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

**Post-Effective
Amendment No. 1
to
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

Restoration Robotics, Inc.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

3841
(Primary Standard Industrial
Classification Code Number)

06-1681204
(I.R.S. Employer
Identification Number)

**128 Baytech Drive
San Jose, CA 95134
(408) 883-6888**

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

**Mark Hair
Chief Financial Officer
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(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

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

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

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

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

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

Emerging growth company

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

CALCULATION OF REGISTRATION FEE

| Title of each class of securities to be registered | Proposed maximum aggregate offering price (1) | Amount of registration fee (2) |
|--|---|--------------------------------|
| Common Stock, \$0.0001 par value per share | \$17,250,000 | \$2,147.63 |

(1) Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended. Includes a base offering of \$15,000,000 of shares of common stock and \$2,250,000 of shares of common stock subject to the underwriter's over-allotment option.

(2) The registrant previously paid a total of \$3,579.38 in connection with the previous filing of the registration statement. No additional fees are due under this post-effective amendment to the registration statement.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated August 6, 2018

PROSPECTUS

\$15,000,000 Shares



Common Stock

We are offering \$15,000,000 of shares of our common stock.

Our common stock is listed in the Nasdaq Global Market (the “Nasdaq”) under the symbol “HAIR”. On August 8, 2018, the last reported sale price of our common stock on the Nasdaq was \$1.84 per share.

We are an “emerging growth company” as that term is defined in the Jumpstart Our Business Startups Act of 2012 and, as such, are subject to certain reduced public company reporting requirements. See “Prospectus Summary—Implications of Being an Emerging Growth Company.”

Investing in our common stock involves risks that are described in the “[Risk Factors](#)” section beginning on page 9 of this prospectus.

| | Per Share | Total |
|----------------------------------|-----------|-------|
| Public offering price | \$ | \$ |
| Underwriting discount(1) | \$ | \$ |
| Proceeds, before expenses, to us | \$ | \$ |

(1) Please see “[Underwriting](#)” beginning on page 32 for additional information regarding the total compensation to be received by the underwriters.

The underwriters have the option to purchase up to \$2,250,000 of shares of additional common stock from us at the public offering price less the underwriting discount within 30 day from the date of this prospectus.

Certain of our existing stockholders and their affiliated entities, including current directors and investors that are affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of up to approximately \$3.6 million in shares of our common stock in this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, these investors may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It is also possible that these investors could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these investors than the investors indicate an interest in purchasing or not to sell any shares to these investors.

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

The underwriters expect to deliver the shares of common stock against payment in New York, New York on or about _____, 2018.

Sole Book-Running Manager

William Blair

Co-Managers

National Securities Corporation

Roth Capital Partners

The date of this prospectus is _____, 2018

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Neither we nor the underwriters have authorized anyone to provide you with information that is different from that contained in this prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are offering to sell shares of common stock and seeking offers to buy shares of common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date on the front of this prospectus, regardless of the time of delivery of this prospectus or any sale of shares of our common stock.

Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the U.S. You are required to inform yourself about, and to observe any restrictions relating to, this offering and the distribution of this prospectus.

Restoration Robotics™, ARTAS® and our logo are some of our trademarks and registered marks used in this prospectus. This prospectus also includes trademarks, tradenames and service marks that are the property of other organizations. Solely for convenience, our trademarks and tradenames referred to in this prospectus appear without the ® and ™ symbol, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or the right of the applicable licensor to these trademarks and tradenames.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before deciding to invest in our common stock, you should read this entire prospectus carefully, including the information in our filings with the Securities and Exchange Commission, or SEC, incorporated by reference in this prospectus. Investors should carefully consider the information set forth under “Risk Factors” beginning on page 9 of this prospectus and those identified in our Annual Report on Form 10-K for the year ended December 31, 2017 and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018. Unless the context otherwise requires or as otherwise noted, references in this prospectus to the “company,” “Restoration Robotics,” “RR,” “we,” “us” and “our” refer to Restoration Robotics, Inc. and its subsidiaries taken as a whole, and references to “Restoration Robotics Limited,” “Restoration Robotics Europe Limited” and “Restoration Robotics Korea Yuhan Hoesa” refer to our wholly-owned subsidiaries.

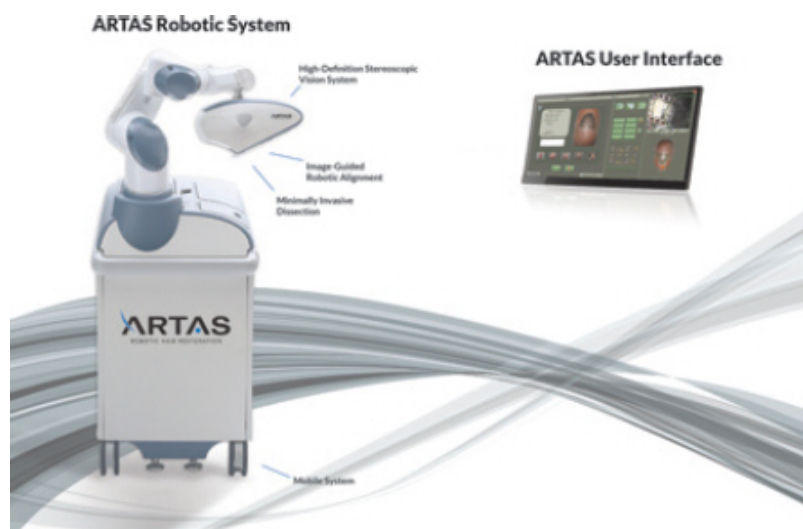
Restoration Robotics, Inc.

Overview

We are a medical technology company developing and commercializing a robotic device, the ARTAS System, that assists physicians in performing many of the repetitive tasks that are a part of a follicular unit extraction surgery, a type of hair restoration procedure. We believe the ARTAS System is the first and only physician-assisted robotic system that can identify and dissect hair follicular units directly from the scalp, create recipient implant sites and implant the harvested follicles. The ARTAS System includes the ARTAS Hair Studio application, an interactive three-dimensional patient consultation tool that enables a physician to create a simulated hair transplant model for use in patient consultations. We received clearance from the U.S. Food and Drug Administration, or FDA, in April 2011 to market the ARTAS System in the U.S., and we have sold the ARTAS System into 36 other countries. In March 2018, we received 510(k) clearance from the FDA to expand the ARTAS technology to include implantation. On July 5, 2018, we announced the commercial launch of our next generation ARTAS® System, called ARTAS® iX System, which incorporates the implementation functionality as well as other functionalities, and we expect shipments of the ARTAS® iX System to commence in September 2018. As of June 30, 2018, the ARTAS System and ARTAS Hair Studio application are protected by over 80 patents in the U.S. and over 110 international patents.

The ARTAS System is comprised of the patient chair, the cart, which includes the robotic arm, integrated vision system, artificial intelligence algorithms and a series of proprietary end effectors, which are the various devices at the end of the robotic arm, such as the automated needle and punch, that interact with the patient’s scalp and hair follicles and perform various clinical functions.

The image below depicts the ARTAS System cart, including the robotic arm and the needle mechanism which houses the automated needle and punch used for follicle dissection and site making, and the ARTAS User Interface.



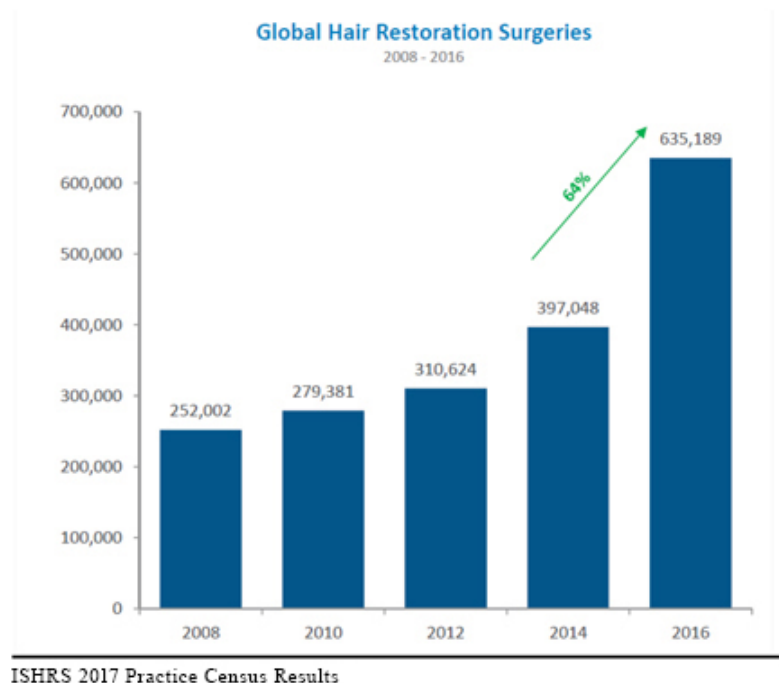
Market Overview

According to data collected by the International Society of Hair Restoration Surgery, or ISHRS, the global market for hair restoration procedures was approximately \$4.1 billion in 2016, with the United States representing approximately 21% of that global market in 2016 according to ISHRS. We believe the global hair restoration market will continue to grow due to several factors, including:

- An aging population with disposable income and an increased acceptance of aesthetic procedures. According to data from the American Society for Aesthetic Plastic Surgery, or ASAPS, in 2016, Americans spent more than \$15 billion on combined surgical and nonsurgical aesthetic procedures. The number of male cosmetic procedures performed has increased 325% since 1997.
- A market shift to less invasive hair restoration procedures such as follicular unit extraction, or FUE, which, according to ISHRS, have increased from less than 10% of hair restoration procedures performed in 2004 to about 52.6% in 2017. In addition, the percentage of robotic FUE procedures has increased from 1.6% to 12.5% of total FUE procedures performed from 2006 to 2016, respectively.
- A greater number of physicians seeking patient direct pay procedures, such as hair restoration, due to increased government and private payor reimbursement restrictions.

This growing market has a significant potential patient population with approximately 35 million males in the United States suffering from androgenic alopecia, or AGA, also referred to as male pattern baldness. We have FDA 510(k) clearance to market the ARTAS System in the U.S. for dissecting hair follicles from the scalp in men diagnosed with AGA who have black or brown straight hair. With this clearance we are able to market the ARTAS System treatment to a significant portion of this growing market.

The below chart demonstrates the growth of the number of hair restoration surgeries performed globally.



Existing Treatment Options

Men suffering from AGA rely on a variety of non-surgical treatment options. One option is the use of prescription drugs such as Propecia, or over-the-counter topical treatments like Rogaine, that have limited efficacy. Propecia and similar drugs may also have side effects. Other options include cosmetic solutions such as wigs or spray-on applications which only mask the condition.

In lieu of these non-surgical options, many individuals opt for surgical procedures. Surgical procedures for hair restoration come in various forms. One common surgical treatment is often referred to as strip surgery or FUT, follicular unit transplantation. Strip surgery involves several steps including: the dissection of a large tissue strip from the patient's scalp; the manual removal of each hair follicle from the scalp strip following dissection; making incisions at the scalp site where the follicles are to be implanted; and implanting the extracted follicles into the prepared implant sites on the scalp. The strip surgery procedure is invasive, as the surgeon must make a linear incision at the back of the patient's scalp and remove a strip of the scalp approximately 8 inches long, one-half inch wide and one-half inch deep. Once the strip of tissue is removed, the physician sutures or staples the large wound closed. The procedure generally results in a long linear scar on the back of the patient's head.

In contrast, FUE is significantly less invasive than strip surgery. In this procedure, the physician or technician removes individual hair follicles from the patient's scalp without removing a strip of tissue. FUE can be performed with manual hand-held punches, automated hand-held devices or with the ARTAS System. Use of manual or automated hand-held devices requires significant time, and demands that complicated, repetitive and tedious tasks be performed by a trained technician or physician. We have developed the ARTAS System to provide robotic assistance for many of the tedious and repetitive tasks that are part of an FUE procedure.

