

K2M GROUP HOLDINGS, INC.

Form 424B7

November 14, 2016

[Table of Contents](#)

**Filed Pursuant to Rule 424(b)(7)
Registration No. 333-204604**

PROSPECTUS SUPPLEMENT

(To Prospectus dated June 11, 2015)

K2M GROUP HOLDINGS, INC.

4,500,000 Shares

Common Stock

The selling stockholders are offering 4,500,000 shares of our common stock in this offering. We will not receive any proceeds from the sale of shares of common stock by the selling stockholders identified in this prospectus supplement, which consists of affiliates of Welsh, Carson, Anderson & Stowe XI, L.P.

Our common stock is listed on the NASDAQ Global Select Market (NASDAQ) under the trading symbol KTWO. On November 10, 2016, the last sale price of our common stock as reported on NASDAQ was \$19.51 per share.

This investment involves risks. See [Risk Factors](#) beginning on page S-5 and in the documents we incorporate by reference into this prospectus supplement and the accompanying prospectus.

We are an emerging growth company as defined by the Jumpstart Our Business Startups Act of 2012 and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus supplement and future filings.

The underwriter has agreed to purchase the shares of common stock from the selling stockholders at a price of \$18.39 per share, which will result in \$82,755,000 of proceeds to the selling stockholders, before expenses. The underwriter may offer the shares of common stock in transactions on NASDAQ, in the over-the-counter market or through negotiated transactions at market prices or at negotiated prices. See Underwriting.

The underwriter has a 30-day option to purchase up to 675,000 additional shares of common stock from the selling stockholders identified in this prospectus supplement. We will not receive any proceeds from the sale of shares of common stock by the selling stockholders, including from any exercise by the underwriter of its option to purchase

additional shares from such selling stockholders.

Neither the Securities and Exchange Commission nor any state securities commission has approved of anyone's investment in these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

Wells Fargo Securities

The date of this prospectus supplement is November 10, 2016.

Table of Contents**TABLE OF CONTENTS**

	Page
Prospectus Supplement	
<u>About this Prospectus Supplement</u>	S-ii
<u>Summary</u>	S-1
<u>Risk Factors</u>	S-5
<u>Forward-Looking Statements</u>	S-10
<u>Use of Proceeds</u>	S-12
<u>Market Price of Common Stock</u>	S-12
<u>Dividend Policy</u>	S-12
<u>Selling Stockholders</u>	S-13
<u>Certain United States Federal Income and Estate Tax Consequences to Non-U.S. Holders</u>	S-14
<u>Underwriting</u>	S-17
<u>Legal Matters</u>	S-23
<u>Experts</u>	S-23
<u>Where You Can Find More Information</u>	S-23
<u>Incorporation by Reference</u>	S-23
Prospectus	Page
<u>About this Prospectus</u>	1
<u>K2M</u>	2
<u>Risk Factors</u>	4
<u>Forward-Looking Statements</u>	5
<u>Use of Proceeds</u>	7
<u>Selling Stockholders</u>	8
<u>Description of Capital Stock</u>	11
<u>Plan of Distribution</u>	19
<u>Legal Matters</u>	21
<u>Experts</u>	21
<u>Where You Can Find More Information</u>	21
<u>Incorporation by Reference</u>	21

Unless indicated otherwise, the information included in this prospectus supplement assumes no exercise by the underwriter of the option to purchase up to an additional 675,000 shares of common stock from the selling stockholders.

We and the selling stockholders have not, and the underwriter has not, authorized anyone to provide any information or to make any representations other than those contained in this prospectus supplement, the accompanying prospectus or in any free writing prospectuses we have prepared and take no responsibility for, and can provide no assurance as to

the reliability of, any other information that others may give you. This prospectus supplement and the accompanying prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement and the accompanying prospectus is current only as of its date.

S-i

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This document has two parts, a prospectus supplement and an accompanying prospectus dated June 11, 2015. This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the Securities and Exchange Commission (the SEC or Commission), utilizing the SEC's shelf registration process. This prospectus supplement, which describes certain matters relating to us and the specific terms of this offering of shares of common stock, adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. Generally, when we refer to this document, we are referring to both parts of this document combined. Both this prospectus supplement and the accompanying prospectus include important information about us, our common stock and other information you should know before investing in our common stock. The accompanying prospectus gives more general information, some of which may not apply to the shares of common stock offered by this prospectus supplement. To the extent the information contained in this prospectus supplement differs or varies from the information contained in the accompanying prospectus, you should rely on the information contained in this prospectus supplement. If the information contained in this prospectus supplement differs or varies from the information contained in a document we have incorporated by reference, you should rely on the information in the more recent document.

Before you invest in our common stock, you should read the registration statement of which this document forms a part and this document, including the documents incorporated by reference herein that are described under the heading Incorporation by Reference.

The distribution of this prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Neither the selling stockholders nor the underwriter are making an offer of the common stock in any jurisdiction where the offer is not permitted. Persons who come into possession of this prospectus supplement and the accompanying prospectus should inform themselves about and observe any such restrictions. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to any person to whom it is unlawful to make such offer or solicitation.

You should not consider any information in this prospectus supplement or the accompanying prospectus to be investment, legal or tax advice. You should consult your own counsel, accountant and other advisors for legal, tax, business, financial and related advice regarding the purchase of the common stock. Neither we, the selling stockholders nor the underwriter are making any representation to you regarding the legality of an investment in the common stock by you under applicable investment or similar laws.

Table of Contents

SUMMARY

This summary highlights information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus and does not contain all of the information you should consider before investing in shares of our common stock. You should read this entire prospectus supplement and the accompanying prospectus carefully, including the information incorporated by reference herein, the information included under the section entitled "Risk Factors" and the financial statements and the related notes thereto incorporated by reference in this prospectus supplement and the accompanying prospectus, before you decide to invest in shares of our common stock.

Except where the context requires otherwise, references in this prospectus to "K2M," "the Company," "we," "us" and "our" refer to K2M Group Holdings, Inc., together with its consolidated subsidiaries. "Welsh, Carson, Anderson & Stowe XI, L.P." and certain of its affiliated funds are referred to herein as "WCAS" and "WCAS," together with the other owners of K2M Group Holdings, Inc. prior to our May 2014 initial public offering, are collectively referred to as our "pre-IPO owners."

Overview

We are a global medical device company focused on designing, developing and commercializing innovative complex spine and minimally invasive technologies and techniques. Our complex spine products are used by spine surgeons to treat some of the most difficult and challenging spinal pathologies, such as deformity (primarily scoliosis), trauma and tumor. We have applied our product development expertise in innovating complex spine technologies and techniques to the design, development and commercialization of an expanding number of proprietary minimally invasive spine (MIS) products. Our MIS products are designed to allow for less invasive access to the spine and faster patient recovery times as compared to traditional open access surgical approaches for both complex spine and degenerative spine pathologies. We have leveraged these core competencies in the design, development and commercialization of an increasing number of products for patients suffering from degenerative spinal conditions.

Our products consist of implants, disposables and instruments which are marketed and sold primarily to hospitals for use by spine surgeons. As of December 31, 2015, our product portfolio contains 71 product lines that are used in complex spine surgeries, MIS and degenerative surgeries, enabling us to favorably compete in the \$10.5 billion global spinal surgery market. Of these 71 product lines, our MESA technology or products that incorporate MESA have accounted for approximately 35%, 31% and 29%, respectively, of our revenue for the years ended December 31, 2013, 2014 and 2015. We believe many of our products offer simplified surgical techniques and promote improved clinical outcomes for patients, although their quality, safety and efficacy are not yet supported by long-term clinical data.

We have developed and maintain an expanding portfolio of intellectual property, which included 298 issued patents globally and 228 pending patent applications globally as of December 31, 2015. In addition to our current product offerings, we continue to invest in the research and development necessary to design, develop and commercialize new surgical solutions for unmet clinical needs. Our highly efficient product development process utilizes an integrated design team approach that involves collaboration among select teams of leading surgeons in their respective specialties, our product management team, our engineers and our clinical and regulatory personnel. We believe that utilizing these integrated design teams enables us to develop innovative and differentiated technologies and techniques that meet the needs of the market and allow surgeons and hospitals to better serve their patients. As of December 31, 2015, our product portfolio contains 71 product lines, which include our MESA, EVEREST and CASCADIA technologies, demonstrating our ability to leverage our product development process to rapidly innovate new products.

S-1

Table of Contents

Our focus on our core competencies of complex spine and MIS is highlighted by the fact that, for the year ended December 31, 2015 and the nine months ended September 30, 2016, 56% and 56%, respectively, of our revenue in the United States was derived from the use of our products in complex spine and MIS surgeries. We believe this represents a greater proportion of total revenue devoted to these markets as compared to our competitors. We further believe the proportion of our international revenue derived from complex spine and MIS is even higher than in the United States.

We have grown our revenue to \$216.0 million in 2015 from \$100.5 million in 2010, representing a five-year compound annual growth rate of 17% between 2010 and 2015. For the years ended December 31, 2013, 2014 and 2015 and the nine months ended September 30, 2016, our net loss was \$37.9 million, \$59.6 million, \$39.2 million and \$29.2 million, and our Adjusted EBITDA was \$(5.3) million, \$(8.8) million, \$(0.1) million and \$1.5 million, respectively. For information about how we calculate Adjusted EBITDA, see Management's Discussion and Analysis of Financial Condition and Results of Operations Non-GAAP Financial Measures in our Annual Report on Form 10-K for the year ended December 31, 2015 and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2016. We expect to continue to incur additional losses in the near term as we invest in the global expansion of our business. As of September 30, 2016, our accumulated deficit was \$198.6 million.

We currently market or sell our products in the United States, including the territory of Puerto Rico, and 38 other countries. In 2015, international sales represented approximately 28.1% of our revenue. We have made significant investments in building a global hybrid sales organization consisting of direct sales employees, independent sales agencies and distributor partners. As of December 31, 2015, our U.S. sales force consisted of 124 direct sales employees and 85 independent sales agencies and our international distribution network consisted of 39 direct sales employees, 10 independent sales agencies and 26 independent distributorships. We expect to continue to invest in the expansion of our global hybrid sales organization. We believe the continuing expansion of our global sales force will provide us with significant opportunities for future growth as we increase our penetration of existing geographic markets and enter new ones. We do not sell our products through or participate in physician-owned distributorships.

Implications of Being an Emerging Growth Company

We qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). As a result, we are permitted to, and intend to continue to, rely on exemptions from certain disclosure requirements that are applicable to other companies that are not emerging growth companies. Accordingly, we have filed and incorporated by reference compensation information for only our three most highly compensated executive officers and do not prepare a compensation discussion and analysis of our executive compensation programs in this prospectus supplement, the accompanying prospectus or any document incorporated by reference herein. In addition, for so long as we are an emerging growth company, we will not be required to:

engage an independent registered public accounting firm to report on our internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002 (the Sarbanes-Oxley Act);

adopt new or revised financial accounting standards applicable to public companies until such standards are also applicable to private companies;

comply with any requirement that may be adopted by the Public Company Accounting Oversight Board (the PCAOB), regarding mandatory audit firm rotation or a supplement to the independent registered public accounting firm s report providing additional information about the audit and the financial statements (i.e., an auditor discussion and analysis);

S-2

Table of Contents

submit certain executive compensation matters to shareholder advisory votes, such as say-on-pay, say-on-frequency and say-on-golden parachutes; or

disclose certain executive compensation related items such as the correlation between executive compensation and performance and comparisons of the chief executive officer's compensation to median employee compensation.

We will remain an emerging growth company until the earliest to occur of:

our reporting of \$1.0 billion or more in annual gross revenues;

our issuance, in any three year period, of more than \$1.0 billion in non-convertible debt;

the date on which we are deemed to be a large accelerated filer, which means the end of the fiscal year in which the market value of our common stock held by non-affiliates exceeds \$700.0 million on the last business day of our second fiscal quarter; and

the end of fiscal 2019.

Corporate History and Information

K2M Group Holdings, Inc. was incorporated in Delaware in June 2010. Our principal executive offices are located at 600 Hope Parkway SE, Leesburg, Virginia 20175 and our telephone number is (703) 777-3155. Our website address is www.k2m.com. The information on, or accessible through, our website is deemed not to be incorporated in this prospectus supplement or to be part of this prospectus supplement.

