UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2018

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM TO**

Commission File Number 001-38238

Restoration Robotics, Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**06-1681204**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

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)

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

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, $0.0001 par value per share	**The Nasdaq Stock Market, Inc.**

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☐ NO ☒

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES ☐ NO ☒

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). YES ☒ NO ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

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

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

As of June 29, 2018, (the last business day of the registrant's most recently completed second quarter), the aggregate market value of Registrant's common stock, par value $0.0001, held by non-affiliates of the Registrant was $66,841,767 based upon the closing price of $3.47 per share as reported for such date by the Nasdaq Global Market. Shares of the Registrant's common stock held by executive officers and directors of the Registrant and by each person who owned 10% or more of the outstanding common stock have been excluded because such persons may be deemed to be affiliates of the registrant. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of shares of Registrant's Common Stock outstanding as of February 28, 2019 was 40,767,012.

DOCUMENTS TO BE INCORPORATED BY REFERENCE

Certain information required in Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K (the "Annual Report") is incorporated by reference from our definitive Proxy Statement for our 2019 Annual Meeting of Stockholders (our "Proxy Statement") which will be filed with the Securities and Exchange Commission (the "SEC") within 120 days after the close of the fiscal year ended December 31, 2018.

Table of Contents

CAUTIONARY INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K for the year ended December 31, 2018 contains forward-looking statements concerning our business, operations, and financial performance and condition as well as our plans, objectives, and expectations for business operations and financial performance and condition. Any statements contained herein that are not of historical facts may be deemed to be forward-looking statements. In some cases, you can identify these statements by words such as "anticipate," "assume," "believe," "could," "estimate," "expect," "intend," "may," "plan," "should," "will," "would," and other similar expressions that are predictions of or indicate future events and future trends. These forward-looking statements include, but are not limited to, statements about:

- *the proposed Merger between the Company and Venus, the anticipated timing of the Merger and our ability to successfully complete the Merger;*
- *the continued growth in demand for our ARTAS® System, including our ARTAS iX 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 approvals for expanding the approved use of ARTAS for use in dissecting hair follicles to include women and individuals without straight brown or black hair;*
- *our expectations regarding the potential market size and the size of the patient populations for ARTAS;*
- *the effective pricing of ARTAS;*
- *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; and*
- *developments and projections relating to our competitors and our industry, including competing therapies and procedures.*

These forward-looking statements are based on current expectations, estimates, forecasts, and projections about our business and the industry in which we operate and management's beliefs and assumptions and are not guarantees of future performance or development and involve known and unknown risks, uncertainties, and other factors that are in some cases beyond our control. As a result, any or all of our forward-looking statements in this Annual Report on Form 10-K may turn out to be inaccurate. Factors that could materially affect our business operations and financial performance and condition include, but are not limited to, those risks and uncertainties described herein under "Item 1A - Risk Factors." You are urged to consider these factors carefully in evaluating the forward-looking statements and are cautioned not to place undue reliance on the forward-looking statements. The forward-looking statements are based on information available to us as of the filing date of this Annual Report on Form 10-K. Unless required by law, we do not intend to publicly update or revise any forward-looking statements to reflect new information or future events or otherwise. You should, however, review the factors and risks we describe in the reports we will file from time to time with the Securities and Exchange Commission, or the SEC, after the date of this Annual Report on Form 10-K.

This Annual Report Form 10-K also contains estimates, projections and other information concerning our industry, our business, and hair restoration market, including data regarding the estimated size of the hair restoration market. 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 reflected 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.

PART I

Item 1. Business.

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, or FUE, 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 and create recipient implant sites. 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 37 other countries. In March 2018, we received 510(k) clearance from the FDA to expand the ARTAS® technology to include implantation and in the third quarter of 2018, we commercially launched the next generation ARTAS® System, called ARTAS® iX System, which incorporates the implantation functionality as well as other functionalities. As of December 31, 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® iX System cart, including the robotic arm and the needle mechanism which houses the automated needle and punch used for follicle dissection and site making.

Proposed Merger with Venus

On March 15, 2019, we entered into an Agreement and Plan of Merger and Reorganization (the "Merger Agreement") with Radiant Merger Sub Ltd., a company organized under the laws of Israel and a directly, wholly-owned subsidiary of the Company ("Merger Sub"), and Venus Concept Ltd., a company organized under the laws of

Israel ("Venus") to combine the companies in an all-stock transaction. The Merger Agreement and the Merger (as defined below) have been approved by our board of directors (the "Board") and the board of directors of Venus. The transaction is expected to close in the third quarter of 2019, subject to customary closing conditions, including the approval by stockholders of Restoration Robotics and Venus Concept and receipt of all necessary regulatory approvals.

The Merger Agreement provides that, upon the terms and subject to the satisfaction or waiver of the conditions set forth therein, Merger Sub will be merged with and into Venus (the "Merger"), with Venus continuing as the surviving corporation and a direct wholly-owned subsidiary of the Company.

Under the terms of the transaction, Restoration Robotics and Venus Concept shareholders will own approximately 15% and 85% of the combined company, respectively, on a fully diluted basis, without giving effect to the shares issued in the proposed equity financing that is expected to close immediately after the merger. EW Healthcare Partners has committed to lead a $21.0 million equity investment, priced at $0.825 per share (subject to adjustment for stock splits), in the combined company's common stock contingent on the closing of the merger transaction. Additional investors committed to participating in the proposed equity financing include HealthQuest Capital, Madryn Asset Management, Longitude Capital Management, Fred Moll and Aperture Venture Partners. In addition to the equity financing, Fred Moll and InterWest Partners previously funded a $5 million convertible note into Restoration Robotics which will convert into the combined company's common stock at the closing of the equity financing led by EW Healthcare, at a price of $0.825 per share (subject to adjustment for stock splits).

Concurrent with closing of the transaction, the Company anticipates effecting a reverse stock split. The Company expects to have approximately 283.2 million shares outstanding (or approximately 18.9 million shares outstanding after giving effect to an anticipated 1-for-15 reverse stock split) and after taking into account shares issued to the former Venus Concept shareholders in the merger, shares issued as part of the $21.0 million equity investment, and shares issued upon conversion of the $5.0 million convertible notes issued by us in February, 2019.

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 2017. 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. Male aesthetic procedures have increased 325% since 1997.
- A market shift to less invasive hair restoration procedures such as follicular unit extraction which, according to ISHRS, have increased from less than 10% of hair restoration procedures performed in 2004 to about 52.6% in 2017.
- 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 clearance to market the ARTAS® System in the U.S. for dissecting hair follicles from the scalp of men diagnosed with AGA who have black or brown straight hair and to implant those follicles in the scalp of the patient. With this clearance we can market the ARTAS® System to physicians to treat this growing market.

The Hair Loss Market

According to the census conducted by ISHRS, in 2016, an estimated $4.1 billion was spent globally on surgical hair restoration treatments, representing a 64% increase over the estimated $2.5 billion spent in 2014. In general, the global market for aesthetic procedures marketed towards men is significant and growing. For example, according to ASAPS statistics, the number of aesthetic procedures performed on men in the U.S. increased 325% from 1997 to 2015, to approximately $1.3 billion. The patient market for hair loss is significant with approximately 35 million men suffering from AGA in the United States alone.

Hair Loss Treatment Options and Their Limitations

The treatments for hair loss can broadly be divided between non-surgical options and surgical procedures.

Non-Surgical Options

Non-surgical options for hair loss include prescription therapeutics and non-prescription remedies. In the U.S., the FDA has authorized two prescription therapeutics for hair loss: Rogaine which is applied topically, and Propecia which is ingested in pill form. Both Rogaine and Propecia have several drawbacks, including limited efficacy in some individuals and the need for strict patient compliance for the treatment to have meaningful effect. Both products require strict usage without breaks and often require a minimum of six months before meaningful effect is visible. Furthermore, while uncommon and not affecting all men, Propecia can cause multiple side-effects given its systemic administration, including impotence, swelling, dizziness and weakness. In addition to prescription therapeutics, non-surgical remedies for hair loss include wigs, hair pieces and spray-on applications, which also have significant drawbacks primarily due to an unnatural aesthetic look.

Surgical Procedures

Surgical procedures to address hair loss continue to evolve and become more popular. The first of these therapies, hair plugs, was developed in the late 1950s. Due to the size of the transplanted hair follicle groups, or plugs, the transplants resulted in an unnatural look with the patient often having a “doll-hair” like appearance, the clumping or grouping of hair follicles in a visibly uniform pattern. Because of the poor aesthetic results of hair plugs, strip surgery, or FUT, follicular unit transplantation and FUE became increasingly more popular.

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 (under the supervision of a physician) 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.

Strip Surgery

In an FUT procedure, or strip surgery, the physician uses a sharp scalpel to surgically remove a large strip of the patient’s scalp, approximately eight inches in length, and one-half inch in width and depth, from the donor area. The subsequent wound is sutured or stapled closed. Following the surgical removal of the strip of the scalp from the patient’s head, the follicular unit grafts, the natural groupings of hair follicles in the scalp, are removed from the strip of scalp by technicians using microscopes and scalpel blades. Following the removal of the individual hair follicles, technicians implant the individual hair follicles into hundreds to thousands of incisions in the patient’s scalp prepared by the physician.

Strip surgery results in a linear scar which may enlarge over time creating a poor aesthetic outcome in the donor area. As a result, strip surgery patients are generally unable to wear their hair short without revealing the scar. Furthermore, multiple strip surgeries can cause a significant stretching of the scalp which can exacerbate the appearance of this scar. There can also be complications from strip surgery, such as ongoing pain at the scar site, numbness, and potential nerve damage.

Follicular Unit Extraction Using Hand-Held Devices

In part as a solution to the significant scarring and other drawbacks of strip surgery, the follicular unit extraction, or FUE, procedure was developed in the early 2000s. In an FUE procedure, rather than surgically removing a portion of the patient’s scalp, each hair graft is individually dissected from the scalp for transplantation. Because a strip of the patient’s scalp is not removed, a FUE procedure avoids a long linear scar and reduces the post-operative pain and numbness associated with strip surgery. Following the dissection of the individual hair follicles, the physician uses a hand-held device to remove the hair follicles. After harvesting, the individual hair follicles are implanted in the same way as in a strip surgery procedure.

Drawbacks of Strip Surgery and FUE Surgery Using Hand-Held Devices

While strip surgery and FUE surgery using a hand-held device, or manual FUE, can provide significant, long-term results in restoring hair, there are several limitations associated with these procedures.

- *Technician training.* Strip surgery and manual FUE procedures require dexterity, demanding hand-eye coordination, and attention to detail by all members of the transplant team. Technicians must handle the delicate grafts carefully and place them into site incisions during implantation without damaging the grafts. For strip surgeries in particular, a technician must undergo significant training to dissect grafts under a microscope and it can take a significant period of time for a technician to become proficient.
- *Labor intensive.* Both strip surgery and manual FUE procedures require a large team of technicians to perform the procedure, generally requiring between four and eight technicians. The labor intensiveness and time-consuming nature of these techniques limits the number of procedures physicians can perform.
- *Long learning curve.* Both strip surgery and manual FUE procedures require a major investment of time on the part of physicians and technicians to learn the technique. A physician must commit a substantial amount of time to learn the manual FUE harvesting technique and they often report that the technique is technically and *ergonomically* challenging. Initially, a physician may only be able to harvest a limited number of grafts per hour, which may ultimately affect the size of the hair transplant procedure the physician is able to perform. In addition, the follicles harvested by a physician using the FUE technique may not be of a high quality. Even physicians and technicians who are highly experienced may have results with high transection rates while performing a manual FUE procedure. For strip surgeries, there is a significant time investment made to train each technician to dissect grafts under a microscope, handle the delicate grafts with instrumentation and to place the grafts into the site incisions during implantation.
- *Surgical planning and recipient site making.* In making the recipient sites into which hair follicles are transplanted, the ability of the physician and the technician to visualize and avoid injuring existing hair is limited to what they can achieve with magnified lenses. As a result, this limited visualization may compromise the aesthetic outcome. Additionally, manual site making can present additional issues and complications, including cutting into and damaging existing healthy hair, difficulty in matching existing hair angles, successfully creating a random distribution pattern for implantation in order to create a more natural look, and creating sites with a consistent and optimal depth.
- *Lack of high-quality visualization tools for the patient.* Generally, hair restoration physicians utilize before and after pictures of previous patients and grease pens to delineate the transplant area. These are typically the only available tools to assist the patient in understanding the aesthetic effect of the procedure and do not provide information to visualize the expected outcome illustrated on the actual patient.
- *Inconsistency in performance.* Both strip surgery and manual FUE procedures require either physicians or technicians to perform the repetitive and tedious tasks of dissecting grafts over a long period of time. In a strip surgery, the technicians are required to dissect the individual follicles from the harvested strip of the patient's scalp, whereas in a manual FUE procedure the physician and technicians are required to harvest each individual follicle directly from the patient's scalp. As a result of this lengthy and tedious process, the physician or technician may begin to fatigue and his or her ability to maintain the concentration necessary to consistently extract high-quality grafts without causing follicle damage may diminish. In addition, graft dissection productivity may decline during the long procedure due to fatigue.