The ARTAS Solution

We believe the ARTAS System addresses many of the shortcomings of other hair restoration procedures. The ARTAS System is capable of robotically assisting a physician through many of the most challenging steps of the hair restoration process, including the dissection of hair

follicles, site planning and recipient site making. In March 2018, we received 510(k) clearance from the FDA to expand the ARTAS® technology to include implantation. On July 5, 2018, we announced the commercial launch of our next generation ARTAS® System, called ARTAS® iX System, which incorporates the implementation functionality as well as other functionalities, we and expect shipments of the ARTAS® iX System to commence in September 2018. Our platform also includes the ARTAS Hair Studio application which can simulate pre-procedure and post-procedure outcomes and can be utilized during the patient consultation and education process.

The image below illustrates an example of possible results from an ARTAS Robotic Procedure based on an individual patient's outcome:



Individual patient outcomes will vary based on a multitude of factors, including, but not limited to, the patient's desired aesthetic outcome, the physician's skill and his/her performance during the procedure, the number of grafts implanted, the number of planned hair restoration procedures a patient anticipates undergoing and a patient's post-operative care of the scalp.

Advantages of the ARTAS Procedure

Patient Value. We believe the ARTAS System and the ARTAS Hair Studio application significantly improve the patient experience and outcome in hair transplantation procedures in the following ways:

- Through the ARTAS System, the dissection of grafts is performed in a manner that leaves only small pinpoint scars that heal faster and are less detectable than the larger post-operative linear scar that would be produced from strip surgery. As a result, an ARTAS procedure can, in many cases, offer a shorter recovery time and can enable patients to resume their daily lifestyle faster than with strip surgery. In addition, the ARTAS procedure allows patients to wear their hair short without a noticeable scar.
- The ARTAS Hair Studio application enables patients to interact with their physician to make educated decisions on graft numbers and implant placements to achieve their desired aesthetic outcome and to view a simulation of their potential result. We believe this process and interaction give patients more confidence in undergoing a procedure since they have direct input into their treatment and can preview the expected outcome.
- The ARTAS Site Making functionality translates the physician-patient site design onto the patient's recipient area. The ARTAS System's enhanced imaging system and sophisticated algorithms enable the ARTAS System to rapidly create recipient sites at precise depths, replicate pre-existing hair angles, avoid damaging the healthy pre-existing hair and adjust the distribution of the recipient sites to optimally fill in the transplantation area. We believe these elements can contribute to a superior aesthetic outcome.
- In addition, the new ARTAS iX System's implantation functionality allows hair restoration practitioners to perform site making while simultaneously implanting the extracted follicles. We believe this simultaneous functionality will help to reduce the time of the procedure for patients.

Physician Value. We believe the ARTAS System provides physicians compelling economic benefits and enables physicians to achieve consistent reproducible results. As a result, we believe the ARTAS procedure also offers an attractive addition to existing dermatology, plastic surgery or aesthetics practices that do not provide hair restoration procedures.

- Hair restoration procedures are generally paid for by the patient and do not involve the complexity of securing reimbursement from third-party payors.
- The ARTAS System's image-guided robotic capabilities allow physicians to perform hair restoration procedures with fewer staff required than a traditional strip surgery or a manual FUE procedure. Procedures can also be performed with less physician and technician fatigue. Further, the ARTAS System also enables physicians to perform hair restoration procedures more quickly. For example, we believe the newest iteration of our ARTAS System, the ARTAS iX System, will enable physicians to save one and a half hours per procedure, as compared to manual FUE, due to efficiencies and time savings from simultaneous site making and implantation.
- Because we provide high quality training for physicians and their clinical teams on the use of the ARTAS System and because the robotic system and its intelligent algorithms assist these teams in performing hair restoration procedures, we believe we can significantly shorten the learning curve necessary for hair transplantation procedures using the ARTAS System. This shorter learning curve can reduce barriers to entry for a new hair restoration practice. It can also ease the adoption of a new technology into existing practices.

Clinically-Established Results. Four peer-reviewed clinical publications have demonstrated the quality and consistency of grafts produced by the ARTAS System. One published study indicated average damage rates for the hair follicles, or transection rates, with the ARTAS System were as low as 6.6%, with a second study documenting average transection rates as low as 4.9% in a Korean population of patients. The third study documented that the ARTAS System can be programmed by the physician to select follicular units with larger groupings of hairs while skipping single hair grafts, which allows physicians to choose particular

follicular units depending on the hair density they are trying to achieve, providing a clinical benefit as measured by the increase in hairs per harvest of 17% and as measured by the increase in hairs per graft of 11.4%. Results were statistically significant with a p-value less than 0.01. This study also demonstrates the ability of robotic follicular unit graft selection to increase the amount of hairs a physician can extract for each incision made in the donor area. The fourth study demonstrated that FUE cases larger than 2,500 grafts, or mega-sessions, are possible using the ARTAS System. These peer-reviewed publications demonstrate the reproducibility and consistency of dissection results from the ARTAS System in a diverse group of patients, even as the system is used by different clinicians. To our knowledge, there are no other peer-reviewed clinical publications that demonstrate the reproducibility of results utilizing other products in FUE or strip surgery procedures. We intend to encourage scientific research in the study of hair restoration to improve our technology, solutions, enhance understanding of our industry and educate physicians on the capabilities of the ARTAS System.

Our Growth Strategy

Our goal is to expand the commercialization of the ARTAS System so that it becomes the standard of care for minimally invasive hair transplantation surgery. The key elements of our strategy to achieve this goal are to:

- Broaden our physician customer base to include additional physician specialties, such as dermatology and plastic surgery.
- Further penetrate and focus on attractive international markets.
- Continue to innovate and introduce new features such as the robotic implantation functionality, continue to refine our Harvesting technology and user interface, and potentially pursue expanding our cleared indications of use.
- Drive increased utilization of the ARTAS System by working collaboratively with our physician customers to increase the number of ARTAS procedures that are performed.

Risks Associated With Our Business

Our ability to implement our business strategy is subject to numerous risks that you should be aware of before making an investment decision. These risks are described more fully in the section entitled “Risk Factors” immediately following this prospectus summary and in our Annual Report on Form 10-K for the year ended December 31, 2017 and our Quarterly Report on Form 10-Q for the three months ended June 30, 2018, which are incorporated by reference herein. These risks include, among others:

- We have limited commercial history and we have incurred significant losses since our inception. We anticipate that we will continue to incur losses for the foreseeable future, which, together with our limited operating history, makes it difficult to assess our future viability.
- It is difficult to forecast our future performance and our results may fluctuate unpredictably.
- We will require substantial additional financing to achieve our goals, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our product development, commercialization and other operations or efforts. We are restricted by covenants in our term loan agreement with Solar Capital, Ltd., or Solar, that restrict, among other things, our ability to incur additional debt without Solar’s consent, which may limit our ability to obtain additional funds.
- We are dependent upon the success of the ARTAS System, which has a limited commercial history. If we are unsuccessful in developing the market for robotic hair restoration or the market acceptance for the ARTAS System fails to grow significantly, our business and future prospects will be harmed.
- If there is not sufficient patient demand for ARTAS procedures and growing physician adoption of the use of the ARTAS System, our financial results and future prospects will be harmed.
- Our inability to effectively compete with competitive hair restoration treatments or procedures may prevent us from achieving significant market penetration or improving our operating results.
- We rely on a single third-party manufacturer for the manufacturing of the ARTAS System that has limited experience in producing the ARTAS System and may be unable to manufacture the ARTAS System in high-quality commercial quantities successfully and consistently to meet demand.
- We are dependent on third-party suppliers and, in some cases, sole suppliers, making us vulnerable to supply shortages and price fluctuations which could harm our business.

- If we are unable to maintain and enforce intellectual property protection directed to our ARTAS System technology and any future technologies that we develop, others may be able to make, use, or sell products substantially the same as ours, which could adversely affect our ability to compete in the market.
- The ARTAS System and our operations are subject to extensive regulation both in the U.S. and abroad, and our failure to comply with applicable requirements could harm our business.
- The ARTAS System and related products and services are regulated as medical devices and are subject to extensive regulation in the U.S. and abroad, including by the FDA and foreign equivalents. If we fail to comply with applicable regulations, our ability to sell the ARTAS System could be jeopardized, and we may be subject to enforcement actions.

Corporate Information

We were founded on November 22, 2002 as a Delaware corporation under the name Restoration Robotics, Inc. Our principal executive offices are located at 128 Baytech Drive, San Jose, CA 95134, and our telephone number is (408) 883-6888. Our website address is www.restorationrobotics.com. The information on, or that can be accessed through, our website is not part of this prospectus. We have included our website address as an inactive textual reference only.

Implications of Being an Emerging Growth Company

We are an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We will remain an emerging growth company until the earlier of (1) the last day of the year following the fifth anniversary of the consummation of this offering, (2) the last day of the year in which we have total annual gross revenue of at least \$1.07 billion, (3) the last day of the year in which we are deemed to be a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded \$700 million as of the last business day of the second fiscal quarter of such year or (4) the date on which we have issued more than \$1 billion in non-convertible debt securities during the prior three-year period. An emerging growth company may take advantage of specified reduced reporting requirements and is relieved of certain other significant requirements that are otherwise generally applicable to public companies. As an emerging growth company:

- we will avail ourselves of the exemption from the requirement to obtain an auditor attestation report from our auditors on the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002, or Sarbanes Oxley;
- we will provide less extensive disclosure about our executive compensation arrangements; and
- we will not be required to hold stockholder non-binding advisory votes on executive compensation or golden parachute arrangements.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act.

As a result, the information that we provide to our stockholders may be different than the information you might receive from other public reporting companies in which you hold equity interests.

THE OFFERING

| | |
|--|--|
| Issuer | Restoration Robotics, Inc. |
| Common stock offered by us | shares. |
| Common stock to be outstanding after the offering | shares (shares if the underwriters exercise their over-allotment option in full). |
| Underwriters' option to purchase additional shares | shares. |
| Use of proceeds | <p>We estimate that the net proceeds from this offering will be approximately \$13.5 million, or approximately \$15.6 million if the underwriters exercise their option to purchase additional shares in full, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.</p> <p>We currently intend to use the net proceeds from this offering (including any net proceeds from the underwriters' exercise of their option to purchase additional shares of common stock), along with existing cash and cash equivalents, to fund expanded commercialization activities and the launch of the ARTAS iX System and for working capital and general corporate purposes. See "Use of Proceeds" on page 16 for a more complete description of the intended use of proceeds from this offering.</p> |
| Risk factors | Investing in our common stock involves risks. See "Risk Factors" beginning on page 9 and other information included in this prospectus for a discussion of factors that you should consider carefully before deciding to invest in our common stock. |
| Nasdaq Global Market symbol | "HAIR" |

The number of shares of common stock to be outstanding after this offering is based on 29,137,695 shares of common stock outstanding as of June 30, 2018, and excludes the following:

- 1,963,117 shares of common stock issuable upon the exercise of outstanding stock options as of June 30, 2018 having a weighted-average exercise price of \$2.38 per share;
- 468,181 shares of common stock issuable upon exercise of outstanding warrants, of which 306,456 have an exercise price of \$7.00 per share and 161,725 have an exercise price of \$3.71 per share;
- 2,944,225 shares of common stock reserved for issuance pursuant to future awards under our 2017 Equity Incentive Award Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan; and
- 274,168 shares of common stock reserved for issuance pursuant to future awards under our Employee Stock Purchase Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan.

In addition, unless we specifically state otherwise, all information in this prospectus assumes:

- no exercise of outstanding stock options subsequent to June 30, 2018; and
- no exercise of the underwriters' option to purchase additional shares of common stock.