Table of Contents

THE OFFERING

Issuer	K2M Group Holdings, Inc.
Common stock offered by the selling stockholders	4,500,000 shares.
Common stock outstanding	42,197,647 shares.
Option to purchase additional shares of common stock from the selling stockholders	The selling stockholders have granted the underwriter a 30-day option from the date of this prospectus to purchase up to 675,000 additional shares of our common stock at the price set forth on the cover page of this prospectus supplement.
Use of proceeds	We will not receive any proceeds from the sale of any shares of our common stock by the selling stockholders, including from any exercise by the underwriter of its option to purchase additional shares from the selling stockholders. See Use of Proceeds.
Dividend policy	We have no current plans to pay dividends on our common stock. Any decision to declare and pay dividends in the future will be made at the sole discretion of our Board of Directors and will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions and other factors that our Board of Directors may deem relevant. See Dividend Policy.
Risk factors	See Risk Factors for a discussion of risks you should carefully consider before deciding to invest in our common stock.
NASDAQ trading symbol	KTWO.
Unless otherwise indicated, information in this prospectus supplement and the accompanying prospectus with respect to the number of shares of our common stock outstanding is based on 42,197,647 shares of common stock outstanding as of September 30, 2016 and does not reflect:	

1,542,226 shares of common stock reserved for future issuance under our 2016 Omnibus Incentive Plan (the 2016 Omnibus Incentive Plan);

166,630 shares of common stock reserved for future issuance under our 2014 Omnibus Incentive Plan (the 2014 Omnibus Incentive Plan);

295,899 shares of common stock reserved for future issuance under our 2014 Employee Stock Purchase Program (the ESPP);

3,741,779 shares of common stock issuable upon exercise of outstanding options issued under our equity incentive plans at a weighted exercise price of \$12.40 per share;

78,073 shares of common stock issuable upon vesting of outstanding restricted stock units; or

2,917,165 shares of common stock issuable upon conversion of our outstanding convertible notes due 2036 (the Convertible Notes), based on the closing share price of our common stock of \$17.78 per share as of September 30, 2016.

Unless otherwise indicated, this prospectus supplement reflects and assumes no exercise by the underwriter of its option to purchase additional shares from the selling stockholders.

Table of Contents

RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below and set forth under the caption **Risk Factors** in our Annual Report on Form 10-K for the year ended December 31, 2015 which is incorporated by reference in this prospectus supplement and the accompanying prospectus and other information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus, including our consolidated financial statements and the related notes, before you decide whether to purchase our common stock.*

Risks Related to this Offering and Ownership of Our Common Stock

We are incurring increased costs and are subject to additional regulations and requirements as a result of being a public company, which could lower our profits or make it more difficult to run our business.

As a public company, we are incurring significant legal, accounting and other expenses that we did not incur as a private company, including costs associated with public company reporting requirements. We also have incurred and will continue to incur costs associated with the Sarbanes-Oxley Act and related rules implemented by the SEC and NASDAQ. The expenses incurred by public companies generally for reporting and corporate governance purposes have been increasing. We expect these rules and regulations to increase our legal and financial compliance costs and to make some activities more time-consuming and costly, although we are currently unable to estimate these costs with any degree of certainty. These laws and regulations also could make it more difficult or costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. These laws and regulations could also make it more difficult for us to attract and retain qualified persons to serve on our Board of Directors, our board committees or as our executive officers. Furthermore, if we are unable to satisfy our obligations as a public company, we could be subject to delisting of our common stock, fines, sanctions and other regulatory action and potentially civil litigation.

If we are unable to implement and maintain effective internal control over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock may be negatively affected.

As a public company, we are required to maintain internal controls over financial reporting and to report any material weaknesses in such internal controls. In addition, we are required to furnish a report by management on the effectiveness of our internal control over financial reporting, pursuant to Section 404 of the Sarbanes-Oxley Act. However, as an emerging growth company, our independent registered public accounting firm will not be required to express an opinion as to the effectiveness of our internal control over financial reporting pursuant to Section 404 until we file our annual report for the first fiscal year in which we are no longer an emerging growth company. At such time, our independent registered public accounting firm may issue a report that is adverse in the event it is not satisfied with the level at which our controls are documented, designed or operating. The process of designing, implementing and testing the internal control over financial reporting required to comply with this obligation is time-consuming, costly and complicated. If we identify material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner or assert that our internal control over financial reporting is effective or if our independent registered public accounting firm, when required, is unable to express an opinion as to the effectiveness of our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected, and we could become subject to investigations by the stock exchange on which our securities are listed, the SEC or other regulatory authorities, which could require

additional financial and management resources.

S-5

Table of Contents

The market price of shares of our common stock may be volatile, which could cause the value of your investment to decline.

The market price of our common stock may be highly volatile and could be subject to wide fluctuations. Securities markets worldwide experience significant price and volume fluctuations. This market volatility, as well as general economic, market or political conditions, could reduce the market price of shares of our common stock in spite of our operating performance. In addition, our results of operations could be below the expectations of public market analysts and investors due to a number of potential factors, including variations in our quarterly results of operations, additions or departures of key management personnel, failure to meet analysts' earnings estimates, publication of research reports about our industry, litigation and government investigations, changes or proposed changes in laws or regulations or differing interpretations or enforcement thereof affecting our business, adverse market reaction to any indebtedness we may incur or securities we may issue in the future, changes in market valuations of similar companies or speculation in the press or investment community, announcements by our competitors of significant contracts, acquisitions, dispositions, strategic partnerships, joint ventures or capital commitments, adverse publicity about the industries we participate in or individual scandals, and in response the market price of shares of our common stock could decrease significantly. You may be unable to resell your shares of common stock at or above the price at which you purchased them.

In the past few years, stock markets have experienced extreme price and volume fluctuations. In the past, following periods of volatility in the overall market and the market price of a company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

Because we have no current plans to pay cash dividends on our common stock, you may not receive any return on investment unless you sell your common stock for a price greater than that which you paid for it.

We have no current plans to pay dividends on our common stock. The declaration, amount and payment of any future dividends on shares of common stock will be at the sole discretion of our Board of Directors. Our Board of Directors may take into account general and economic conditions, our financial condition and results of operations, our available cash and current and anticipated cash needs, capital requirements, contractual, legal, tax and regulatory restrictions and implications on the payment of dividends by us to our stockholders or by our subsidiaries to us and such other factors as our Board of Directors may deem relevant. In addition, our ability to pay dividends will be limited by our revolving credit facility and may be limited by covenants of other indebtedness we or our subsidiaries incur in the future. As a result, you may not receive any return on an investment in our common stock unless you sell our common stock for a price greater than that which you paid for it.

You may be diluted by the future issuance of additional common stock in connection with our incentive plans, convertible notes, acquisitions or otherwise.

We have approximately 707.8 million shares of common stock authorized but unissued. Our amended and restated certificate of incorporation authorizes us to issue these shares of common stock and options, rights, warrants and appreciation rights relating to common stock for the consideration and on the terms and conditions established by our Board of Directors in its sole discretion, whether in connection with acquisitions or otherwise. We have reserved 1,542,226 shares for future issuance under our 2016 Omnibus Incentive Plan and 166,630 shares for issuance under our 2014 Omnibus Incentive Plan. In addition, as of September 30, 2016 we have reserved 295,899 shares of common stock for future issuance under our ESPP. Based on the closing share price of our common stock as of September 30, 2016, if a conversion of the Convertible Notes had taken place on that date, 2,917,165 shares of common stock would have been issued pursuant to such conversion of the Convertible Notes. Any common stock that we issue, including

under our 2016 Omnibus Incentive Plan, our 2014 Omnibus Incentive Plan, our ESPP or other equity incentive plans that we may adopt in the future or pursuant to a conversion of the Convertible Notes into common stock, would dilute the percentage ownership held by the investors who purchase common stock in this offering.

S-6

Table of Contents

If we or our pre-IPO owners sell additional shares of our common stock after this offering, the market price of our common stock could decline.

The sale of substantial amounts of shares of our common stock in the public market, or the perception that such sales could occur, could harm the prevailing market price of shares of our common stock. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. As of September 30, 2016, we have a total of 42,197,647 shares of our common stock outstanding. The 4,500,000 shares sold in this offering (or 5,175,000 shares if the underwriter exercises its option to purchase additional shares in full) will be freely tradable without restriction or further registration under the Securities Act of 1933, as amended (the Securities Act).

We, our executive officers, directors and the selling stockholders have signed lock-up agreements with the underwriter that, subject to certain customary exceptions, restrict the sale of the shares of our common stock held by them for 60 days following the date of this prospectus supplement. The underwriter may, in its sole discretion and without notice, release all or any portion of the shares of common stock subject to lock-up agreements. See Underwriting for a description of these lock-up agreements. Upon the expiration of these lock-up agreements, all of the 10,668,157 shares (or 9,993,157 shares if the underwriter exercises its option to purchase additional shares in full) held by the signatories will be eligible for resale in the public market, subject, in the case of shares held by our affiliates, to volume, manner of sale and other limitations under Rule 144. Certain of our stockholders may be considered affiliates at the expiration of the lock-up period. In addition, pursuant to a registration rights agreement entered into in connection with our purchase by WCAS, we registered 19,940,500 shares of our common stock which may be offered by selling stockholders under a registration statement pursuant to the Securities Act, of which this prospectus supplement and the accompanying prospectus is a part, with 11,128,000 shares (or 10,453,000 shares if the underwriter exercises its option to purchase additional shares in full) of our common stock which may be offered by selling stockholders under such registration statement remaining after this offering. A sale of a large number of shares under such registration statement could cause the prevailing market price of our common stock to decline. Following completion of this offering, the shares registered for resale pursuant to the registration statement would represent approximately 26.4% of our outstanding common stock (or 24.8% if the underwriter exercises in full its option to purchase additional shares).

As restrictions on resale end, the market price of our shares of common stock could drop significantly if the holders of these restricted shares sell them or are perceived by the market as intending to sell them. These factors could also make it more difficult for us to raise additional funds through future offerings of our shares of common stock or other securities.

Anti-takeover provisions in our organizational documents and Delaware law might discourage or delay acquisition attempts for us that you might consider favorable.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that may make the merger or acquisition of the Company more difficult without the approval of our Board of Directors. Among other things:

although we do not have a stockholder rights plan, these provisions would allow us to authorize the issuance of undesignated preferred stock in connection with a stockholder rights plan or otherwise, the terms of which may be established and the shares of which may be issued without stockholder approval, and which may include super voting, special approval, dividend, or other rights or preferences superior to the rights of the

holders of common stock;

these provisions provide for a classified Board of Directors with staggered three-year terms;

these provisions prohibit stockholder action by written consent, unless such action is recommended by all directors then in office;

these provisions provide that our Board of Directors is expressly authorized to make, alter, or repeal our bylaws;

S-7

Table of Contents

since WCAS and its affiliates currently beneficially own, in the aggregate, less than 50% in voting power of all outstanding shares of the stock of the Company entitled to vote generally in the election of directors, any amendment, alteration rescission or repeal of our bylaws by our stockholders requires the affirmative vote of holders of at least 66 2/3% in voting power of all the then-outstanding shares of stock of the Company entitled to vote thereon, voting together as a single class; and

these provisions establish advance notice requirements for nominations for elections to our Board of Directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

Further, as a Delaware corporation, we are also subject to provisions of Delaware law, which may impair a takeover attempt that our stockholders may find beneficial. These anti-takeover provisions and other provisions under Delaware law could discourage, delay or prevent a transaction involving a change in control of the Company, including actions that our stockholders may deem advantageous, or negatively affect the trading price of our common stock. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors of your choosing and to cause us to take other corporate actions you desire.

We are an emerging growth company and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an emerging growth company, as defined in the JOBS Act, and we may continue to take advantage of certain exemptions and relief from various reporting requirements that are applicable to other public companies that are not emerging growth companies. In particular, while we remain an emerging growth company, (1) we are not required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act, (2) we are exempt from any rules that may be adopted by the PCAOB requiring mandatory audit firm rotations or a supplement to the auditor's report on financial statements, (3) we are subject to reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and (4) we are not required to hold nonbinding advisory votes on executive compensation or stockholder approval of any golden parachute payments not previously approved.

In addition, we have elected to delay the adoption of new or revised accounting standards applicable to public companies until those standards apply to private companies, and as a result, we may not comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. As a result of this election, our financial statements may not be comparable to the financial statements of other public companies.

We also currently take advantage of the reduced disclosure requirements regarding executive compensation. We may take advantage of other exemptions, including the exemptions from the advisory vote requirements and executive compensation disclosures under the Dodd-Frank Wall Street Reform and Customer Protection Act (the Dodd-Frank Act), and the exemption from the provisions of Section 404(b) of the Sarbanes-Oxley Act. We may remain an emerging growth company until as late as December 31, 2019 (the fiscal year-end following the fifth anniversary of the completion of our initial public offering), though we may cease to be an emerging growth company earlier under certain circumstances, including (1) if the market value of our common stock that is held by nonaffiliates exceeds \$700.0 million as of any June 30, in which case we would cease to be an emerging growth company as of the following December 31, (2) if our gross revenue exceeds \$1.0 billion in any fiscal year or (3) if we issue more than \$1.0 billion in non-convertible notes in any three year period.

Our Board of Directors is authorized to issue and designate shares of our preferred stock in additional series without stockholder approval.

Our amended and restated certificate of incorporation authorizes our Board of Directors, without the approval of our stockholders, to issue 100 million shares of our preferred stock, subject to limitations prescribed by applicable law, rules and regulations and the provisions of our amended and restated certificate of incorporation, as shares of preferred stock in series, to establish from time to time the number of shares to be included in each

S-8

Table of Contents

such series, and to fix the designation, powers, preferences and rights of the shares of each such series and the qualifications, limitations or restrictions thereof. The powers, preferences and rights of these additional series of preferred stock may be senior to or on parity with our common stock, which may reduce its value.

Our ability to use our net operating loss carryforwards may be subject to limitation.