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. We believe, with this assistance, the ARTAS® System can help shorten the often-long learning curve for both physicians and technicians to become proficient in performing hair restoration procedures. In addition, we believe that by assisting the physician and technicians with many of the repetitive and tedious tasks associated with the hair restoration procedure, the ARTAS® System can make hair restoration procedures less labor intensive and can reduce inconsistent results. Further, we believe the ARTAS® System's Site Making functionality, which includes an enhanced imaging system and sophisticated algorithms, helps physicians avoid damaging existing follicles and enables them to create a more natural, aesthetically pleasing outcome for the patient. In March 2018, we received 510(K) clearance from the FDA to expand the ARTAS technology to include implantation of harvested hair follicles. In

December 2018, we completed the ISO audit and are compliant with CE Mark requirements for the sale of the ARTAS® iX System with implantation functionality in Europe. Our platform 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 ARTAS procedure provides patients with a minimally invasive, less painful alternative to strip surgery. The ARTAS® System has a faster recovery time and avoids the long linear scar at the back of the patient's head. The ARTAS Hair Studio application allows patients to visualize the expected post-procedure outcome through a three-dimensional model. We believe this patient-physician interaction can provide patients more confidence and make the patient more comfortable in undergoing the procedure. Due to these advantages, we believe the ARTAS® System and the ARTAS Hair Studio application are appealing to potential patients considering a hair transplant or those that are using fewer effective treatments, such as prescription therapeutics or other non-surgical products.
- In addition to the advantages afforded to patients, we believe the ARTAS® System and the ARTAS Hair Studio application provide compelling benefits for physicians. The ARTAS® System's image-guided robotic capabilities allow physicians to perform procedures with fewer staff than what might be required for a traditional strip surgery or a FUE procedure using hand-held devices. With the robotic assistance provided by the ARTAS® System, we believe physicians and technicians will be able to perform the complicated, repetitive and tedious task of dissecting hair grafts with less fatigue and greater productivity than would be possible in a manual FUE procedure. In addition, we believe the ARTAS® System, through its ergonomic and easy-to-use platform, in tandem with the high-quality training we provide, can significantly shorten the learning curve for physicians and technicians.

- We strategically market the ARTAS® System to hair restoration surgeons, dermatologists, plastic surgeons and aesthetic physicians. We believe we can reach our target physician customers effectively through focused marketing efforts. These efforts include participation in trade shows, scientific meetings, educational symposiums, webinars, online advertising and other activities. For physicians who purchase the ARTAS® System, we provide comprehensive clinical training, practice-based marketing support, as well as patient leads. For example, we believe we help our physician customers increase the number of procedures performed by assigning a practice success manager, or PSM, to aid in building the physician-customer's hair restoration practice. Support from a PSM includes the deployment of patient marketing materials, assisting with social media and digital marketing strategies, and other marketing and sales support.

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.

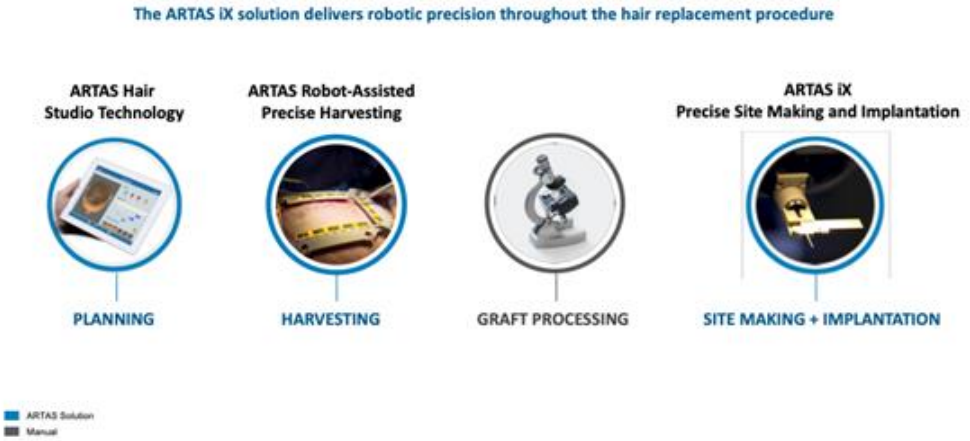
Physician Value. We believe the ARTAS® System provides physicians compelling economic benefits and enables physicians to achieve consistent reproducible results. As a result, we believe the ARTAS procedure also offers an attractive addition to existing dermatology, plastic surgery or aesthetics practices whether they do or 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.
- We believe 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.
- 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.

The ARTAS® and ARTAS® iX Systems and Procedure

We believe the ARTAS® and ARTAS® iX Systems with the ARTAS Hair Studio application have improved multiple phases of the hair transplantation procedure, which include patient consultation, harvesting, recipient site making and implantation.

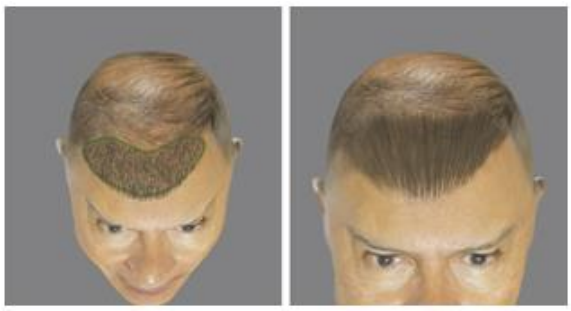


Patient Consultation

During the initial consultation process, potential patients want to understand their hair restoration procedure and visualize its aesthetic outcome. Traditionally, physicians have used pre-procedure and post-procedure pictures of previous patients to illustrate how a new patient's results might look, requiring a patient to use their imagination to visualize the potential results. Physicians may also use a grease pen to draw the areas directly on the patient's head to show where grafts could be implanted.

We introduced the ARTAS Hair Studio application in 2014 to make the consultation more informative, interactive and easy for physicians to utilize. The ARTAS Hair Studio application produces a three-dimensional rendering of the recipient area viewable on a tablet device. The physician can draw on the tablet to simulate alternative cosmetic outcomes. A patient can, in real-time, visualize the simulation and look at various outcomes based on the number of grafts to be implanted and placements of the graphs. Since hair transplantation prices charged by physicians often vary based on the number of grafts, this aids both the physician and patient in arriving at a site plan that balances outcome expectations and patient price sensitivities.

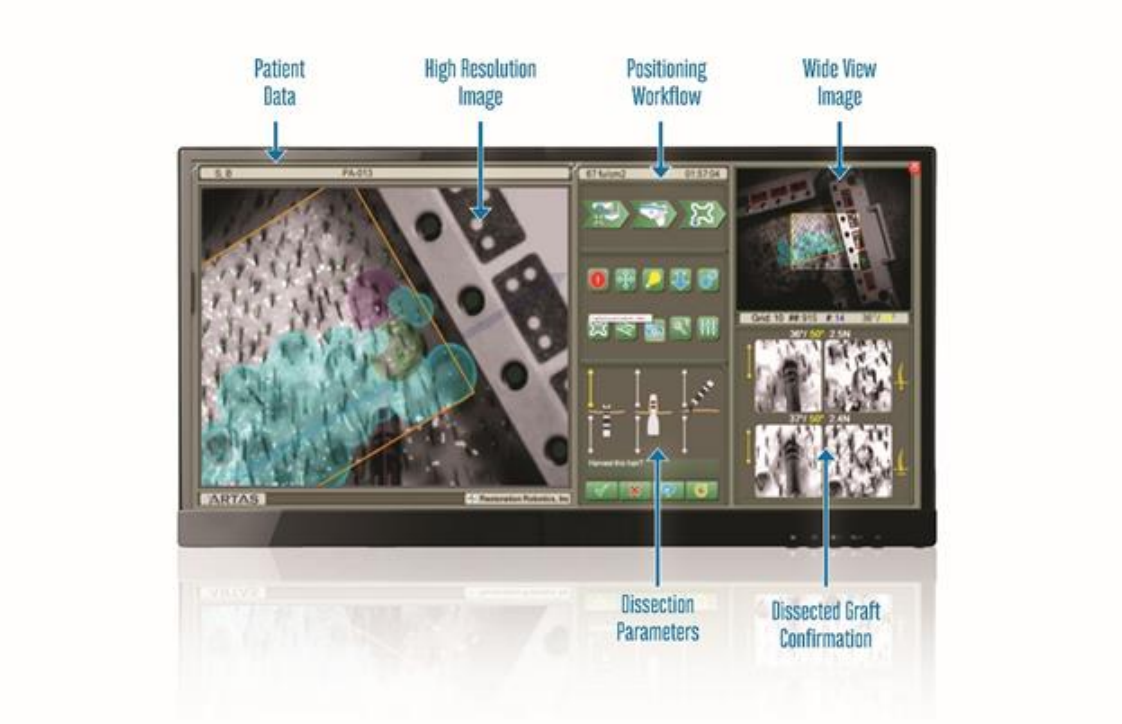
The following is an example of an ARTAS Hair Studio pre-procedure and post-procedure simulation:



Harvesting

During the harvesting phase of the hair restoration procedure, the robotic arm and integrated vision system work in tandem to identify the optimal hair follicles to be used in the procedure. The ARTAS vision system uses proprietary algorithms to identify individual hair follicles, growth angle, density, thickness, length and follicle grouping and to determine which grafts to dissect and the optimal order in which they should be dissected. The algorithms recalculate 60 times per second, accommodating patient movement, to provide the physician with accurate up-to-date information during the course of the procedure. We believe these assessments directly correlate to the quality of the outcome and the state of the donor area. This is important as we believe it affects how the donor area will appear following the procedure, and the potential viability for subsequent harvesting for future transplantation procedures.

The ARTAS® System harvesting user interface provides the physician with enhanced control during the procedure. An example of the harvesting user interface appears as follows:



Following the vision system's identification of the optimal hair follicles for transplant, the ARTAS® System dissects these follicles using a sharp needle to score the epidermis and a punch, coaxial with the needle, to separate the graft from the surrounding tissue. In the final step of the harvesting phase, the grafts are removed manually with forceps by the physician or the technician. The grafts are then cleaned, inspected and prepared for implantation.

During the procedure, the physician can customize the dissection incisions by choosing a needle and punch that will produce 0.8mm, 0.9mm or 1.0mm incisions. The image below illustrates a typical ARTAS® System punch and needle:

The needle travels at speeds such that, when it contacts the skin, it provides targeted precision and a cleanly scored incision. The punch then spins between 3,000 and 5,000 rpm and loosens the grafts from the surrounding tissue. In a clinical setting, we have observed that the dissection cycle takes between one to two seconds per graft, depending on the length of the graft. In a clinical setting, the ARTAS® System has been shown to move from graft to graft at a rate of approximately one to three seconds, thereby enabling the ARTAS® System to dissect a graft every two to five seconds, or approximately 720 to over 1,800 grafts per hour. The ARTAS® System enables the physicians to adjust dissection parameters to accommodate for different types of skin and manipulate graft selection algorithms based on patient needs. The ARTAS® System can be programmed to dissect as many grafts as appropriate thus maximizing the use of the donor area. It can also be programmed to dissect grafts with more than two hairs each, thereby increasing the hair yield or the number of hairs per graft.

During the harvesting phase of the hair transplantation procedure, the patient may be lightly sedated, and the integrated vision system can track patient movement and pause if excessive movement is detected.

Recipient Site Making

Sites, or incisions, are created to receive the harvested grafts. This task is generally performed by the physician. Prior to the ARTAS® System, site making was performed manually using a hand-held tool or needle to create hundreds to thousands of tiny incisions in the scalp. This is a critical step as it creates the hair pattern in which the harvested grafts will grow. From communications with physicians we have found that, typically, a physician can manually create approximately 1,500 sites per hour. Precision and consistency, however, can be affected by experience, hand-eye coordination and fatigue.

The ARTAS® System Site Making functionality incorporates artificial intelligence and robotics precision to strategically make surgical incision sites for implanting hair follicles, while also identifying and avoiding injuring healthy follicles in proximity of the implantation sites. This allows the patient’s hair to look more natural and prevents damaging existing healthy hair in the transplant area which we believe would result in patients with more hair than if the sites were made manually.

