materially impact such Selling Stockholder's ability to perform its obligations under this Agreement.

(c) *Title to Shares.* The Selling Stockholder has, and will have, immediately prior to the Closing Date, valid title to the Shares to be sold at the Closing Date by such Selling Stockholder hereunder, free and clear of all liens, encumbrances, equities or adverse claims (other than as permitted by this Agreement), and all authorization and approval required by law, to enter into this Agreement and to sell, transfer and deliver the Shares to be sold by such Selling Stockholder; and, upon payment for the Shares to be sold by such Selling Stockholder pursuant to this Agreement, delivery of such Shares, as directed by the Representatives, to Cede & Co. ("Cede") or such other nominee as may be designated by DTC, registration of such Shares in the name of Cede or such other nominee and the crediting of such Shares on the books of DTC to securities accounts of the Representatives (assuming that neither DTC nor any such Underwriter has notice of any adverse claim (within the meaning of Section 8-105 of the UCC) to such Shares)), (A) under Section 8-501 of the UCC, the Representatives will acquire a valid security entitlement in respect of such Shares and (B) no action based on any "adverse claim," within the meaning of Section 8-102 of the UCC, to such Shares may be asserted against the Representatives with respect to such security entitlement; for purposes of this representation, such Selling Stockholder may assume that when such payment, delivery and crediting occur, (x) such Shares will have been registered in the name of Cede or another nominee designated by DTC, in each case on the Company's share register in accordance with its articles of association, memorandum of association and applicable law, (y) DTC will be registered as a "clearing corporation" within the meaning of Section 8-102 of the UCC and (z) appropriate entries to the accounts of the Representatives on behalf of the several Underwriters on the records of DTC will have been made pursuant to the UCC.

(d) *No Stabilization.* Such Selling Stockholder has not taken and will not take, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Shares.

(e) *Pricing Disclosure Package.* The Pricing Disclosure Package, at the Applicable Time did not, and as of the Closing Date will not, contain any untrue statement of a material fact or 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 that such representations and warranties set forth in this Section 4(e) apply only to statements or omissions made in reliance upon and in conformity with the Selling Stockholder Information.

(f) *Issuer Free Writing Prospectus.* Other than the Registration Statement, the Preliminary Prospectus and the Prospectus, such Selling Stockholder (including its agents and representatives, other than the Underwriters in their capacity as such) has not prepared, used, authorized, approved or referred to and will not prepare, use, authorize, approve or refer to any Issuer Free Writing Prospectus, other than (i) any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134 under the Securities Act or (ii) the documents listed on Annex B hereto, each electronic road show and any other written communications approved in writing in advance by the Company and the Representatives.



(g) *Registration Statement and Prospectus.* As of the applicable effective date of the Registration Statement and any post-effective amendment thereto, the Registration Statement and any such post-effective amendment complied and will comply in all material respects with the Securities Act, and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading; and as of the date of the Prospectus and any amendment or supplement thereto and as of the Closing Date the Prospectus will not contain any untrue statement of a material fact or 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 that such representations and warranties set forth in this Section 4(g) apply only to statements or omissions made in reliance upon and in conformity with the Selling Stockholder Information.

(h) *ERISA Plan.* The Selling Stockholder is not (i) an employee benefit plan subject to Title I of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), (ii) a plan or account subject to Section 4975 of the Code, or (iii) an entity deemed to hold "plan assets" of any such plan or account under Section 3(42) of ERISA, 29 C.F.R. 2510.3-101, or otherwise.

5. Further Agreements of the Company. The Company covenants and agrees with each Underwriter that:

(a) *Required Filings.* The Company will file the final Prospectus with the Commission within the time periods specified by Rule 424(b) and Rule 430A, 430B or 430C under the Securities Act, will file any Issuer Free Writing Prospectus to the extent required by Rule 433 under the Securities Act, will 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 is required in connection with the offering or sale of the Shares, and will furnish copies of the Prospectus and each Issuer Free Writing Prospectus (to the extent not previously delivered) to the Underwriters in New York City prior to 10:00 A.M., New York City time, on the business day next succeeding the date of this Agreement in such quantities as the Representatives may reasonably request.

(b) *Delivery of Copies.* The Company will, if requested, deliver, without charge, to each Underwriter (A) a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) and (B) during the Prospectus Delivery Period (as defined below), as many copies of the Prospectus (including all amendments and supplements thereto, any documents incorporated by reference therein and each Issuer Free Writing Prospectus) as the Representatives may reasonably request. As used herein, the term "Prospectus Delivery Period" means such period of time after the first date of the public offering of the Shares as in the opinion of counsel for the Underwriters a prospectus relating to the Shares is required by law to be delivered (or required to be delivered but for Rule 172 under the Securities Act) in connection with sales of the Shares by any Underwriter or dealer.

---

(c) *Amendments or Supplements, Issuer Free Writing Prospectuses.* Before preparing, using, authorizing, approving, referring to or filing any Issuer Free Writing Prospectus, and before filing any amendment or supplement to the Registration Statement, the Pricing Disclosure Package or the Prospectus, the Company will furnish to the Representatives and counsel for the Underwriters a copy of the proposed Issuer Free Writing Prospectus, amendment or supplement for review and will not prepare, use, authorize, approve, refer to or file any such Issuer Free Writing Prospectus or file any such proposed amendment or supplement to which the Representatives reasonably object in a timely manner.

(d) *Notice to the Representatives.* The Company will advise the Representatives promptly, and confirm such advice in writing (which may be by electronic mail), (i) when the Registration Statement has become effective; (ii) when any amendment to the Registration Statement has been filed or becomes effective; (iii) when any supplement to the Pricing Disclosure Package, the Prospectus or any Issuer Free Writing Prospectus or any amendment to the Prospectus has been filed; (iv) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or the receipt of any comments from the Commission relating to the Registration Statement or any other request by the Commission for any additional information; (v) of the issuance of any order suspending the effectiveness of the Registration Statement or preventing or suspending the use of any Preliminary Prospectus, any of the Pricing Disclosure Package or the Prospectus or the initiation or threatening of any proceeding for that purpose or pursuant to Section 8A of the Securities Act; (vi) of the occurrence of any event or development within the Prospectus Delivery Period as a result of which the Prospectus, the Pricing Disclosure Package or any Issuer Free Writing Prospectus as then amended or supplemented would include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Prospectus, the Pricing Disclosure Package or any such Issuer Free Writing Prospectus is delivered to a purchaser, not misleading; and (vii) of the receipt by the Company of any notice with respect to any suspension of the qualification of the Shares for offer and sale in any jurisdiction or, to the knowledge of the Company, the initiation or threatening of any proceeding for such purpose; and the Company will use its reasonable best efforts to prevent the issuance of any such order suspending the effectiveness of the Registration Statement, preventing or suspending the use of any Preliminary Prospectus, any of the Pricing Disclosure Package or the Prospectus or suspending any such qualification of the Shares and, if any such order is issued, will use its reasonable best efforts to obtain as soon as possible the withdrawal thereof.