As of September 30, 2016, we had federal net operating loss carryforwards (NOLs) to offset future taxable income. A lack of future taxable income would adversely affect our ability to use these NOLs and, as a result of this and other factors, we have taken a valuation allowance against the NOLs. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended (the Code), a corporation that undergoes an ownership change is subject to limitations on its ability to use its NOLs to offset future taxable income. In general, a corporation that undergoes an ownership change may use its NOLs for a given year in an amount not greater than the product of the applicable federal long-term tax-exempt rate multiplied by the value of its capital stock immediately before the ownership change, and potentially increased for certain gains recognized by the corporation within five years after the ownership change if it has a net built-in gain in its assets at the time of the ownership change. We underwent such an ownership change in 2010 and 2015, and, as a result, we are limited in our ability to use the portion of our NOLs that existed as of the time of such ownership changes. Because of this limitation and other factors, we have taken a valuation allowance against our NOLs. If we experience another ownership change, we would also become limited in our ability to use the portion of any NOLs that did not exist as of the time of the ownership changes that occurred in 2010 or 2015.

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus contain or incorporate by reference forward-looking statements within the meaning of Section 27A of the Securities Act, Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act) and the Private Securities Litigation Reform Act of 1995, that reflect our current views with respect to, among other things, our operations and financial performance. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify these forward-looking statements by the use of words such as outlook, believes, expects, potential, continues, may, will, should, predicts, intends, plans, estimates, anticipates or the negative version of these words or other comparable words. Forward-looking statements are subject to various risks and uncertainties. Accordingly, there are or will be important factors that could cause actual outcomes or results to differ materially from those indicated in these statements. We believe these factors include but are not limited to those described under Risk Factors included or incorporated by reference in this prospectus supplement and the accompanying prospectus and the following risks, uncertainties and factors:

our ability to achieve or sustain profitability in the future;

our ability to demonstrate to spine surgeons the merits of our products;

pricing pressures and our ability to compete effectively generally;

collaboration and consolidation in hospital purchasing;

inadequate coverage and reimbursement for our products from third-party payors;

lack of long-term clinical data supporting safety and efficacy of our products;

dependence on a limited number of third-party suppliers;

our ability to maintain and expand our network of direct sales employees, independent sales agencies and international distributors and their level of sales or distribution activity with respect to our products;

proliferation of physician owned distributorships in the industry;

decline in the sale of certain key products;

loss of key personnel;

our ability to enhance new product offerings through research and development;

our ability to manage expected growth;

acquisitions of or investments in new or complementary businesses, products or technologies;

our ability to train surgeons on the safe and appropriate use of our products;

costs associated with high levels of inventory;

impairment of our goodwill and intangible assets;

disruptions in our main facility or information technology systems;

our ability to ship a sufficient number of our products to meet demand;

our ability to strengthen our brand;

fluctuations in insurance cost and availability;

our ability to comply with extensive governmental regulation within the United States and foreign jurisdictions;

our ability to maintain or obtain regulatory approvals and clearances within the United States and foreign jurisdictions;

voluntary corrective actions by us or our distribution or other business partners or agency enforcement actions;

recalls or serious safety issues with our products;

Table of Contents

enforcement actions by regulatory agencies for improper marketing or promotion;

misuse or off-label use of our products;

delays or failures in clinical trials and results of clinical trials;

legal restrictions on our procurement, use, processing, manufacturing or distribution of allograft bone tissue;

negative publicity concerning methods of tissue recovery and screening of donor tissue;

costs and liabilities relating to environmental laws and regulations;

our failure or the failure of our agents to comply with fraud and abuse laws;

U.S. legislative or U.S. Food and Drug Administration regulatory reforms;

adverse effects of medical device tax provisions;

our ability to generate significant sales;

potential fluctuations in sales volumes and our results of operations over the course of the year;

uncertainty in future capital needs and availability of capital to meet our needs;

availability of borrowings under our credit facility;

continuing worldwide economic instability;

our ability to protect our intellectual property rights;

patent litigation and product liability lawsuits;

damages relating to trade secrets or non-competition or non-solicitation agreements;

our ability to operate internationally;

risks associated with operating internationally;

fluctuations in foreign currency exchange rates;

our ability to comply with the Foreign Corrupt Practices Act of 1977 and similar laws;

possible conflicts of interest with our large shareholders;

increased costs and additional regulations and requirements as a result of being a public company; and

our ability to maintain effective internal controls over financial reporting.

These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included or incorporated by reference in this prospectus supplement and the accompanying prospectus.

We operate in a very competitive and challenging environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made or incorporated by reference in this prospectus supplement and the accompanying prospectus relate only to events as of the date on which the statements are made. We undertake no obligation to publicly update or review any forward-looking statement, whether as a result of new information, future developments or otherwise, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, investments or other strategic transactions we may make.

Table of Contents**USE OF PROCEEDS**

All of the shares of our common stock offered by this prospectus supplement will be sold by the selling stockholders. We will not receive any proceeds from the sale of these shares, including any sales pursuant to the underwriter's option to purchase additional shares from the selling stockholders. For more information about the selling stockholders, see Selling Stockholders.

MARKET PRICE OF COMMON STOCK

Our common stock has been listed on the NASDAQ Global Select Market under the symbol **KTWO** since May 8, 2014. Prior to that date, there was no public trading market for our common stock. Our common stock priced at \$15.00 per share in our initial public offering on May 7, 2014. The following table sets forth for the periods indicated the high and low intra-day sale prices per share of our common stock as reported on the NASDAQ Global Select Market:

	High	Low
2014		
Second Quarter 2014 (from May 8, 2014)	\$ 16.49	\$ 13.71
Third Quarter 2014	\$ 17.98	\$ 12.31
Fourth Quarter 2014	\$ 23.63	\$ 13.27
2015		
First Quarter 2015	\$ 23.59	\$ 17.81
Second Quarter 2015	\$ 26.29	\$ 20.52
Third Quarter 2015	\$ 24.99	\$ 16.40
Fourth Quarter 2015	\$ 21.67	\$ 17.27
2016		
First Quarter 2016	\$ 20.49	\$ 11.15
Second Quarter 2016	\$ 17.74	\$ 10.10
Third Quarter 2016	\$ 18.16	\$ 15.39
Fourth Quarter 2016 (through November 10)	\$ 19.76	\$ 16.32

On November 10, 2016, the last reported sale price of our common stock on the NASDAQ Global Select Market was \$19.51 per share. As of October 27, 2016, we had 27 holders of record of our common stock. The actual number of holders of common stock is greater than this number of record holders and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and nominees. The number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

DIVIDEND POLICY

We have no current plans to pay dividends on our common stock. Any decision to declare and pay dividends in the future will be made at the sole discretion of our Board of Directors and will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions and other factors that our Board of Directors may deem relevant. In addition, the credit agreement governing our revolving credit facility restricts our ability to pay dividends on our common stock. We expect that any future credit agreements will contain similar restrictions. See Management's Discussion and Analysis of Financial Condition and Results of Operations Liquidity and Capital Resources Indebtedness Revolving Credit Facility in our Annual Report on Form 10-K for the year ended December 31, 2015, incorporated by reference in this prospectus supplement and the accompanying prospectus.

We did not declare or pay any dividends on our common stock in 2013, 2014, 2015 or during the nine months ended September 30, 2016.

S-12

Table of Contents**SELLING STOCKHOLDERS**

The following table sets forth information with respect to the current beneficial ownership of the selling stockholders, the number of shares of common stock being offered by each selling stockholder hereby and information with respect to shares to be beneficially owned by each selling stockholder after completion of this offering.

The number of shares and percentages of beneficial ownership set forth below are based on 42,197,647 shares of our common stock issued and outstanding as of September 30, 2016. Beneficial ownership is determined under the SEC rules and regulations and generally includes voting or investment power over securities. Except as indicated in the footnotes to this table, we believe that each stockholder identified in the table possesses sole voting and investment power over all shares of equity securities shown as beneficially owned by the stockholder.

Name of Selling Stockholder	Shares of common stock beneficially owned prior to this offering		Shares of common stock offered hereby Assuming the underwriter's option to purchase additional shares is not exercised		Shares of common stock beneficially owned after this offering Assuming the underwriter's option to purchase additional shares is not exercised		Assuming the underwriter's option to purchase additional shares exercised in full	
	Number	Percent	Number	Number	Number	Percent	Number	Percent
WCAS(1)	13,986,263	33.1%	4,500,000	5,175,000	9,486,263	22.5%	8,811,263	20.9%

- (1) Includes (A) 13,727,751 shares of common stock held by WCAS, over which it has sole voting and investment power, (B) 11,239 shares of common stock held by WCAS Management Corporation, an affiliate of WCAS, over which WCAS Management Corporation has sole voting and investment power, (C) 201,011 shares of common stock held by WCAS Capital Partners IV, L.P., an affiliate of WCAS, over which it has sole voting and investment power and (D) an aggregate of 46,262 shares of common stock held by other co-investors over which WCAS has sole voting power. Voting and investment decisions over the shares held by WCAS and WCAS Capital Partners IV, L.P. are made by the managing members of WCAS XI Associates LLC and WCAS CP IV Associates LLC, their respective general partners. Messrs. Patrick J. Welsh, Russell L. Carson, Bruce K. Anderson, Anthony J. De Nicola, Paul B. Queally, Michael Donovan, Anthony Ecock, Eric J. Lee, D. Scott Mackesy, Jonathan M. Rather, Brian Regan, Thomas A. Scully, Christopher Solomon, Sanjay Swani, and Sean M. Traynor are managing members of WCAS XI Associates LLC and WCAS CP IV Associates LLC. Additionally, Robert A. Minicucci is also a managing member of WCAS CP IV Associates LLC. These individuals may be deemed to beneficially own the shares that are, or are deemed to be, beneficially owned by WCAS Capital Partners IV, L.P. and, except for Robert A. Minicucci, WCAS. Such persons disclaim beneficial ownership of such shares. Voting and investment decisions over the shares held by WCAS Management Corporation are made by its board of directors. The board of directors of WCAS Management Corporation consists of Messrs. Russell L. Carson, Anthony J. de Nicola, Paul B. Queally and Jonathan M. Rather. These individuals may be deemed to beneficially own the shares that are, or are deemed to be, beneficially owned by WCAS Management Corporation. Such persons disclaim beneficial ownership of such shares. The address for

each of WCAS, WCAS Capital Partners IV, L.P. and WCAS Management Corporation is 320 Park Avenue, Suite 2500, New York, New York 10022.

S-13

Table of Contents

**CERTAIN UNITED STATES FEDERAL INCOME AND ESTATE TAX CONSEQUENCES TO
NON-U.S. HOLDERS**

The following is a summary of certain United States federal income and estate tax consequences to a non-U.S. holder (as defined below) of the purchase, ownership and disposition of our common stock purchased in this offering. This summary deals only with common stock that is held by a non-U.S. holder as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment).

A non-U.S. holder means a beneficial owner of our common stock (other than an entity treated as a partnership for United States federal income tax purposes) that is not for United States federal income tax purposes any of the following:

an individual who is a citizen or resident of the United States;

a corporation (or any other entity treated as a corporation for United States federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;

an estate the income of which is subject to United States federal income taxation regardless of its source; or

a trust if it (1) is subject to the primary supervision of a court within the United States and one or more United States persons (within the meaning of Section 7701(a)(30) of the Code) have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable United States Treasury regulations to be treated as a United States person.

This summary is based upon provisions of the Code, and regulations, rulings and judicial decisions as of the date hereof. Those authorities may be changed, perhaps retroactively, so as to result in United States federal income and estate tax consequences different from those summarized below. This summary does not address all aspects of United States federal income and estate taxes and does not deal with foreign, state, local or other tax considerations that may be relevant to non-U.S. holders in light of their particular circumstances, including the impact of the tax on net investment income imposed by Section 1411 of the Code. In addition, it does not represent a detailed description of the United States federal income tax consequences applicable to you if you are subject to special treatment under the United States federal income tax laws (including if you are a United States expatriate, controlled foreign corporation, passive foreign investment company, bank, insurance company, or other financial institution, broker, dealer or trader in securities, person holding our common stock as part of a hedge, straddle or other risk reduction strategy, tax exempt organization, governmental organization or partnership or other pass-through entity for United States federal income tax purposes). We cannot assure you that a change in law will not alter significantly the tax considerations that we describe in this summary.

If an entity treated as a partnership for United States federal income tax purposes holds our common stock, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. If you are a partner of a partnership holding our common stock, you should consult your tax advisor.

If you are considering the purchase of our common stock, you should consult your tax advisor concerning the particular United States federal income and estate tax consequences to you of the purchase, ownership and disposition of our common stock, as well as the consequences to you arising under the laws of any other taxing jurisdiction or under any applicable income tax treaty.

Dividends

In the event that we make a distribution of cash or other property (other than certain pro rata distributions of our stock) in respect of our common stock, the distribution generally will be treated as a dividend for United States federal income tax purposes to the extent it is paid from our current or accumulated earnings and profits, as determined under United States federal income tax principles. Any portion of a distribution that exceeds our

Table of Contents

current and accumulated earnings and profits generally will be treated first as a tax-free return of capital, causing a reduction in the adjusted tax basis of a non-U.S. holder's common stock, and to the extent the amount of the distribution exceeds a non-U.S. holder's adjusted tax basis in our common stock, the excess will be treated as gain from the disposition of our common stock (the tax treatment of which is discussed below under "Gain on Disposition of Common Stock").