Robotic recipient Site Making, introduced in 2015, is performed by the physician, who develops the ARTAS® System treatment plan, or map, identifying where to make the incisions on the patient. The treatment plan is prepared using three-dimension modeling software that takes one picture of the patient’s recipient area and generates a three-dimensional map that is utilized by the ARTAS® System. With entry angle accuracy, consistency and precise depth control, the ARTAS® System creates the recipient sites using a small solid core needle or a blade at a rate of approximately 2,500 to 3,000 sites per hour, which is significantly faster than the approximately 1,500 sites per hour achieved manually.

Implantation

Following the site making phase of the hair transplantation procedure, the physician and/or technicians utilizing an ARTAS® System without the implantation functionality will manually implant the grafts in the robotically created sites made by the ARTAS® System. Physicians and technicians utilizing an ARTAS® iX System can utilize the robotic functionality of the system to assist in implanting the dissected follicles. We believe this robotic implantation functionality will help further shorten the learning curve, improve the consistency and reproducibility of results by protecting permanent hair and reducing inconsistencies associated with manual implantation, and could potentially reduce the amount of time each graft spends outside of the scalp and decrease the overall time required for implantation.

ARTAS® Kits for Harvesting and Site Making

The ARTAS® System utilizes a set of disposable and reusable kits for our Harvesting and Site Making functionality. Each system comes with a set of reusable items. The disposable kits are included with the purchase of procedures.

Our Growth Strategy

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

- *Broaden Our Physician Customer Base*. In addition to continuing to market the ARTAS® System to traditional hair restoration practices, we continue to expand our direct sales efforts to include other physician specialties, such as dermatology and plastic surgery. In both the traditional hair restoration practices and other customer bases, we will be selective in identifying those practitioners who have a track record of successful integration of new technologies and a strong desire to build a hair restoration practice around the ARTAS® System.
- Increase Sales and Marketing Investments in the United States. We have made certain strategic changes to and investments in our U.S. sales and global marketing organizations, which included terminating certain personnel and hiring new personnel and realigning our reporting and leadership structure in the sales organization. For example, throughout 2018 we are increasing the size of our U.S. sales force by hiring sales professionals with experience selling capital equipment and equipment to physicians in the aesthetic market. In addition, we invested significantly in our sales and marketing efforts related to the launch of the ARTAS® iX System. Strategically, we have been focused on our branding and have consolidated our regional marketing teams to standardize our messaging and focus of our marketing spending with an aim to be more efficient and cost-effective.
- *Continue to Innovate.* Since the introduction of the ARTAS® System in 2011, we have regularly introduced new innovations and updates to the ARTAS® System, and we intend to continue this innovation going forward. For example, we are developing a robotic implantation functionality to the ARTAS® System which is in clinical development. We also intend to continue to refine our harvesting technology and user interface, while making ongoing investments in research and development driven by customer feedback and market demands. Furthermore, we may pursue expanding the cleared indications of use beyond men with a specific hair type so that the ARTAS® System can be more broadly utilized.
- *Drive Increased Utilization*. In addition to revenue from system sales and servicing, we also generate revenue from procedure-based fees. We will continue to work collaboratively with our physician customers to increase utilization by introducing new functionalities, technology and innovations. In addition, we believe we can increase procedure revenue by helping physicians build their practice through our marketing and training support. To achieve all of these goals, we intend to utilize our teams of clinical training managers, or CTMs, PSMs and field service engineers to work with and to support our physician customers in developing profitable ARTAS practices.

Research and Development

Since we started selling the ARTAS® System in 2011, we have introduced several new functionalities and enhancements designed to make the use of the ARTAS® System more intuitive for clinicians and more comfortable for patients with the ultimate goal of improving clinical outcomes.

Our research and development efforts are focused on improvements which continue to refine our Harvesting and Site Making functions, as well as the recently developed implantation functionality for the ARTAS® iX System. We also intend to continue to improve our user interface, while making ongoing investments in research and development driven by customer feedback and market demands. For the years ended December 31, 2018, 2017 and 2016, we incurred research and development expenses of $8.4 million, $7.1 million and $7.5 million, respectively.

Intellectual Property

Patents and Proprietary Technology

We rely on a combination of patent, copyright, trademark and trade secret laws, and confidentiality and invention assignment agreements to protect our intellectual property rights. As of December 31, 2018, we had 86 issued U.S. patents, primarily covering the ARTAS System and methods of use, the earliest of which expire in 2021, 20 pending U.S. patent applications, 112 issued foreign patents, some of which preserve an opportunity to pursue patent rights in multiple countries, and 33 pending foreign patent applications.

Our patents cover the ARTAS Hair Studio and ARTAS® System's robotic mechanism, vision system, methods and algorithms of harvesting and making recipient sites, industrial designs and hardware. Our pending patent applications may not result in issued patents, and we cannot provide assurance that any current or subsequently issued patents will protect our intellectual property rights. Third parties may challenge certain patents issued to us as invalid, may independently develop similar or competing technologies or may design around any of our patents. We cannot be certain that any of the steps we have taken will prevent the misappropriation of our intellectual property, particularly in foreign countries where the laws may not protect our proprietary rights in these countries as fully as in the U.S.

There is no active patent litigation involving us and we have not received any notices of patent infringement.

License Agreement with HSC Development LLC and James A. Harris, MD

In July 2006, we entered into a license agreement, or the HSC license agreement, with HSC Development LLC, or HSC, and James A. Harris, M.D., as amended, pursuant to which we received an exclusive, worldwide license to develop, manufacture and commercialize products covered by any of the licensed patent rights or that incorporate the licensed technology in the field of performance of hair removal and implantation, including transplantation, procedures using a computer controlled system in which a needle or other device carried on a mechanized arm is oriented to a follicular unit for extraction of same, or to an implant site for implantation of a follicular unit, or some combination thereof. Under the HSC license agreement, we are developing the ARTAS® System to be utilized as a robotic system to assist a physician in performing hair restoration procedures. In consideration for the license, we issued to HSC 25,000 shares of our common stock, prior to the Company's 1-for-10 reverse stock split, and paid HSC a one-time payment of $25,000. The license grant is perpetual, and the license agreement does not provide a right for HSC or Dr. Harris to terminate the HSC license agreement. The licensed patents cover, in general, a method and device for the extraction of follicular units from a donor area on a patient. The method includes scoring the outer skin layers with a sharp punch, and then inserting a blunt punch into the incision to separate the hair follicle from the surrounding tissue and fatty layer. The method and device significantly decrease the amount of follicular transection and increase the rate at which follicular units can be extracted. There are other embodiments not herein disclosed. The licensed patents will expire from 2025 through 2030.

Sales and Marketing

We generate revenue from the sale and service of ARTAS® Systems and procedure-based fees. Generally, our physician customers either purchase their procedures online or through distributors. In the U.S., physician customers generally pay on a per hair follicle basis for the hair follicles to be harvested or, and on a per procedure basis for hair follicle harvesting and site making, and implantation, if they operate an ARTAS® iX System. Outside of the U.S., physician customers generally pay on a per procedure basis for both hair follicle harvesting and site making, and implantation where ARTAS® iX System has been approved for use. Customers generally either purchase their ARTAS® System directly or finance their purchase through third parties. We do not provide long-term financing to our customers.

We sell the ARTAS® System, provide service and generate procedure-based fees. In the U.S. we generate revenue through our direct sales force. Outside of the U.S. we utilize our direct sales force as well as third-party distributors. As of December 31, 2018, we have sold the ARTAS® System in 37 countries and the ARTAS® iX System in two countries.

U.S. Sales

We sell the ARTAS® System, provide service and generate procedure-based revenue by helping our physician customers build their hair restoration practice, through a direct sales force in the U.S. which, as of December 31, 2018, included ten regional sales managers, or RSMs, eight Clinical Training Managers, or CTMs and six Practice Success Managers, or PSMs.

Regional Sales Managers

Our RSMs are responsible for coordinating and executing the direct sales of the ARTAS® Systems. We target potential customers through marketing events and programs, and we leverage longstanding RSM relationships with dermatologists, plastic surgeons and cosmetic aesthetic surgeons.

Clinical Training Managers

Our CTMs provide high quality, comprehensive training and education to physicians on the use of the ARTAS® System and on how to build their hair restoration practices. Our CTM team is comprised of highly-skilled professionals with an average of over 10 years of experience in training physician practices in hair restoration or other aesthetics procedures and surgery. We provide this initial training to assist physicians and their staffs in performing the ARTAS® procedure in accordance with the product's cleared instructions for use. Prior to the installation of the ARTAS® System, the CTMs meet with the physician and their technicians to assess the level of training that will be required.

Our CTM training programs involve product and procedure training. During this initial training, we typically have one to three CTMs on site. We have found that a key to adoption and utilization of the ARTAS® System is clinical confidence in the ARTAS® System technology and procedure. We often conduct onsite physician training when we introduce innovations, such as the ARTAS® Hair Studio application and our Site Making functionality.

Practice Success Managers

Our PSMs are responsible for helping our physician customers build awareness and market the ARTAS procedure and increase ARTAS brand-awareness. Our PSMs average over five years of experience in developing hair restoration practices and aesthetics practices. They form strong relationships with our customers and consult on how to integrate the ARTAS® System into their practices, while raising awareness of the procedure among potential patients. This process often begins before the ARTAS® System is installed at the customer site. Our PSMs work closely with the team that will manage the ARTAS business at the practice level to establish goals and develop detailed strategies to achieve these goals. This includes extensive training and coaching with respect to the patient consultation process. We provide easily implemented marketing tools allowing practices to create individually tailored website content, direct mail advertisements, print ads for magazines and newspapers and brochures. In addition, PSMs consult on methods to raise awareness of the ARTAS procedure through practice events, public relations, television, and radio advertising and other channels.

International Sales

We are developing selected markets outside the U.S. through a combination of direct selling and a network of distribution partners. As of December 31, 2018, we have three regional directors overseeing Asia, Europe, the Middle East, Africa and Latin America. These regional directors are responsible for coordinating direct sales, as well as the management of our distribution partners within these regions. We require our distributors to provide technical service, clinical education, training and practice development.

In international markets, we utilize a variety of tools to market to physicians. We have employees supporting marketing-related activities dedicated to international regions. We provide market support for our existing international ARTAS® System owners that is substantially like the support we provide to owners in the U.S., either directly or indirectly through our distributors. We also market at major medical and scientific meetings, as well as tradeshows. Furthermore, we sponsor the ARTAS Symposia where physicians can view live ARTAS procedures and attend physician lectures and panel discussions led by key opinion leaders to learn how to develop successful ARTAS practices.

Competition

We compete directly in the surgical hair restoration market. We consider our direct competition to be strip surgeries and FUE procedures using hand-held devices. Among FUE procedures, we face specific competition from the manufacturers of hand-held devices, such as NeoGraft, which is a 510(k) exempt Class I device for use in hair transplantation procedures. We believe there are less than a dozen manufacturers of hand-held devices for FUE procedures. NeoGraft, similar to certain other hand-held FUE devices, consists of a hand-held sharp punch that is motorized to dissect and to use suction to remove grafts from the scalp.

We believe that the primary competitive factors in this market are:

- company and product brand recognition;
- effective marketing and education;
- sales force experience and access;
- product support and service;
- technological innovation, product enhancements and speed of innovation;
- pricing and revenue strategies;
- product reliability, safety and durability;
- ease of use;
- consistency, predictability and durability of aesthetic results;
- procedure costs to patients; and
- dedicated practice development teams; and dedicated clinical training teams.

Many of our surgical device and equipment competitors have greater capital resources, sales and marketing operations and service infrastructures than we do, as well as longer commercial histories and more extensive relationships with physicians.

Strip surgery and some manual FUE procedures have a greater penetration into the hair restoration market. We face resistance from some established hair restoration practices in converting to ARTAS procedures due to workflow and staffing changes required, even though we believe that staffing requirements are reduced with the adoption of ARTAS procedures.

We face competition to recruit and retain qualified sales, training and other personnel.

We face competition for attention from our distributors as they may also sell other non-competing products.

Our indirect competition includes non-surgical treatments for hair loss, such as prescription therapeutics, including Propecia, and non-prescription remedies, such as wigs, hair pieces and spray-on applications. We also face competition from other aesthetic devices that physicians may consider adding to their practice in lieu of building a hair restoration practice.

Manufacturing

During the second half of 2018, we began to assemble the ARTAS® iX System in San Jose, California, while reusable and disposable kits are assembled exclusively for us by NPI Solutions, Inc., or NPI based in Morgan Hill, California.

The components that make up the ARTAS® iX System are manufactured by many different providers, including major components manufactured by sole source suppliers, such as the robotic arm, which is manufactured by Kuka Robotics, Inc., the cameras, which are manufactured by FLIR Integrated Imaging Solutions Inc. and the product casing, which is manufactured by 3D-Cam International Corporation. Each of the ARTAS® Systems undergoes testing at multiple interim stages during the manufacturing process and is tested during one last time prior to delivery.