(e) *Ongoing Compliance.* (1) If during the Prospectus Delivery Period (i) any event shall occur or condition shall exist 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 in order to make the statements therein, in the light of the circumstances existing when the Prospectus is delivered to a purchaser, not misleading or (ii) it is necessary to amend or supplement the Prospectus to comply with applicable law, the Company will notify as soon as reasonably practicable the Underwriters thereof and forthwith prepare and, subject to paragraph I above, file with the Commission and furnish to the Underwriters and to such dealers as the Representatives may designate such amendments or supplements to the Prospectus (or any document to be filed with the Commission and incorporated by reference therein) as may be necessary so that the statements in the Prospectus as so amended or supplemented will not, in the

---

light of the circumstances existing when the Prospectus is delivered to a purchaser, be misleading or so that the Prospectus will comply with law and (2) if at any time prior to the Closing Date (i) any event shall occur or condition shall exist as a result of which the Pricing Disclosure Package as then amended or supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Pricing Disclosure Package is delivered to a purchaser, not misleading or (ii) it is necessary to amend or supplement the Pricing Disclosure Package to comply with applicable law, the Company will notify as soon as reasonably practicable the Underwriters thereof and forthwith prepare and, subject to paragraph (c) above, file with the Commission (to the extent required) and furnish to the Underwriters and to such dealers as the Representatives may designate, such amendments or supplements to the Pricing Disclosure Package as may be necessary so that the statements in the Pricing Disclosure Package or any document to be filed with the Commission and incorporated by reference therein) as so amended or supplemented will not, in the light of the circumstances existing when the Pricing Disclosure Package is delivered to a purchaser, be misleading or so that the Pricing Disclosure Package will comply with applicable law.

(f) *Blue Sky Compliance.* The Company will use its commercially reasonable best efforts, with the Underwriters' cooperation, if necessary, to qualify the Shares for offer and sale under the securities or Blue Sky laws of such jurisdictions as the Representatives shall reasonably request and will use their commercially reasonable efforts to continue such qualifications in effect so long as required for distribution of the Shares; provided that the Company shall not be required to (i) qualify as a foreign corporation or other entity or as a dealer in securities in any such jurisdiction where it would not otherwise be required to so qualify, (ii) file any general consent to service of process in any such jurisdiction or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(g) *Earning Statement.* The Company will make generally available to its security holders and the Representatives as soon as practicable an earning statement that satisfies the provisions of Section 11(a) of the Securities Act and Rule 158 of the Commission promulgated thereunder; it being agreed that such obligation may be satisfied by filings made with the Commission's Electronic Data Gathering, Analysis, and Retrieval system (or any successor system) ("EDGAR").

(h) *Clear Market.* For a period of 30 days after the date of the Prospectus, the Company will not directly or indirectly (i) offer, pledge, announce the intention to sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, publicly disclose the intention to make any offer, sale, pledge, disposition or filing or file with or confidentially submit to the Commission a registration statement under the Securities Act with respect to any of the foregoing or (ii) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Common Stock or any such other securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, without the prior written consent of the Representatives, other than (a) the Common Stock to be sold hereunder, (b) the grant by the Company of awards under

Company Stock Plans, (c) any Common Stock of the Company issued upon the exercise of options or vesting or settlement of other awards granted under Company Stock Plans, (d) the filing of any registration statement on Form S-8 (or any successor form), (e) establishing a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock (provided, that such plan does not provide for the transfer of Common Stock during the 30-day restricted period and any public announcement or filing under the Exchange Act made by any person regarding the establishment of such plan during the 30-day restricted period shall include a statement that the signatory to the lock-up agreement is not permitted to transfer, sell or otherwise dispose of securities under such plan during the 30-day restricted period in contravention of the lock-up agreement), and (f) issuing shares of Common Stock in connection with any acquisitions, strategic investments or any other transaction that includes a bona fide commercial relationship with the Company or any of its subsidiaries (including joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements) (provided that (x) the aggregate number of shares of Common Stock issued pursuant to this clause (f) shall in no event exceed 10% of the total number of shares of Common Stock outstanding as of the Closing Date and (y) each recipient of such Common Stock shall execute and deliver to the Underwriters a “lock-up” agreement substantially in the form of Exhibit A hereto).

(i) *No Stabilization.* The Company will not take, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Common Stock.

(j) *Exchange Listing.* The Company will use its reasonable best efforts to maintain the listing of the Shares on the Nasdaq Market.

(k) *Reports.* For a period of three years from the date of this Agreement, so long as the Shares are outstanding, the Company will furnish to the Representatives, as soon as they are available, copies of all reports or other communications (financial or other) furnished to holders of the Shares, and copies of any reports and financial statements furnished to or filed with the Commission or any national securities exchange or automatic quotation system; provided that the Company will be deemed to have furnished such reports, communications and financial statements to the Representatives to the extent they are filed or furnished on EDGAR; provided further that no additional information shall be required if the disclosure of such additional information would result in a violation of Regulation FD.

(l) *Record Retention.* For a period of two years from the date of this Agreement, the Company will, pursuant to reasonable procedures developed in good faith, retain copies of each Issuer Free Writing Prospectus that is not filed with the Commission in accordance with Rule 433 under the Securities Act.

(m) *Filings.* The Company will file with the Commission such reports as may be required by Rule 463 under the Securities Act.

6. Further Agreements of the Selling Stockholders. Each Selling Stockholder, severally and not jointly, covenants and agrees with each Underwriter that:

(a) *Clear Market.* The “lock-up” agreements, each substantially in the form of Exhibit A hereto, between you and each of the Selling Stockholders relating to sales and certain other dispositions of Common Stock or certain other securities, delivered to you on or before the date hereof, shall be in full force and effect on the Closing Date.

(b) *No Stabilization.* Such Selling Stockholder will not take, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Common Stock.

(c) *Tax Form.* It will deliver to the Representatives on or prior to the Closing Date properly completed and signed applicable tax certifications (generally, an IRS Form W-9 or the applicable IRS Form W-8 (or applicable successor forms)) to enable the Underwriters to determine their duties and liabilities with respect to any taxes or other charges that they may be required to pay, deduct or withhold or to comply with any reporting or other requirements under any law or regulation of the United States or any political subdivision thereof.

(d) *Use of Proceeds.* It will not directly or indirectly use the proceeds of the offering of the Shares hereunder, or lend, contribute or otherwise make available such proceeds to a subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject of target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Jurisdiction or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions.

7. Certain Agreements of the Underwriters. Each Underwriter hereby represents and agrees that:

(a) It has not used and will not use, authorize use of, refer to or participate in the planning for use of, any “free writing prospectus”, as defined in Rule 405 under the Securities Act other than (i) a free writing prospectus that contains no “issuer information” (as defined in Rule 433(h)(2) under the Securities Act) that was not included in the Preliminary Prospectus or a previously filed Issuer Free Writing Prospectus, (ii) any Issuer Free Writing Prospectus listed on Annex B or prepared pursuant to Section 3(c) or Section 4(f) above (including any electronic road show approved by the Company in advance in writing), or (iii) any free writing prospectus prepared by such underwriter and approved by the Company in advance in writing (each such free writing prospectus referred to in clauses (i) or (iii), an “Underwriter Free Writing Prospectus”).

(b) It has not used and will not, without the prior written consent of the Company, use any free writing prospectus that contains the final terms of the offering of the Shares unless such terms have previously been included in a free writing prospectus filed with the Commission.