Dividends paid to a non-U.S. holder of our common stock generally will be subject to withholding of United States federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty, provided the non-U.S. holder furnishes the certification described below. However, dividends that are effectively connected with the conduct of a trade or business by the non-U.S. holder within the United States (and, if required by an applicable income tax treaty, are attributable to a United States permanent establishment) are not subject to the withholding tax, provided certain certification and disclosure requirements are satisfied (generally, by furnishing a properly completed Internal Revenue Service Form W-8ECI). Instead, such dividends are subject to United States federal income tax on a net income basis in the same manner as if the non-U.S. holder were a United States person as defined under the Code. Any such effectively connected dividends received by a foreign corporation may be subject to an additional branch profits tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty.

A non-U.S. holder of our common stock who wishes to claim the benefit of an applicable treaty rate will be required (a) to complete Internal Revenue Service Form W-8BEN or W-8BEN-E (or other applicable form) and certify under penalty of perjury that such holder is not a United States person as defined under the Code and is eligible for treaty benefits or (b) if our common stock is held through certain foreign intermediaries, to satisfy the relevant certification requirements of applicable United States Treasury regulations. Special certification and other requirements apply to certain non-U.S. holders that are pass-through entities rather than corporations or individuals.

A non-U.S. holder of our common stock that does not timely furnish the applicable withholding agent with the required certification but is eligible for a reduced rate of United States withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the Internal Revenue Service.

Gain on Disposition of Common Stock

Subject to the discussion of backup withholding and FATCA below, any gain realized on the disposition of our common stock generally will not be subject to United States federal income tax unless:

the gain is effectively connected with a trade or business of the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, is attributable to a United States permanent establishment of the non-U.S. holder);

the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met; or

we are or have been a United States real property holding corporation for United States federal income tax purposes, and certain other conditions are met.

The gain described in the first bullet point above will generally be subject to tax on a net income basis under regular graduated United States federal income tax rates. A non-U.S. holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items. A non-U.S. holder described in the second bullet point above will be subject to a flat 30% tax on the gain derived from the disposition (or such lower rate specified by an applicable income tax treaty), which may be offset by United States source capital losses, even though the individual is not considered a resident of the United States, provided the non-U.S. holder has timely filed United States federal income tax returns with respect to such losses.

We believe we are not and do not anticipate becoming a United States real property holding corporation for United States federal income tax purposes.

S-15

Table of Contents

Federal Estate Tax

Common stock held by an individual non-U.S. holder at the time of death will be included in such holder's gross estate for United States federal estate tax purposes, unless an applicable estate tax treaty provides otherwise.

Information Reporting and Backup Withholding

Distributions paid to a non-U.S. holder and the amount of any tax withheld with respect to such distributions generally will be reported to the Internal Revenue Service. Copies of the information returns reporting such distributions and any withholding may also be made available to the tax authorities in the country in which the non-U.S. holder resides or is established under the provisions of an applicable income tax treaty.

A non-U.S. holder will be subject to backup withholding for dividends paid to such holder unless such holder certifies under penalty of perjury that it is a non-U.S. holder (and the payor does not have actual knowledge or reason to know that such holder is a United States person as defined under the Code), or such holder otherwise establishes an exemption.

Information reporting and, depending on the circumstances, backup withholding will apply to the proceeds of a sale of our common stock within the United States or conducted through certain United States-related financial intermediaries, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder (and the payor does not have actual knowledge or reason to know that the beneficial owner is a United States person as defined under the Code), or such owner otherwise establishes an exemption.

Backup withholding is not an additional tax and any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder's United States federal income tax liability provided the required information is timely furnished to the Internal Revenue Service.

Additional Withholding Requirements

Under Sections 1471 through 1474 of the Code (such Sections commonly referred to as "FATCA"), a 30% United States federal withholding tax may apply to any dividends paid on our common stock, and the gross proceeds from a disposition of our common stock occurring after December 31, 2018, in each case paid to (1) a foreign financial institution (as specifically defined in the Code, and whether such foreign financial institution is the beneficial owner or an intermediary) which does not provide sufficient documentation, typically on IRS Form W-8BEN-E, evidencing either (x) an exemption from FATCA, or (y) its compliance (or deemed compliance) with FATCA (which may alternatively be in the form of compliance with an intergovernmental agreement with the United States) in a manner which avoids withholding, or (2) a non-financial foreign entity (as specifically defined in the Code, and whether such non-financial foreign entity is the beneficial owner or an intermediary) which does not provide sufficient documentation, typically on IRS Form W-8BEN-E, evidencing either (x) an exemption from FATCA, or (y) adequate information regarding certain substantial United States beneficial owners of such entity (if any). If a dividend payment is both subject to withholding under FATCA and subject to the withholding tax discussed above under "Dividends," the withholding under FATCA may be credited against, and therefore reduce, such other withholding tax. In certain cases, the relevant foreign financial institution or non-financial foreign entity may qualify for an exemption from, or be deemed to be in compliance with, these rules. Non-U.S. holders should consult their own tax advisors regarding this legislation and whether it may be relevant to their ownership and disposition of our common stock.

Table of Contents

UNDERWRITING

We, the selling stockholders and the underwriter have entered into an underwriting agreement with respect to the shares of common stock offered hereby. Subject to the terms and conditions set forth therein, the selling stockholders have agreed to sell to the underwriter, and the underwriter has agreed to purchase from the selling stockholders, 4,500,000 shares of our common stock.

We and the selling stockholders have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act relating to losses or claims resulting from material misstatements in or omissions from this prospectus supplement and the accompanying prospectus, the registration statement of which each is a part, certain free writing prospectuses that may be used in the offering and in certain marketing materials used in connection with this offering and to contribute to payments the underwriter may be required to make in respect of those liabilities.

Discount

The underwriter has agreed to purchase the shares of common stock from the selling stockholders at a price of \$18.39 per share, which will result in \$82,755,000 of proceeds to the selling stockholders, before expenses. The underwriter may receive from purchasers of the shares normal brokerage commissions in amounts agreed with such purchasers. The underwriter proposes to offer the shares of common stock from time to time for sale in one or more transactions on NASDAQ, in the over-the-counter market, through negotiated transactions or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices, subject to receipt and acceptance by the underwriter and subject to the underwriter's right to reject any order in whole or in part. The underwriter may effect such transactions by selling shares of common stock to or through dealers and such dealers may receive compensation in the form of discounts, concessions or commissions from the underwriter and/or purchasers of shares of common stock for whom they may act as agents or to whom they may sell as principal.

The underwriting agreement provides that the obligation of the underwriter to pay for and accept delivery of the shares of common stock offered by this prospectus is subject to the approval of certain legal matters by its counsel and to certain other conditions. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part. The underwriter is obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriter is not required to take or pay for the shares covered by the underwriter's option to purchase additional shares described below.

The selling stockholders have granted to the underwriter an option, exercisable for 30 days from the date of this prospectus, to purchase up to 675,000 additional shares of common stock at the price set forth on the cover page of this prospectus supplement. To the extent the option is exercised, the underwriter will become obligated, subject to certain conditions, to purchase the additional shares of common stock.

The estimated offering expenses payable by us, exclusive of the underwriting discounts, are approximately \$380,000, which includes legal, accounting and printing costs, expenses incurred by the selling stockholders and various other fees associated with the registration and listing of our common stock. We have also agreed to reimburse the underwriter for certain of its expenses in an amount up to \$30,000.

No Sales of Similar Securities

We, our executive officers, directors and the selling stockholders have agreed not to sell or transfer any shares of our common stock or securities convertible into, exchangeable for, exercisable for, or repayable with shares of our

common stock, for 60 days after the date of this prospectus without first obtaining the written consent of the underwriter. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

offer, pledge, sell or contract to sell any shares of our common stock;

S-17

Table of Contents

sell any option or contract to purchase any shares of our common stock;

purchase any option or contract to sell any shares of our common stock;

grant any option, right or warrant to purchase any shares of our common stock;

dispose of or otherwise transfer any shares of our common stock;

demand that we file a registration statement related to our common stock; or

enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any shares of our common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

In addition, the transfer restrictions described above do not apply to, among other things:

the exercise of stock options granted pursuant to our equity plans;

the sale by a stockholder of common stock pursuant to a 10b5-1 plan existing on the date hereof; and

the establishment by a stockholder of common stock of a 10b5-1 plan, provided that sales under such plans shall not occur prior to the date 60 days after the date of the final prospectus for this offering.

This lock-up provision applies, subject to certain exceptions, to shares of our common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement now or later acquires the power of disposition.

Listing

Our common stock is listed on NASDAQ under the symbol **KTWO**.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit the underwriter and selling group members from bidding for and purchasing shares of our common stock. However, the underwriter may engage in transactions that stabilize the price of our common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with this offering, the underwriter may purchase and sell shares of our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriter of a greater number of shares than it is required to purchase in this offering. Covered short sales are sales made in an amount not greater than the

underwriter's option to purchase additional shares described above. The underwriter may close out any covered short position by either exercising its option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriter will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which it may purchase shares through the option to purchase additional shares. Naked short sales are sales in excess of the option to purchase additional shares. The underwriter must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriter is concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering. Stabilizing transactions consist of various bids for or purchases of shares of our common stock made by the underwriter in the open market prior to the closing of this offering.

Similar to other purchase transactions, the underwriter's purchases to cover the short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market

Table of Contents

price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriter may conduct these transactions on NASDAQ, in the over-the-counter market or otherwise.

None of us, the selling stockholders or the underwriter makes any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, none of us, the selling stockholders or the underwriter makes any representation that the underwriter will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Offer, Sale and Distribution of Shares

In connection with this offering, the underwriter or securities dealers may distribute prospectuses by electronic means, such as e-mail. In addition, the underwriter may facilitate Internet distribution for this offering to certain of its Internet subscription customers. The underwriter may allocate a limited number of shares for sale to its online brokerage customers. An electronic prospectus may be available on the Internet websites maintained by the underwriter. Other than the prospectus in electronic format, the information on the websites of the underwriter is not part of this prospectus.

Other Relationships

The underwriter and its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriter and its affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In the ordinary course of their various business activities, the underwriter and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments of the issuer. The underwriter and its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling Restrictions

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive, each, a Relevant Member State, an offer to the public of any shares of our common stock may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any shares of our common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

- (b) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the underwriter for any such offer; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

S-19

Table of Contents

Each person in a Relevant Member State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed that it is a qualified investor within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive. In the case of any shares being offered to a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of the underwriter has been obtained to each such proposed offer or resale.

We, the underwriter and its affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an offer to the public in relation to any shares of our common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase any shares of our common stock, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression Prospectus Directive means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive), and includes any relevant implementing measure in the Relevant Member State, and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

United Kingdom

In the United Kingdom, this prospectus and any other material in relation to the shares described herein (the Shares) are being distributed only to, and are directed only at, persons who are qualified investors (as defined in the Prospectus Directive) who are (i) persons having professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the Order), or (ii) high net worth entities falling within Article 49(2)(a) to (d) of the Order, or (iii) persons to whom it would otherwise be lawful to distribute them, all such persons together being referred to as Relevant Persons . The Shares are only available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such Shares will be engaged in only with, Relevant Persons. This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by any recipients to any other person in the United Kingdom. Any person in the United Kingdom that is not a Relevant Person should not act or rely on this prospectus or its contents.

Canada

The common shares may be sold only to purchasers purchasing as principal that are both accredited investors as defined in National Instrument 45-106 Prospectus and Registration Exemptions and permitted clients as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the common shares must be made in accordance with an exemption from the prospectus requirements and in compliance with the registration requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement and the accompanying prospectus (including any amendment thereto) contain a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The

purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriter is not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

S-20

Table of Contents

Hong Kong

The common shares may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (ii) to professional investors within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a prospectus within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to common shares which are or are intended to be disposed of only to persons outside Hong Kong or only to S-21 professional investors within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the common shares may not be circulated or distributed, nor may the common shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

Where the common shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the common shares pursuant to an offer made under Section 275 of the SFA except:
 - (a) to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than \$200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and

further for corporations, in accordance with the conditions specified in Section 275 of the SFA;

(b) where no consideration is or will be given for the transfer; or

(c) where the transfer is by operation of law.

Switzerland

The common shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the SIX), or on any other stock exchange or regulated trading facility in Switzerland. This document has been

S-21

Table of Contents

prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the common shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, or the common shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of common shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of common shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). Accordingly, no public distribution, offering or advertising, as defined in CISA, its implementing ordinances and notices, and no distribution to any non-qualified investor, as defined in CISA, its implementing ordinances and notices, shall be undertaken in or from Switzerland, and the investor protection afforded to acquirers of interests in collective investment schemes under CISA does not extend to acquirers of common shares.