Certain of our existing stockholders and their affiliated entities, including current directors and investors that are affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of up to approximately \$3.6 million in shares of our common stock in this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, these investors may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It is also possible that these investors could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these investors than the investors indicate an interest in purchasing or not to sell any shares to these investors.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables present our summary consolidated financial data. We derived the following summary consolidated statements of operations data for the years ended December 31, 2015, 2016 and 2017 from our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 5, 2018 and incorporated herein by reference. We derived the summary consolidated statements of operations data for the six months ended June 30, 2018 and 2017 and the summary consolidated balance sheet data as of June 30, 2018 from our unaudited interim consolidated financial statements included in our Quarterly Report on Form 10-Q for the three months ended June 30, 2018, filed with the SEC on July 30, 2018 and incorporated herein by reference. Our unaudited interim consolidated financial statements have been prepared on the same basis as our audited consolidated financial statements and, in the opinion of management, reflect all adjustments, which only include only normal recurring adjustments necessary for a fair presentation of our consolidated financial position and consolidated results of operations for these periods. You should read this data together with our consolidated financial statements and related notes, as well as the information under the captions "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," in our Annual Report on Form 10-K for the year ended December 31, 2017 and our Quarterly Report on Form 10-Q for the three months ended June 30, 2018, each incorporated herein by reference. Our historical results are not necessarily indicative of the results that may be expected in the future, and our interim results should not necessarily be considered indicative of results that may be expected for the full year or any other period.

| | Year Ended December 31, | | | Six months ended June 30, | |
|---|-------------------------|-------------|-------------|---------------------------|-------------|
| | 2015 | 2016 | 2017 | 2017 | 2018 |
| (in thousands, except for share and per share data) | | | | | |
| Consolidated Statements of Operations Data: | | | | | |
| Revenue, net | \$ 17,230 | \$ 15,600 | \$ 21,297 | \$ 11,264 | \$ 10,480 |
| Cost of revenue | 12,513 | 10,431 | 12,150 | 6,578 | 5,699 |
| Gross profit | 4,717 | 5,169 | 9,147 | 4,686 | 4,781 |
| Operating expenses: | | | | | |
| Sales and marketing | 14,587 | 12,483 | 14,390 | 7,304 | 8,749 |
| Research and development | 7,399 | 7,474 | 7,135 | 3,841 | 4,278 |
| General and administrative | 3,256 | 4,144 | 4,904 | 2,410 | 3,968 |
| Total operating expenses | 25,242 | 24,101 | 26,429 | 13,555 | 16,995 |
| Loss from operations | (20,525) | (18,932) | (17,282) | (8,869) | (12,214) |
| Other expense, net: | | | | | |
| Interest expense | (2,892) | (2,483) | (2,027) | (1,115) | (858) |
| Gain on sale of investment | — | — | 1,851 | — | — |
| Other expense | 446 | (431) | (328) | (174) | (579) |
| Total other expense, net | (2,446) | (2,914) | (504) | (1,289) | (1,437) |
| Net loss before provision for income taxes | (22,971) | (21,846) | (17,786) | (10,158) | (13,651) |
| Provision for income taxes | — | — | 56 | 24 | 24 |
| Net loss | \$ (22,971) | \$ (21,846) | \$ (17,842) | \$ (10,182) | \$ (13,675) |
| Net loss per share, basic and diluted(1) | \$ (14.70) | \$ (13.54) | \$ (2.42) | \$ (6.29) | \$ (0.47) |
| Weighted-average shares used in computing net loss per share, basic and diluted | 1,562,829 | 1,612,933 | 7,382,715 | 1,619,172 | 29,038,730 |

- (1) Basic and diluted net loss per share attributable to common stockholders is computed based on the weighted-average number of shares of common stock outstanding during each period after the applying a 1 for 10 reverse stock-split for December 31, 2015 and 2016 as well as June 30, 2017. For further explanation of the method used to calculate basic and diluted net loss per common share, see (a) Note 3 to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, incorporated herein by reference, and (b) Note 3 to our unaudited consolidated financial statements included in our Quarterly Report on Form 10-Q for the three months ended June 30, 2018, incorporated herein by reference.

The table below presents our consolidated balance sheet data as of June 30, 2018:

- on an actual basis; and
- on an as adjusted basis to give further effect to the sale of 8,152,174 shares of common stock in this offering at an assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

| | As of June 30, 2018, | |
|---|----------------------|-----------------|
| | Actual | As Adjusted (1) |
| | (in thousands) | |
| Consolidated Balance Sheet Data: | | |
| Cash and cash equivalents | \$ 16,861 | \$ 30,333 |
| Working capital | 18,805 | 32,277 |
| Total assets | 29,040 | 42,512 |
| Debt, net of discount | 19,228 | 19,228 |
| Other long-term liabilities | 629 | 629 |
| Accumulated deficit | (178,162) | (178,162) |
| Total stockholders' equity | 603 | 14,075 |

- (1) Each \$1.00 increase (decrease) in the assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, would increase (decrease) our cash and cash equivalents, working capital, total assets and total stockholders' deficit by approximately \$7.6 million, assuming that the number of shares of our common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discount and estimated offering expenses payable by us. Each increase (decrease) of 1,000,000 shares in the number of shares offered by us would increase (decrease) the amount of our cash and cash equivalents, working capital, total assets and total stockholders' deficit by approximately \$1.7 million, assuming a public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus or incorporated by reference, including our consolidated financial statements and the related notes, “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contained in our Annual Report on Form 10-K for the year ended December 31, 2017 and our Quarterly Report on Form 10-Q for the three months ended June 30, 2018, each incorporated by reference herein, before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could have a material adverse effect on our business, results of operations, financial condition and prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations.

Risks Related to Our Common Stock and This Offering

Our stock price may be volatile, and you may not be able to resell shares of our common stock at or above the price you paid.

The market price of our common stock following this offering could be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include those discussed in this “Risk Factors” section of this prospectus and others such as:

- the continued growth in demand for the ARTAS System and ARTAS procedures;
- our commercialization, marketing and manufacturing capabilities, plans and prospects;
- the continuing productivity and effectiveness of our commercial infrastructure and salesforce;
- our financial performance;
- our intentions and our ability to establish collaborations and/or partnerships;
- the timing or likelihood of regulatory filings and approvals for the ARTAS System for expanded indications and functionality;
- our commercialization, marketing and manufacturing capabilities;
- our expectations regarding the potential market size and the size of the patient populations for the ARTAS System;
- the effective pricing of the ARTAS System, services and procedures;
- the implementation of our business model and strategic plans for our business and technology;
- the scope of protection we can establish and maintain for intellectual property rights covering the ARTAS System, along with any product enhancements;
- estimates of our expenses, future revenue, capital requirements, our needs for additional financing and our ability to obtain additional capital;
- our use of proceeds from this offering; and
- developments and projections relating to our competitors and our industry, including competing therapies and procedures.

In addition, the stock markets in general, and the markets for medical device and aesthetic stocks in particular, have experienced extreme volatility that may have been unrelated to the operating performance of the issuer. These broad market fluctuations may adversely affect the market price or liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the issuer. Recently, several securities class action complaints have been filed against us, certain of our current and former executive officers and directors, certain of our investors and certain underwriters in our initial public offering. These complaints allege violations of Sections 11, 12(a)(2) and 15 of the Securities Act due to allegedly false and misleading statements made in connection with our initial public offering. While we believe that these lawsuits are without merit and we intend to vigorously defend against these claims, we could incur substantial costs in defending these lawsuits and the attention of our management could be diverted from the operation of our business. Further, if more of our stockholders were to bring additional lawsuits on similar or unrelated grounds, we could incur substantial costs defending these additional lawsuits and the attention of our management would be further diverted from the operation of our business.

An active market for our common stock may not be maintained.

Prior to our initial public offering, there had been no public market for shares of our common stock. Our stock only recently began trading on the Nasdaq Global Market, but we can provide no assurance that we will be able to maintain an active trading market on the Nasdaq Global Market or any other exchange in the future. If an active market for our common stock does not develop or is not

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maintained, it may be difficult for our stockholders to sell shares without depressing the market price for the shares or at all. An inactive market may also impair our ability to raise capital by selling shares and may impair our ability to acquire other businesses, applications, or technologies using our shares as consideration.

If securities or industry analysts issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. We currently have very limited research coverage by securities and industry analysts. If no additional securities or industry analysts commence coverage of us, the market price or trading volume of our stock could be negatively impacted. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our stock performance, or if our operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

We have broad discretion to determine how to use the funds raised in this offering, and may use them in ways that may not enhance our operating results or the price of our common stock.

Our management will have broad discretion over the use of proceeds from this offering, and we could spend the proceeds from this offering in ways our stockholders may not agree with or that do not yield a favorable return, if at all. We intend to use substantially all of the net proceeds of this offering to fund the continued commercialization of the ARTAS System, fund planned research and product development activities and general corporate purposes. In addition, we will use cash on hand and may use the net proceeds from this offering to make regular payments on our term loan with Solar, or the Solar Agreement. However, our use of these proceeds may differ substantially from our current plans. If we do not invest or apply the proceeds of this offering in ways that improve our operating results, we may fail to achieve expected financial results, which could cause our stock price to decline.

Purchasers in this offering will experience immediate and substantial dilution in the book value of their investment.

The public offering price of our common stock is substantially higher than the pro forma net tangible book value per share of our common stock before giving effect to this offering. Accordingly, if you purchase our common stock in this offering, you will incur immediate substantial dilution of approximately \$1.46 per share, based on an assumed public offering price of \$1.84 per share, which was the last reported sales price of our common stock on the Nasdaq Global Market on August 8, 2018, and our pro forma net tangible book value as of June 30, 2018. Furthermore, if the underwriters exercise their over-allotment option, or outstanding options and warrants are exercised, you could experience further dilution. For a further description of the dilution that you will experience immediately after this offering, see the section titled "Dilution."

We will require substantial additional financing to achieve our goals, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our product development, commercialization and other operations or efforts.

Since our inception, we have invested a significant portion of our efforts and financial resources in research and development and sales and marketing activities. Research and development, clinical trials, product engineering, ongoing product upgrades and other enhancements such as software-updates for the ARTAS System, and seeking regulatory clearances and approvals to market future products will require substantial funds to complete. As of June 30, 2018, we had capital resources consisting of cash and cash equivalents of \$16.9 million. We believe that we will continue to expend substantial resources for the foreseeable future in connection with the ongoing commercializing of the ARTAS System, increasing our sales and marketing efforts, and continuing research and development and product enhancements activities.

We believe the net proceeds from this offering, together with our existing cash and cash equivalents, cash expected to be generated from the sale of our products and the net proceeds from the Solar Agreement may not be sufficient for us to fund our planned operations for the next twelve months. As a result, we may need to seek additional funds through public or private equity or debt financings or other sources, such as strategic collaborations. Such financing may result in dilution to stockholders, imposition of burdensome debt covenants and repayment obligations, the licensing of rights to our technology or other restrictions that may affect our business. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

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Additional funds may not be available when we need them, on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to:

- delay or curtail our efforts to develop enhancements to the ARTAS System, including any clinical trials that may be required to market such enhancements;
- delay or curtail our plans to increase and expand our sales and marketing efforts; or
- delay or curtail our plans to enhance our customer support and marketing activities.

We are restricted by covenants in the Solar Agreement. These covenants restrict, among other things, our ability to incur additional debt without Solar's consent, which may limit our ability to obtain additional funds. In addition, the Solar Agreement contains certain minimum liquidity and minimum revenue covenants, which, if we fail to maintain or achieve, will result in a default under the agreement and the requirement for us to repay all outstanding principal amounts and accrued interest repay all amounts outstanding.

We are an "emerging growth company" and because of the reduced disclosure and governance requirements applicable to emerging growth companies, our common stock may be less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation, stockholder approval of any golden parachute payments not previously approved and delayed adoption of new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of our initial public offering, (b) in which we have total annual gross revenue of at least \$1.07 billion, or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds \$700.0 million as of the prior June 30th, and (2) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

If we sell shares of our common stock in future financings, stockholders may experience immediate dilution and, as a result, our stock price may decline.