8. Conditions of Underwriters’ Obligations. The obligation of each Underwriter to purchase the Shares on the Closing Date (other than with respect to clause (i) below) as provided herein is subject to the performance by the Company and the Selling Stockholders of their respective covenants and other obligations hereunder and to the following additional conditions:

---

(a) *Registration Compliance; No Stop Order.* No order suspending the effectiveness of the Registration Statement shall be in effect, and no proceeding for such purpose pursuant to Section 8A under the Securities Act shall be pending before or threatened by the Commission; the Prospectus and each Issuer Free Writing Prospectus shall have been timely filed with the Commission under the Securities Act (in the case of an Issuer Free Writing Prospectus, to the extent required by Rule 433 under the Securities Act) and in accordance with Section 5(a) hereof; and all requests by the Commission for additional information shall have been complied with to the reasonable satisfaction of the Representatives.

(b) *Representations and Warranties.* The respective representations and warranties of the Company and the Selling Stockholders contained herein shall be true and correct on the date hereof and on and as of the Closing Date; and the statements of the Company and its officers and of each of the Selling Stockholders and their officers made in any certificates delivered pursuant to this Agreement shall be true and correct on and as of the Closing Date.

(c) *No Downgrade.* Subsequent to the earlier of (A) the Applicable Time and (B) the execution and delivery of this Agreement, if there are any debt securities or preferred stock of, or guaranteed by, the Company or any of its subsidiaries that are rated by a “nationally recognized statistical rating organization”, as such term is defined by the Commission for purposes of §3(a)(62) under the Exchange Act, (i) no downgrading shall have occurred in the rating accorded any such debt securities or preferred stock and (ii) no such organization shall have publicly announced that it has under surveillance or review, or has changed its outlook with respect to, its rating of any such debt securities or preferred stock (other than an announcement with positive implications of a possible upgrading).

(d) *No Material Adverse Change.* No event or condition of a type described in Section 3(h) hereof shall have occurred or shall exist, which event or condition is not described in the Pricing Disclosure Package (excluding any amendment or supplement thereto) and the Prospectus (excluding any amendment or supplement thereto) and the effect of which in the judgment of the Representatives makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Shares on the Closing Date on the terms and in the manner contemplated by this Agreement, the Pricing Disclosure Package and the Prospectus.

(e) *Officer's Certificate.* The Representatives shall have received on and as of the Closing Date (x) a certificate of the principal financial officer or principal accounting officer of the Company and one additional executive officer of the Company who is satisfactory to the Representatives (i) confirming that such officers have reviewed the Registration Statement, the Pricing Disclosure Package and the Prospectus, (ii) confirming that the representations and warranties of the Company in this Agreement are true and correct and that the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date and (iii) to the effect set forth in paragraphs (a), (c) and (d) above and (y) a certificate of each Selling Stockholder, in form and substance reasonably satisfactory to the Representatives, confirming that the representations and warranties of such Selling Stockholder in this agreement are true and correct and that such Selling Stockholder has complied with all agreements and satisfied all conditions on their part to be performed or satisfied hereunder at or prior to the Closing Date.

(f) *CFO Certificate*. The Representatives shall have received (x) on and as of the date of this Agreement and (y) on and as of the Closing Date a certificate of the chief financial officer of the Company (the “CFO Certificate”) in form and substance reasonably satisfactory to the Representatives.

(g) *Comfort Letters*. On the date of this Agreement and on the Closing Date, each of PricewaterhouseCoopers LLP and KPMG AG Wirtschaftsprüfungsgesellschaft shall have furnished to the Representatives, at the request of the Company, letters, dated the respective dates of delivery thereof and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives, containing statements and information of the type customarily 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 Pricing Disclosure Package and the Prospectus; provided that the letter delivered on the Closing Date shall use a “cutoff” date no more than two business days prior to such Closing Date.

(h) *Opinion and 10b-5 Statement of Counsel for the Company*. Wilmer Cutler Pickering Hale and Dorr LLP, counsel for the Company, shall have furnished to the Representatives, at the request of the Company, their written opinion and 10b-5 statement, dated the Closing Date and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives.

(i) *Opinion of Counsel for the Selling Stockholders*. Walkers as counsel for certain of the Selling Stockholders, shall have furnished to the Representatives, at the request of the Selling Stockholders, their written opinion, dated the Closing Date and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives, to the effect set forth in Annex A-1-A. Ogier as counsel for certain of the Selling Stockholders, shall have furnished to the Representatives, at the request of the Selling Stockholders, their written opinion, dated the Closing Date and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives, to the effect set forth in Annex A-1-B.

(j) *Opinion and 10b-5 Statement of Counsel for the Underwriters*. The Representatives shall have received on and as of the Closing Date an opinion and 10b-5 statement of Milbank LLP, counsel for the Underwriters, with respect to such matters as the Representatives may reasonably request, and such counsel shall have received such documents and information as they may reasonably request to enable them to pass upon such matters.

(k) *No Legal Impediment to Sale*. No action shall have been taken and no statute, rule, regulation or order shall have been enacted, adopted or issued by any federal, state or foreign governmental or regulatory authority that would, as of the Closing Date prevent the sale of the Shares by the Selling Stockholders; and no injunction or order of any federal, state or foreign court shall have been issued that would, as of the Closing Date, prevent the sale of the Shares by the Selling Stockholders.

(l) *Good Standing*. The Representatives shall have received on and as of the Closing Date, satisfactory evidence of the good standing of the Company in its jurisdiction of organization and its good standing as a foreign entity in such other jurisdictions as the Representatives may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdictions.

(m) *Exchange Listing*. The Shares to be delivered on the Closing Date shall be listed on the Nasdaq Market.

(n) *Lock-up Agreements*. The “lock-up” agreements, each substantially in the form of Exhibit A hereto, between you and certain stockholders, executive officers and directors of the Company, including the Selling Stockholders, relating to sales and certain other dispositions of Common Stock or certain other securities, delivered to you on or before the date hereof, shall be in full force and effect on the Closing Date.

(o) *Additional Documents*. On or prior to the Closing Date, the Company and the Selling Stockholders shall have furnished to the Representatives such further certificates and documents as the Representatives may reasonably request.

All opinions, letters, certificates and evidence 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 Underwriters.

#### 9. Indemnification and Contribution.

(a) *Indemnification of the Underwriters by the Company*. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors and officers and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against any and all losses, claims, damages and liabilities (including, without limitation, reasonable and documented legal fees and other reasonable and documented expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred and documented), joint or several, that arise out of, or are based upon, (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, not misleading, or (ii) any untrue statement or alleged untrue statement of a material fact contained in the Prospectus (or any amendment or supplement thereto), any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) under the Securities Act, any Testing-the-Waters Communications, any materials or information (when taken together with the Pricing Disclosure Package) provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Shares (the “Marketing Materials”), including any road show (as defined in Rule 433(h) under the Securities Act) (a “road show”) or investor presentations made to investors by the Company (whether in person or electronically) or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), or caused by any omission or alleged omission to state therein a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, in each case except insofar as such losses, claims, damages or liabilities arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to any Underwriter furnished to the Company in writing by any Underwriter expressly for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the Underwriter Information.