United Arab Emirates

This offering has not been approved or licensed by the Central Bank of the United Arab Emirates (the UAE), Securities and Commodities Authority of the UAE and/or any other relevant licensing authority in the UAE including any licensing authority incorporated under the laws and regulations of any of the free zones established and operating in the territory of the UAE, in particular the Dubai Financial Services Authority (the DFSA), a regulatory authority of the Dubai International Financial Centre (the DIFC). The offering does not constitute a public offer of securities in the UAE, DIFC and/or any other free zone in accordance with the Commercial Companies Law, Federal Law No 8 of 1984 (as amended), DFSA Offered Securities Rules and NASDAQ Dubai Listing Rules, accordingly, or otherwise. The common shares may not be offered to the public in the UAE and/or any of the free zones.

The common shares may be offered and issued only to a limited number of investors in the UAE or any of its free zones who qualify as sophisticated investors under the relevant laws and regulations of the UAE or the free zone concerned.

France

This prospectus (including any amendment, supplement or replacement thereto) is not being distributed in the context of a public offering in France within the meaning of Article L. 411-1 of the French Monetary and Financial Code (Code monétaire et financier).

This prospectus has not been and will not be submitted to the French Autorité des marchés financiers (the AMF) for approval in France and accordingly may not and will not be distributed to the public in France.

Pursuant to Article 211-3 of the AMF General Regulation, French residents are hereby informed that:

1. the transaction does not require a prospectus to be submitted for approval to the AMF;
- 2.

persons or entities referred to in Point 2°, Section II of Article L.411-2 of the Monetary and Financial Code may take part in the transaction solely for their own account, as provided in Articles D. 411-1, D. 734-1, D. 744-1, D. 754-1 and D. 764-1 of the Monetary and Financial Code; and

3. the financial instruments thus acquired cannot be distributed directly or indirectly to the public otherwise than in accordance with Articles L. 411-1, L. 411-2, L. 412-1 and L. 621-8 to L. 621-8-3 of the Monetary and Financial Code.

This prospectus is not to be further distributed or reproduced (in whole or in part) in France by the recipients of this prospectus. This prospectus has been distributed on the understanding that such recipients will only participate in the issue or sale of our common stock for their own account and undertake not to transfer, directly or indirectly, our common stock to the public in France, other than in compliance with all applicable laws and regulations and in particular with Articles L. 411-1 and L. 411-2 of the French Monetary and Financial Code.

S-22

Table of Contents

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus supplement will be passed upon for us by Simpson Thacher & Bartlett LLP, New York, New York. Certain legal matters relating to this offering will be passed upon for the underwriter by Latham & Watkins LLP, Washington, District of Columbia.

EXPERTS

The consolidated financial statements of K2M Group Holdings, Inc. appearing in K2M Group Holdings, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-3 with respect to the common stock offered by this prospectus supplement with the SEC. This prospectus supplement is a part of the registration statement and does not contain all of the information set forth in the registration statement and its exhibits and schedules, portions of which have been omitted as permitted by the rules and regulations of the SEC. For further information about us and our common stock, you should refer to the registration statement and its exhibits and schedules.

We are subject to the informational reporting requirements of the Exchange Act and, in accordance with the Exchange Act, we file annual, quarterly and special reports and other information with the SEC. Our filings with the SEC are available to the public on the SEC's website at <http://www.sec.gov>. Those filings are also available to the public on, or accessible through, our website under the heading Investor Relations. The information we file with the SEC or contained on or accessible through our corporate website or any other website that we may maintain is not part of this prospectus supplement or the registration statement of which this prospectus supplement is a part. You may also read and copy, at SEC prescribed rates, any document we file with the SEC, including the registration statement (and its exhibits) of which this prospectus supplement is a part, at the SEC's Public Reference Room located at 100 F Street, N.E., Washington D.C. 20549. You can call the SEC at 1-800-SEC-0330 to obtain information on the operation of the Public Reference Room.

INCORPORATION BY REFERENCE

The SEC's rules allow us to incorporate by reference information into this prospectus supplement. This means that we can disclose important information to you by referring you to another document. Any information referred to in this way is considered part of this prospectus supplement from the date we file that document. Any reports filed by us pursuant to Sections 13(a), 13(c), 14 and 15 of the Exchange Act with the SEC after the date of this prospectus supplement and prior to the termination of this offering shall be deemed to be incorporated by reference in this prospectus supplement and to be a part hereof from the date of filing of such documents and, where applicable, supersede any information contained in this prospectus supplement or incorporated by reference in this prospectus supplement.

We incorporate by reference into this prospectus supplement the following documents or information filed with the SEC:

Annual Report on Form 10-K for the year ended December 31, 2015, filed on March 4, 2016 (including information specifically incorporated by reference from our Definitive Proxy Statement on Schedule 14A) (File No. 001-36443);

S-23

Table of Contents

Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, filed on May 2, 2016 (File No. 001-36443);

Quarterly Report on Form 10-Q for the quarter ended June 30, 2016, filed on August 3, 2016 (File No. 001-36443);

Quarterly Report on Form 10-Q for the quarter ended September 30, 2016, filed on November 2, 2016 (File No. 001-36443);

Current Reports on Form 8-K filed on May 24, 2016, June 16, 2016, August 8, 2016 and August 11, 2016 (File Nos. 001-36443); and

Registration Statement on Form 8-A filed on May 7, 2014 (Registration File No. 333-194550).

Notwithstanding the foregoing, we are not incorporating by reference information furnished under Items 2.02 and 7.01 of any Current Report on Form 8-K (including any Form 8-K itemized above), including the related exhibits, nor in any documents or other information that is deemed to have been furnished to and not filed with the SEC. We will provide without charge to each person, including any beneficial owner, to whom this prospectus supplement is delivered, upon his or her written or oral request, a copy of any or all documents referred to above which have been or may be incorporated by reference into this prospectus supplement, excluding exhibits to those documents unless they are specifically incorporated by reference into those documents. You can request those documents from the Corporate Secretary, K2M Group Holdings, Inc., at 600 Hope Parkway SE, Leesburg, Virginia 20175. You may also contact the Corporate Secretary at (703) 777-3155.

Table of Contents

K2M GROUP HOLDINGS, INC.

\$100,000,000

Common Stock

19,940,500 Shares of Common Stock Offered by Selling Stockholders

K2M Group Holdings, Inc. may offer from time to time up to an aggregate of \$100,000,000 of our common stock, par value \$0.001 per share (the common stock), in one or more offerings. This prospectus also relates to the sale of up to 19,940,500 shares of common stock from time to time by certain of our existing stockholders.

This prospectus describes the general manner in which our common stock may be offered and sold. If necessary, the specific manner in which our common stock may be offered and sold will be described in a supplement to this prospectus.

Our common stock is listed on the NASDAQ Global Select Market (NASDAQ) under the symbol KTWO. The last reported sale price of the shares of our common stock on NASDAQ on May 29, 2015, was \$26.14 per share.

Investing in our common stock involves risks. You should carefully consider the risks described under Risk Factors in Item 1A of our most recent Annual Report on Form 10-K and Item 1A of any subsequently filed Quarterly Reports on Form 10-Q (which documents are incorporated by reference herein), as well as the other information contained or incorporated by reference in this prospectus or in any prospectus supplement hereto before making a decision to invest in our common stock. See Where You Can Find More Information and Incorporation by Reference below.

We are an emerging growth company as defined by the Jumpstart Our Business Startups Act of 2012 and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

Neither the Securities and Exchange Commission nor any state securities commission has approved of anyone's investment in these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is June 11, 2015.

Table of Contents

TABLE OF CONTENTS

	Page
<u>About this Prospectus</u>	1
<u>K2M</u>	2
<u>Risk Factors</u>	4
<u>Forward-Looking Statements</u>	5
<u>Use of Proceeds</u>	7
<u>Selling Stockholders</u>	8
<u>Description of Capital Stock</u>	11
<u>Plan of Distribution</u>	19
<u>Legal Matters</u>	21
<u>Experts</u>	21
<u>Where You Can Find More Information</u>	21
<u>Incorporation by Reference</u>	21

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the SEC or Commission), using a shelf registration process. Under the shelf registration process, using this prospectus, together with a prospectus supplement, we or the selling stockholders may sell from time to time common stock described in this prospectus in one or more offerings. This prospectus provides you with a general description of the common stock that may be offered. Each time we or the selling stockholders sell common stock pursuant to this prospectus, we will provide a prospectus supplement that will contain specific information about the terms of the common stock being offered. A prospectus supplement may include a discussion of any risk factors or other special considerations applicable to the common stock or to us. The prospectus supplement may also add to, update or change information contained in this prospectus and, accordingly, to the extent inconsistent, the information in this prospectus will be superseded by the information in the prospectus supplement. You should read this prospectus, any applicable prospectus supplement and the additional information incorporated by reference in this prospectus described below under [Where You Can Find More Information](#) and [Incorporation by Reference](#) before making an investment in our common stock.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of the documents referred to herein have been filed, or will be filed or incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under [Where You Can Find More Information](#). Additionally, certain information that we file later with the Commission that is incorporated by reference into this prospectus will automatically update and supersede this information. You should carefully read both this prospectus and the applicable prospectus supplement together with the additional information that is incorporated or deemed incorporated by reference in this prospectus or the applicable prospectus supplement. See [Incorporation by Reference](#).

Neither the delivery of this prospectus nor any sale made under it implies that there has been no change in our affairs or that the information in this prospectus is correct as of any date after the date of this prospectus. You should not assume that the information in this prospectus, including any information incorporated in this prospectus by reference, the accompanying prospectus supplement or any free writing prospectus prepared by us, is accurate as of any date other than the date on the front of those documents. Our business, financial condition, results of operations and prospects may have changed since that date.

We have not authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus, a prospectus supplement or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither we nor the selling stockholders are making an offer to sell common stock in any jurisdiction where the offer or sale of the common stock is not permitted.

Table of Contents

K2M

Overview

We are a global medical device company focused on designing, developing and commercializing innovative and proprietary complex spine technologies and techniques. Our complex spine products are used by spine surgeons to treat some of the most difficult and challenging spinal pathologies, such as deformity (primarily scoliosis), trauma and tumor. We believe these procedures typically receive a higher rate of positive insurance coverage and often generate more revenue per procedure as compared to traditional degenerative spine surgery procedures. We have applied our product development expertise in innovating complex spine technologies and techniques to the design, development and commercialization of an expanding number of minimally invasive surgery (MIS) products. These proprietary MIS products are designed to allow for less invasive access to the spine and faster patient recovery times as compared to traditional open access surgical approaches. We have also leveraged these core competencies in the design, development and commercialization of an increasing number of products for patients suffering from degenerative spinal conditions.

Implications of Being an Emerging Growth Company

We qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). As a result, we are permitted to, and intend to continue to, rely on exemptions from certain disclosure requirements that are applicable to other companies that are not emerging growth companies. Accordingly, we have filed and incorporated by reference compensation information for only our three most highly compensated executive officers and do not prepare a compensation discussion and analysis of our executive compensation programs in this prospectus or any document incorporated by reference. In addition, for so long as we are an emerging growth company, we will not be required to:

engage an independent registered public accounting firm to report on our internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002 (the Sarbanes-Oxley Act);

adopt new or revised financial accounting standards applicable to public companies until such standards are also applicable to private companies;

comply with any requirement that may be adopted by the Public Company Accounting Oversight Board (the PCAOB), regarding mandatory audit firm rotation or a supplement to the independent registered public accounting firm s report providing additional information about the audit and the financial statements (i.e., an auditor discussion and analysis);

submit certain executive compensation matters to shareholder advisory votes, such as say-on-pay, say-on-frequency and say-on-golden parachutes; or

disclose certain executive compensation related items such as the correlation between executive compensation and performance and comparisons of the chief executive officer s compensation to median

employee compensation.

We will remain an emerging growth company until the earliest to occur of:

our reporting of \$1.0 billion or more in annual gross revenues;

our issuance, in any three year period, of more than \$1.0 billion in non-convertible debt;

the date on which we are deemed to be a large accelerated filer, which means the end of the fiscal year in which the market value of our common stock held by non-affiliates exceeds \$700.0 million on the last business day of our second fiscal quarter; and

the end of fiscal 2019.

Table of Contents

Corporate History and Information

K2M Group Holdings, Inc. was incorporated in Delaware in June 2010. Our principal executive offices are located at 751 Miller Drive SE, Leesburg, Virginia 20175 and our telephone number is (703) 777-3155. Our website address is www.k2m.com. The information on, or accessible through, our website is deemed not to be incorporated in this prospectus or to be part of this prospectus. Except where the context requires otherwise, references in this prospectus to K2M, the Company, we, us and our refer to K2M Group Holdings, Inc., together with its consolidated subsidiaries. Welsh, Carson, Anderson & Stowe XI, L.P. and certain of its affiliated funds are referred to herein as WCAS or our Sponsor.

Table of Contents

RISK FACTORS

An investment in our common stock involves a high degree of risk. Certain risks relating to us and our business are described under the headings **Business** and **Risk Factors** in our Annual Report on Form 10-K for the year ended December 31, 2014, filed with the Commission on March 18, 2015, which is incorporated by reference into this prospectus and which you should carefully review and consider, along with the other information contained in this prospectus or incorporated by reference herein, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended (the **Exchange Act**), before making an investment in our common stock. See **Where You Can Find More Information** and **Incorporation by Reference**. Additional risks, as well as updates or changes to the risks described in the documents incorporated by reference herein, may be included in any applicable prospectus supplement. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The market or trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. In addition, please read the section of this prospectus captioned **Forward-Looking Statements**, in which we describe additional uncertainties associated with our business and the forward-looking statements included or incorporated by reference in this prospectus. Please note that additional risks not presently known to us or that we currently deem immaterial may also impair our business and operations.