We may from time to time issue additional shares of common stock at a discount from the current market price of our common stock. As a result, our stockholders would experience immediate dilution upon the purchase of any shares of our common stock sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or common stock. If we issue common stock or securities convertible into common stock, our common stockholders would experience additional dilution and, as a result, our stock price may decline.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Based on the number of shares outstanding as of June 30, 2018, as adjusted for this offering at the assumed offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially owned approximately 39.8% of our voting stock. In addition, certain of our existing stockholders and their affiliated entities, including current directors and investors that are affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of up to approximately \$3.6 million in shares of our common stock in this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, these investors may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It is also possible that these investors could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these investors than the investors indicate an interest in purchasing or not to sell any shares to these investors. These stockholders will have the ability to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

We have incurred substantial losses during our history and do not expect to become profitable in the near future, and we may never achieve profitability. To the extent that we continue to generate taxable losses, unused losses will carry forward to offset future taxable

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income, if any, until such unused losses expire. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an “ownership change,” generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, the corporation’s ability to use its pre-change net operating loss carryforwards, or NOLs, and other pre-change tax attributes (such as research and development tax credits) to offset its post-change income or taxes may be limited. We may have experienced ownership changes in the past and may experience ownership changes in the future and/or subsequent shifts in our stock ownership (some of which shifts are outside our control), including in connection with this offering. As a result, if we earn net taxable income, our ability to use our pre-change NOLs to offset such taxable income could be subject to limitations. Similar provisions of state tax law may also apply. As a result, even if we attain profitability, we may be unable to use a material portion of our NOLs and other tax attributes.

Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent changes in control or changes in our management without the consent of our board of directors. These provisions will include the following:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- the ability of our board of directors to alter our bylaws without obtaining stockholder approval;
- the required approval of at least 66 2/3% of the shares entitled to vote at an election of directors to adopt, amend or repeal our bylaws or repeal the provisions of our amended and restated certificate of incorporation regarding the election and removal of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer, the president or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to act, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders’ meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer’s own slate of directors or otherwise attempting to obtain control of us.

In addition, these provisions would apply even if we were to receive an offer that some stockholders may consider beneficial.

We are also subject to the anti-takeover provisions contained in Section 203 of the Delaware General Corporation Law. Under Section 203, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other exceptions, the board of directors has approved the transaction.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

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In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws and our indemnification agreements that we have entered into with our directors and officers provide that:

- we will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;
- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;
- we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;
- we will not be obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees, except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification;
- the rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons; and
- we may not retroactively amend our amended and restated bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws, any action to interpret, apply, enforce, or determine the validity of our certificate of incorporation or bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine. The choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provision contained in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition.

We do not intend to pay dividends on our common stock, and, consequently, our stockholders' ability to achieve a return on their investment will depend on appreciation in the price of our common stock.

We do not intend to pay any cash dividends on our common stock for the foreseeable future. We intend to invest our future earnings, if any, to fund our growth. Furthermore, pursuant to the Solar Agreement, we are not permitted to pay cash dividends in excess of \$150,000 in aggregate per fiscal year without its prior written consent. Therefore, our stockholders are not likely to receive any dividends on their common stock for the foreseeable future. Since we do not intend to pay dividends, our stockholders' ability to receive a return on their investment will depend on any future appreciation in the market value of our common stock. There is no guarantee that our common stock will appreciate or even maintain the price at which our stockholders have purchased it.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our business operations and financial performance and condition. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “aim,” “anticipate,” “assume,” “believe,” “contemplate,” “continue,” “could,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “predict,” “potential,” “positioned,” “seek,” “should,” “target,” “will,” “would,” and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- the continued growth in demand for our ARTAS Robotic System, or ARTAS, for use in harvesting hair follicles for transplant;
- our commercialization, marketing and manufacturing capabilities, plans and prospects;
- the continuing productivity and effectiveness of our commercial infrastructure and salesforce;
- our financial performance;
- our intentions and our ability to establish collaborations and/or partnerships;
- the timing or likelihood of regulatory filings and clearances or approvals for the ARTAS System for expanded indications and functionality;
- our expectations regarding the potential market size and the size of the patient populations for ARTAS;
- the effective pricing of the ARTAS system, services and procedures;
- the implementation of our business model and strategic plans for our business and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering ARTAS, along with any product enhancements;
- estimates of our expenses, future revenue, capital requirements, our needs for additional financing and our ability to obtain additional capital;
- our use of proceeds from this offering;
- developments and projections relating to our competitors and our industry, including competing therapies and procedures; and
- other risks and uncertainties, including those listed under the caption “Risk Factors.”

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or may not occur, and actual results could differ materially from those projected in the forward-looking statements. You should refer to the “Risk Factors” section of this prospectus, and the discussion in our Annual Report on Form 10-K for the year ended December 31, 2017, and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, in each of “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. As a result of these factors, we cannot assure you that the forward-looking statements in or incorporated by reference in this prospectus will prove to be accurate. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. You should, however, review the factors and risks and other information we describe in the reports we will file from time to time with the SEC after the date of this prospectus.

You should read this prospectus and the documents that are incorporated by reference in this prospectus and that have been filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

INDUSTRY AND MARKET DATA

This prospectus contains estimates, projections and other information concerning our industry, our business, and the markets for the ARTAS System, products and services, including data regarding market research, estimates and forecasts prepared by our management. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which this data is derived. In that regard, when we refer to one or more sources of this type of data in any paragraph, you should assume that other data of this type appearing in the same paragraph is derived from the same sources, unless otherwise expressly stated or the context otherwise requires.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of 8,152,174 shares of common stock in this offering will be approximately \$13.5 million, or approximately \$15.6 million if the underwriters exercise their over-allotment option in full, based on the assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

Each \$1.00 increase (decrease) in the assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, would increase (decrease) the net proceeds to us from this offering by approximately \$7.6 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1,000,000 in the number of shares we are offering would increase (decrease) the net proceeds to us from this offering by approximately \$1.7 million, assuming the assumed public offering price stays the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us. This pro forma as adjusted information is illustrative only, and we will adjust this information based on the actual public offering price and other terms of this offering determined at pricing. We do not expect that a change in the offering price or the number of shares by these amounts would have a material effect on our intended uses of the net proceeds from this offering, although it may impact the amount of time prior to which we may need to seek additional capital.

We intend to use our existing cash and cash equivalents and the net proceeds from this offering (including any net proceeds from the underwriters' exercise of their option to purchase additional shares of common stock) to fund expanded commercialization activities and the launch of the ARTAS iX System and for working capital and general corporate purposes.

We believe that our existing cash and cash equivalents and the net proceeds from this offering, may not be sufficient to fund our planned operations for the 12 months following the date of this offering. For additional information regarding our potential capital requirements, see "We will require substantial additional financing to achieve our goals, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our product development, other operations or commercialization efforts" under the heading "Risk Factors."

Pending the use of the proceeds from this offering, we intend to invest the net proceeds in interest-bearing, investment-grade securities, certificates of deposit or government securities.

MARKET PRICE OF COMMON STOCK

Our common stock has been listed on The Nasdaq Global Market under the symbol “HAIR” since October 12, 2017. Prior to that date, there was no public trading market for our common stock. The following table sets forth for the periods indicated the high and low sale prices per share of our common stock as reported on The Nasdaq Global Market:

| | <u>Price Range</u> | |
|--|--------------------|------------|
| | <u>High</u> | <u>Low</u> |
| Year ended December 31, 2017 | | |
| Fourth Quarter (from October 12, 2017) | \$11.95 | \$3.96 |
| Year ended December 31, 2018 | | |
| First Quarter | \$ 8.20 | \$3.80 |
| Second Quarter | 6.65 | 2.61 |
| Third Quarter (through August 8, 2018) | 3.79 | 1.84 |

As of August 8, 2018, the last reported sale price of our common stock as reported on The Nasdaq Global Market was \$1.84 per share. As of July 23, 2018, there were 189 holders of record of our common stock. The actual number of stockholders 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 other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Furthermore, pursuant to the loan and security agreement between us and Solar, we are not permitted to pay cash dividends in excess of \$150,000 in aggregate per fiscal year without Solar's prior written consent. Subject to the foregoing, any future determination related to dividend policy will be made at the discretion of our board of directors.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of June 30, 2018:

- on an actual basis; and
- on an as adjusted basis to give further effect to the sale of 8,152,174 shares of common stock in this offering at an assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

You should read this information together with our consolidated financial statements and related notes incorporated by reference in this prospectus. For more details on how you can obtain our SEC reports and other information, you should read the section of the prospectus entitled “Where You Can Find More Information.”

| (in thousands, except for share and per share data) | As of June 30, 2018 | |
|---|---------------------|-----------------|
| | Actual | As Adjusted (1) |
| Cash and cash equivalents | \$ 16,861 | 30,333 |
| Debt, net of discount | \$ 19,228 | 19,228 |
| Stockholders' Equity: | | |
| Convertible preferred stock, \$0.0001 par value; 10,000,000 shares authorized and no shares issued and outstanding as of June 30, 2018 | — | — |
| Common stock, \$0.0001 par value; 300,000,000 shares authorized as of June 30, 2018; 29,137,695 shares issued and outstanding as of June 30, 2018 | 3 | 4 |
| Additional paid-in capital | 178,799 | 192,270 |
| Accumulated other comprehensive income (loss) | (37) | (37) |
| Accumulated deficit | (178,162) | (178,162) |
| Total stockholders' equity | 603 | 14,075 |
| Total capitalization | \$ 603 | 14,075 |

- (1) A \$1.00 increase (decrease) in the assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, would increase (decrease) the as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by approximately \$7.6 million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A 1,000,000 share increase (decrease) in the number of shares offered by us at the assumed public offering price of \$1.84 per share would increase (decrease) the as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by approximately \$1.7 million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. The as adjusted information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing. We will not receive any proceeds from any sale of shares of our common stock in this offering by the selling stockholders; accordingly, there is no impact upon the adjusted capitalization for these sales.

The outstanding share information in the table above excludes the following:

- 1,963,117 shares of common stock issuable upon the exercise of outstanding stock options as of June 30, 2018 having a weighted-average exercise price of \$2.38 per share;
- 468,181 shares of common stock issuable upon exercise of outstanding warrants, of which 306,456 have an exercise price of \$7.00 per share and 161,725 have an exercise price of \$3.71 per share;
- 2,944,225 shares of common stock reserved for issuance pursuant to future awards under our 2017 Equity Incentive Award Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan; and
- 274,168 shares of common stock reserved for issuance pursuant to future awards under our Employee Stock Purchase Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan.

DILUTION

If you invest in our common stock in this offering, your interest will be immediately diluted to the extent of the difference between the public offering price per share of our common stock in this offering and the net tangible book value per share of our common stock after this offering. As of June 30, 2018, we had a historical net tangible book value of \$0.6 million, or \$0.02 per share of common stock. Our net tangible book value represents total tangible assets less total liabilities divided by the number of shares of common stock outstanding on June 30, 2018.