We may also have difficulty maintaining sufficient production requirements in the event that our relationship with any of our sole source suppliers or manufacturers terminates in the future. Where practicable, we are seeking, or intending to seek second-source manufacturers for certain of our components. We believe that existing third-party facilities will be adequate to meet our current and anticipated manufacturing needs. In the last three years, we have not experienced any material delays in obtaining any of our products, nor has the ready supply of finished product to our customers been adversely affected.

In the U.S., we are required to manufacture our products in compliance with the FDA's Quality System Regulation, or QSR. The QSR covers the methods and documentation used in, and the facilities used for the design, testing, control, manufacturing, labeling, quality assurance, packaging, storage and shipping of our products. In international markets, we also maintain various quality assurance and quality management certifications. We have obtained the following certifications that enable us to market our products in the European Union member states: Quality Management System ISO 13485 certificate. We have additionally obtained and maintain our product registration in several other foreign markets such as Canada and China.

Our current facilities are adequate to support our near-term operations; however, they may not be sufficient in the long term. Leases for our manufacturing and warehouse locations expire in April 2019.

Services and Support

We provide a warranty that typically has a term of one year and covers all the components of the system. Once the warranty expires, customers have the option of purchasing a service contract, which is typically for a term of one or two years. The service contracts that we offer cover preventative and corrective maintenance visits for all components of the system as well as system updates.

For both warranties and service contracts, the customer's typical first point of contact for system failures or other technical issues is our customer support line. If the problem cannot be resolved over the phone or by directly connecting to the customer's system electronically, a field service engineer will be dispatched to the customer site. We generally have a 24-hour response time or less for service calls. Our goal is to minimize the disruption caused by a service event.

We strive to provide highly responsive service and support for the ARTAS® System and the ARTAS® iX System. Our disposable and reusable kits are shipped from Legacy Transportation Services Inc. All kits are identified with lot numbers and date codes that indicate the expiration date of the product and are fully warranted until the date of expiration. We maintain a staff of customer service personnel in our San Jose, California facility that is available by phone to answer questions regarding the use of the ARTAS® System and ARTAS iX® System. In addition, in the U.S. and certain international territories, our direct service organization provides on-site support and training to our customers in the use of the ARTAS® System and the ARTAS® iX System.

In the U.S. and certain international territories, the ARTAS® System and ARTAS® iX System is shipped to a customer's site for installation by one of our Field Service Engineers and training by one of our CTM's. Our Field Service Engineers, CTMs and PSMs provide post-installation support and service.

In markets where we utilize distributors, the ARTAS® System is serviced and supported through our independent distributors. We typically provide distributors with a warranty for each ARTAS® System during the warranty period. Once the warranty period ends, the distributors have the option to continue providing support to the end-user customer by purchasing parts through our Parts and Services program or on an as-needed basis.

Government Regulation

Our products and our operations are subject to extensive regulation by the FDA and other federal and state authorities in the U.S., as well as comparable authorities in foreign jurisdictions. Our products are subject to regulation as medical devices in the U.S. under the Federal Food, Drug, and Cosmetic Act, or FDCA, as implemented and enforced by the FDA. The FDA regulates the development, design, non-clinical and clinical research, manufacturing, safety, efficacy, labeling, packaging, storage, installation, servicing, recordkeeping, premarket clearance or approval, import, export, adverse event reporting, advertising, promotion, marketing and distribution, and import and export of medical devices to ensure that medical devices distributed domestically are safe and effective for their intended uses and otherwise meet the requirements of the FDCA.

FDA Premarket Clearance and Approval Requirements

Unless an exemption applies, each medical device commercially distributed in the U.S. requires either FDA clearance of a 510(k) premarket notification, or approval of a premarket approval application, or PMA. Under the FDCA, medical devices are classified into one of three classes—Class I, Class II or Class III—depending on the degree of risk associated with each medical device and the extent of manufacturer and regulatory control needed to ensure its safety and effectiveness. Class I includes devices with the lowest risk to the patient, and Class I devices are those for which safety and effectiveness can be assured by adherence to the FDA's General Controls for medical devices, which include compliance with the applicable portions of the Quality System Regulation, or QSR, facility registration and product listing, reporting of adverse medical events, and truthful and non-misleading labeling, advertising, and promotional materials. Class II devices are subject to the FDA's General Controls, and special controls as deemed necessary by the FDA to ensure the safety and effectiveness of the device. These special controls can include performance standards, post market surveillance, patient registries and FDA guidance documents. While most Class I devices are exempt from the 510(k) premarket notification requirement, manufacturers of most Class II devices are required to submit to the FDA a premarket notification under Section 510(k) of the FDCA requesting permission to commercially distribute the device. The FDA's permission to commercially distribute a device subject to a 510(k) premarket notification is generally known as 510(k) clearance. Devices deemed by the FDA to pose the greatest risks, such as life-sustaining, life-supporting or some implantable devices, or devices that have a new intended use, or use advanced technology that is not substantially equivalent to that of a legally marketed device, are placed in Class III, requiring approval of a PMA. Some pre-amendment devices are unclassified but are subject to the FDA's premarket notification and clearance process in order to be commercially distributed. To date, our products have been subject to the 510(k)-clearance process.

510(k) Marketing Clearance Pathway

To obtain 510(k) clearance, we must submit to the FDA a premarket notification submission demonstrating that the proposed device is ‘‘substantially equivalent’’ to a predicate device already on the market. A predicate device is a legally marketed device that is not subject to premarket approval, *i.e.*, a device that was legally marketed prior to May 28, 1976 (pre-amendments device) and for which a PMA is not required, a device that has been reclassified from Class III to Class II or I, or a device that was found substantially equivalent through the 510(k) process. The FDA's 510(k) clearance process usually takes from nine to twelve months but may take significantly longer. The FDA may require additional information, including clinical data, to make a determination regarding substantial equivalence.

If the FDA agrees that the device is substantially equivalent to a predicate device on the market, it will grant 510(k) clearance to commercially market the device. If the FDA determines that the device is “not substantially equivalent” to a previously cleared device, the device is automatically designated as a Class III device. The device sponsor must then fulfill more rigorous PMA requirements, or can request a risk-based classification determination for the device in accordance with the “de novo” process, which is a route to market for novel medical devices that are low to moderate risk and are not substantially equivalent to a predicate device.

After a device receives 510(k) marketing clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change or modification in its intended use, will require a new 510(k) marketing clearance or, depending on the modification, a de novo classification or PMA approval. The FDA requires each manufacturer to determine whether the proposed change requires submission of a 510(k) or a PMA in the first instance, but the FDA can review any such decision and disagree with a manufacturer's determination. Many minor modifications today are accomplished by a letter-to-file in which the manufacture documents the change in an internal letter-to-file. The letter-to-file is in lieu of submitting a new 510(k) to obtain clearance for every change. The FDA may review these letters-to-file during an inspection. If the FDA disagrees with a manufacturer's determination that no 510(k) was required for the change, the FDA can require the manufacturer to cease marketing and/or request the recall of the modified device until 510(k) marketing clearance or PMA approval is obtained. Also, in these circumstances, we may be subject to significant regulatory fines or penalties. The FDA has issued guidance, originally in 1997, to assist device manufacturers in making the determination as to whether a modification to a device requires a new 510(k).

PMA Approval Pathway

Class III devices require PMA approval before they can be marketed although some pre-amendment Class III devices for which the FDA has not yet required a PMA are cleared through the 510(k) process. The PMA process is more demanding than the 510(k) premarket notification process. In a PMA, the manufacturer must demonstrate that the device is safe and effective, and the PMA must be supported by extensive data, including data from preclinical studies and human clinical trials. The PMA must also contain a full description of the device and its components, a full description of the methods, facilities and controls used for manufacturing, and proposed labeling. Following receipt of a PMA, the FDA determines whether the application is sufficiently complete to permit a substantive review. If the FDA accepts the application for review, it has 180 days under the FDCA to complete its review of a PMA, although in practice, the FDA's review often takes significantly longer, and can take up to several years. An advisory panel of experts from outside the FDA may be convened to review and evaluate the application and provide recommendations to the FDA as to the approvability of the device. The FDA may or may not accept the panel's recommendation. In addition, the FDA will generally conduct a pre-approval inspection of the applicant or its third-party manufacturers' or suppliers' manufacturing facility or facilities to ensure compliance with the Quality System Regulation, or QSR.

The FDA will approve the new device for commercial distribution if it determines that the data and information in the PMA constitute valid scientific evidence and that there is reasonable assurance that the device is safe and effective for its intended use(s). The FDA may approve a PMA with post-approval conditions intended to ensure the safety and effectiveness of the device, including, among other things, restrictions on labeling, promotion, sale and distribution, and collection of long-term follow-up data from patients in the clinical study that supported PMA approval or requirements to conduct additional clinical studies post-approval. The FDA may condition PMA approval on some form of post-market surveillance when deemed necessary to protect the public health or to provide additional safety and efficacy data for the device in a larger population or for a longer period of use. In such cases, the manufacturer might be required to follow certain patient groups for several years and to make periodic reports to the FDA on the clinical status of those patients. Failure to comply with the conditions of approval can result in material adverse enforcement action, including withdrawal of the approval.

Certain changes to an approved device, such as changes in manufacturing facilities, methods, or quality control procedures, or changes in the design performance specifications, which affect the safety or effectiveness of the device, require submission of a PMA supplement. PMA supplements often require submission of the same type of information as a PMA, except that the supplement is limited to information needed to support any changes from the device covered by the original PMA and may not require as extensive clinical data or the convening of an advisory panel. Certain other changes to an approved device require the submission of a new PMA, such as when the design change causes a different intended use, mode of operation, and technical basis of operation, or when the design change is so significant that a new generation of the device will be developed, and the data that were submitted with the original PMA are not applicable for the change in demonstrating a reasonable assurance of safety and effectiveness.

Clinical Trials

Clinical trials are almost always required to support a PMA and are sometimes required to support a 510(k) submission. All clinical investigations of investigational devices to determine safety and effectiveness must be conducted in accordance with the FDA's investigational device exemption, or IDE, regulations which govern investigational device labeling, prohibit promotion of the investigational device, and specify an array of recordkeeping, reporting and monitoring responsibilities of study sponsors and study investigators. If the device presents a "significant risk" to human health, as defined by the FDA, the FDA requires the device sponsor to submit an IDE application to the FDA, which must become effective prior to commencing human clinical trials. A significant risk device is one that presents a potential for serious risk to the health, safety or welfare of a patient and either is implanted, used in supporting or sustaining human life, substantially important in diagnosing, curing, mitigating or treating disease or otherwise preventing impairment of human health, or otherwise presents a potential for serious risk to a subject. An IDE application must be supported by appropriate data, such as animal and laboratory test results, showing that it is safe to test the device in humans and that the testing protocol is scientifically sound. The IDE will automatically become effective 30 days after receipt by the FDA unless the FDA notifies the company that the investigation may not begin. If the FDA determines that there are deficiencies or other concerns with an IDE for which it requires modification, the FDA may permit a clinical trial to proceed under a conditional approval.

In addition, the study must be approved by, and conducted under the oversight of, an Institutional Review Board, or IRB, for each clinical site. The IRB is responsible for the initial and continuing review of the IDE and may pose additional requirements for the conduct of the study. If an IDE application is approved by the FDA and one or more IRBs, human clinical trials may begin at a specific number of investigational sites with a specific number of patients, as approved by the FDA. If the device presents a non-significant risk to the patient, a sponsor may begin the clinical trial after obtaining approval for the trial by one or more IRBs without separate approval from the FDA, but must still follow abbreviated IDE requirements, such as monitoring the investigation, ensuring that the investigators obtain informed consent, and labeling and record-keeping requirements. Acceptance of an IDE application for review does not guarantee that the FDA will allow the IDE to become effective and, if it does become effective, the FDA may or may not determine that the data derived from the trials support the safety and effectiveness of the device or warrant the continuation of clinical trials. An IDE supplement must be submitted to, and approved by, the FDA before a sponsor or investigator may make a change to the investigational plan that may affect its scientific soundness, study plan or the rights, safety or welfare of human subjects.

During a study, the sponsor is required to comply with the applicable FDA requirements, including, for example, trial monitoring, selecting clinical investigators and providing them with the investigational plan, ensuring IRB review, adverse event reporting, record keeping and prohibitions on the promotion of investigational devices or on making safety or effectiveness claims for them. The clinical investigators in the clinical study are also subject to FDA regulations and must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of the investigational device, and comply with all reporting and recordkeeping requirements. Additionally, after a trial begins, we, the FDA or the IRB could suspend or terminate a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the anticipated benefits.