Investment in common stock offered pursuant to this prospectus involves risks and uncertainties. If one or more of the events discussed in the risk factors were to occur, our business, financial condition, results of operations or liquidity, as well as the value of an investment in our common stock, could be materially adversely affected.

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus contains and incorporates by reference forward-looking statements within the meaning of Section 27A of the Securities Act, Section 21E of the Exchange Act and the Private Securities Litigation Reform Act of 1995 that reflect our current views with respect to, among other things, our operations and financial performance. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify these forward-looking statements by the use of words such as outlook, believes, expects, potential, continues, may, should, could, seeks, predicts, intends, plans, estimates, anticipates or the negative version of these words or comparable words. Such forward-looking statements are subject to various risks and uncertainties. Accordingly, there are or will be important factors that could cause actual outcomes or results to differ materially from those indicated in these statements. We believe these factors include but are not limited to the following risks, uncertainties and factors:

our inability to achieve or sustain profitability in the future;

our inability to demonstrate to spine surgeons the merits of our products;

our inability to compete effectively;

collaboration and consolidation in hospital purchasing;

inadequate coverage and reimbursement for our products from third-party payors;

lack of long-term clinical data supporting safety and efficacy of our products;

dependence on a limited number of third-party suppliers;

our inability to maintain and expand our sales network;

proliferation of physician owned distributorships in the industry;

decline in the sale of certain key products;

loss of key personnel;

our inability to enhance new product offerings through research and development;

our inability to manage expected growth;

costs associated with high levels of inventory;

impairment of our goodwill and intangible assets;

disruptions in our main facility or information technology systems;

inability to strengthen our brand;

fluctuations in insurance cost and availability;

our inability to prepare and occupy our new corporate headquarters facilities;

our inability to comply with extensive governmental regulation;

our inability to maintain or obtain regulatory approvals and clearances;

recalls or serious safety issues with our products;

enforcement actions by regulatory agencies for improper marketing or promotion;

misuse or off-label use of our products;

delays or failures in clinical trials and results of clinical trials;

legal restrictions on our procurement, use, processing, manufacturing or distribution of allograft bone tissue;

negative publicity concerning methods of tissue recovery and screening of donor tissue;

costs and liabilities relating to environmental laws and regulations;

Table of Contents

our failure or the failure of our agents to comply with fraud and abuse laws;

U.S. legislative or FDA regulatory reforms;

adverse effects of medical device tax provisions;

our inability to generate significant sales;

uncertainty in future capital needs;

availability of borrowings under our credit facility;

inability to protect our intellectual property rights;

patent litigation and product liability lawsuits;

damages relating to trade secrets or non-competition or non-solicitation agreements;

inability to operate internationally; and

inability to comply with the FCPA and similar laws.

These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included or incorporated by reference in this prospectus.

We operate in a very competitive and challenging environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained or incorporated by reference in this prospectus. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this prospectus and the documents incorporated by reference herein relate only to events as of the date on which the statements are made. We undertake no obligation to publicly update or review any forward-looking statement, whether as a result of new information, future developments or otherwise, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, investments or other strategic transactions we may make.

Table of Contents

USE OF PROCEEDS

Unless otherwise provided in the applicable prospectus supplement, the net proceeds from the sale of the common stock offered by us pursuant to this prospectus and each prospectus supplement will be used for general corporate purposes, which may include working capital needs, capital expenditures, expansion of the business and acquisitions. The net proceeds may be invested temporarily in short-term securities until they are used for their stated purpose.

We will not receive any proceeds from the sale of shares of our common stock by the selling stockholders. For more information about the selling stockholders, see [Selling Stockholders](#).

Table of Contents**SELLING STOCKHOLDERS**

In addition to the shares of our common stock that we may offer from time to time in one or more offerings, this prospectus also relates to the resale from time to time of up to a total of 19,940,500 shares of common stock by the selling stockholders. The following table sets forth information with respect to the current beneficial ownership of the selling stockholders, the number of shares of common stock being offered hereby by each selling stockholder and information with respect to shares to be beneficially owned by each selling stockholder after completion of this offering, assuming all shares that may be offered from time to time by such selling stockholder pursuant to this prospectus are sold.

The number of shares and percentages of beneficial ownership set forth below are based on the number of shares of our common stock issued and outstanding as of March 31, 2015. Beneficial ownership is determined under the SEC rules and regulations and generally includes voting or investment power over securities. Except as indicated in the footnotes to this table, we believe that each stockholder identified in the table possesses sole voting and investment power over all shares of equity securities shown as beneficially owned by the stockholder.

Name of Selling Stockholder	Shares of Common Stock beneficially owned		Maximum number of shares of Common Stock to be sold hereunder	Shares of Common Stock beneficially owned after sale of the maximum number of shares	
	Number	Percent		Number	Percent
WCAS ⁽¹⁾	17,636,308	44.5%	17,636,308	%	
Ferrer Freeman & Company, LLC ⁽²⁾	2,304,192	5.8%	2,304,192	%	

- ⁽¹⁾ Includes (A) 17,310,331 shares of common stock held by Welsh Carson Anderson & Stowe XI, L.P. (Welsh Carson), over which it has sole voting and investment power, (B) 14,173 shares of common stock held by WCAS Management Corporation, an affiliate of Welsh Carson, over which WCAS Management Corporation has sole voting and investment power, (C) 253,469 shares of common stock held by WCAS Capital Partners IV, L.P., an affiliate of Welsh Carson, over which it has sole voting and investment power and (D) an aggregate of 58,335 shares of common stock held by other co-investors over which Welsh Carson has sole voting power. Voting and investment decisions over the shares held by Welsh Carson and WCAS Capital Partners IV, L.P. are made by the managing members of WCAS XI Associates LLC and WCAS CP IV Associates LLC, their respective general partners. Messrs. Patrick J. Welsh, Russell L. Carson, Bruce K. Anderson, Anthony J. De Nicola, Paul B. Queally, Michael Donovan, Anthony Ecock, Eric J. Lee, D. Scott Mackesy, Jonathan M. Rather, Brian Regan, Thomas A. Scully, Christopher Solomon, Sanjay Swani, and Sean M. Traynor are managing members of WCAS XI Associates LLC and WCAS CP IV Associates LLC. Additionally, Robert A. Minicucci is also a managing member of WCAS CP IV Associates LLC. These individuals may be deemed to beneficially own the shares that are, or are deemed to be, beneficially owned by WCAS Capital Partners IV, L.P. and, except for Robert A. Minicucci, Welsh Carson. Such persons disclaim beneficial ownership of such shares. Voting and investment decisions over the shares held by WCAS Management Corporation are made by its board of directors. The board

of directors of WCAS Management Corporation consists of Messrs. Russell L. Carson, Anthony J. de Nicola, Paul B. Queally and Jonathan M. Rather. These individuals may be deemed to beneficially own the shares that are, or are deemed to be, beneficially owned by WCAS Management Corporation. Such persons disclaim beneficial ownership of such shares. The address for each of Welsh Carson, WCAS Capital Partners IV, L.P. and WCAS Management Corporation is 320 Park Avenue, Suite 2500, New York, New York 10022.

- (2) Includes (A) 2,223,075 shares held directly by FFC Partners III-B, L.P. (FFC III-B) and (B) 81,117 shares held directly by FFC Executive Partners III, L.P. (FFC EP III). FFC GP III, LLC is the general partner of each of FFC III-B and FFC EP III, and together they are referred to as the FFC Entities. Each of Carlos A. Ferrer, who is a member of our board of directors, and David Freeman is a manager of FFC GP III, LLC. The address of the FFC Entities is 10 Glenville Street, Greenwich, Connecticut 06831.

Table of Contents**Relationships with Selling Stockholders***Amended and Restated Resources Group Management Services Agreement*

On August 12, 2010, in connection with our purchase by WCAS, we entered into a Management Services Agreement with an affiliate of WCAS, which agreement was amended and restated on August 8, 2013. Pursuant to this agreement, we paid WCAS a fee for management, consulting, strategic, financial and other advisory services provided to us and our subsidiaries. Pursuant to this agreement, we paid a quarterly fee equal to \$125,000 from January 1, 2011 through June 30, 2013 and a quarterly fee equal to \$262,500 on and after July 1, 2013. We also agreed to indemnify and pay all expenses of WCAS incurred in connection with the services provided under this agreement and in connection with WCAS's investments in us and our subsidiaries. This agreement terminated upon consummation of our initial public offering (the "IPO"). Indemnification and certain other provisions survive termination.

Series B Preferred

In 2012, we issued (1) 131,234 shares of our Series B redeemable convertible preferred stock ("Series B Preferred") to WCAS for \$500,000 and (2) 251,511 shares of our Series B Preferred to Ferrer Freeman & Company, LLC and certain of its affiliated funds ("FFC") for \$958,256.

In 2013, we issued (1) 2,624,672 of our Series B Preferred to WCAS for \$10.0 million and (2) 246,583 shares of our Series B Preferred to FFC for \$939,481.

Concurrent with the closing of the IPO, the outstanding shares of our Series A redeemable convertible preferred stock ("Series A Preferred") and Series B Preferred were converted on a 2.43-to-1 basis into 5,577,016 shares of common stock. Following the closing of the IPO, there were no shares of preferred stock outstanding.

In May 2014, we used a portion of the net proceeds from the IPO to pay all accrued and unpaid dividends on the Series A Preferred and Series B Preferred, which resulted in payments of \$16,459,393 to WCAS and \$1,637,475 to FFC.

Securities Purchase Agreements

In 2012, we entered into securities purchase agreements with WCAS for the purchase of \$5.0 million aggregate principal amount of notes to stockholders ("Shareholder Notes") and 62,494 shares of common stock for \$5.0 million.

In 2013, we entered into securities purchase agreements with (1) WCAS for the purchase of \$15.0 million aggregate principal amount of Shareholder Notes and 162,458 shares of our common stock for \$15.0 million and (2) FFC for the purchase of \$1.3 million aggregate principal amount of Shareholder Notes and 14,312 shares of our common stock for \$1.3 million.

In 2014, we entered into securities purchase agreements with (1) WCAS for the purchase of \$15.0 million aggregate principal amount of Shareholder Notes and 107,230 shares of common stock for \$15.0 million and (2) FFC for the purchase of \$1.3 million aggregate principal amount of Shareholder Notes and 9,535 shares of common stock for \$1.3 million.

The Shareholder Notes bore interest at 10.0% per annum, if paid in cash, or 13.0% per annum, if paid in kind, and would have matured on June 21, 2022.

In May 2014, we used a portion of the net proceeds from the IPO to retire all of the indebtedness outstanding under the Shareholder Notes, which resulted in payments of \$36,166,667 to WCAS and \$2,735,655 to FFC.

Table of Contents

Registration Rights Agreement

Pursuant to a registration rights agreement, we have granted WCAS the right to cause us, in certain instances, at our expense, to file registration statements under the Securities Act covering resales of our common stock held by them and other stockholders party to that agreement or to piggyback on such registration statements in certain circumstances. These shares also may be sold under Rule 144 under the Securities Act, depending on their holding period and subject to restrictions in the case of shares held by persons deemed to be our affiliates. The registration rights agreement also requires us to indemnify certain of our stockholders and their affiliates in connection with any registrations of our securities.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following is a description of the material terms of, and is qualified in its entirety by applicable law and by, our amended and restated certificate of incorporation and amended and restated bylaws, the forms of which have been filed as exhibits with the Commission and are incorporated by reference to the registration statement of which this prospectus is a part.

Our purpose is to engage in any lawful act or activity for which corporations may now or hereafter be organized under the General Corporation Law of the State of Delaware (the "DGCL"). Our authorized capital stock consists of 750,000,000 shares of common stock, par value \$0.001 per share, and 100,000,000 shares of preferred stock, par value \$0.001 per share. No shares of preferred stock are issued or outstanding on the date of this prospectus. Unless our Board of Directors determines otherwise, we will issue all shares of our capital stock in uncertificated form.

Common Stock

Holders of our common stock are entitled to one vote for each share held of record on all matters on which stockholders are entitled to vote generally, including the election or removal of directors. The holders of our common stock do not have cumulative voting rights in the election of directors.

Upon our liquidation, dissolution or winding up and after payment in full of all amounts required to be paid to creditors and to the holders of preferred stock having liquidation preferences, if any, the holders of our common stock will be entitled to receive pro rata our remaining assets available for distribution. Holders of our common stock do not have preemptive, subscription, redemption or conversion rights. The common stock will not be subject to further calls or assessment by us. There will be no redemption or sinking fund provisions applicable to the common stock. All shares of our common stock that will be outstanding at the time of the completion of the offering will be fully paid and non-assessable. The rights, powers, preferences and privileges of holders of our common stock will be subject to those of the holders of any shares of our preferred stock we may authorize and issue in the future.