After giving effect to the sale of shares of common stock in this offering at an assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, and after deducting the estimated underwriting discount and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value (deficit) as of June 30, 2018 would have been approximately \$14.1 million, or \$0.38 per share. This represents an immediate increase in pro forma as adjusted net tangible book value of \$0.36 per share to existing stockholders and an immediate dilution of \$1.46 per share to new investors. The following table illustrates this per share dilution:

| | |
|---|---------------|
| Assumed public offering price per share | \$1.84 |
| Historical net tangible book value per share as of June 30, 2018 | \$0.02 |
| Increase in as adjusted net tangible book value per share attributable to new investors | <u>0.36</u> |
| As adjusted net tangible book value per share after this offering | <u>0.38</u> |
| Dilution per share to new investors participating in this offering | <u>\$1.46</u> |

A \$1.00 increase (decrease) in the assumed public offering price of \$1.84 per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on August 8, 2018, would increase (decrease) our pro forma as adjusted net tangible book value as of June 30, 2018 after this offering by approximately \$7.6 million, or approximately \$0.20 per share, and would decrease (increase) dilution to investors in this offering by approximately \$0.80 per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1,000,000 in the number of shares we are offering would increase (decrease) our pro forma as adjusted net tangible book value as of June 30, 2018 after this offering by approximately \$1.7 million, or approximately \$0.03 per share, and would decrease (increase) dilution to investors in this offering by approximately \$0.03 per share, assuming the assumed public offering price per share remains the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

If the underwriters exercise their over-allotment option in full, the pro forma as adjusted net tangible book value after this offering would increase to approximately \$0.42 per share, and there would be an immediate dilution of approximately \$1.42 per share to new investors.

The number of shares of common stock to be outstanding after this offering is based on the number of shares outstanding as of June 30, 2018 and excludes the following:

- 1,963,117 shares of common stock issuable upon the exercise of outstanding stock options as of June 30, 2018 having a weighted-average exercise price of \$2.38 per share;
- 468,181 shares of common stock issuable upon exercise of outstanding warrants, of which 306,456 have an exercise price of \$7.00 per share and 161,725 have an exercise price of \$3.71 per share;
- 2,944,225 shares of common stock reserved for issuance pursuant to future awards under our 2017 Equity Incentive Award Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan; and
- 274,168 shares of common stock reserved for issuance pursuant to future awards under our Employee Stock Purchase Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan.

Certain of our existing stockholders and their affiliated entities, including current directors and investors that are affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of up to approximately \$3.6 million in shares of our common stock in this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, these investors may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It is also possible that these investors could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these investors than the investors indicate an interest in purchasing or not to sell any shares to these investors. The above discussion does not reflect any potential purchase by these stockholders.

PRINCIPAL STOCKHOLDERS

The following table sets forth information relating to the beneficial ownership of our common stock as of July 23, 2018, by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our outstanding shares of common stock;
- each of our directors;
- each of our named executive officers; and
- all directors and executive officers as a group.

The number of shares beneficially owned by each entity, person, director or executive officer is determined in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any shares over which the individual has sole or shared voting power or investment power as well as any shares that the individual has the right to acquire within 60 days after July 23, 2018 through the exercise of any stock option, warrants or other rights. Except as otherwise indicated, and subject to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock held by that person.

The percentage of shares beneficially owned before the offering is computed on the basis of 29,167,612 shares of our common stock outstanding as of July 23, 2018. This table is based upon information supplied by officers, directors and principal stockholders and Schedules 13D and Schedules 13G, if any, filed with the SEC. Unless otherwise indicated, the address of each of the individuals and entities named below is c/o Restoration Robotics, Inc., 128 Baytech Drive, San Jose, California 95134.

| Name of Beneficial Owner | Shares of Common Stock Beneficially Owned | | | |
|--|---|---------------------------------------|-------------------------------------|---------|
| | Common Stock | Securities Exercisable Within 60 Days | Number of Shares Beneficially Owned | Percent |
| 5% and Greater Stockholders | | | | |
| Sutter Hill Ventures L.P.(1) | 3,092,525 | — | 3,092,525 | 10.6% |
| Clarus Lifesciences II, L.P.(2) | 3,569,986 | — | 3,569,986 | 12.3% |
| Entities affiliated with Alloy Ventures(3) | 3,426,627 | — | 3,426,627 | 11.8% |
| InterWest Partners IX, L.P.(4) | 3,355,786 | — | 3,355,786 | 11.6% |
| Named Executive Officers and Directors | | | | |
| Ryan Rhodes(5) | — | 462,834 | 462,834 | 1.6% |
| Gabe Zingaretti(6) | 15,212 | 154,895 | 170,107 | * |
| Brent Nixon | 88,333 | — | 88,333 | * |
| Frederic Moll, M.D. | 596,476 | — | 596,476 | 2.1% |
| Jeffrey Bird, M.D., Ph.D.(7) | 3,092,525 | — | 3,092,525 | 10.6% |
| Emmett Cunningham, Jr., M.D., Ph.D.(8) | — | — | — | * |
| Gil Kliman, M.D.(9) | 3,355,786 | — | 3,355,786 | 11.6% |
| Craig Taylor(10) | 3,426,627 | — | 3,426,627 | 11.8% |
| Shelley Thunen(11) | — | 59,250 | 59,250 | * |
| Keith Sullivan(12) | — | 1,523 | 1,523 | * |
| All directors and executive officers as a group (11 persons) | 10,574,959 | 678,502 | 11,253,461 | 38.6% |

* Represents beneficial ownership of less than one percent of the outstanding shares of common stock.

- (1) As reported on Schedule 13G filed with the SEC on February 14, 2018 by Sutter Hill Ventures, Tench Coxe, James N. White, Jeffrey W. Bird, Michael L. Speiser, Stefan A. Dyckerhoff and Samuel J. Pullara III. Consists of (i) 2,079,590 shares held by Sutter Hill Ventures; (ii) 270,622 shares held in The Coxe Revocable Trust of which Mr. Coxe is a trustee, 160,619 shares held by a retirement trust for the benefit of Mr. Coxe, 2,116 shares held in a Roth IRA for the benefit of Mr. Coxe, and 9,949 shares held by Rooster Partners, L.P. of which Mr. Coxe is a trustee of a trust which is the general partner; (iii) 41,857 shares held in The White Revocable Trust of which Mr. White is a trustee, 5,890 shares held by an irrevocable trust for the benefit of Mr. White's children and 66,218 shares held by RoseTime Partners L.P. of which Mr. White is a trustee of a trust which is the general partner; (iv) 182,594 shares held in the Jeffrey W. and Christina R. Bird Trust of which Mr. Bird is a trustee, 40,982 shares held by an irrevocable trust for the benefit of Mr. Bird's children and 31,747 shares held by NestEgg Holdings, LP of which Mr. Bird is a trustee of a trust which is the general partner; (v) 138,340 shares held in the Speiser Trust of which Mr. Speiser is a trustee, 3,600 shares held by a retirement trust for the benefit of Mr. Speiser and 18,892 shares held in Chatter Peak Partners, L.P. of which Mr. Speiser is a trustee of a trust which is a general partner; (vi) 18,686 shares held in the Dyckerhoff 2001 Revocable Trust of which Mr. Dyckerhoff is a trustee; and (vii) 20,823 shares held in The Pullara Revocable Trust of which Mr. Pullara is a trustee. Messrs. Coxe, White, Bird, Speiser, Dyckerhoff and Pullara are managing directors and members of the management committee of the general partner of Sutter Hill Ventures, and they share voting and dispositive power over the

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- shares held by Sutter Hill Ventures. Mr. Coxe has sole voting and dispositive power over the shares listed in clause (ii) above. Mr. White has sole voting and dispositive power over the shares listed in clause (iii) above. Mr. Bird has sole voting and dispositive power over the shares listed in clause (iv) above. Mr. Speiser has sole voting and dispositive power over the shares listed in clause (v) above. Mr. Dyckerhoff has sole voting and dispositive power over the shares listed in clause (vi) above. Mr. Pullara has sole voting and dispositive power over the shares listed in clause (vii) above. The address for the entity and individuals listed herein is 755 Page Mill Road, Suite A-200, Palo Alto, CA 94304
- (2) As reported on Schedule 13G filed with the SEC on February 12, 2018 by Clarus Lifesciences II, L.P. (“Clarus II”), Clarus Ventures II GP, L.P. (“Clarus II GP”), Clarus Ventures II, LLC (“Clarus II GPLLC”) and Robert Liptak, Nicholas Simon, Nicholas Galakatos, Dennis Henner and Kurt Wheeler (collectively, the “Clarus Managers”). Consists of 3,569,986 shares held by Clarus II. As the general partner of Clarus II, Clarus Ventures II GP, L.P. or Clarus II GP, may be deemed to own beneficially the shares listed herein. As the general partner of Clarus II GP, Clarus II GPLLC likewise may be deemed to beneficially own the shares listed herein. As the managing directors of Clarus II GPLLC, each of the Clarus Managers also may be deemed to beneficially own beneficially the shares listed herein. Clarus II, Clarus II GP, Clarus II GPLLC and each of the Clarus Managers share voting and dispositive power with regard to the shares listed herein. The address for the entities and individuals is 101 Main Street, Suite 1210, Cambridge, MA 02142.
 - (3) As reported on Schedule 13G filed with the SEC on February 14, 2018 by Alloy Ventures 2002, L.P. (“2002 Ventures”), Alloy Partners 2002, L.P. (“2002 Partners”), Alloy Ventures 2002, LLC (“GP 2002”), Alloy Ventures 2005, L.P., (“2005 Ventures”), Alloy Ventures 2005, LLC, (“GP 2005”), Craig Taylor, John Shoch, Douglas Kelly, Tony Di Bona, Daniel Rubin, Ammar Hanafi, and Michael Hunkapiller. Consists of (i) 45,041 shares held by 2002 Partners; (ii) 1,668,269 shares held by 2002 Ventures; and (iii) 1,713,317 shares held by 2005 Ventures. GP 2002 serves as the sole general partner of 2002 Ventures and 2002 Partners and owns no securities of the Company directly. Messrs. Taylor, Shoch, Kelly, Rubin, and Di Bona are managing directors of GP 2002 and share voting and dispositive power over the shares held by 2002 Ventures and 2002 Partners. GP 2005 serves as the sole general partner of 2005 Ventures and owns no securities of the Company directly. Messrs. Taylor, Shoch, Kelly, Di Bona, Rubin, Hanafi and Hunkapiller are managing directors of GP 2005 and share voting and dispositive power over the shares held by 2005 Ventures. The address for the entities and individuals listed herein is c/o Alloy Ventures 1415 Hamilton Avenue Palo Alto, CA 94301.
 - (4) As reported on Schedule 13G filed with the SEC on February 14, 2018 by InterWest Partners IX, LP (“IWP IX”), InterWest Management Partners IX, LLC (“IMP IX”), Phillip T. Gianos, W. Stephen Holmes III, Gilbert H. Kliman, M.D., Arnold L. Oronsky and Khaled A. Nasr. Consists of 3,355,786 shares held by IWP IX. IMP IX is the general partner of IWP IX. Each of Messrs. Gianos, Holmes, Kliman and Oronsky is a managing director of IMP IX. Mr. Nasr is a venture member of IMP IX. Each of Messrs. Gianos, Holmes, Kliman, Oronsky and Nasr share voting and investment control over the shares held by IWP IX and disclaims beneficial ownership except to the extent of his pecuniary interest. Mr. Kliman is a managing director of IMP IX and is a member of our board of directors. The address for the entities is 2710 Sand Hill Road, Suite 200, Menlo Park, CA 94025.
 - (5) Consists of 462,834 shares issuable pursuant to stock options exercisable within 60 days of July 23, 2018.
 - (6) Consists of (i) 15,212 shares and (ii) 154,895 shares issuable pursuant to stock options exercisable within 60 days of July 23, 2018.
 - (7) Consists of the shares described in note 1 above.
 - (8) On April 18, 2018, Dr. Cunningham and the Board determined that Dr. Cunningham will not stand for re-election at the Company’s Annual Meeting and the term of his board service shall terminate as of the Annual Meeting.
 - (9) Consists of the shares as described in note 4 above. Dr. Kliman is a managing director of InterWest Management Partners IX, LLC which is the general partner of InterWest Partners IX, L.P., and as such may be deemed to beneficially own such shares. Dr. Kliman disclaims beneficial ownership of such shares except to the extent of any pecuniary interest.
 - (10) Consists of the shares as described in note 3 above. Mr. Taylor is President of Alloy Ventures, Inc. and a managing director of GP 2002 and GP 2005 and as such may be deemed to beneficially own such shares. Mr. Taylor disclaims beneficial ownership of such shares except to the extent of any pecuniary interest.
 - (11) Consists of 59,250 shares issuable pursuant to stock options exercisable within 60 days of July 23, 2018.
 - (12) Consists of 1,523 shares issuable pursuant to stock options exercisable within 60 days of July 23, 2018.