---

(b) *Indemnification of the Underwriters by the Selling Stockholders.* Each of the Selling Stockholders, severally and not jointly, agrees to indemnify and hold harmless each Underwriter, its affiliates, employees, directors and officers and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act to the same extent as the indemnity set forth in paragraph (a) above, but only with respect to any such losses, claims, damages or liabilities that arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information furnished to the Company in writing by or on behalf of such Selling Stockholder expressly for use in the Registration Statement, the Prospectus (or any amendment or supplement thereto), any Issuer Free Writing Prospectus, any Marketing Materials or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), it being understood and agreed that the only such information furnished by or on behalf of such Selling Stockholder consists of such Selling Stockholder's Selling Stockholder Information. The Selling Stockholders shall not be liable under the indemnity agreement contained in this paragraph and the contribution provisions of this Section 9 in excess of an amount equal to the aggregate net proceeds (after deducting underwriting commissions and discounts, but before deducting expenses) applicable to the Shares sold by the Selling Stockholders pursuant to this Agreement (the "Selling Stockholders Proceeds").

(c) *Indemnification of the Company and the Selling Stockholders.* Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, 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 and the Selling Stockholders to the same extent as the indemnity set forth in paragraph (a) above, but only with respect to any losses, claims, damages or liabilities that arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement, the Prospectus (or any amendment or supplement thereto), any Issuer Free Writing Prospectus, any road show or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), it being understood and agreed upon that the only such information furnished by any Underwriter consists of the following information in the Prospectus furnished on behalf of each Underwriter: the first paragraph under the subsection entitled "Other Relationships" under the caption "*Underwriting*" (collectively, the "Underwriter Information").

(d) *Notice and Procedures.* If any suit, action, proceeding (including any governmental or regulatory investigation), claim or demand shall be brought or asserted against any person in respect of which indemnification may be sought pursuant to the preceding paragraphs of this Section 9, such person (the "Indemnified Person") shall promptly notify the person against whom such indemnification may be sought (the "Indemnifying Person") in writing; provided that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have under the preceding paragraphs of this Section 9 except to the extent

---

that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided further that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have to an Indemnified Person otherwise than under the preceding paragraphs of this Section 9. If any such proceeding shall be brought or asserted against an Indemnified Person and it shall have notified the Indemnifying Person thereof, the Indemnifying Person shall retain counsel reasonably satisfactory to the Indemnified Person (who shall not, without the consent of the Indemnified Person, be counsel to the Indemnifying Person) to represent the Indemnified Person and any others entitled to indemnification pursuant to this Section 9 that the Indemnifying Person may designate in such proceeding and shall pay the reasonable and documented fees and expenses of such counsel related to such proceeding, as incurred. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel, but the reasonable and documented fees and expenses of such counsel shall be at the expense of such Indemnified Person unless (i) the Indemnifying Person and the Indemnified Person shall have mutually agreed to the contrary; (ii) the Indemnifying Person has failed within a reasonable time to retain counsel reasonably satisfactory to the Indemnified Person; (iii) the Indemnified Person shall have reasonably concluded that there may be legal defenses available to it that are different from or in addition to those available to the Indemnifying Person; or (iv) the named parties in any such proceeding (including any impleaded parties) include both the Indemnifying Person and the Indemnified Person and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them. It is understood and agreed that the Indemnifying Person shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable and documented fees and expenses of more than one separate firm (in addition to any local counsel) for all Indemnified Persons, and that all such reasonable and documented fees and expenses shall be paid or reimbursed as they are incurred upon receipt from the Indemnified Person of a written request for payment thereof accompanied by a written statement with reasonable supporting detail of such fees and expenses. Any such separate firm for any Underwriter, its affiliates, directors and officers and any control persons of such Underwriter shall be designated in writing by the Representatives, any such separate firm for the Company, its directors, its officers who signed the Registration Statement and any control persons of the Company shall be designated in writing by the Company and any such separate firm for the Selling Stockholders shall be designated in writing by the Selling Stockholders. The Indemnifying Person shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the Indemnifying Person agrees to indemnify each Indemnified Person from and against any loss or liability by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an Indemnified Person shall have requested that an Indemnifying Person reimburse the Indemnified Person for reasonable and documented fees and expenses of counsel as contemplated by this paragraph, the Indemnifying Person shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by the Indemnifying Person of such request and (ii) the Indemnifying Person shall not have reimbursed the Indemnified Person in accordance with such request prior to the date of such settlement. No Indemnifying Person shall, without the written consent of the Indemnified Person, effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnification or contribution could have been sought hereunder by such Indemnified Person, unless such settlement (x) includes an unconditional release of such Indemnified Person, in form and substance reasonably satisfactory to such Indemnified Person, from all liability on claims that are the subject matter of such proceeding and (y) does not include any statement as to or any admission of fault, culpability or a failure to act by or on behalf of any Indemnified Person.

(e) *Contribution.* If the indemnification provided for in paragraphs (a), (b) and (c) above is unavailable to an Indemnified Person or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then each Indemnifying Person under such paragraph, in lieu of indemnifying such Indemnified Person thereunder, shall contribute to the amount paid or payable by such Indemnified Person as a result of such losses, claims, damages or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company and the Selling Stockholders, on the one hand, and the Underwriters on the other, from the offering of the Shares or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) but also the relative fault of the Company and the Selling Stockholders, on the one hand, and the Underwriters on the other, in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company and the Selling Stockholders, on the one hand, and the Underwriters on the other, shall be deemed to be in the same respective proportions as the net proceeds (after deducting underwriting commissions and discounts, but before deducting expenses) received by the Selling Stockholders from the sale of the Shares and the total underwriting discounts and commissions received by the Underwriters in connection therewith, in each case as set forth in the table on the cover of the Prospectus, bear to the aggregate offering price of the Shares. The relative fault of the Company and the Selling Stockholders, on the one hand, and the Underwriters 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 and each Selling Stockholder or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. No Selling Stockholder shall be liable under the contribution agreement contained in this paragraph and the indemnification provisions of this Section 9 in excess of an amount equal to such Selling Stockholder's respective portion of the Selling Stockholders Proceeds.

(f) *Limitation on Liability.* The Company, the Selling Stockholders and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 9 were determined by pro rata allocation (even if the Selling Stockholders or the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in paragraph (e) above. The amount paid or payable by an Indemnified Person as a result of the losses, claims, damages and liabilities referred to in paragraph (e) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses incurred by such Indemnified Person in connection with any such action or claim. Notwithstanding the provisions of this Section 9, in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Shares exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f))

of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 9 are several in proportion to their respective purchase obligations hereunder and not joint. For the avoidance of doubt, the aggregate liability of each Selling Stockholder under the indemnity and contribution agreements contained in this Section 9 shall not exceed such Selling Stockholder's respective portion of the Selling Stockholders Proceeds.

(g) *Non-Exclusive Remedies.* The remedies provided for in this Section 9 are not exclusive and shall not limit any rights or remedies that may otherwise be available to any Indemnified Person at law or in equity.

10. Effectiveness of Agreement. This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

11. Termination. This Agreement may be terminated in the absolute discretion of the Representatives, by notice to the Company and the Selling Stockholders, if after the execution and delivery of this Agreement and prior to the Closing Date (i) trading generally shall have been suspended or materially limited on or by any of the New York Stock Exchange or The Nasdaq Stock Market; (ii) trading of any securities issued or guaranteed by the Company shall have been suspended on any exchange or in any over-the-counter market; (iii) a general moratorium on commercial banking activities shall have been declared by U.S. federal or New York State authorities; (iv) a material disruption in securities settlement or clearance services in the United States that could reasonably be expected to affect the settlement of the Shares shall have occurred; or (v) there shall have occurred any outbreak or escalation of hostilities or any change in financial markets or any calamity or crisis, either within or outside the United States, that, in the judgment of the Representatives, is material and adverse and makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Shares on the Closing Date on the terms and in the manner contemplated by this Agreement, the Pricing Disclosure Package and the Prospectus.