Preferred Stock

Our amended and restated certificate of incorporation authorizes our Board of Directors to establish one or more series of preferred stock (including convertible preferred stock). Unless required by law or by NASDAQ, the authorized shares of preferred stock will be available for issuance without further action by you. Our Board of Directors is able to determine, with respect to any series of preferred stock, the powers (including voting powers), preferences and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions thereof, including, without limitation:

the designation of the series;

the number of shares of the series, which our Board of Directors may, except where otherwise provided in the preferred stock designation, increase (but not above the total number of authorized shares of the class) or decrease (but not below the number of shares then outstanding);

whether dividends, if any, will be cumulative or non-cumulative and the dividend rate of the series;

the dates at which dividends, if any, will be payable;

the redemption rights and price or prices, if any, for shares of the series;

the terms and amounts of any sinking fund provided for the purchase or redemption of shares of the series;

the amounts payable on shares of the series in the event of any voluntary or involuntary liquidation, dissolution or winding-up of the affairs of the Company;

Table of Contents

whether the shares of the series will be convertible into shares of any other class or series, or any other security, of the Company or any other corporation, and, if so, the specification of the other class or series or other security, the conversion price or prices or rate or rates, any rate adjustments, the date or dates as of which the shares will be convertible and all other terms and conditions upon which the conversion may be made;

restrictions on the issuance of shares of the same series or of any other class or series; and

the voting rights, if any, of the holders of the series.

We could issue a series of preferred stock that could, depending on the terms of the series, impede or discourage an acquisition attempt or other transaction that some, or a majority, of the holders of our common stock might believe to be in their best interests or in which the holders of our common stock might receive a premium for their common stock over the market price of the common stock. In addition, the issuance of preferred stock may adversely affect the holders of our common stock by restricting dividends on the common stock, diluting the voting power of the common stock or subordinating the liquidation rights of the common stock. As a result of these or other factors, the issuance of preferred stock could have an adverse impact on the market price of our common stock.

Dividends

The DGCL permits a corporation to declare and pay dividends out of surplus or, if there is no surplus, out of its net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. Surplus is defined as the excess of the net assets of the corporation over the amount determined to be the capital of the corporation by the Board of Directors. The capital of the corporation is typically calculated to be (and cannot be less than) the aggregate par value of all issued shares of capital stock. Net assets equal the fair value of the total assets minus total liabilities. The DGCL also provides that dividends may not be paid out of net profits if, after the payment of the dividend, remaining capital would be less than the capital represented by the outstanding stock of all classes having a preference upon the distribution of assets.

Declaration and payment of any dividend will be subject to the discretion of our Board of Directors. The time and amount of dividends will be dependent upon our financial condition, operations, cash requirements and availability, debt repayment obligations, capital expenditure needs, restrictions in our debt instruments, industry trends, the provisions of Delaware law affecting the payment of distributions to stockholders and any other factors our Board of Directors may consider relevant.

At the present time, we have no plans to declare or pay any dividends in the near future and intend to retain all of our future earnings, if any, generated by our operations for the development and growth of our business. In addition, the terms of the credit agreement governing our revolving credit facility impose restrictions on our ability to pay dividends. See Management's Discussion and Analysis of Financial Condition and Results of Operations Liquidity and Capital Resources Indebtedness Revolving Credit Facility in our Annual Report on Form 10-K for the year ended December 31, 2014 and our Quarterly Report for the quarter ended March 31, 2015, each of which is incorporated by reference in this prospectus.

Annual Stockholder Meetings

Our amended and restated certificate of incorporation and our amended and restated bylaws provide that annual stockholder meetings will be held at a date, time and place, if any, as exclusively selected by our Board of Directors.

To the extent permitted under applicable law, we may conduct meetings by remote communications, including by webcast.

Anti-Takeover Effects of Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and Certain Provisions of Delaware Law

Our amended and restated certificate of incorporation, amended and restated bylaws and the DGCL contain provisions, which are summarized in the following paragraphs, that are intended to enhance the likelihood of

Table of Contents

continuity and stability in the composition of our Board of Directors. These provisions are intended to avoid costly takeover battles, reduce our vulnerability to a hostile change of control and enhance the ability of our Board of Directors to maximize stockholder value in connection with any unsolicited offer to acquire us. However, these provisions may have an anti-takeover effect and may delay, deter or prevent a merger or acquisition of the Company by means of a tender offer, a proxy contest or other takeover attempt that a stockholder might consider in its best interest, including those attempts that might result in a premium over the prevailing market price for the shares of common stock held by stockholders.

Authorized but Unissued Capital Stock

Delaware law does not require stockholder approval for any issuance of authorized shares. However, the listing requirements of NASDAQ, which would apply so long as our common stock remains listed on NASDAQ, require stockholder approval of certain issuances equal to or exceeding 20% of the then outstanding voting power or then outstanding number of shares of common stock. Additional shares that may be issued in the future may be used for a variety of corporate purposes, including future public offerings, to raise additional capital or to facilitate acquisitions.

Our Board of Directors may generally issue preferred shares on terms calculated to discourage, delay or prevent a change of control of the Company or the removal of our management. Moreover, our authorized but unissued shares of preferred stock will be available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, to facilitate acquisitions and employee benefit plans.

One of the effects of the existence of unissued and unreserved common stock or preferred stock may be to enable our Board of Directors to issue shares to persons friendly to current management, which issuance could render more difficult or discourage an attempt to obtain control of the Company by means of a merger, tender offer, proxy contest or otherwise, and thereby protect the continuity of our management and possibly deprive our stockholders of opportunities to sell their shares of common stock at prices higher than prevailing market prices.

Classified Board of Directors

Our amended and restated certificate of incorporation provides that our Board of Directors shall be divided into three classes of directors, with the classes to be as nearly equal in number as possible, and with the directors serving three-year terms. As a result, approximately one-third of our Board of Directors will be elected each year. The classification of directors will have the effect of making it more difficult for stockholders to change the composition of our Board of Directors. Our amended and restated certificate of incorporation and amended and restated bylaws provide that, subject to any rights of holders of preferred stock to elect additional directors under specified circumstances, the number of directors will be fixed from time to time exclusively pursuant to a resolution adopted by the Board of Directors.

Business Combinations

We have opted out of Section 203 of the DGCL; however, our amended and restated certificate of incorporation contains similar provisions providing that we may not engage in certain business combinations with any interested stockholder for a three-year period following the time that the stockholder became an interested stockholder, unless:

prior to such time, our Board of Directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding certain shares; or

Table of Contents

at or subsequent to that time, the business combination is approved by our Board of Directors and by the affirmative vote of holders of at least 66 ²/₃% of our outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an interested stockholder is a person who, together with that person's affiliates and associates, owns, or within the previous three years owned, 15% or more of our outstanding voting stock. For purposes of this section only, voting stock has the meaning given to it in Section 203 of the DGCL.

Under certain circumstances, this provision will make it more difficult for a person who would be an interested stockholder to effect various business combinations with the Company for a three-year period. This provision may encourage companies interested in acquiring the Company to negotiate in advance with our Board of Directors because the stockholder approval requirement would be avoided if our Board of Directors approves either the business combination or the transaction which results in the stockholder becoming an interested stockholder. These provisions also may have the effect of preventing changes to our Board of Directors and may make it more difficult to accomplish transactions which stockholders may otherwise deem to be in their best interests.

Our amended and restated certificate of incorporation provides that our Sponsor and its affiliates, and any of its direct or indirect transferees and any group as to which such persons are a party, do not constitute interested stockholders for purposes of this provision.

Removal of Directors; Vacancies

Under the DGCL, unless otherwise provided in our amended and restated certificate of incorporation, directors serving on a classified board may be removed by the stockholders only for cause. Our amended and restated certificate of incorporation provides that directors may be removed with or without cause upon the affirmative vote of a majority in voting power of all outstanding shares of stock entitled to vote thereon, voting together as a single class; provided, however, at any time when our Sponsor and its affiliates beneficially own, in the aggregate, less than 50% in voting power of the stock of the Company entitled to vote generally in the election of directors, directors may only be removed for cause, and only by the affirmative vote of holders of at least 66 ²/₃% in voting power of all the then-outstanding shares of stock of the Company entitled to vote thereon, voting together as a single class. In addition, our amended and restated certificate of incorporation also provides that, subject to the rights granted to one or more series of preferred stock then outstanding, any newly created directorship on the Board of Directors that results from an increase in the number of directors and any vacancies on our Board of Directors will be filled only by the affirmative vote of a majority of the remaining directors, even if less than a quorum, by a sole remaining director or by the stockholders; provided, however, at any time when our Sponsor and its affiliates beneficially own, in the aggregate, less than 50% in voting power of the stock of the Company entitled to vote generally in the election of directors, any newly created directorship on the Board of Directors that results from an increase in the number of directors and any vacancy occurring in the Board of Directors may only be filled by a majority of the directors then in office, although less than a quorum, or by a sole remaining director (and not by the stockholders).

No Cumulative Voting

Under Delaware law, the right to vote cumulatively does not exist unless the certificate of incorporation specifically authorizes cumulative voting. Our amended and restated certificate of incorporation does not authorize cumulative voting. Therefore, stockholders holding a majority in voting power of the shares of our stock entitled to vote generally in the election of directors will be able to elect all our directors.

Table of Contents

Special Stockholder Meetings

Our amended and restated certificate of incorporation provides that special meetings of our stockholders may be called at any time only by or at the direction of the Board of Directors or the chairman of the Board of Directors; provided, however, at any time when our Sponsor and its affiliates beneficially own, in the aggregate, at least 50% in voting power of the stock of the Company entitled to vote generally in the election of directors, special meetings of our stockholders shall also be called by the Board of Directors or the chairman of the Board of Directors at the request of our Sponsor and its affiliates. Our amended and restated bylaws prohibit the conduct of any business at a special meeting other than as specified in the notice for such meeting. These provisions may have the effect of deferring, delaying or discouraging hostile takeovers, or changes in control or management of the Company.

Requirements for Advance Notification of Director Nominations and Stockholder Proposals

Our amended and restated bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the Board of Directors or a committee of the Board of Directors. In order for any matter to be properly brought before a meeting, a stockholder will have to comply with advance notice requirements and provide us with certain information. Generally, to be timely, a stockholder's notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the immediately preceding annual meeting of stockholders. Our amended and restated bylaws specify requirements as to the form and content of a stockholder's notice. Our amended and restated bylaws allow the chairman of the meeting at a meeting of the stockholders to adopt rules and regulations for the conduct of meetings which may have the effect of precluding the conduct of certain business at a meeting if the rules and regulations are not followed. These provisions may also defer, delay or discourage a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to influence or obtain control of the Company.

Stockholder Action by Written Consent

Pursuant to Section 228 of the DGCL, any action required to be taken at any annual or special meeting of the stockholders may be taken without a meeting, without prior notice and without a vote if a consent or consents in writing, setting forth the action so taken, is signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares of our stock entitled to vote thereon were present and voted, unless our amended and restated certificate of incorporation provides otherwise. Our amended and restated certificate of incorporation precludes stockholder action by written consent at any time when our Sponsor and its affiliates beneficially own, in the aggregate, less than 50% in voting power of the stock of the Company entitled to vote generally in the election of directors.

Supermajority Provisions

Our amended and restated certificate of incorporation and amended and restated bylaws provide that the Board of Directors is expressly authorized to make, alter, amend, change, add to, rescind or repeal, in whole or in part, our bylaws without a stockholder vote in any matter not inconsistent with the laws of the State of Delaware and our amended and restated certificate of incorporation. For as long as our Sponsor and its affiliates beneficially own, in the aggregate, at least 50% in voting power of the stock of the Company entitled to vote generally in the election of directors, any amendment, alteration, rescission or repeal of our bylaws by our stockholders will require the affirmative vote of a majority in voting power of the outstanding shares of our stock present in person or represented by proxy at the meeting of stockholders and entitled to vote on such amendment, alteration, change, addition, rescission or repeal. At any time when our Sponsor and its affiliates beneficially own, in the aggregate, less than 50% in voting power of

all outstanding shares of the stock of the Company entitled to vote generally in the election of directors, any amendment, alteration, rescission or repeal of our bylaws by our stockholders will require the affirmative vote of the holders of at least $66\frac{2}{3}\%$ in voting power of all the then-outstanding shares of stock of the Company entitled to vote thereon, voting together as a single class.

Table of Contents

The DGCL provides generally that the affirmative vote of a majority of the outstanding shares entitled to vote thereon, voting together as a single class, is required to amend a corporation's certificate of incorporation, unless the certificate of incorporation requires a greater percentage.