Post-market Regulation

After a device is cleared or approved for marketing, numerous and pervasive regulatory requirements continue to apply. These include:

- establishment registration and device listing with the FDA;
- QSR requirements, which require manufacturers, including third-party manufacturers, to follow stringent design, testing, control, documentation and other quality assurance procedures during all aspects of the design and manufacturing process;
- labeling and marketing regulations, which require that promotion is truthful, not misleading, fairly balanced and provide adequate directions for use and that all claims are substantiated, and prohibit the promotion of products for unapproved or “off-label” uses and impose other restrictions on labeling;
- clearance or approval of product modifications to 510(k)-cleared devices that could significantly affect safety or effectiveness or that would constitute a major change in intended use of one of our cleared devices;
- medical device reporting regulations, which require that a manufacturer report to the FDA if a device it markets may have caused or contributed to a death or serious injury, or has malfunctioned and the device or a similar device that it markets would be likely to cause or contribute to a death or serious injury, if the malfunction were to recur;
- correction, removal and recall reporting regulations, which require that manufacturers report to the FDA field corrections and product recalls or removals if undertaken to reduce a risk to health posed by the device or to remedy a violation of the FDCA that may present a risk to health;
- complying with the federal law and regulations requiring Unique Device Identifiers (UDI) on devices and requiring the submission of certain information about each device to the FDA’s Global Unique Device Identification Database, or GUDID;
- the FDA’s recall authority, whereby the agency can order device manufacturers to recall from the market a product that is in violation of governing laws and regulations; and
- post-market surveillance activities and regulations, which apply when deemed by the FDA to be necessary to protect the public health or to provide additional safety and effectiveness data for the device.

We may be subject to similar foreign laws that may include applicable post-marketing requirements such as safety surveillance. Our manufacturing processes are required to comply with the applicable portions of the QSR, which cover the methods and the facilities and controls for the design, manufacture, testing, production, processes, controls, quality assurance, labeling, packaging, distribution, installation and servicing of finished devices intended for human use. The QSR also requires, among other things, maintenance of a device master file, device history file, and complaint files. As a manufacturer, we are subject to periodic scheduled or unscheduled inspections by the FDA. A failure to maintain compliance with the QSR requirements could result in the shut-down of, or restrictions on, manufacturing operations and the recall or seizure of products. The FDA has broad regulatory compliance and enforcement powers. If the FDA determines that we failed to comply with applicable regulatory requirements, it can take a variety of compliance or enforcement actions, which may result in any of the following sanctions:

- warning letters, untitled letters, fines, injunctions, consent decrees and civil penalties;
- recalls, withdrawals, or administrative detention or seizure of our products;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying requests for 510(k) marketing clearance or PMA approvals of new products or modified products;
- withdrawing 510(k) clearances or PMA approvals that have already been granted;
- refusal to grant export or import approvals for our products; or
- criminal prosecution.

Other Health Care Laws

In addition to FDA restrictions on the marketing and promotion of medical devices, other federal and state healthcare laws and regulations could restrict our business practices. Although none of the procedures using our products are covered by any federal or state government healthcare program or any other third-party payor, applicable agencies and regulators may nonetheless interpret that we are subject to numerous federal healthcare anti-fraud laws, which include the federal Anti-Kickback Statute, False Claims Act and physician payment transparency laws that are intended to reduce waste, fraud and abuse in the healthcare industry, and analogous state laws that may apply to healthcare items and services paid for by any payors, including private insurers. In addition, we are subject to certain state reporting requirements in states with physician payment transparency laws that apply regardless of payor. Violations of any of these health regulatory laws may result in potentially significant penalties, including criminal and civil and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government healthcare programs, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, and the curtailment or restructuring of our operations. To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Healthcare Reform

The U.S. and some foreign jurisdictions are considering or have enacted several legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably. For example, the implementation of the Patient Protection and Affordable Care Act, as amended by the Healthcare and Education Reconciliation Act, or the Affordable Care Act, has changed healthcare financing and delivery by both governmental and private insurers substantially and has affected medical device manufacturers significantly. The Affordable Care Act imposed, among other things, a new federal excise tax on the sale of certain medical devices, which is suspended but, absent further legislative action, will be reinstated starting January 1, 2020. In addition, the Affordable Care Act provided incentives to programs that increase the federal government’s comparative effectiveness research and implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models. Since its enactment, there have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, and we expect there will be additional challenges and amendments to the Affordable Care Act in the future. The current Presidential Administration and U.S. Congress will likely continue to seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the Affordable Care Act. It is uncertain the extent to which any such changes may impact our business or financial condition. We expect additional state and federal healthcare reform measures to be adopted in the future, any of which could result in reduced demand for our products or additional pricing pressure.

Employees

As of December 31, 2018, we had 102 employees, with 39 employees in sales and marketing, 26 employees in training and customer support, 20 employees in research and development, including clinical, regulatory and certain quality control functions, three employees in manufacturing operations and 14 employees in general management and administration. None of our employees are represented by a labor union or covered by a collective bargaining agreement. We consider our relationship with our employees to be good.

Financial Information

We manage our operations and allocate resources as a single reporting segment. Financial information regarding our operations, assets and liabilities, including our net loss for the years ended December 31, 2018, 2017 and 2016, and our total assets as of December 31, 2018 and 2017, is included in our Consolidated Financial Statements in Item 8 of this Annual Report on Form 10-K.

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. You may find on our website at www.restorationrobotics.com electronic copies of our annual report 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 Securities Exchange Act of 1934. Such filings are placed on our website as soon as reasonably possible after they are filed with the SEC. Our most recent charter for our audit, compensation, and nominating and corporate governance committees and our Code of Business Conduct and Ethics are available on our website as well. Any waiver of our Code of Business Conduct and Ethics may be made only by our board of directors. Any waiver of our Code of Business Conduct and Ethics for any of our directors or executive officers must be disclosed on a Current Report on Form 8-K within four business days, or such shorter period as may be required under applicable regulation. Information contained on, or that can be accessed through, our website is not incorporated by reference into this Annual Report on Form 10-K, and you should not consider information on our website to be part of this Annual Report on Form 10-K. We have included our website address as an inactive textual reference only.

Available Information

We file Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other information with the Securities and Exchange Commission (SEC). Our filings with the SEC are available free of charge on the SEC's website at www.sec.gov and on our website under the "Investors" tab as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. You may also read and copy, at SEC prescribed rates, any document we file with the SEC at the SEC's Public Reference Room located at 100 F Street, N.E., Washington D.C. 20549. You can call the SEC at 1-800-SEC-0330 to obtain information on the operation of the Public Reference Room.

Item 1A. Risk Factors.

Our operations and financial results are subject to various risk and uncertainties, including those described below, any of which could adversely affect 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. You should carefully consider the risk described below and the other information in this Annual Report on Form 10-K, including our audited consolidated financial statements and the related notes thereto, and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Risks Related to the Proposed Merger

On March 15, 2019, we entered into the Merger Agreement with Venus and Merger Sub, pursuant to which, among other things, the Merger will occur. In connection with the proposed Merger, we are subject to certain risks including, but not limited to, those set forth below. The description of each of the Merger Agreement and the Merger herein is qualified in its entirety by reference to the full text of the Merger Agreement filed as an exhibit to this Annual Report on Form 10-K.

We may fail to consummate the Merger, and uncertainties related to the consummation of the Merger may have a material adverse effect on our business, results of operations and financial condition and negatively impact the price of our common stock.

As previously discussed, on March 15, 2019, we entered into the Merger Agreement with Venus and Merger Sub. Pursuant to the Merger Agreement, Merger Sub will merge with and into the Company, with Venus surviving the Merger as a wholly owned subsidiary of the Company. The Merger is subject to the satisfaction of a number of conditions beyond our control, including receiving stockholder approval and other customary closing conditions. Failure to satisfy the conditions to the Merger could prevent or delay the completion of the Merger. Further, regulators may impose conditions, obligations or restrictions on the Merger that may have the effect of delaying or preventing its completion.

The efforts and costs to satisfy the closing conditions of the Merger, may place a significant burden on management and internal resources, and the Merger and related transactions, whether or not consummated, may result in a diversion of management's attention from day-to-day operations. Any significant diversion of management's attention away from ongoing business and difficulties encountered in the Merger process could have a material adverse effect on our business, results of operations and financial condition.

There also is no assurance that the Merger and the other transactions contemplated by the Merger Agreement will occur on the terms and timeline currently contemplated or at all.

The Merger Agreement also contains certain customary termination rights, including the right of each of the Company and Venus to terminate the Merger Agreement if the Merger is not consummated by October 31, 2019, subject to one (1) sixty-day extension in the event that the registration statement on Form S-4 that will contain a proxy statement/prospectus to register our common stock to be issued pursuant to the Merger Agreement (the "S-4") is still under review by the SEC, or if we have not received stockholder approval of the Merger within seventy (70) days of the date of the effectiveness of the S-4. If the Merger Agreement is terminated under certain circumstances, including termination by us to enter into a superior alternative transaction or termination by Venus upon a change of the Board's recommendation to the Company's stockholders, we will be obligated to pay to Venus a termination fee equal to $1,115,000 in cash. In addition, if the Merger Agreement is terminated under other circumstances, including termination as a result of our failure to obtain the required approvals of our stockholders or a material breach of the Merger Agreement by us, we will be obligated to reimburse Venus for its reasonable out-of-pocket fees and expenses, up to a maximum of $200,000 in cash.

If the proposed Merger is not completed or the Merger Agreement is terminated, the price of our common stock may decline, including to the extent that the current market price of our common stock reflects an assumption that the Merger and the other transactions contemplated by the Revised Merger Agreement will be consummated without further delays, which could have a material adverse effect on our business, results of operations and financial condition.

If the Merger Agreement is terminated and we determine to seek another business combination, we may not be able to negotiate a transaction with another party on terms comparable to, or better than, the terms of the Merger.

We are subject to various uncertainties and restrictions on the conduct of our business while the Merger is pending, which could have a material adverse effect on our business, results of operations and financial condition.

Uncertainty about the pendency of the Merger and the effect of the Merger on employees, customers, vendors, communities and other third parties who deal with us may have a material adverse effect on our business, results of operations and financial condition. These uncertainties may impair our ability to attract, retain and motivate key personnel pending the consummation of the Merger, as such personnel may experience uncertainty about their future roles following the consummation of the Merger. Additionally, these uncertainties could cause customers, distributors, vendors and other third parties who deal with us to seek to change existing business relationships with us or fail to extend an existing relationship with us, including, but not limited to direct customers and distributors delaying their purchases and/or payments of the ARTAS® and ARTAS® iX Systems, all of which could have a material adverse effect on our business, results of operations, financial condition and market price of our common stock. In addition, the Merger Agreement restricts us from taking certain actions without Venus' consent while the Merger is pending. These restrictions may, among other matters, prevent us from pursuing otherwise attractive business opportunities, buying or selling assets, making certain capital expenditures, refinancing or incurring additional indebtedness, entering into transactions, or making other changes to our business prior to consummation of the Merger or termination of the Merger Agreement. These restrictions and uncertainties could have a material adverse effect on our business, results of operations and financial condition.

We and our directors and officers may be subject to lawsuits relating to the Merger.

Litigation is very common in connection with the sale of public companies, regardless of whether the claims have any merit. One of the conditions to consummating the Merger is that no order preventing or otherwise prohibiting the consummation of the Merger shall have been issued by any court. Consequently, if any lawsuit challenging the Merger is successful in obtaining an order preventing the consummation of the Merger, that order may delay or prevent the Merger from being completed. While we will evaluate and defend against any lawsuits, the time and costs of defending against litigation relating to the Merger may adversely affect our business.

We will continue to incur substantial transaction-related costs in connection with the Merger.

We have incurred significant legal, advisory and financial services fees in connection with Merger. We have incurred, and expect to continue to incur, additional costs in connection with the satisfaction of the various conditions to closing of the Merger, including seeking approval from our stockholders and from applicable regulatory agencies. If there is any delay in the consummation of the Merger, these costs could increase significantly.

Risks Related to Our Business

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.

We have a limited commercial history and have focused primarily on research and development, product design and engineering, establishing supply and manufacturing relationships, seeking regulatory clearances and approvals to market the ARTAS® and ARTAS® iX System, and selling and marketing. We have incurred losses in each year since our inception in 2002. Our net losses were approximately $28.7 million, $17.8 million, and $21.8 million for the years ended December 31, 2018, 2017, and 2016, respectively. As of December 31, 2018, we had an accumulated deficit of $193.2 million. We will continue to incur significant expenses for the foreseeable future as we expand our sales and marketing, research and development, and clinical and regulatory activities. We may never generate enough revenue to achieve or sustain profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability. Furthermore, because of our limited operating history and because the market for aesthetic products is rapidly evolving, we have limited insight into the trends or competitive products that may emerge and affect our business. Before investing, you should consider an investment in our common stock considering the risks, uncertainties, and difficulties frequently encountered by early-stage medical technology companies in rapidly evolving markets such as ours. We may not be able to successfully address any or all of these risks, and the failure to adequately do so could cause our business, results of operations, and financial condition to suffer.