12. Defaulting Underwriter.

(a) If, on the Closing Date, any Underwriter defaults on its obligation to purchase the Shares that it has agreed to purchase hereunder on such date, the non-defaulting Underwriters may in their discretion arrange for the purchase of such Shares by other persons satisfactory to the Company and the Selling Stockholders on the terms contained in this Agreement. If, within 36 hours after any such default by any Underwriter, the non-defaulting Underwriters do not arrange for the purchase of such Shares, then the Company and the Selling Stockholders shall be entitled to a further period of 36 hours within which to procure other persons satisfactory to the non-defaulting Underwriters to purchase such Shares on such terms. If other persons become obligated or agree to purchase the Shares of a defaulting Underwriter, either the non-defaulting Underwriters or the Company and the Selling Stockholders may postpone the Closing Date for up to five full business days in order to effect any changes that in the opinion of counsel for the Company, counsel for the Selling Stockholders or counsel for the Underwriters may be necessary in the Registration Statement and the Prospectus or in any other document or arrangement, and the Company agrees to promptly prepare any amendment or supplement to the Registration Statement and the Prospectus that effects any such changes. As used in this Agreement, the term "Underwriter" includes, for all purposes of this Agreement unless the context otherwise requires, any person not listed in Schedule 1 hereto that, pursuant to this Section 12, purchases Shares that a defaulting Underwriter agreed but failed to purchase.

---

(b) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by the non-defaulting Underwriters, the Company and the Selling Stockholders as provided in paragraph (a) above, the aggregate number of Shares that remain unpurchased on the Closing Date does not exceed one-eleventh of the aggregate number of Shares to be purchased on such date, then the Company and the Selling Stockholders shall have the right to require each non-defaulting Underwriter to purchase the number of Shares that such Underwriter agreed to purchase hereunder on such date plus such Underwriter's pro rata share (based on the number of Shares that such Underwriter agreed to purchase on such date) of the Shares of such defaulting Underwriter or Underwriters for which such arrangements have not been made.

(c) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by the non-defaulting Underwriters, the Company and the Selling Stockholders as provided in paragraph (a) above, the aggregate number of Shares that remain unpurchased on the Closing Date exceeds one-eleventh of the aggregate amount of Shares to be purchased on such date, or if the Company and the Selling Stockholders shall not exercise the right described in paragraph (b) above, then this Agreement shall terminate without liability on the part of the non-defaulting Underwriters. Any termination of this Agreement pursuant to this Section 12 shall be without liability on the part of the Company and the Selling Stockholders except that the provisions of Section 9 hereof shall not terminate and shall remain in effect.

(d) Nothing contained herein shall relieve a defaulting Underwriter of any liability it may have to the Company, the Selling Stockholders or any non-defaulting Underwriter for damages caused by its default.

### 13. Payment of Expenses.

(a) Whether or not the transactions contemplated by this Agreement are consummated or this Agreement is terminated, the Company will pay or cause to be paid all costs and expenses incident to the performance of its obligations hereunder, including without limitation, (i) the costs incident to the authorization, sale, preparation and delivery of the Shares and any stamp duties or other issuance or transfer taxes payable in that connection; (ii) the costs incident to the preparation, printing and filing under the Securities Act of the Registration Statement, the Preliminary Prospectus, any Issuer Free Writing Prospectus, any Pricing Disclosure Package and the Prospectus (including all exhibits, amendments and supplements thereto) and the distribution thereof; (iii) the fees and expenses of the Company's counsel, the Company's independent accountants and counsel for the Selling Stockholders; (iv) the fees and expenses incurred in connection with the registration or qualification and determination of eligibility for investment of the Shares under the state or foreign securities or blue sky laws of such jurisdictions as the Representatives may designate and the preparation, printing and distribution of a Blue Sky Memorandum (including the reasonable related fees and expenses of counsel for the Underwriters not to exceed \$15,000); (v) the cost of preparing stock certificates;

(vi) the costs and charges of any transfer agent and any registrar; (vii) all expenses and application fees incurred in connection with any filing with, and clearance of the offering by, FINRA (but with respect to related fees and expenses of counsel for the Underwriters not to exceed \$30,000); (viii) all expenses of the Company relating to any "road show" presentation (including any electronic road show) to potential investors, including the travel and lodging expenses of the representatives and officers of the Company in connection with any such "road show" (provided that the Company shall only be obligated to pay one-half of the cost of any aircraft chartered in connection with any such "road show"); and (x) all expenses and application fees related to the listing of the Shares on the Nasdaq Market. It is understood, however, that except as provided in this Section 13, Section 9 entitled "Indemnification and Contribution," and Section 11 entitled "Termination" above, the Underwriters will pay all of their costs and expenses, including fees and disbursements of their counsel.

(b) If (i) this Agreement is terminated pursuant to Section 11 or (ii) the Selling Stockholders for any reason fail to tender the Shares for delivery to the Underwriters (other than pursuant to clauses (i), (ii), (iii), (iv) or (v) of Section 11 or Section 12), the Company and the Selling Stockholders agree to reimburse the Underwriters for all out-of-pocket costs and expenses (including the reasonable fees and expenses of their counsel) reasonably incurred by the Underwriters in connection with this Agreement and the offering contemplated hereby; provided that, if any Selling Stockholder fails to tender its Shares for delivery to the Underwriters, such Selling Stockholder agrees to reimburse the Underwriters only for its pro rata portion of such out-of-pocket costs and expenses (including the reasonable fees and expenses of their counsel) based upon the number of Shares agreed to be sold by such Selling Stockholder pursuant to this Agreement relative to the total number of Shares agreed to be sold by the Selling Stockholder pursuant to this agreement, with the remainder of such expenses being the responsibility of the Company.

(c) This Section 13 shall not affect any separate agreement relating to the allocation of payment of expenses between the Company, on the one hand, and the Selling Stockholders, on the other hand.

14. Persons Entitled to Benefit of Agreement. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and the affiliates, employees, officers and directors and any controlling persons referred to herein and the affiliates of each Underwriter referred to in Section 9 hereof. Nothing in this Agreement is intended or shall be construed to give any other person any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision contained herein. No purchaser of Shares from any Underwriter shall be deemed to be a successor merely by reason of such purchase.

15. Survival. The respective indemnities, rights of contribution, representations, warranties and agreements of the Company, the Selling Stockholders and the Underwriters contained in this Agreement or made by or on behalf of the Company, the Selling Stockholders or the Underwriters pursuant to this Agreement or any certificate delivered pursuant hereto shall survive the delivery of and payment for the Shares and shall remain in full force and effect, regardless of any termination of this Agreement or any investigation made by or on behalf of the Company, the Selling Stockholders or the Underwriters.

16. Certain Defined Terms. For purposes of this Agreement, (a) except where otherwise expressly provided, the term “affiliate” has the meaning set forth in Rule 405 under the Securities Act; (b) the term “business day” means any day other than a day on which banks are permitted or required to be closed in New York City; (c) the term “subsidiary” has the meaning set forth in Rule 405 under the Securities Act; and (d) the term “significant subsidiary” has the meaning set forth in Rule 1-02(a) of Regulation S-X under the Exchange Act.