Our amended and restated certificate of incorporation provides that at any time when our Sponsor and its affiliates beneficially own, in the aggregate, less than 50% in voting power of the stock of the Company entitled to vote generally in the election of directors, the following provisions in our amended and restated certificate of incorporation may be amended, altered, repealed or rescinded only by the affirmative vote of the holders of at least 66 $\frac{2}{3}$ % in voting power of all the then-outstanding shares of stock of the Company entitled to vote thereon, voting together as a single class:

the provision requiring a 66 $\frac{2}{3}$ % supermajority vote for stockholders to amend our amended and restated bylaws;

the provisions providing for a classified Board of Directors (the election and term of our directors);

the provisions regarding resignation and removal of directors;

the provisions regarding competition and corporate opportunities;

the provisions regarding entering into business combinations with interested stockholders;

the provisions regarding stockholder action by written consent;

the provisions regarding calling special meetings of stockholders;

the provisions regarding filling vacancies on our Board of Directors and newly created directorships;

the provisions eliminating monetary damages for breaches of fiduciary duty by a director; and

the amendment provision requiring that the above provisions be amended only with a 66 $\frac{2}{3}$ % supermajority vote.

The combination of the classification of our Board of Directors, the lack of cumulative voting and the supermajority voting requirements will make it more difficult for our existing stockholders to replace our Board of Directors as well as for another party to obtain control of us by replacing our Board of Directors. Because our Board of Directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management.

These provisions may have the effect of deterring hostile takeovers or delaying or preventing changes in control of our management or the Company, such as a merger, reorganization or tender offer. These provisions are intended to enhance the likelihood of continued stability in the composition of our Board of Directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of the Company. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions are also intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. Such provisions may also have the effect of preventing changes in management.

Dissenters Rights of Appraisal and Payment

Under the DGCL, with certain exceptions, our stockholders will have appraisal rights in connection with a merger or consolidation of us. Pursuant to the DGCL, stockholders who properly request and perfect appraisal rights in connection with such merger or consolidation will have the right to receive payment of the fair value of their shares as determined by the Delaware Court of Chancery.

Table of Contents

Stockholders Derivative Actions

Under the DGCL, any of our stockholders may bring an action in our name to procure a judgment in our favor, also known as a derivative action, provided that the stockholder bringing the action is a holder of our shares at the time of the transaction to which the action relates or such stockholder's stock thereafter devolved by operation of law.

Exclusive Forum

Our amended and restated certificate of incorporation provides that unless we consent to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any (1) derivative action or proceeding brought on behalf of the Company, to the fullest extent permitted by law, (2) action asserting a claim of breach of a fiduciary duty owed by any director or officer of the Company to the Company or the Company's stockholders, creditors or other constituents, (3) action asserting a claim against the Company or any director or officer of the Company arising pursuant to any provision of the DGCL or our amended and restated certificate of incorporation or our amended and restated bylaws or (4) action asserting a claim against the Company or any director or officer of the Company governed by the internal affairs doctrine, in each such case subject to said Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Company shall be deemed to have notice of and consented to the forum provisions in our amended and restated certificate of incorporation. However, the enforceability of similar forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be unenforceable.

Conflicts of Interest

Delaware law permits corporations to adopt provisions renouncing any interest or expectancy in certain opportunities that are presented to the corporation or its officers, directors or stockholders. Our amended and restated certificate of incorporation, to the maximum extent permitted from time to time by Delaware law, renounces any interest or expectancy that we have in, or right to be offered an opportunity to participate in, specified business opportunities that are from time to time presented to our officers, directors or stockholders or their respective affiliates, other than those officers, directors, stockholders or affiliates who are our or our subsidiaries' employees. Our amended and restated certificate of incorporation provides that, to the fullest extent permitted by law, none of our Sponsor or any of its affiliates or any director who is not employed by us (including any non-employee director who serves as one of our officers in both his director and officer capacities) or his or her affiliates will have any duty to refrain from (i) engaging in a corporate opportunity in the same or similar lines of business in which we or our affiliates now engage or propose to engage or (ii) otherwise competing with us or our affiliates. In addition, to the fullest extent permitted by law, in the event that our Sponsor or any non-employee director acquires knowledge of a potential transaction or other business opportunity which may be a corporate opportunity for itself or himself or its or his affiliates or for us or our affiliates, such person will have no duty to communicate or offer such transaction or business opportunity to us or any of our affiliates and they may take any such opportunity for themselves or offer it to another person or entity. Our amended and restated certificate of incorporation does not renounce our interest in any business opportunity that is expressly offered to a non-employee director solely in his or her capacity as a director or officer of the Company. To the fullest extent permitted by law, no business opportunity will be deemed to be a potential corporate opportunity for us unless we would be permitted to undertake the opportunity under our amended and restated certificate of incorporation, we have sufficient financial resources to undertake the opportunity and the opportunity would be in line with our business.

Limitations on Liability and Indemnification of Officers and Directors

The DGCL authorizes corporations to limit or eliminate the personal liability of directors to corporations and their stockholders for monetary damages for breaches of directors' fiduciary duties, subject to certain exceptions. Our amended and restated certificate of incorporation includes a provision that eliminates the personal liability of

Table of Contents

directors for monetary damages for any breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the DGCL. The effect of these provisions is to eliminate the rights of us and our stockholders, through stockholders' derivative suits on our behalf, to recover monetary damages from a director for breach of fiduciary duty as a director, including breaches resulting from grossly negligent behavior. However, exculpation will not apply to any director if the director has acted in bad faith, knowingly or intentionally violated the law, authorized illegal dividends or redemptions or derived an improper benefit from his or her actions as a director.

Our amended and restated bylaws provide that we must indemnify and advance expenses to our directors and officers to the fullest extent authorized by the DGCL. We also are expressly authorized to carry directors' and officers' liability insurance providing indemnification for our directors, officers and certain employees for some liabilities. We believe that these indemnification and advancement provisions and insurance will be useful to attract and retain qualified directors and officers.

The limitation of liability, indemnification and advancement provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duty. These provisions also may have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. In addition, your investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

There is currently no pending material litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Wells Fargo Bank, N.A.

Listing

Our common stock is listed on NASDAQ under the symbol **KTWO**.

Table of Contents

PLAN OF DISTRIBUTION

We or the selling stockholders may from time to time offer and sell some or all of the common stock covered by this prospectus. Registration of common stock covered by this prospectus does not mean, however, that the common stock necessarily will be offered or sold.

The common stock covered by this prospectus may be sold from time to time, at market prices prevailing at the time of sale, at prices related to market prices, at a fixed price or prices subject to change or at negotiated prices, by a variety of methods including the following:

on NASDAQ;

in the over-the-counter market;

in privately negotiated transactions;

through broker/dealers, who may act as agents or principals;

through one or more underwriters on a firm commitment or best efforts basis;

in a block trade in which a broker/dealer will attempt to sell a block of common stock as agent but may position and resell a portion of the block as principal to facilitate the transaction;

through put or call option transactions relating to the common stock;

directly to one or more purchasers;

through agents; or

in any combination of the above.

In effecting sales, brokers or dealers engaged by us may arrange for other brokers or dealers to participate. Broker/dealer transactions may include:

purchases of common stock by a broker/dealer as principal and resales of the common stock by the broker/dealer for its account pursuant to this prospectus;

ordinary brokerage transactions;

transactions in which the broker/dealer solicits purchasers on a best efforts basis; or

privately negotiated transactions.

We or the selling stockholders have not entered into any agreements, understandings or arrangements with any underwriters or broker/dealers regarding the sale of the common stock covered by this prospectus. At any time a particular offer of the common stock covered by this prospectus is made, a revised prospectus or prospectus supplement, if required, will set forth the aggregate amount of common stock covered by this prospectus being offered and the terms of the offering, including the name or names of any underwriters, dealers, brokers or agents. In addition, to the extent required, any discounts, commissions, concessions and other items constituting underwriters or agents compensation, as well as any discounts, commissions or concessions allowed or reallocated or paid to dealers, will be set forth in such revised prospectus supplement. Any such required prospectus supplement, and, if necessary, a post-effective amendment to the Registration Statement of which this prospectus is a part, will be filed with the SEC to reflect the disclosure of additional information with respect to the distribution of the common stock covered by this prospectus.

To the extent required, the applicable prospectus supplement will set forth whether or not underwriters may over-allot or effect transactions that stabilize, maintain or otherwise affect the market price of the common stock at levels above those that might otherwise prevail in the open market, including, for example, by entering stabilizing bids, effecting syndicate covering transactions or imposing penalty bids.

Table of Contents

If we or the selling stockholders utilize a dealer in the sale of the common stock being offered pursuant to this prospectus, we will sell the common stock to the dealer, as principal. The dealer may then resell the common stock to the public at varying prices to be determined by the dealer at the time of resale.

We or the selling stockholders may also authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase common stock from us at the public offering price set forth in the revised prospectus or prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The conditions to these contracts and the commission that we must pay for solicitation of these contracts will be described in a revised prospectus or prospectus supplement.

In connection with the sale of the common stock covered by this prospectus through underwriters, underwriters may receive compensation in the form of underwriting discounts or commissions and may also receive commissions from purchasers of common stock for whom they may act as agent. Underwriters may sell to or through dealers, and such dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for whom they may act as agent.

Any underwriters, broker/dealers or agents participating in the distribution of the common stock covered by this prospectus may be deemed to be underwriters within the meaning of the Securities Act, and any commissions received by any of those underwriters, broker/dealers or agents may be deemed to be underwriting commissions under the Securities Act.

We and the selling stockholders may agree to indemnify underwriters, broker/dealers or agents against certain liabilities, including liabilities under the Securities Act, and may also agree to contribute to payments which the underwriters, broker/dealers or agents may be required to make.

Certain of the underwriters, broker/dealers or agents who may become involved in the sale of the common stock may engage in transactions with and perform other services for us in the ordinary course of their business for which they receive customary compensation.

Some or all of the shares of common stock covered by this prospectus may be sold by selling stockholders in private transactions under Rule 144 under the Securities Act, if available, or pursuant to other available exemptions from the registration requirements of the Securities Act, rather than pursuant to this prospectus.

We have agreed to indemnify and hold harmless the selling stockholders and certain of their affiliates against certain losses, claims, damages, or liabilities related to the sale of the common stock, including certain liabilities under the Securities Act.

Table of Contents

LEGAL MATTERS

The validity of the common stock offered by this prospectus will be passed upon for us by Simpson Thacher & Bartlett LLP, New York, New York.

EXPERTS

The consolidated financial statements of K2M Group Holdings, Inc. appearing in K2M Group Holdings, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2014, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-3 with respect to the common stock offered by this prospectus with the SEC. This prospectus is a part of the registration statement and does not contain all of the information set forth in the registration statement and its exhibits and schedules, portions of which have been omitted as permitted by the rules and regulations of the SEC. For further information about us and our common stock, you should refer to the registration statement and its exhibits and schedules.

We are subject to the informational reporting requirements of the Exchange Act and, in accordance with the Exchange Act, we file annual, quarterly and special reports and other information with the SEC. Our filings with the SEC are available to the public on the SEC's website at <http://www.sec.gov>. Those filings are also available to the public on, or accessible through, our website under the heading Investor Relations. The information contained on or accessible through our corporate website or any other website that we may maintain is not part of this prospectus or the registration statement of which this prospectus is a part. You may also read and copy, at SEC prescribed rates, any document we file with the SEC, including the registration statement (and its exhibits) of which this prospectus is a part, at the SEC's Public Reference Room located at 100 F Street, N.E., Washington D.C. 20549. You can call the SEC at 1-800-SEC-0330 to obtain information on the operation of the Public Reference Room.

INCORPORATION BY REFERENCE

The SEC's rules allow us to incorporate by reference information into this prospectus. This means that we can disclose important information to you by referring you to another document. Any information referred to in this way is considered part of this prospectus from the date we file that document. Any reports filed by us pursuant to Sections 13(a), 13(c), 14 and 15 of the Exchange Act with the SEC after the date of the initial filing of the registration statement and before the date that the applicable offering of the common stock by means of this prospectus is terminated shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing of such documents and, where applicable, supersede any information contained in this prospectus or incorporated by reference in this prospectus.

We incorporate by reference into this prospectus the following documents or information filed with the SEC:

Annual Report on Form 10-K for the year ended December 31, 2014, filed on March 18, 2015 (including information specifically incorporated by reference from our Definitive Proxy Statement on Schedule 14A)

(File No. 001-36443)

Quarterly Report on Form 10-Q for the quarter ended March 31, 2015, filed on May 6, 2015 (File No. 001-36443)

Table of Contents

Current Reports on Form 8-K or 8-K/A, filed on January 9, 2015, January 15, 2015, February 6, 2015, April 28, 2015 and May 12, 2015 (File Nos. 001-36443)

Registration Statement on Form 8-A filed on May 7, 2014 (Registration File No. 333-194550)

Notwithstanding the foregoing, we are not incorporating by reference information furnished under Items 2.02 and 7.01 of any Current Report on Form 8-K (including any Form 8-K itemized above), including the related exhibits, nor in any documents or other information that is deemed to have been furnished to and not filed with the SEC. We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon his or her written or oral request, a copy of any or all documents referred to above which have been or may be incorporated by reference into this prospectus, excluding exhibits to those documents unless they are specifically incorporated by reference into those documents. You can request those documents from the Corporate Secretary, K2M Group Holdings, Inc., at 751 Miller Drive SE, Leesburg, Virginia 20175. You may also contact the Corporate Secretary at (703) 777-3155.

Table of Contents

4,500,000 Shares

K2M GROUP HOLDINGS, INC.

Common Stock

PROSPECTUS SUPPLEMENT

Wells Fargo Securities

November 10, 2016