We may not be able to correctly estimate or control our future operating expenses, which could lead to cash shortfalls.

Our operating expenses may fluctuate significantly in the future because of a variety of factors, many of which are outside of our control. These factors include:

- the cost of growing our ongoing commercialization and sales and marketing activities;
- the costs of manufacturing and maintaining enough inventories of our products to meet anticipated demand and inventory write-offs related to obsolete products or components;
- the costs of enhancing the existing functionality and development of new functionalities for the ARTAS® and ARTAS® iX System;
- the costs of preparing, filing, prosecuting, defending, and enforcing patent claims and other patent related costs, including litigation costs and the results of such litigation;
- the variability of ARTAS procedures being performed between periods if particular high-volume practitioners perform a smaller number of procedures in each period as a result of the concentration of procedures performed by certain practitioners;

- any product liability or other lawsuits and the costs associated with defending them or the results of such lawsuits;
- the costs associated with conducting business and maintaining subsidiaries in foreign jurisdictions;
- customers in jurisdictions where the ARTAS® iX System is not approved delaying their purchase, and not purchasing an ARTAS® System, until the ARTAS® iX System is approved or cleared for use in their market;
- the costs to attract and retain personnel with the skills required for effective operations; and
- the costs associated with being a public company.

Our budgeted expense levels are based in part on our expectations concerning future revenue from ARTAS® Systems sales, servicing and procedure-based fees. We may be unable to reduce our expenditures in a timely manner to compensate for any unexpected shortfalls in revenue. Accordingly, a significant shortfall in market acceptance or demand for the ARTAS® Systems and procedures could have an immediate and material adverse impact on our business and financial condition.

It is difficult to forecast our future performance and our financial results may fluctuate unpredictably.

Our limited commercial history and the rapid evolution of the markets for medical technologies and aesthetic products make it difficult for us to predict our future performance. Several factors, many of which are outside of our control, may contribute to fluctuations in our financial results, such as:

- physician demand for the ARTAS® and ARTAS® iX Systems and procedure usage may vary from quarter to quarter;
- customers in jurisdictions where the ARTAS® iX System is not approved delaying their purchase, and not purchasing an ARTAS® System, until the ARTAS® iX System is approved or cleared for use in their market;
- the inability of physicians to obtain the necessary financing to purchase the ARTAS® System or the ARTAS® iX System;
- changes in the length of our sales process for the ARTAS® and ARTAS® iX Systems;
- performance of new functionalities and system updates, such as the robotic implantation functionality in the new ARTAS® iX System;
- performance of our international distributors;
- positive or negative media coverage of the ARTAS® System or ARTAS® iX System, the procedures or products of our competitors, or our industry generally;
- our ability to maintain our current, or obtain further, regulatory clearances or approvals such as the regulatory clearances and approvals necessary to market the ARTAS® iX System outside the U.S.;
- delays in, or failure of, product and component deliveries by our third-party manufacturers or suppliers;
- seasonal or other variations in patient demand for aesthetic procedures;
- introduction of new aesthetic procedures or products that compete with the ARTAS® System or ARTAS® iX System;
- changes in accounting rules that may cause restatement of our consolidated financial statements or have other adverse effects; and
- adverse changes in the economy that reduce patient demand for elective aesthetic procedures.

The long sales cycle, low unit volume for sales of the ARTAS® System and ARTAS® iX System and the historic seasonality of our industry, each may contribute to substantial fluctuations in our operating results and stock price and make it difficult to compare our results of operations to prior periods and predict future financial results.

We sell a relatively small number of ARTAS® and ARTAS® iX Systems at a relatively high price, with each sale of an ARTAS® System or ARTAS® iX System typically involving a significant amount of time. Because of the relatively small number of ARTAS® and ARTAS® iX Systems we expect to sell in any period, each sale of a system could represent a significant percentage of our revenue for a period. Furthermore, due to the significant amount of time it can take to finalize the sale of a system, it is likely that a sale could be recognized in a subsequent period which could have a material effect on our results from quarter to quarter and increase the volatility of quarterly results. In addition, our industry is characterized by seasonally lower demand during the third quarter of the calendar year, generally when both physicians and prospective patients take summer vacation. As a result of these factors, future fluctuations in quarterly results could cause our revenue and cash flows to be below analyst and investor expectations, which could cause decline in our stock price. Due to future fluctuations in revenue and costs, as well as other potential fluctuations, you should not rely upon our operating results in any period as an indication of future performance. If we do not sell ARTAS® and ARTAS® iX Systems as anticipated, our operating results will vary significantly from our expectations. In addition, selling the ARTAS® and ARTAS® iX Systems requires significant marketing effort and expenditure in advance of the receipt of revenue and our efforts may not result in a sale.

Our recurring losses from operations and negative cash flows have raised substantial doubt regarding our ability to continue as a going concern.

Our independent registered public accounting firm included an explanatory paragraph in its report on our consolidated financial statements as of, and for the year ended, December 31, 2018 that our recurring losses from operations and negative cash flows raise substantial doubt about our ability to continue as a going concern. As of the filing date of this Annual Report, we believe our current cash and cash equivalents will not be sufficient to fund our operations for the next twelve months. Our ability to continue as a going concern will require us to obtain additional financing to fund our operations. The perception of our ability to continue as a going concern may make it more difficult for us to obtain financing for the continuation of our operations and could result in the loss of confidence by investors, suppliers and employees.

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® and ARTAS® iX Systems and seeking regulatory clearances and approvals to market future products will require substantial funds to complete. As of December 31, 2018, we had capital resources consisting of cash and cash equivalents of $16.1 million. We believe that we will continue to expend substantial resources for the foreseeable future in connection with the ongoing commercializing of the ARTAS® and ARTAS® iX System, increasing our sales and marketing efforts, and continuing research and development and product enhancements activities.

We believe our existing cash and cash equivalents and cash expected to be generated from the sale of our products will not be enough for us to fund our planned operations for the next twelve months. Therefore, we will need additional capital to fund our future operations. In addition, our operating plans may change as a result of many factors some of which may be unknown to us, and we may need to seek additional funds sooner than planned, 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 enough funds for our current or future operating plans.

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® and ARTAS® iX Systems, 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 dependent upon the success of the ARTAS® System and ARTAS® iX 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 and ARTAS® iX System fails to grow significantly, our business and future prospects will be harmed.

We commenced commercial sales of the ARTAS® System for hair follicle dissection in the U.S. in 2011 and expect that the revenue we generate from both system sales and servicing as well as recurring procedure-based fees will account for all our revenue for the foreseeable future. Accordingly, our success depends on the acceptance among physicians and patients of the ARTAS® and ARTAS® iX Systems as the preferred system for performing hair restoration surgery. Acceptance of the ARTAS® and ARTAS® iX Systems by physicians is significantly dependent on our ability to convince physicians of the benefits of the ARTAS® and ARTAS® iX Systems to their practices and, accordingly, develop the market for robotic-assisted hair restoration surgery. Acceptance of the ARTAS procedure by patients is equally important as patient demand will influence physicians to offer the ARTAS procedure, and the degree of market acceptance of the ARTAS® and ARTAS® iX Systems by physicians and patients is unproven. We believe that market acceptance of the ARTAS® and ARTAS® iX Systems will depend on many factors, including:

- the perceived advantages or disadvantages of the ARTAS® and ARTAS® iX Systems compared to other hair restoration products and treatments;
- the safety and efficacy of the ARTAS® and ARTAS® iX Systems relative to other hair restoration products and treatments;
- the price of the ARTAS® and ARTAS® iX Systems relative to other hair restoration products and treatments;
- our success in expanding our sales and marketing organization;
- the effectiveness of our marketing, advertising, and commercialization initiatives;
- our success in adding new functionalities to the ARTAS® and ARTAS® iX Systems and enhancing existing functions; and
- our ability to obtain regulatory clearance to market the ARTAS® and ARTAS® iX Systems for additional treatment indications in the U.S.

Further, the ARTAS® iX System, which was launched in June 2018, includes our recently approved robotic implantation functionality. As this functionality is new, it is possible that it could include defaults, "bugs" or present other technical issues which could prompt potential physician customers to delay their purchase of the ARTAS® iX System or could prompt physicians that have purchased the ARTAS® iX System to either return or not utilize the system.

We cannot assure you that the ARTAS® System or ARTAS® iX System will achieve broad market acceptance among physicians and patients. Because we expect to derive substantially all our revenue for the foreseeable future from ARTAS® and ARTAS® iX Systems sales, servicing and procedure-based fees, any failure of this product to satisfy physician or patient demand or to achieve meaningful market acceptance will harm our business and future prospects.

If there is not sufficient patient demand for ARTAS procedures, our financial results and future prospects will be harmed.

The ARTAS procedure is an elective aesthetic procedure, the cost of which must be borne by the patient and is not covered by or reimbursable through government or private health insurance. The decision to undergo the ARTAS procedure is thus driven by patient demand, which may be influenced by a number of factors, such as:

- the success of our sales and marketing programs;
- the extent to which our physician customers recommend the ARTAS procedures to their patients;
- our success in attracting consumers who have not previously undergone hair restoration treatment;
- the extent to which the ARTAS procedure satisfies patient expectations;
- our ability to properly train our physician customers in the use of the ARTAS® and ARTAS® iX Systems so that their patients do not experience excessive discomfort during treatment or adverse side effects;
- the cost, safety, and effectiveness of the ARTAS® and ARTAS® iX Systems versus other aesthetic treatments;
- consumer sentiment about the benefits and risks of aesthetic procedures generally and the ARTAS® and ARTAS® iX Systems in particular;
- the success of any direct-to-consumer marketing efforts we may initiate; and
- general consumer confidence, which may be impacted by economic and political conditions outside of our control.

Our financial performance will be materially harmed in the event we cannot generate significant patient demand for procedures performed with the ARTAS® System.

Our success depends in part upon patient satisfaction with the effectiveness of the ARTAS® and ARTAS® iX Systems.

In order to generate repeat and referral business, patients must be satisfied with the effectiveness of the ARTAS® Systems. If the ARTAS® System or ARTAS® iX System procedure is not done correctly, and or the patient suffers from complications and other adverse effects, the patient may not be satisfied with the benefits of the ARTAS® System or ARTAS® iX System. Furthermore, if the transplanted hair follicles do not grow or survive the transplant, the patient will likely not view the procedure as having a satisfactory outcome. If patients are not satisfied with the aesthetic benefits of the ARTAS® System, ARTAS® iX System or feel that it is too expensive for the results obtained, our reputation and future sales will suffer.

Our success depends on growing physician adoption and use of the ARTAS® System and the ARTAS® iX System.

Our ability to increase the number of physicians willing to make a significant capital expenditure to purchase the ARTAS® System, or ARTAS® iX System and make it a significant part of their practices, depends on the success of our sales and marketing programs. We must be able to demonstrate that the cost of the ARTAS® and ARTAS® iX Systems and the revenue that a physician can derive from performing ARTAS procedures are compelling when compared to the costs and revenue associated with alternative aesthetic treatments the physician can offer. In addition, we believe our marketing programs, including clinical and practice development support, will be critical to increasing utilization and awareness of the ARTAS® and ARTAS® iX Systems, but these programs require physician commitment and involvement to succeed. If we are unable to increase physician adoption and use of the ARTAS® System, or ARTAS® iX System our financial performance will be adversely affected.

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.

The medical technology and aesthetic product markets are highly competitive and dynamic and are characterized by rapid and substantial technological development and product innovations. We designed the ARTAS® System to assist physicians in performing follicular unit extraction surgery. Demand for the ARTAS® Systems and ARTAS procedures could be limited by other products and technologies. Competition to address hair loss comes from various sources, including:

- therapeutic options including Rogaine, which is applied topically, and Propecia, which is ingested, both of which have been approved by the FDA;
- non-surgical options, such as wigs, hair-loss concealer sprays and similar products; and
- other surgical alternatives, including hair transplantation surgery using the strip surgery method or using hand-held devices.

Surgical alternatives to the ARTAS® and ARTAS® iX Systems may be able to compete more effectively than the ARTAS procedure in established practices with trained staff and workflows built around performing these surgical alternatives. Practices experienced in offering strip surgery or follicular unit extractions using hand-held devices may be reluctant to incorporate or convert their practices to offer ARTAS procedures due to the effort involved to make such changes.