DESCRIPTION OF CAPITAL STOCK

The following summary describes our capital stock and the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, the investor rights agreement to which we and certain of our stockholders are parties and of the Delaware General Corporation Law. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws and amended and restated investor rights agreement, copies of which have been filed as exhibits to the registration statement of which this prospectus is part.

General

Our authorized capital stock consists of 300,000,000 shares of common stock, \$0.0001 par value per share, and 10,000,000 shares of preferred stock, \$0.0001 par value per share. As of June 30, 2018, there were outstanding:

- 29,137,695 shares of our common stock held by approximately 228 stockholders of record;
- 1,963,117 shares of our common stock issuable upon exercise of outstanding stock options; and
- 468,181 shares of our common stock issuable upon exercise of outstanding warrants.

The actual number of stockholders is greater than the number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

The following description of our capital stock and provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries of material terms and provisions and are qualified by reference to our amended and restated certificate of incorporation and amended and restated bylaws, copies of which have been filed with the SEC and are incorporated by reference as exhibits to the registration statement of which this prospectus is a part.

Common Stock

Voting Rights

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. However, pursuant to the loan and security agreement between us and Solar dated as of May 10, 2018, we are not permitted to pay cash dividends in excess of \$150,000 in aggregate per fiscal year.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Preferred Stock

Our board of directors has the authority, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our company or other corporate action.

Registration Rights

Under our amended and restated investors' rights agreement, based on the number of shares outstanding as of June 30, 2018, the holders of approximately 23.3 million shares of common stock, or their transferees, have the right to require us to register their shares under the Securities Act so that those shares may be publicly resold or to include their shares in any registration statement we file, in each case as described below.

Demand Registration Rights

The holders of at least a majority of the registrable securities in the aggregate have the right to demand that we file a Form S-1 registration statement. These registration rights are subject to specified conditions and limitations, including specified blackout periods and the right of a managing underwriter to limit the number of shares included in any such registration under specified circumstances. Upon such a request, we are required to effect the registration as expeditiously as practicable.

Piggyback Registration Rights

Based on the number of shares outstanding as of June 30, 2018, in the event that we determine to register any of our securities under the Securities Act (subject to certain exceptions), either for our own account or for the account of other security holders, the holders of approximately 23.3 million shares of our common stock (on an as-converted basis), or their transferees, will be entitled to certain "piggyback" registration rights allowing the holders to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to a registration related to employee benefit plans, the offer and sale of debt securities, or corporate reorganizations or certain other transactions, the holders of these shares are entitled to notice of the registration and have the right, subject to limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration. In an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares such holders may include.

Form S-3 Registration Rights

Based on the number of shares outstanding as of June 30, 2018, the holders of approximately 23.3 million shares of our common stock (on an as-converted basis), or their transferees, will be entitled to certain Form S-3 registration rights. These holders, subject to certain minimum holding requirements, can make a written request that we register their shares on Form S-3 if we are eligible to file a registration statement on Form S-3 and if the aggregate price to the public of the shares offered is at least \$10,000,000. These stockholders may make an unlimited number of requests for registration on Form S-3, but in no event shall we be required to file more than two registrations on Form S-3 in any given 12 month period.

Expenses of Registration

We will pay the registration expenses of the holders of the shares registered pursuant to the demand, piggyback and Form S-3 registration rights described above, including the expenses of one counsel for the selling holders.

Expiration of Registration Rights

The demand, piggyback and Form S-3 registration rights described above will expire, with respect to any particular stockholder, upon the earlier of October 12, 2022, (the five-year anniversary of our initial public offering) or when that stockholder can sell all of its shares under Rule 144 of the Securities Act during any 90 day period.

Anti-Takeover Effects of Provisions of our Amended and Restated Certificate of Incorporation, our Amended and Restated Bylaws and Delaware Law

Some provisions of Delaware law and our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that could make the following transactions more difficult: acquisition of us by means of a tender offer; acquisition of us by means of a proxy contest or otherwise; or removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions that might result in a premium over the market price for our shares.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Delaware Anti-Takeover Statute

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits persons deemed “interested stockholders” from engaging in a “business combination” with a publicly-held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an “interested stockholder” is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation’s voting stock. Generally, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors, such as discouraging takeover attempts that might result in a premium over the market price of our common stock.

Undesignated Preferred Stock

The ability to authorize undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

Special Stockholder Meetings

Our amended and restated bylaws provide that a special meeting of stockholders may be called only by our board of directors.

Requirements for Advance Notification of Stockholder Nominations and 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.

Elimination of Stockholder Action by Written Consent

Our amended and restated certificate of incorporation and our amended and restated bylaws eliminate the right of stockholders to act by written consent without a meeting.

Classified Board; Election and Removal of Directors; Filling Vacancies

Our board of directors is divided into three classes. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of

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our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation provides for the removal of any of our directors only for cause and requires a stockholder vote by the holders of at least a 66-2/3% of the voting power of the then outstanding voting stock. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of the board, may only be filled by a resolution of the board of directors unless the board of directors determines that such vacancies shall be filled by the stockholders. This system of electing and removing directors and filling vacancies may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Choice of Forum

Our amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the exclusive forum for: any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine. Although our amended and restated certificate of incorporation contains the choice of forum provision described above, it is possible that a court could find that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Amendment of Charter Provisions

The amendment of any of the above provisions, except for the provision making it possible for our board of directors to issue undesignated preferred stock, would require approval by a stockholder vote by the holders of at least a 66-2/3% of the voting power of the then outstanding voting stock.

The provisions of the Delaware General Corporation Law, our amended and restated certificate of incorporation and our amended and restated bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Listing

Our common stock is listed on the Nasdaq Global Market under the symbol "HAIR."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Inc. The transfer agent and registrar's address is 250 Royall Street, Canton, Massachusetts 02021.

SHARES ELIGIBLE FOR FUTURE SALE

Future sales of our common stock, including shares issued upon the exercise of outstanding options or warrants, in the public market after this offering, or the perception that those sales may occur, could cause the prevailing market price for our common stock to fall or impair our ability to raise equity capital in the future. As described below, only a limited number of shares of our common stock will be available for sale in the public market for a period of several months after consummation of this offering due to contractual and legal restrictions on resale described below. Future sales of our common stock in the public market either before (to the extent permitted) or after restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price of our common stock at such time and our ability to raise equity capital at a time and price we deem appropriate.

Sale of Restricted Shares

Based on the number of shares of our common stock outstanding as of June 30, 2018, upon the consummation of this offering and assuming no exercise of the underwriters' over-allotment option, we will have outstanding an aggregate of approximately _____ shares of common stock. Of these shares, all of the shares of common stock to be sold in this offering, and any shares sold upon exercise of the underwriters' over-allotment option, will be freely tradable in the public market without restriction or further registration under the Securities Act, unless the shares are held by any of our "affiliates" as such term is defined in Rule 144 of the Securities Act. All remaining shares of common stock held by existing stockholders immediately prior to the consummation of this offering will be "restricted securities" as such term is defined in Rule 144. These restricted securities were issued and sold by us, or will be issued and sold by us, in private transactions and are eligible for public sale only if registered under the Securities Act or if they qualify for an exemption from registration under the Securities Act, including the exemptions provided by Rule 144 or Rule 701, which rules are summarized below.

Lock-Up Agreements

In connection with this offering, we, our directors, our executive officers and certain of our stockholders have agreed, subject to certain exceptions, with the underwriters not to dispose of or hedge any shares of our common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of the lock-up agreement continuing through the date 90 days after the date of this prospectus, except with the prior written consent of William Blair & Company, L.L.C.

Certain of our employees, including our executive officers, and/or directors have entered into written trading plans that are intended to comply with Rule 10b5-1 under the Exchange Act. Sales under these trading plans will be permitted under the lock-up agreements relating to the offering described above.

Rule 144

In general, under Rule 144, as currently in effect, a person (or persons whose shares are required to be aggregated) who is not deemed to have been one of our "affiliates" for purposes of Rule 144 at any time during the three months preceding a sale, and who has beneficially owned restricted securities within the meaning of Rule 144 for at least six months, including the holding period of any prior owner other than one of our "affiliates," is entitled to sell those shares in the public market (subject to the lock-up agreement referred to above, if applicable) without complying with the manner of sale, volume limitations or notice provisions of Rule 144, but subject to compliance with the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than "affiliates," then such person is entitled to sell such shares in the public market without complying with any of the requirements of Rule 144 (subject to the lock-up agreement referred to above, if applicable). In general, under Rule 144, as currently in effect, our "affiliates," as defined in Rule 144, who have beneficially owned the shares proposed to be sold for at least six months are entitled to sell in the public market, upon expiration of any applicable lock-up agreements and within any three-month period, a number of those shares of our common stock that does not exceed the greater of:

- 1% of the number of common shares then outstanding, which will equal approximately _____ shares of common stock immediately after this offering (calculated as of June 30, 2018); or
- the average weekly trading volume of our common stock on the Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Such sales under Rule 144 by our "affiliates" or persons selling shares on behalf of our "affiliates" are also subject to certain manner of sale provisions, notice requirements and to the availability of current public information about us. Notwithstanding the availability of Rule 144, the holders of substantially all of our restricted securities have entered into lock-up agreements as referenced above and their restricted securities will become eligible for sale (subject to the above limitations under Rule 144) upon the expiration of the restrictions set forth in those agreements.

Rule 701

In general, under Rule 701 as currently in effect, any of our employees, directors, officers, consultants or advisors who acquired common stock from us in connection with a written compensatory stock or option plan or other written agreement in compliance with Rule 701 under the Securities Act are entitled to rely on Rule 701 to resell such shares beginning 90 days after the effective date of this public offering, but without compliance with the holding period requirements contained in Rule 144. Accordingly, subject to any applicable lock-up agreements, under Rule 701 persons who are not our “affiliates,” as defined in Rule 144, may resell those shares without complying with the minimum holding period or public information requirements of Rule 144, and persons who are our “affiliates” may resell those shares without compliance with Rule 144’s minimum holding period requirements (subject to the terms of the lock-up agreement referred to above).

Registration Rights

Based on the number of shares outstanding as of June 30, 2018, the holders of approximately 23.3 million shares of our common stock, or their transferees, will, subject to any lock-up agreements they have entered into, be entitled to certain rights with respect to the registration of the offer and sale of those shares under the Securities Act. For a description of these registration rights, see “Description of Capital Stock—Registration Rights.” If the offer and sale of these shares are registered, they will be freely tradable without restriction under the Securities Act.

Stock Plans

We have filed with the SEC a registration statement under the Securities Act covering the shares of common stock that we may issue upon exercise of outstanding options reserved for issuance under our 2005 Stock Plan and our 2015 Equity Incentive Plan. Shares registered under such registration statement are available for sale in the open market, subject to Rule 144 volume limitations and the lock-up agreements described above, if applicable.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax consequences to Non-U.S. Holders (as defined below) of the purchase, ownership and disposition of our common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a “capital asset” within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder’s particular circumstances, including the impact of the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons subject to the alternative minimum tax;
- persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies and other financial institutions;
- brokers, dealers or traders in securities;
- “controlled foreign corporations,” “passive foreign investment companies” and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- tax-qualified retirement plans; and
- “qualified foreign pension funds” as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of Non-U.S. Holder

For purposes of this discussion, a “Non-U.S. Holder” is any beneficial owner of our common stock that is neither a “United States person” nor an entity treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and all substantial decisions of which are subject to the control of one or more “United States persons” (within the meaning of Section 7701(a)(30) of the Code), or (2) has a valid election in effect to be treated as a U.S. person for U.S. federal income tax purposes.