17. Patriot Act. In accordance with the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)), the Underwriters are required to obtain, verify and record information that identifies their respective clients, including the Company and the Selling Stockholders, which information may include the name and address of their respective clients, as well as other information that will allow the Underwriters to properly identify their respective clients.

18. Miscellaneous.

(a) *Notices*.

(i) All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted and confirmed by any standard form of telecommunication. Notices to the Underwriters shall be given to the Representatives c/o J.P. Morgan Securities LLC, 383 Madison Avenue, New York, New York 10179 (fax: (212) 622-8358); Attention: Equity Syndicate Desk.

(ii) Notices to the Company shall be given to it at MKS Instruments, Inc., Attn: Seth H. Bagshaw, 2 Tech Drive, Suite 201, Andover, MA 01810, Phone: (978) 645-5578, Fax: (978) 557-5160, Email: seth.bagshaw@mksint.com. Copies of any notice given to the Company shall be given to Wilmer Cutler Pickering Hale and Dorr LLP, Attn: Craig Hiltz, 60 State Street, Boston, MA, 02109, Phone: (617) 526-6000, Email: [\*\*].

(iii) Notices to the Selling Stockholders, shall be given to them at (x) with respect to Carlyle Partners VI Cayman Holdings, L.P. and Gamma Holding Company Limited, The Carlyle Group, 1001 Pennsylvania Avenue NW, Washington, District of Columbia 20004-2505, (fax: (202) 347-1818); Attention: Tanaka Maswoswe and (y) with respect to CEP IV Participations S.à r.l, SICAR, 2, avenue Charles de Gaulle, 4th floor, L-1653 Luxembourg, Grand Duchy of Luxembourg. Copies of any notice given to the Selling Stockholders shall be given to Latham & Watkins LLP at 555 Eleventh Street, NW, Suite 1000, Washington, District of Columbia, (fax: (202) 637-2201); Attention: Patrick H. Shannon and Jason Licht.

(b) (x) Recognition of the U.S. Special Resolution Regimes

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such 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 any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such 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.

“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).

“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).

“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.

“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.

(c) *Governing Law.* This Agreement and any claim, controversy or dispute arising under or related to this Agreement shall be governed by and construed in accordance with the laws of the State of New York applicable to agreements made and to be performed in such state.

(d) *Submission to Jurisdiction.* Each of the Company and the Selling Stockholders hereby submit to the exclusive jurisdiction of the U.S. federal and New York state courts in the Borough of Manhattan in The City of New York in any suit or proceeding arising out of or relating to this Agreement or the offering of the Shares. The Company and the Selling Stockholders waive any objection which they may now or hereafter have to the laying of venue of any such suit or proceeding in such courts. The Company and the Selling Stockholders agree that final judgment in any such suit, action or proceeding brought in such court shall be conclusive and binding upon the Company or the Selling Stockholders, as applicable, and may be enforced in any court to the jurisdiction of which Company or the Selling Stockholders, as applicable, is subject by a suit upon such judgment. The Selling Stockholders irrevocably appoint The Carlyle Group Inc., 1001 Pennsylvania Avenue, NW, Washington, DC 20004, Attention: Legal, as their authorized agent upon which process may be served in any such suit or proceeding, and agree that service of process upon such authorized agent, and written notice of



such service to the Selling Stockholders by the person serving the same to the address provided in this Section 18(d), shall be deemed in every respect effective service of process upon the Company or the Selling Stockholders in any such suit or proceeding. The Selling Stockholders hereby represent and warrant that such authorized agent has accepted such appointment and has agreed to act as such authorized agent for service of process. The Selling Stockholders further agree to take any and all action as may be necessary to maintain such designation and appointment of such authorized agent in full force and effect for a period of seven years from the date of this Agreement.

(e) *Several Liability.* The obligations of the Company and each of the Selling Stockholders under this Agreement are independent and are not joint and several, notwithstanding the fact that the Selling Stockholders may be referred to in this Agreement collectively as "Selling Stockholders" rather than listed individually by name. For the avoidance of doubt, each of the Company and each Selling Stockholder shall not be held liable hereunder in any respect for a breach of any obligation under this Agreement of another party or for any representation made or warranty given hereunder by another party.

(f) *Waiver of Immunity.* To the extent that the Company or any Selling Stockholder has or hereafter may acquire any immunity (sovereign or otherwise) from jurisdiction of any court of (i) its respective jurisdiction of organization (if other than the United States), or any political subdivision thereof, (ii) the United States or the State of New York, (iii) any jurisdiction in which it owns or leases property or assets or from any legal process (whether through service of notice, attachment prior to judgment, attachment in aid of execution, execution, set-off or otherwise) with respect to themselves or their respective property and assets or this Agreement, the Company and each Selling Stockholder hereby irrevocably waive such immunity in respect of its obligations under this Agreement to the fullest extent permitted by applicable law.

(g) *Waiver of Jury Trial.* Each of the parties hereto hereby waives any right to trial by jury in any suit or proceeding arising out of or relating to this Agreement.

(h) *Counterparts.* This Agreement may be signed in one or more counterparts, each of which shall be an original and all of which together shall constitute one and the same instrument. Delivery of this Agreement by one party to the other may be made by facsimile, electronic mail (including any electronic signature complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law) or other transmission method, and the parties hereto agree that any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

(i) *Amendments or Waivers.* No amendment or waiver of any provision of this Agreement, nor any consent or approval to any departure therefrom, shall in any event be effective unless the same shall be in writing and signed by the parties hereto.

(j) *Headings.* The headings herein are included for convenience of reference only and are not intended to be part of, or to affect the meaning or interpretation of, this Agreement.

---

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

Very truly yours,

**MKS INSTRUMENTS, INC.**

By: /s/ Seth H. Bagshaw

Name: Seth H. Bagshaw

Title: Executive Vice President, Chief Financial Officer  
and Treasurer

[Signature Page to Underwriting Agreement]

---

**CEP IV PARTICIPATIONS S.À R.L, SICAR**

By: /s/ William Cagney

Name: William Cagney

Title: Manager and Authorized Signatory

[Signature Page to Underwriting Agreement]

---

**CARLYLE PARTNERS VI CAYMAN HOLDINGS, L.P.**

By: TC Group VI Cayman, L.P., its general partner

By: TC Group VI Cayman, L.L.C., its general partner

By: /s/ Jeremy Anderson

Name: Jeremy W. Anderson

Title: Authorized Person

[Signature Page to Underwriting Agreement]

---

**GAMMA HOLDING COMPANY LIMITED**

By: /s/ Anat Holtzman

Name: Anat Holtzman

Title: Director

[Signature Page to Underwriting Agreement]

---

**J.P. MORGAN SECURITIES LLC**

By: /s/ Manoj Vemula  
Name: Manoj Vemula  
Title: Executive Director

[Signature Page to Underwriting Agreement]

<u>Underwriter</u>	<u>Number of Shares</u>
J.P. Morgan Securities LLC	2,000,000
<b>Total</b>	2,000,000

Sch. 1-1

**List of Selling Stockholders**

<u>Selling Stockholder</u>	<u>Number of Shares</u>
Carlyle Partners VI Cayman Holdings, L.P.	1,221,312
CEP IV Participations S.à r.l, SICAR	532,786
Gamma Holding Company Limited	245,902
<b>Total</b>	<b>2,000,000</b>

Sch. 2-1



**Form of Opinion of Counsel for certain Selling Stockholders (Walkers)**

Annex A-1-A

**Form of Opinion of Counsel for certain Selling Stockholders (Ogier)**

Annex A-1-B

**a. Pricing Disclosure Package**

None

**b. Pricing Information Provided Orally by Underwriters**

The public offering price is, as to each investor, the price paid per share by such investor.