Many options may be able to provide satisfactory results for male hair loss, generally at a lower cost to the patient than the ARTAS® and ARTAS® iX Systems. As a result, if patients choose these competitive alternatives, our results of operation could be adversely affected.

We also face competition from other aesthetic devices that physicians may consider adding to their practice in lieu of building a hair restoration practice, for instance CoolSculpting, which is utilized for body contouring or cosmetic fat reduction. As a result, if physicians choose these competitive products over building a hair restoration practice with the ARTAS® System or ARTAS® iX System, our results of operation could be adversely affected.

Some of our competitors have a broad range of product offerings, large direct sales forces, and long-term customer relationships with our target physicians, which could inhibit our market penetration efforts. Our potential physician customers also may need to recoup the cost of expensive products that they have already purchased from our competitors, and thus they may decide to delay purchasing, or not to purchase, the ARTAS® System or ARTAS® iX System.

Many of our competitors are large, experienced companies that have substantially greater resources and brand recognition than we do. Competition could result in price-cutting, reduced profit margins, and limited market share, any of which would harm our business, financial condition, and results of operations.

For additional information regarding our competition, see the section of this Annual Report on Form 10-K captioned “Business— Competition.”

We may not be able to establish or strengthen our brand.

We believe that establishing and strengthening the Restoration Robotics and ARTAS brand is critical to achieving widespread acceptance of the ARTAS® Systems, particularly because of the highly competitive nature of the market for aesthetic treatments and procedures to address male hair loss. Promoting and positioning our brand will depend largely on the success of our marketing efforts and our ability to provide physicians with a reliable product to assist them in performing hair restoration surgery. Given the established nature of our competitors, and our limited commercialization in the U.S., it is likely that our future marketing efforts will require us to incur significant additional expenses. These brand promotion activities may not yield increased sales and, even if they do, any sales increases may not offset the expenses we incur to promote our brand. If we fail to successfully promote and maintain our brand, or if we incur substantial expenses in an unsuccessful attempt to promote and maintain our brand, our ARTAS® Systems may not be accepted by physicians, which would adversely affect our business, results of operations and financial condition.

We have limited experience with our direct sales and marketing force and any failure to build and manage our direct sales and marketing force effectively could have a material adverse effect on our business.

We rely on a direct sales force to sell the ARTAS® and ARTAS® iX Systems in the U.S. and certain markets outside the U.S. In order to meet our anticipated sales objectives, we expect to grow our direct sales and marketing organization significantly over the next several years and intend to opportunistically build a direct sales and marketing force in certain international markets where we do not have a direct sales force. There are significant risks involved in building and managing our sales and marketing organization, including risks related to our ability to:

- hire qualified individuals as needed;
- generate sufficient leads within our target physician group for our sales force;
- provide adequate training for the effective sale and marketing of the ARTAS® System or ARTAS® iX System;
- retain and motivate our direct sales and marketing professionals; and
- effectively oversee geographically dispersed sales and marketing teams.

Our failure to adequately address these risks could have a material adverse effect on our ability to increase sales and use of the ARTAS® and ARTAS® iX Systems, which would cause our revenue to be lower than expected and harm our results of operations.

To market and sell the ARTAS® and/or ARTAS® iX System in certain markets outside of the U.S., we depend on third-party distributors.

We depend on third-party distributors to sell, market, and service the ARTAS® Systems in certain markets outside of the U.S. and to train our physician customers in such markets. Furthermore, we may need to engage additional third-party distributors to expand into new markets outside of the U.S. where we do not have a direct sales force. We are subject to a number of risks associated with our dependence on these third-parties, including:

- the lack of day-to-day control over the activities of third-party distributors;
- third-party distributors may not commit the necessary resources to market, sell, train, support and service our systems to the level of our expectations;
- third-party distributors may emphasize the sale of third-party products over our products;
- third-party distributors may not be as selective as we would be in choosing physicians to purchase the ARTAS® System or as effective in training physicians in marketing and patient selection;
- third-party distributors may violate applicable laws and regulations which may expose us to potential liability or limit our ability to sell products in certain markets
- third-party distributors may terminate their arrangements with us on limited, or no, notice or may change the terms of these arrangements in a manner unfavorable to us; and
- disagreements with our distributors that could require or result in costly and time-consuming litigation or arbitration which we could be required to conduct in jurisdictions with which we are not familiar.

If we fail to establish and maintain satisfactory relationships with our third-party distributors, our revenue and market share may not grow as anticipated, and we could be subject to unexpected costs which would harm our results of operations and financial condition.

To successfully market and sell the ARTAS® and ARTAS® iX System in markets outside of the U.S., we must address many international business risks with which we have limited experience.

Sales in markets outside of the U.S. accounted for approximately 40%, 58%, and 57% of our revenue for the year ended December 31, 2018, 2017, and 2016, respectively. We believe that a significant percentage of our business will continue to come from sales in markets outside of the U.S. through increased penetration in countries where we market and sell the ARTAS® or ARTAS® iX System. However, international sales are subject to a number of risks, including:

- difficulties in staffing and managing our international operations;
- increased competition as a result of more products and procedures receiving regulatory approval or otherwise free to market in international markets;
- longer accounts receivable payment cycles and difficulties in collecting accounts receivable;
- reduced or varied protection for intellectual property rights in some countries;
- export restrictions, trade regulations, and foreign tax laws;
- fluctuations in currency exchange rates;
- foreign certification and regulatory clearance or approval requirements, including receiving regulatory approval and clearance for the robotic implantation functionality included in our ARTAS® iX System;
- difficulties in developing effective marketing campaigns in unfamiliar foreign countries;
- customs clearance and shipping delays;
- political, social, and economic instability abroad, terrorist attacks, and security concerns in general;
- preference for locally produced products;
- potentially adverse tax consequences, including the complexities of foreign value-added tax systems, tax inefficiencies related to our corporate structure, and restrictions on the repatriation of earnings;
- the burdens of complying with a wide variety of foreign laws and different legal standards; and
- increased financial accounting and reporting burdens and complexities.

If one or more of these risks were realized, our results of operations and financial condition could be adversely affected.

We expect that our revenue from international markets may decrease in the near term as we have received regulatory approval or clearance for the implantation function outside of the U.S., which may result in purchasing delays in international markets as customers await the availability of that function. In addition, the number of ARTAS® Systems previously sold to distributors that have not yet been placed with an end user has increased in recent periods, which, in combination with the launch of ARTAS® iX, System may further exaggerate delays in international system sales.

While traditional hair transplantation surgery has been available for many years, the ARTAS® System has only been commercially available since 2011. As a result, we have a limited track record compared to traditional hair transplantation surgery and the safety and efficacy of the ARTAS® System is not yet supported by long-term clinical data, which could limit sales, and the ARTAS® System could prove to be less safe or effective than initially thought.

The ARTAS® System that we market in the U.S. is regulated as a medical device by the U.S. Food and Drug Administration, or the FDA, and has received premarket clearance under Section 510(k) of the U.S. Federal Food, Drug and Cosmetic Act, or FDCA. In the 510(k) clearance process, before a device may be marketed, the FDA must determine that a proposed device is “substantially equivalent” to a legally-marketed “predicate” device, which includes a device that has been previously cleared through the 510(k) process, a device that was legally marketed prior to May 28, 1976 (pre-amendments device), a device that was originally on the U.S. market pursuant to an approved premarket approval, or PMA, application and later down-classified, or a 510(k)-exempt device. This process is typically shorter and generally requires the submission of less supporting documentation than the FDA’s PMA process and does not always require long-term clinical studies.

Hair transplantation surgery has been a treatment option for hair restoration for many years, while we only began commercializing the ARTAS® System in 2011. Consequently, we lack the breadth of published long-term clinical data supporting the safety and efficacy of the ARTAS® System and the benefits it offers that might have been generated in connection with other hair restoration techniques. As a result, physicians may be slow to adopt the ARTAS® System, we may not have comparative data that our competitors have or are generating, and we may be subject to greater regulatory and product liability risks. Furthermore, future patient studies or clinical experience may indicate that treatment with the ARTAS® System does not improve patient outcomes compared to other hair restoration techniques. Such results would slow the adoption of the ARTAS® System by physicians, would significantly reduce our ability to achieve expected sales and could prevent us from achieving and maintaining profitability.

We have limited complication or patient success rate data with respect to treatment using the ARTAS® System. If future patient studies or clinical testing do not support our belief that our system offers a more advantageous treatment for hair restoration, market acceptance of the ARTAS® System could fail to increase or could decrease and our business could be harmed. Moreover, if future results and experience indicate that our implant products cause unexpected or serious complications or other unforeseen negative effects, we could be subject to mandatory product recalls, suspension or withdrawal of FDA or other governmental clearance or approval or, CE Certificates of Conformity, significant legal liability or harm to our business reputation. Furthermore, if patients that receive traditional hair transplantation surgery, such as strip surgery, were to experience unexpected or serious complications or other unforeseen effects, the market for the ARTAS® System may be adversely affected, even if such effects are not applicable to the ARTAS® System.

If we choose to, or are required to, conduct additional studies, such studies or experience could, slow the market adoption of the ARTAS® System by physicians, significantly reduce our ability to achieve expected revenue and prevent us from becoming profitable.

We were the subject of purported class action lawsuits, and additional litigation may be brought against us in the future.

In May and June 2018, a number of purported stockholder class action complaints were filed against us, the members of our board of directors (and affiliated venture funds), as well as certain of our current and former officers and the underwriters in our IPO. The complaints all allege, among other things, that our Registration Statement filed with the SEC on September 1, 2017 and the Prospectus filed with the SEC on October 13, 2017 in connection with our IPO were inaccurate and misleading, contained untrue statements of material facts, omitted to state other facts necessary to make the statements made not misleading and omitted to state material facts required to be stated therein. The complaints seek unspecified money damages, other equitable relief and attorneys' fees and costs. While we believe these claims to be without merit, we cannot assure you that additional claims alleging the same or similar facts will not be filed. Any litigation could result in substantial costs and a diversion of management's attention and resources.

We rely on a single third-party manufacturer for the manufacturing of the reusable procedure kits, disposable procedure kits and spare procedures kits used with the ARTAS® System and the ARTAS® iX System.

NPI Solutions, Inc., or NPI, produces reusable procedure kits, disposable procedure kits and spare kits used with the ARTAS® System and ARTAS® iX System. If the operations of NPI are interrupted or if it is unable or unwilling to meet our delivery requirements due to capacity limitations or other constraints, we may be limited in our ability to fulfill new customer kit orders required for use with existing ARTAS® System and ARTAS® iX System. Any change to another contract manufacturer would likely entail significant delay, require us to devote substantial time and resources, and could involve a period in which our products could not be produced in a timely or consistently high-quality manner, any of which could harm our reputation and results of operations.

We have a manufacturing agreement for consumables with NPI for the supply of consumable products, including reusable procedure kits, disposable procedure kits and spare procedure kits used with the ARTAS® System and ARTAS® iX System, pursuant to both of which we make purchases on a purchase order basis. The agreement is effective for an initial term of two years and will continue to automatically renew for additional twelve-month periods, subject to either party's right to terminate the agreement upon 180 days advance notice during the initial term if our quarterly forecasted demand falls below 75% of our historical forecasted demand for the same period in the previous year or upon 120 days' advance notice after the initial term.

In addition, our reliance on NPI involves a number of other risks, including, among other things, that:

- our various procedure kits may not be manufactured in accordance with agreed upon specifications or in compliance with regulatory requirements, or its manufacturing facilities may not be able to maintain compliance with regulatory requirements, which could negatively affect the safety or efficacy of our procedure kits, cause delays in shipments of our procedure kits, or require us to recall procedure kits previously delivered to customers;
- we may not be able to timely respond to unanticipated changes in customer orders, and if orders do not match forecasts, we may have excess or inadequate inventory of materials and components;
- we may be subject to price fluctuations when a supply contract is renegotiated or if our existing contract is not renewed;
- NPI may wish to discontinue manufacturing and supplying products to us for risk management reasons; and
- NPI may encounter financial or other hardships unrelated to our demand for products, which could inhibit its ability to fulfill our orders and meet our requirements.

If any of these risks materialize, it could significantly increase our costs, our ability to generate net sales would be impaired, market acceptance of our products could be adversely affected, and customers may instead purchase or use our competitors' products, which could have a materially adverse effect on our business, financial condition and results of operations.

Furthermore, if we are required to change the manufacturing of our various procedure kits, we will be required to verify that the new manufacturer maintains facilities, procedures and operations that comply with our quality and applicable regulatory requirements, which could further impede our ability to manufacture the procedure kits in a timely manner. Transitioning to a new supplier could be time-consuming and expensive, may result in interruptions in our operations and product delivery. The occurrence of these events could harm our ability to meet the demand for our products in a timely or cost-effective manner.