Distributions

As described in the section entitled “Dividend Policy,” we do not anticipate paying any cash dividends in the foreseeable future. However, if we do make distributions of cash or property on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-U.S. Holder’s adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under “—Sale or Other Taxable Disposition.”

Subject to the discussion below regarding effectively connected income, dividends paid to a Non-U.S. Holder will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable tax treaties.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder will be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States.

Any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular graduated 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 dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

Subject to the discussions below regarding backup withholding and FATCA, a Non-U.S. Holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);
- the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated 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.

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Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by certain U.S. source capital losses of the Non-U.S. Holder (even though the individual is not considered a resident of the United States), provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder will not be subject to U.S. federal income tax if our common stock is “regularly traded,” as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder’s holding period.

Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on our common stock will not be subject to backup withholding, provided the Non-U.S. Holder certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any dividends on our common stock paid to the Non-U.S. Holder, regardless of whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting if the applicable withholding agent receives the certification described above or the Non-U.S. Holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder’s U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act, or FATCA) on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or gross proceeds from the sale or other disposition of, our common stock paid to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any “substantial United States owners” (as defined in the Code) or furnishes identifying information regarding each substantial U.S. owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain “specified United States persons” or “United States-owned foreign entities” (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the U.S. governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our common stock, and, beginning on January 1, 2019, will apply to payments of gross proceeds from the sale or other disposition of such stock.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

UNDERWRITING

William Blair & Company, L.L.C. is acting as representative of each of the underwriters named below and as book-running manager for this offering. Subject to the terms and conditions set forth in the underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of common shares set forth opposite its name below.

| <u>Underwriter</u> | <u>Number of Shares</u> |
|---------------------------------|-------------------------|
| William Blair & Company, L.L.C. | |
| National Securities Corporation | |
| Roth Capital Partners, LLC | |
| Total | |

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of the shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers' certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representative has advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of \$ per share. After the initial offering of the shares, the public offering price, concession or any other term of the offering may be changed by the representative.

The following table shows the public offering price, underwriting discounts and commissions and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares of our common shares.

| | <u>Per Share</u> | <u>Total</u> | |
|--|------------------|-----------------------|--------------------|
| | | <u>Without Option</u> | <u>With Option</u> |
| Public offering price | \$ | \$ | \$ |
| Underwriting discounts and commissions | \$ | \$ | \$ |
| Proceeds, before expenses, to us | \$ | \$ | \$ |

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately \$. We also have agreed to reimburse the underwriters for up to \$ for certain out-of-pocket expenses.

Certain of our existing stockholders and their affiliated entities, including current directors and investors that are affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of up to approximately \$3.6 million in shares of our common stock in this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, these investors may determine to purchase fewer shares than they indicate an interest in purchasing or not to purchase any shares in this offering. It is also possible that these investors could indicate an interest in purchasing more shares of our common stock. In addition, the underwriters could determine to sell fewer shares to any of these investors than the investors indicate an interest in purchasing or not to sell any shares to these investors. Whether or not these investors purchase any or all of the shares for which they indicated an interest in purchasing will not affect the underwriters' commitment to purchase the common shares offered by us if the underwriters purchase any shares.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to additional shares at the public offering price, less the underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and certain of our other existing security holders have agreed not to sell or transfer any common shares or securities convertible into or exchangeable or exercisable for common shares, for 90 days after the date of this prospectus without first obtaining the written consent of William Blair & Company, L.L.C. on behalf of the underwriters. Specifically, we and these other persons have agreed, with certain exceptions, not to directly or indirectly:

- offer, pledge, sell or contract to sell any common shares;

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- sell any option or contract to purchase any common shares;
- purchase any option or contract to sell any common shares;
- otherwise dispose of or transfer any common shares;
- request or demand that we file a registration statement related to the common shares;
- enter into any swap or other agreement or any transaction that transfers, in whole or in part, the economic consequence of ownership of any common shares, whether any such swap, agreement or transaction is to be settled by delivery of shares or other securities, in cash or otherwise; or
- publicly announce any of the foregoing.

This lock-up provision applies to common shares and to securities convertible into or exchangeable or exercisable for common shares.

Nasdaq Global Market Listing

Our common shares are listed on the Nasdaq Global Market under the symbol “HAIR.”

Price Stabilization, Short Positions and Penalty Bids

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

In connection with the offering, the underwriters may purchase and sell our common shares 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 underwriters of a greater number of shares than they are required to purchase in the offering. “Covered” short sales are sales made in an amount not greater than the underwriters’ option described above. The underwriters may close out any covered short position by either exercising their option or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. “Naked” short sales are sales in excess of such option. The underwriters 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 underwriters are concerned that there may be downward pressure on the price of our common shares in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common shares made by the underwriters in the open market prior to the closing of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representative has repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common shares or preventing or retarding a decline in the market price of our common shares. As a result, the price of our common shares may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make 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 shares. In addition, neither we nor any of the underwriters make any representation that the representative will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

The underwriters may also engage in passive market making transactions in our common shares on the Nasdaq Global Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of shares of our common shares in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker’s bid, that bid must then be lowered when specified purchase limits are exceeded.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

The underwriters and certain of their 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. Some of the underwriters and certain of their affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us and our affiliates, for which they may in the future receive customary fees, commissions and expenses.

In addition, in the ordinary course of their business activities, the underwriters and their 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. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling Restrictions

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each, a “Relevant Member State”), no offer of shares may be made to the public in that Relevant Member State other than:

- A. to any legal entity which is a qualified investor as defined in the Prospectus Directive;
 - B. to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 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 representative; or
 - C. in any other circumstances falling within Article 3(2) of the Prospectus Directive,
- provided that no such offer of shares shall require the Company or the representative to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

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 representative has been obtained to each such proposed offer or resale.

We, the representative and each of our affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

This prospectus has been prepared on the basis that any offer of shares in any Relevant Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of shares. Accordingly, any person making or intending to make an offer in that Relevant Member State of shares which are the subject of the offering contemplated in this prospectus may only do so in circumstances in which no obligation arises for the company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the company nor the underwriters have authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for the company or the underwriters to publish a prospectus for such offer.

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For the purpose of the above provisions, the expression “an offer to the public” in relation to any shares 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 the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in the Relevant Member State by any measure implementing the Prospectus Directive in the Relevant Member State and the expression “Prospectus Directive” means Directive 2003/71/EC (including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member States) and includes any relevant implementing measure in the Relevant Member State and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

LEGAL MATTERS

The validity of the issuance of our common stock offered in this prospectus will be passed upon for us by Latham & Watkins LLP, 140 Scott Drive, Menlo Park, California 94025. Goodwin Procter LLP, 620 Eighth Avenue, New York, NY 10018 is acting as counsel for the underwriters in connection with this offering.

EXPERTS

The audited consolidated financial statements incorporated by reference in this prospectus and elsewhere in the registration statement have been so incorporated by referenced in reliance upon the report of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information with respect to our company and the common stock offered hereby, reference is made to the registration statement and the exhibits and schedules filed therewith. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement. A copy of the registration statement and the exhibits and schedules filed therewith may be inspected without charge at the public reference room maintained by the SEC, located at 100 F Street N.E., Room 1580, Washington, D.C. 20549, and copies of all or any part of the registration statement may be obtained from such offices upon the payment of the fees prescribed by the SEC. Please call the SEC at 1-800-SEC-0330 for further information about the public reference room. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address is www.sec.gov.

We are subject to the information and periodic reporting requirements of the Exchange Act and, in accordance therewith, we file periodic reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above. We maintain a website at www.restorationrobotics.com. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The reference to our website address does not constitute incorporation by reference of the information contained on our website, and you should not consider the contents of our website in making an investment decision with respect to our common stock.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-38238):

- our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 5, 2018;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 14, 2018 and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, filed with the SEC on July 30, 2018;
- our Current Reports on Form 8-K, filed with the SEC on March 20, 2018, April 20, 2018, May 15, 2018, May 25, 2018, June 15, 2018, June 27, 2018 and July 6, 2018;
- our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 26, 2018; and
- the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on October 10, 2017, including any amendments or reports filed for the purposes of updating this description.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have “furnished” to the SEC pursuant to the Exchange Act shall be incorporated by reference into this prospectus.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to Restoration Robotics Inc., Attn: Legal, 128 Baytech Drive, San Jose, California, 95134.

You also may access these filings on our website at www.restorationrobotics.com. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

\$15,000,000 Shares



Common Stock

PROSPECTUS

Sole Book-Running Manager

William Blair

Co-Managers

National Securities Corporation

Roth Capital Partners

, 2018

PART II**Information Not Required in Prospectus****Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth the costs and expenses, other than the underwriting discount, payable by the registrant in connection with the sale of Common Stock being registered. All amounts are estimates except for the Securities and Exchange Commission, or SEC, registration fee and FINRA filing fee.

| Item | Amount to be paid |
|---|------------------------------|
| SEC registration fee | \$ 2,148 |
| FINRA filing fee | 4,813 |
| Printing and engraving expenses | 20,000 |
| Legal fees and expenses | 300,000 |
| Accounting fees and expenses | 110,000 |
| Blue Sky, qualification fees and expenses | 10,000 |
| Transfer Agent fees and expenses | 5,000 |
| Miscellaneous expenses | 26,431 |
| Total | <u>\$478,392</u> |

Item 14. Indemnification of Directors and Officers.

As permitted by Section 102 of the Delaware General Corporation Law, we have adopted provisions in our amended and restated certificate of incorporation and amended and restated bylaws that limit or eliminate the personal liability of our directors for a breach of their fiduciary duty of care as a director. The duty of care generally requires that, when acting on behalf of the corporation, directors exercise an informed business judgment based on all material information reasonably available to them. Consequently, a director will not be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any act related to unlawful stock repurchases, redemptions or other distributions or payment of dividends; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not affect the availability of equitable remedies such as injunctive relief or rescission. Our amended and restated certificate of incorporation also authorizes us to indemnify our officers, directors and other agents to the fullest extent permitted under Delaware law.

As permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws provide that:

- we may indemnify our directors, officers, and employees to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions;
- we may advance expenses to our directors, officers and employees in connection with a legal proceeding to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions; and
- the rights provided in our amended and restated bylaws are not exclusive.

Our amended and restated certificate of incorporation and our amended and restated bylaws provide for the indemnification provisions described above and elsewhere herein. We have entered into and intend to continue to enter into separate indemnification agreements with our directors and officers which may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements generally require us, among other things, to indemnify our officers and directors against liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful

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misconduct. These indemnification agreements also generally require us to advance any expenses incurred by the directors or officers as a result of any proceeding against them as to which they could be indemnified. In addition, we have purchased a policy of directors' and officers' liability insurance that insures our directors and officers against the cost of defense, settlement or payment of a judgment in some circumstances. These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of our officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended, or the Securities Act.

The form of Underwriting Agreement, to be attached as Exhibit 1.1 hereto, provides for indemnification by the underwriters of us and our officers who sign this Registration Statement and directors for specified liabilities, including matters arising under the Securities Act.

Item 15. Recent Sales of Unregistered Securities.

The following list sets forth information as to all securities we have sold since January 1, 2015, which were not registered under the Securities Act.