Number of shares: 2,000,000 Shares

Annex B

**Form of Lock-Up Agreement**

J.P. Morgan Securities LLC  
383 Madison Avenue  
New York, New York 10179

Re: MKS Instruments, Inc. — Public Offering

Ladies and Gentlemen:

The undersigned understands that you, as the Representatives (the “Representatives”) of the several Underwriters, propose to enter into an Underwriting Agreement (the “Underwriting Agreement”) with MKS Instruments, Inc., a Massachusetts corporation (the “Company”), and the selling stockholders listed on Schedule 2 to the Underwriting Agreement (the “Selling Stockholders”), providing for the public offering (the “Public Offering”) of shares of common stock, no par value (the “Common Stock”), of the Company by the several underwriters named in Schedule 1 to the Underwriting Agreement (the “Underwriters”). Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Underwriting Agreement.

In consideration of the Underwriters’ agreement to purchase and make the Public Offering, and for other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned hereby agrees that, without the prior written consent of the Representatives, the undersigned will not, and will not cause any direct or indirect affiliate to, during the period (the “Lock-up Period”) beginning on the date of this letter agreement and ending 30 days after the date of the final prospectus relating to the Public Offering (the “Prospectus”), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (including without limitation, Common Stock or such other securities which may be deemed to be beneficially owned (as such term is used in Rule 13d-3 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) by the undersigned and securities which may be issued upon exercise of a stock option or warrant) (collectively, the “Lock-up Securities”) or publicly disclose the intention to make any offer, sale, pledge or disposition, (2) enter into any hedging, swap or other agreement or transaction that transfers, in whole or in part, any of the economic consequences of ownership of the Lock-up Securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, or (3) make any demand for or exercise any right with respect to the registration of any of the Lock-up Securities.

The foregoing restrictions shall not apply:

(A) to the sale by such person of the Common Stock to be sold by the undersigned pursuant to Section 2 of the Underwriting Agreement;

Ex. A

---

(B) to transfers of Common Stock as a bona fide gift or gifts;

(C) if the Lock-up Securities are held by a corporation, partnership, limited liability company or other entity, to transfers to any of its stockholders, partners, members or affiliates (as such term is defined in Rule 501(b) under the Securities Act of 1933, as amended (each, an “Affiliate”)) or any of its Affiliates’ directors, officers and employees;

(D) to transfers by way of testate or intestate succession or by operation of law, or to any members of the immediate family of the undersigned, or to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, or to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held exclusively by the undersigned and/or the immediate family of the undersigned in a transaction (for purposes of this letter agreement, “immediate family” shall mean any relationship by blood, marriage or adoption, not more remote than first cousin);

(E) to transfers to any investment fund or other entity controlled or managed by the undersigned;

[(F) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (B) through (E) above;]<sup>1</sup>

(G) pursuant to an order of a court or regulatory agency, by operation of law, pursuant to domestic relations orders or in connection with a divorce settlement;

[(H) to transfers from an executive officer to the Company or its parent entities upon death, disability or termination of employment, in each case, of such executive officer; or]<sup>1</sup>

(I) any transfer pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction made to all holders of Common Stock involving a change of control (as defined below) of the Company that occurs after the consummation of the Public Offering and is approved by the Company’s board of directors (provided that, in the event that such tender offer, merger, consolidation or other such transaction is not completed, the undersigned’s Lock-up Securities shall remain subject to the restrictions contained in this letter agreement);

provided that in the case of any transfer or distribution pursuant to clause (B), (C), (D), (E), [(F) or (H)]<sup>1</sup> above, such transfer shall not involve a disposition for value and each donee, transferee or distributee shall execute and deliver to the Representatives a lock-up letter in the form of this paragraph for the balance of the Lock-up Period; and provided, further, that in the case of any transfer or distribution pursuant to clause (B), (C), (D), (E) or (F) above, no filing by any party (donor, donee, transferor or transferee) under the Exchange Act, or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 4 or Form 5 required to be filed under the Exchange Act).

---

<sup>1</sup> Not applicable to letter agreements delivered by Selling Stockholders.

---

For purposes of clause (I) above, “change of control” shall mean the consummation of any bona fide third party tender offer, merger, consolidation or other similar transaction the result of which is that any “person” (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 under the Exchange Act) of a majority of total voting power of the voting stock of the Company.

Furthermore, the undersigned may sell Common Stock of the Company purchased by the undersigned on the open market following the Public Offering if and only if no filing by any party under Section 16 of the Exchange Act or other public report or filing shall be required or shall be made voluntarily in connection with such sale during the Lock-up Period (other than a filing on a Form 5 made after the expiration of the Lock-up Period) (this paragraph, the “Open Market Sale Condition”).

The foregoing restrictions shall not apply to (i) transfers, sales or dispositions pursuant to any contract, instruction or plan (a “Plan”) that satisfied all requirements of Rule 10b5-1(c)(1) under the Exchange Act that were applicable at the time of execution of such a Plan existing on the date of this letter agreement; provided that any public announcement or filing under the Exchange Act that is made by any person regarding such transfer, sale or disposition during the Restricted Period shall include a statement that such transfer, sale or disposition was pursuant to such Plan and (ii) the establishment of any new Plan that satisfies all of the requirements of Rule 10b5-1(c)(1) under the Exchange Act; provided that no sales of the undersigned’s Lock-up Securities shall be made pursuant to such a new Plan prior to the expiration of the Lock-up Period, and any public announcement or filing under the Exchange Act that is made by any person regarding the establishment of such Plan during the Restricted Period shall include a statement that the undersigned is not permitted to transfer, sell or otherwise dispose of securities under such plan during the Restricted Period in contravention of this letter agreement.

The foregoing restrictions shall also not apply to dispositions of Common Stock to the Company, or the withholding of shares of Common Stock, solely in connection with the payment of taxes due with respect to the vesting of restricted stock unit awards, insofar as such restricted stock units are outstanding as of the date of the Prospectus, provided that to the extent a public announcement or filing under the Exchange Act, if any, is required or voluntarily made by or on behalf of the undersigned or the Company regarding any such disposition or withholding, such announcement or filing shall include a statement to the effect that the transfer relates to the payment of taxes due with respect to the vesting of such restricted stock unit awards.

In furtherance of the foregoing, the Company, and any duly appointed transfer agent for the registration or transfer of the securities described herein, are hereby authorized to decline to make any transfer of securities if such transfer would constitute a violation or breach of this letter agreement.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this letter agreement. All authority herein conferred or agreed to be conferred and any obligations of the undersigned shall be binding upon the successors, assigns, heirs or personal representatives of the undersigned.

---

The undersigned understands that, if (i) the Representatives, on the one hand, or the Selling Stockholders, on the other hand, inform the other, prior to the execution of the Underwriting Agreement, that they have determined not to proceed with the Public Offering, (ii) the Underwriting Agreement does not become effective by June 30, 2023, or (iii) 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, this letter agreement shall automatically terminate and be of no further force and effect and the undersigned shall be released from all obligations under this letter agreement. The undersigned understands that the Underwriters are entering into the Underwriting Agreement and proceeding with the Public Offering in reliance upon this letter agreement.

This letter agreement and any claim, controversy or dispute arising under or related to this letter agreement shall be governed by and construed in accordance with the laws of the State of New York, without regard to the conflict of laws principles thereof.

*[Signature page follows]*

Ex. A-4

---

Very truly yours,  
[NAME]

By: \_\_\_\_\_  
Name:  
Title:

Ex. A-5



June 5, 2023

MKS Instruments, Inc.  
2 Tech Drive, Suite 201  
Andover, Massachusetts 01810

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

This opinion is furnished to you in connection with (i) the Registration Statement on Form S-3 (File No. 333-267046) (the "Registration Statement") filed by MKS Instruments, Inc., a Massachusetts corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of shares of common stock, no par value per share (the "Common Stock"), of the Company, all of which may be issued from time to time on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, at an indeterminate initial offering price, as set forth in the Registration Statement and the prospectus contained therein (the "Base Prospectus"), and (ii) the prospectus supplement, dated June 1, 2023 (the "Prospectus Supplement" and, together with the Base Prospectus, the "Prospectus"), relating to the sale pursuant to the Registration Statement of up to 2,000,000 shares of Common Stock (the "Shares") by certain stockholders of the Company (the "Selling Stockholders").

The Shares are to be offered and sold by the Selling Stockholders pursuant to an underwriting agreement dated June 1, 2023 (the "Underwriting Agreement"), by and between the Company, the Selling Stockholders named in Schedule 2 to the Underwriting Agreement, and J.P. Morgan Securities LLC, as representative of the several underwriters named in the Underwriting Agreement, which is being filed with the Commission as Exhibit 1.1 to the Company's Current Report on Form 8-K to be filed on the date hereof.

We are acting as counsel for the Company in connection with the sale by the Selling Stockholders of the Shares. We have examined and relied upon a signed copy of the Registration Statement as filed with the Commission. We have also examined and relied upon the Underwriting Agreement, the Prospectus, minutes of meetings and actions of the stockholders and the Board of Directors of the Company as provided to us by the Company, the Restated Articles of Organization of the Company and the Amended and Restated By-laws of the Company, each as restated and/or amended to date, and such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Oxford Palo Alto Washington

MKS Instruments, Inc.  
June 5, 2023  
Page 2

Our opinion below, insofar as it relates to the Selling Stockholders' shares being fully paid, is based solely on an officer's certificate of the Company confirming the Company's receipt of the consideration called for by the applicable resolutions authorizing the issuance of such shares.

We assume that the appropriate actions were taken, prior to the offer and sale of the Shares, to register and qualify the Shares for sale under all applicable state securities or "blue sky" laws.

We express no opinion herein as to the laws of any state or jurisdiction other than the state laws of the Commonwealth of Massachusetts and the federal laws of the United States of America.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized and are validly issued, fully paid and nonassessable.

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

We hereby consent to the filing of this opinion with the Commission, in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, as an exhibit to the Current Report on Form 8-K to be filed by the Company on the date hereof in connection with the sale of the Shares and to the use of our name therein and in the related Prospectus Supplement under the caption "Legal Matters." In giving such consent, we do not hereby 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 Commission.

MKS Instruments, Inc.  
June 5, 2023  
Page 3

Very truly yours,

WILMER CUTLER PICKERING HALE AND DORR LLP

By: /s/ Wilmer Cutler Pickering Hale and Dorr LLP  
Wilmer Cutler Pickering Hale and Dorr LLP



## MKS Instruments Announces Pricing of Public Offering by Selling Stockholders

---

Andover, MA, June 1, 2023 — MKS Instruments, Inc. (NASDAQ: MKSI) (“MKS”), a global provider of enabling technologies that transform our world, announced today the pricing of an underwritten public offering of 2,000,000 shares of common stock by entities affiliated with Carlyle. The offering is expected to close on June 6, 2023, subject to customary closing conditions.

J.P. Morgan is acting as the sole underwriter for the offering.

A registration statement on Form S-3ASR relating to these securities has been filed with the Securities and Exchange Commission (the “SEC”) and became automatically effective when filed on August 24, 2022. The offering is being made only by means of a base prospectus and prospectus supplement that form part of the effective registration statement relating to the shares. A preliminary prospectus supplement relating to and describing the terms of the offering has been filed with the SEC. A final prospectus supplement relating to the offering will be filed with the SEC. Copies of the final prospectus supplement and the accompanying prospectus relating to the offering may be obtained, when available, by visiting the SEC’s website at [www.sec.gov](http://www.sec.gov) or by contacting the offices of J.P. Morgan Securities LLC, J.P. Morgan, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, New York 11717, by telephone: 1-866-803-9204, or by emailing: [prospectus-eg\\_fi@jpmchase.com](mailto:prospectus-eg_fi@jpmchase.com).

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

### **About MKS**

MKS Instruments enables technologies that transform our world. We deliver foundational technology solutions to leading edge semiconductor manufacturing, electronics and packaging, and specialty industrial applications. We apply our broad science and engineering capabilities to create instruments, subsystems, systems, process control solutions and specialty chemicals technology that improve process performance, optimize productivity and enable unique innovations for many of the world’s leading technology and industrial companies. Our solutions are critical to addressing the challenges of miniaturization and complexity in advanced device manufacturing by enabling increased power, speed, feature enhancement, and optimized connectivity. Our solutions are also critical to addressing ever-increasing performance requirements across a wide array of specialty industrial applications.

---



### Safe Harbor for Forward Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, regarding the terms, timing and completion of the offering. These statements are only predictions based on current assumptions and expectations. Any statements that are not statements of historical fact (including statements containing the words “will,” “projects,” “intends,” “believes,” “plans,” “anticipates,” “expects,” “estimates,” “forecasts,” “continues” and similar expressions) should be considered to be forward-looking statements. Forward-looking statements are not promises or guarantees of future performance and are subject to a variety of risks and uncertainties, many of which are beyond MKS’ control. Actual results may differ materially from those described in the forward-looking statements and will be affected by a variety of risks and factors that are beyond our control including, without limitation, market risks and uncertainties, the satisfaction of customary closing conditions for an offering of securities, and other important factors described in MKS’ Annual Report on Form 10-K for the year ended December 31, 2022, subsequent Quarterly Reports on Form 10-Q, the preliminary prospectus related to the offering and in subsequent filings made by MKS with the SEC. Forward-looking statements speak only as of the date hereof, and, except as required by law, MKS undertakes no obligation to update or revise these forward-looking statements.

###

#### Investor Relations Contact:

David Ryzhik  
Vice President, Investor Relations  
Telephone: (978) 557-5180  
Email: [david.ryzhik@mksinst.com](mailto:david.ryzhik@mksinst.com)

#### Press Relations Contacts:

Bill Casey  
Senior Director, Marketing Communications  
Telephone: 630.995.6384  
Email: [press@mksinst.com](mailto:press@mksinst.com)

Katie Coleman, Associate / Kerry Kelly, Partner  
Kekst CNC  
Emails: [katie.coleman@kekstcnc.com](mailto:katie.coleman@kekstcnc.com) / [kerry.kelly@kekstcnc.com](mailto:kerry.kelly@kekstcnc.com)