1. Since January 1, 2015, we issued an aggregate of 4,009,109 shares of our Series C preferred stock at a price per share of \$7.15 for aggregate proceeds to us of \$28,665,129.35.
2. In connection with our entrance into the term loan with Oxford Finance LLC, or Oxford, on May 19, 2015, we issued warrants to purchase an aggregate of 110,486 shares of our Series C preferred stock to Oxford at a per share exercise price of \$7.15.
3. In connection with our entrance into the loan and security agreement with Solar Capital Ltd., or Solar, on May 10, 2018, we issued warrants to purchase an aggregate of 161,725 shares of our common stock to Solar and certain other lenders thereto at a per share exercise price of \$3.71.
4. In September 2017, we issued \$5.0 million in aggregate principal amount of subordinated convertible notes that will convert into shares of our common stock upon the consummation of this offering.
5. We granted stock options and stock awards to employees, directors and consultants under our 2005 Stock Plan and 2015 Equity Incentive Plan, covering an aggregate of 1,846,444 shares of common stock, at a weighted-average average exercise price of \$1.73 per share. Of these, options covering an aggregate of 285,057 shares were cancelled without being exercised.
6. We sold an aggregate of 109,080 shares of common stock to employees, directors and consultants for cash consideration in the aggregate amount of approximately \$168,800.89 upon the exercise of stock options and stock awards.

We claimed exemption from registration under the Securities Act for the sale and issuance of securities in the transactions described in paragraphs (1) – (4) by virtue of Section 4(a)(2) and/or Regulation D promulgated thereunder as transactions not involving any public offering. All of the purchasers of unregistered securities for which we relied on Section 4(a)(2) and/or Regulation D represented that they were accredited investors as defined under the Securities Act. We claimed such exemption on the basis that (a) the purchasers in each case represented that they intended to acquire the securities for investment only and not with a view to the distribution thereof and that they either received adequate information about the registrant or had access, through employment or other relationships, to such information and (b) appropriate legends were affixed to the stock certificates issued in such transactions.

We claimed exemption from registration under the Securities Act for the sales and issuances of securities in the transactions described in paragraphs (5) and (6) above under Section 4(a)(2) of the Securities Act in that such sales and issuances did not involve a public offering or under Rule 701 promulgated under the Securities Act, in that they were offered and sold either pursuant to written compensatory plans or pursuant to a written contract relating to compensation, as provided by Rule 701.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits. See the Exhibit Index attached to this Registration Statement, which is incorporated by reference herein.

(b) Financial Statement Schedules. Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. In the event that a claim for

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indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer, or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

1. For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.
2. For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

EXHIBIT INDEX

| Exhibit Number | Exhibit Description | Form | Date | Number | Filed Herewith |
|-----------------------|---|-------------|-------------|---------------|-----------------------|
| 1.1 | Form of Underwriting Agreement. | S-1 | 8-6-18 | 1.1 | |
| 3.1 | Amended and Restated Certificate of Incorporation of Restoration Robotics, Inc. | 8-K | 10-17-17 | 3.1 | |
| 3.2 | Amended and Restated Bylaws of Restoration Robotics, Inc. | 8-K | 10-17-17 | 3.2 | |
| 4.1 | Reference is made to Exhibits 3.1 through 3.2. | | | | |
| 4.2 | Form of Common Stock Certificate. | S-1/A | 9-18-17 | 4.2 | |
| 4.3 | Amended and Restated Investors' Rights Agreement, dated February 7, 2013, by and among the Company and the investors listed therein, as amended. | S-1 | 9-1-17 | 10.10 | |
| 4.4 | Form of Warrant to Purchase Stock dated August 27, 2014, issued to National Securities Corporation. | S-1 | 9-1-17 | 10.11 | |
| 4.5 | Form of Warrant to Purchase Common Stock dated May 10, 2018, issued to Solar Capital Ltd. and certain other lenders. | 8-K | 5-15-18 | 4.1 | |
| 5.1 | Opinion of Latham & Watkins LLP. | | | | X |
| 10.1 | Manufacturing Agreement for Systems, dated March 1, 2016, by and between Evolve Manufacturing Technologies Inc. and the Company. | S-1 | 9-1-17 | 10.1 | |
| 10.2 | Manufacturing Agreement for Consumables, dated April 1, 2016, by and between Evolve Manufacturing Technologies Inc. and the Company. | S-1 | 9-1-17 | 10.2 | |
| 10.3 | Component Pricing Agreement, dated August 1, 2016, by and between Evolve Manufacturing Technologies Inc. and the Company. | S-1 | 9-1-17 | 10.3 | |
| 10.4 | First Amendment to Component Pricing Agreement, dated August 30, 2017, by and between Evolve Manufacturing Technologies Inc. and the Company. | S-1 | 9-1-17 | 10.4 | |
| 10.5 | Lease Agreement, dated April 16, 2012, by and between Legacy Partners I San Jose, LLC and the Company. | S-1 | 9-1-17 | 10.5 | |
| 10.6 | First Amendment to Lease Agreement, dated April 27, 2016, by and between G&I VIII Baytech LP and the Company and Tenant Estoppel Certificate, dated March 30, 2017, acknowledging Bridge III CA Alviso Tech Park, LLC as successor-in-interest to Landlord thereto. | S-1 | 9-1-17 | 10.6 | |
| 10.7† | License Agreement, dated July 25, 2006 by and between the Company, James A. Harris, M.D. and HSC Development LLC. | S-1/A | 9-22-17 | 10.7 | |
| 10.8† | First Amendment to License Agreement, dated January 5, 2009, by and between the Company, James A. Harris, M.D. and HSC Development LLC. | S-1/A | 9-22-17 | 10.8 | |
| 10.9† | Second Amendment to License Agreement, dated February 23, 2015, by and between the Company, James A. Harris, M.D. and HSC Development LLC. | S-1/A | 9-22-17 | 10.9 | |
| 10.10# | 2005 Stock Plan. | S-8 | 10-17-17 | 99.1 | |
| 10.11# | Form of Notice of Stock Option Grant and Stock Option Agreement under 2005 Stock Plan. | S-1 | 9-1-17 | 10.20 | |
| 10.12# | Form of Notice of Stock Option Grant and Stock Option Agreement to International Optionees under 2005 Stock Plan. | S-1 | 9-1-17 | 10.21 | |

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| <u>Exhibit Number</u> | <u>Exhibit Description</u> | <u>Form</u> | <u>Date</u> | <u>Number</u> | <u>Filed Herewith</u> |
|-----------------------|--|-------------|-------------|---------------|-----------------------|
| 10.13# | 2015 Equity Incentive Plan. | S-8 | 10-17-17 | 99.4 | |
| 10.14# | Form of Stock Option Grant Notice and Stock Option Agreement under 2015 Equity Incentive Plan. | S-1 | 9-1-17 | 10.23 | |
| 10.15# | Form of Stock Purchase Right Grant Notice and Restricted Stock Purchase Agreement under 2015 Equity Incentive Plan. | S-1 | 9-1-17 | 10.24 | |
| 10.16# | 2017 Incentive Award Plan. | S-8 | 10-17-17 | 99.11 | |
| 10.17# | Form of Stock Option Grant Notice and Stock Option Agreement under the 2017 Incentive Award Plan. | S-1/A | 9-18-17 | 10.26 | |
| 10.18# | Form of Restricted Stock Award Grant Notice and Restricted Stock Award Agreement under the 2017 Incentive Award Plan. | S-1/A | 9-18-17 | 10.27 | |
| 10.19# | Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2017 Incentive Award Plan. | S-1/A | 9-18-17 | 10.28 | |
| 10.20# | 2017 Employee Stock Purchase Plan. | S-8 | 10-17-17 | 99.11 | |
| 10.21# | Employment Agreement, dated September 21, 2016, by and between Ryan Rhodes and the Company. | S-1 | 9-1-17 | 10.30 | |
| 10.22# | Employment Letter Agreement, dated November 29, 2011, by and between Charlotte Holland and the Company. | S-1 | 9-1-17 | 10.31 | |
| 10.23# | Employment Letter Agreement, dated September 4, 2008, by and between Gabriele Zingaretti and the Company. | S-1 | 9-1-17 | 10.32 | |
| 10.24# | Transition and Separation Agreement, dated April 1, 2016, by and between James W. McCollum and the Company. | S-1 | 9-1-17 | 10.33 | |
| 10.25# | Separation Letter Agreement, dated August, 3, 2016, by and between Lisa Edone and the Company. | S-1 | 9-1-17 | 10.34 | |
| 10.26# | Employment Letter, dated December 1, 2017, by and between Mark Hair and the Company. | 8-K | 12-11-17 | 10.1 | |
| 10.27# | Non-Employee Director Compensation Program. | S-1/A | 9-18-17 | 10.35 | |
| 10.28# | Form of Indemnification Agreement for directors and officers. | S-1/A | 9-18-17 | 10.36 | |
| 10.29† | Loan and Security Agreement, dated May 10, 2018, by and between the Company, Solar Capital Ltd. and certain other lenders thereto. | 8-K | 5-15-18 | 10.1 | |
| 21.1 | List of Subsidiaries. | 10-K | 3-5-18 | 21.1 | |
| 23.1 | Consent of Grant Thornton LLP, independent registered public accounting firm. | | | | X |
| 23.2 | Consent of Latham & Watkins LLP (included in Exhibit 5.1). | | | | X |
| 24.1 | Power of Attorney. Reference is made to the signature page to the Registration Statement. | | | | X |

Indicates management contract or compensatory plan.

† Portions of this exhibit (indicated by asterisks) are omitted pursuant to a request for confidential treatment that has been filed separately with the Securities and Exchange Commission.

Signatures

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in San Jose, California on August 9, 2018.

Restoration Robotics, Inc.

By: /s/ Ryan Rhodes
Ryan Rhodes
President and Chief Executive Officer

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

| <u>Signature</u> | <u>Title</u> | <u>Date</u> |
|---|--|----------------|
| <u>/s/ Ryan Rhodes</u> Ryan Rhodes | President, Chief Executive Officer and Director (Principal Executive Officer) | August 9, 2018 |
| <u>/s/ Mark L. Hair</u> Mark L. Hair | Chief Financial Officer (Principal Financial and Accounting Officer) | August 9, 2018 |
| <u>*</u> Frederic Moll, M.D. | Chairman and Director | August 9, 2018 |
| <u>*</u> Jeffrey Bird, M.D., Ph.D. | Director | August 9, 2018 |
| <u>*</u> Keith Sullivan | Director | August 9, 2018 |
| <u>*</u> Gil Kliman, M.D. | Director | August 9, 2018 |
| <u>*</u> Craig Taylor | Director | August 9, 2018 |
| <u>*</u> Shelley Thunen | Director | August 9, 2018 |

*By: /s/ Mark L. Hair
Mark L. Hair
Attorney-in-Fact

140 Scott Drive
 Menlo Park, California 94025
 Tel: +1.650.328.4600 Fax: +1.650.463.2600
 www.lw.com

LATHAM & WATKINS LLP

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August 9, 2018

Restoration Robotics, Inc.
 128 Baytech Road
 San Jose, CA 95134

Re: Registration Statement on Form S-1; \$17,250,000 Shares of Common Stock of Restoration Robotics, Inc., par value \$0.0001 per share

Ladies and Gentlemen:

We have acted as special counsel to Restoration Robotics, Inc., a Delaware corporation (the "**Company**"), in connection with the proposed issuance of up to \$17,250,000 shares of common stock, \$0.0001 par value per share (the "**Shares**"). The Shares are included in a registration statement on Form S-1 under the Securities Act of 1933, as amended (the "**Act**"), originally filed with the Securities and Exchange Commission (the "**Commission**") on August 6, 2018 (as amended, the "**Registration Statement**"). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related prospectus (the "**Prospectus**"), other than as expressly stated herein with respect to the issue of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware (the "**DGCL**"), and we express no opinion with respect to any other laws.

LATHAM & WATKINS LLP

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the purchasers and have been issued by the Company against payment therefor in the circumstances contemplated by the form of underwriting agreement most recently filed as an exhibit to the Registration Statement, the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm in the Prospectus under the heading "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Latham & Watkins LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report March 5, 2018 with respect to the consolidated financial statements of Restoration Robotics, Inc. included in the Annual Report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference in the Registration Statement. We consent to the incorporation by reference of the aforementioned report in the Registration Statement, and to the use of our name as it appears under the caption “Experts”.

/s/ GRANT THORNTON LLP

Denver, Colorado
August 9, 2018