We cannot assure you that we will be able to secure alternative equipment and materials and utilize such equipment and materials without experiencing interruptions in our workflow. If we should encounter delays or difficulties in securing, reconfiguring or revalidating the equipment and components we require for the ARTAS® System and ARTAS® iX System, including the related consumables, our reputation, business, financial condition and results of operations could be negatively impacted.

If NPI is unable to manufacture the reusable procedure kits, disposable procedure kits and spare procedures kits used with the ARTAS® System and the ARTAS® iX System in high-quality commercial quantities successfully and consistently to meet demand, our growth will be limited.

To manufacture our reusable procedure kits, disposable procedure kits and spare procedure kits in the quantities that we believe will be required to meet anticipated market demand, NPI will need to increase manufacturing capacity, which will involve significant challenges. In addition, the development of commercial-scale manufacturing capabilities will require us and NPI to invest substantial additional funds and hire and retain the technical personnel who have the necessary manufacturing experience. Neither we nor NPI may successfully complete any required increase to existing manufacturing processes in a timely manner, or at all.

If NPI is unable to produce the reusable procedure kits, disposable procedure kits and spare kits in sufficient quantities to meet anticipated customer demand, our revenue, business, and financial prospects would be harmed. The limited experience NPI has in producing larger quantities of the procedure kits may also result in quality issues, and possibly result in product recalls. Manufacturing delays related to quality control could harm our reputation and decrease our revenue. Any recall could be expensive and generate negative publicity, which could impair our ability to market the ARTAS® System and the ARTAS® iX System and procedures and further affect our results of operations.

If we are unable to manufacture our next generation ARTAS® System, called the ARTAS® iX System, in high-quality commercial quantities successfully and consistently to meet demand, our growth will be limited, and our reputation could be harmed.

To manufacture our ARTAS® iX System in the quantities that we believe will be required to meet anticipated market demand, we will need to develop and maintain sufficient manufacturing capacity, which will involve significant challenges. Historically, we have not manufactured any of our other products (e.g. ARTAS® System) in-house or without the contract manufacturer involvement. Over the next 12 months, we will manufacture the ARTAS® iX System without a third-party contract manufacturer's involvement. The development of commercial-scale manufacturing capabilities will require us (or our contract manufacturer for ARTAS® iX System, if we decide to utilize one on a long-term basis) to invest substantial additional funds and hire and retain the technical personnel who have the necessary manufacturing experience. Neither we nor a third-party manufacturer, if one is utilized, may successfully complete any required increase to existing manufacturing processes in a timely manner, or at all.

If we or a contract manufacturer, if one is utilized, are unable to produce the ARTAS® iX System in sufficient quantities to meet anticipated customer demand, our revenue, business, financial prospects, and reputation would be harmed. The limited experience we or a third-party manufacturer, if one is utilized, in producing the ARTAS® iX System may also result in quality issues, and possibly result in product recalls. Manufacturing delays related to quality control could harm our reputation and decrease our revenue. Any recall could be expensive and generate negative publicity, which could impair our ability to market the ARTAS® iX System and procedures and further affect our results of operations.

Both our manufacturing of the ARTAX ® iX System and NPI's manufacturing of the procedure kits are dependent upon third-party suppliers and, in some cases, sole suppliers, for the majority of our components, subassemblies and materials, making us vulnerable to supply shortages and price fluctuations, which could harm our business.

We and NPI, as the case may be, rely on several sole source suppliers, including Kuka Robotics, Inc., FLIR Integrated Imaging Solutions Inc. and 3D-CAM International Corporation, for certain components of the ARTAS® iX System, reusable procedure kits, disposable procedure kits and spare procedure kits. These sole suppliers, and any of our other suppliers, may be unwilling or unable to supply components of these systems to us or NPI reliably and at the levels we anticipate or are required by the market. For us to be successful, our suppliers must be able to provide products and components in substantial quantities, in compliance with regulatory requirements, in accordance with agreed upon specifications, at acceptable costs and on a timely basis. An interruption in our commercial operations could occur if we encounter delays or difficulties in securing these components, and if we cannot then obtain an acceptable substitute. If we are required to transition to new third-party suppliers for certain components of the ARTAS® iX System or our procedure kits, we believe that there are only a few such suppliers that can supply the necessary components. A supply interruption, price fluctuation or an increase in demand beyond our current suppliers' capabilities could harm our ability to manufacture the ARTAS® iX System and NPI's ability to manufacture our procedure kits until new sources of supply are identified and qualified. In addition, the use of components or materials furnished by these alternative suppliers could require us to alter our operations.

Our reliance on these suppliers subjects us to a number of risks that could harm our reputation, business, and financial condition, including, among other things:

- interruption of supply resulting from modifications to or discontinuation of a supplier's operations;
- delays in product shipments resulting from uncorrected defects, reliability issues, or a supplier's variation in a component;
- a lack of long-term supply arrangements for key components with our suppliers;
- inability to obtain adequate supply in a timely manner, or to obtain adequate supply on commercially reasonable terms;
- difficulty and cost associated with locating and qualifying alternative suppliers for our components in a timely manner;
- production delays related to the evaluation and testing of products from alternative suppliers, and corresponding regulatory qualifications;
- delay in delivery due to our suppliers prioritizing other customer orders over ours;

- damage to our reputation caused by defective components produced by our suppliers;
- increased cost of our warranty program due to product repair or replacement based upon defects in components produced by our suppliers; and
- fluctuation in delivery by our suppliers due to changes in demand from us or their other customers.

Where practicable, we are seeking, or intending to seek, second-source manufacturers for certain of our components. However, we cannot provide assurance that we will be successful in establishing second-source manufacturers or that the second-source manufacturers will be able to satisfy commercial demand for the ARTAS® System and ARTAS® iX System.

If any of these risks materialize, costs could significantly increase and our ability to meet demand for our products could be impacted. If we are unable to satisfy commercial demand for the ARTAS® System and ARTAS® iX System in a timely manner, our ability to generate revenue would be impaired and market acceptance of our products could be adversely affected.

We forecast sales to determine requirements for components and materials used in the ARTAS® System and ARTAS® iX System, reusable procedure kits, disposable procedure kits, upgrade kits and spare kits and if our forecasts are incorrect, we may experience delays in shipments or increased inventory costs.

We keep limited finished products on hand. To manage our operations, we forecast anticipated product orders and material requirements to predict our inventory needs and enter into purchase orders on the basis of these requirements. Several components of the ARTAS® and ARTAS® iX Systems require significant order lead time. Our limited historical commercial experience and anticipated growth may not provide us with enough data to consistently and accurately predict future demand. If our business expands and our demand for components and materials increases beyond our estimates, our manufacturers and suppliers may be unable to meet our demand. In addition, if we underestimate our component and material requirements, we may have inadequate inventory, which could interrupt, delay, or prevent delivery of the ARTAS® System or the ARTAS® iX System and related products to our customers. In contrast, if we overestimate our requirements, we may have excess inventory, which would increase use of our working capital. Any of these occurrences would negatively affect our financial condition and the level of satisfaction our physician customers have with our business.

Even though the ARTAS® System and ARTAS® iX System are marketed to physicians, there exists a potential for misuse by the operator of the systems by physicians, non-physicians or individuals who are not sufficiently trained, which could harm our reputation and our business.

We and our independent distributors market and sell the ARTAS® System and ARTAS® iX System to physicians. Under state law in the U.S., our physician customers can generally allow nurse practitioners, technicians, and other non-physicians to perform the ARTAS procedures under their direct supervision. Similarly, in markets outside of the U.S., physicians can allow non-physicians to perform the ARTAS procedures under their supervision. Although we and our distributors provide training on the use of the ARTAS® System and ARTAS® iX System, we do not supervise the procedures performed with the ARTAS® System and ARTAS® iX System, nor can we be assured that direct physician supervision of procedures occurs according to our recommendations. The potential misuse of the ARTAS® System or ARTAS® iX System by physicians and non- physicians may result in adverse treatment outcomes, which could harm our reputation and expose us to costly product liability litigation.

We and our distributors offer product training sessions, but neither we nor our distributors require purchasers or operators of our products to attend training sessions. The lack of required training for operators of our product and the use of our products by non-physicians may result in product misuse and adverse treatment outcomes, which could harm our reputation and expose us to costly product liability litigation.

Product liability suits could be brought against us for defective design, labeling, material, or workmanship, or misuse of the ARTAS® System or ARTAS® iX System, and could result in expensive and time-consuming litigation, payment of substantial damages, an increase in our insurance rates and substantial harm to our reputation.

If the ARTAS® System or ARTAS® iX System are defectively designed, manufactured, or labeled, contains defective components, or is misused, we may become subject to substantial and costly litigation by our physician customers or their patients. Misuse of the ARTAS® System or ARTAS® iX System or failure to adhere to operating guidelines can cause skin damage and underlying tissue damage and, if our operating guidelines are found to be

inadequate, we may be subject to liability. Furthermore, if a patient is injured in an unexpected manner or suffers unanticipated adverse events after undergoing the ARTAS procedure, even if the procedure was performed in accordance with our operating guidelines, we may be subject to product liability claims. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for the ARTAS® System and ARTAS® iX System, or any future products;
- damage to our reputation;
- withdrawal of clinical trial participants;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to physician customers, patients or clinical trial participants;
- regulatory investigations, product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue; and
- the inability to commercialize any future products.

Our inability to obtain and maintain sufficient product liability insurance at an acceptable cost and scope of coverage to protect against potential product liability claims could inhibit commercialization of the ARTAS® and ARTAS® iX Systems. As of December 31, 2018, we carry product liability insurance in the amount of $4.0 million in the aggregate. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Our insurance policies also have various exclusions and deductibles, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient funds to pay such amounts. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses.

The clinical trial process required to obtain regulatory clearances or approvals is lengthy and expensive with uncertain outcomes and could result in delays in new product introductions.

In order to obtain 510(k) clearance for the ARTAS® System, we were required to conduct a clinical trial, and we expect to conduct clinical trials in support of marketing authorization for future products and product enhancements. Conducting clinical trials is a complex and expensive process, can take many years, and outcomes are inherently uncertain. We may suffer significant setbacks in clinical trials, even after earlier clinical trials showed promising results, and failure can occur at any time during the clinical trial process. Any of our products may malfunction or may produce undesirable adverse effects that could cause us or regulatory authorities to interrupt, delay or halt clinical trials. We, the FDA, or another regulatory authority may suspend or terminate clinical trials at any time to avoid exposing trial participants to unacceptable health risks.

Successful results of pre-clinical studies are not necessarily indicative of future clinical trial results, and predecessor clinical trial results may not be replicated in subsequent clinical trials. Additionally, the FDA may disagree with our interpretation of the data from our pre-clinical studies and clinical trials, or may find the clinical trial design, conduct or results inadequate to prove safety or efficacy, and may require us to pursue additional pre-clinical studies or clinical trials, which could further delay the clearance or approval of our products. The data we collect from our pre-clinical studies and clinical trials may not be sufficient to support FDA clearance or approval, and if we are unable to demonstrate the safety and efficacy of our future products in our clinical trials, we will be unable to obtain regulatory clearance or approval to market our products.

In addition, we may estimate and publicly announce the anticipated timing of the accomplishment of various clinical, regulatory and other product development goals, which are often referred to as milestones. These milestones could include the obtainment of the right to affix the CE Mark in the European Union; the submission to the FDA of an investigational device exemption, or IDE, application to commence a pivotal clinical trial for a new product; the enrollment of patients in clinical trials; the release of data from clinical trials; and other clinical and regulatory events. The actual timing of these milestones could vary dramatically compared to our estimates, in some cases for reasons beyond our control. We cannot assure you that we will meet our projected milestones and if we do not meet these milestones as publicly announced, the commercialization of our products may be delayed and, as a result, our stock price may decline.

Delays in the commencement or completion of clinical testing could significantly affect our product development costs. We do not know whether planned clinical trials will begin on time, need to be redesigned, enroll an adequate number of patients in a timely manner or be completed on schedule, if at all. The commencement and completion of clinical trials can be delayed or terminated for a number of reasons, including delays or failures related to:

- the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical studies;
- obtaining regulatory approval to commence a clinical trial;
- reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- manufacturing sufficient quantities of a product for use in clinical trials;
- obtaining institutional review board, or IRB, or ethics committees' approval to conduct a clinical trial at each prospective site;
- recruiting and enrolling patients and maintaining their participation in clinical trials;
- having clinical sites observe trial protocol or continue to participate in a trial;
- addressing any patient safety concerns that arise during the course of a clinical trial;
- addressing any conflicts with new or existing laws or regulations; and
- adding a sufficient number of clinical trial sites.

Patient enrollment in clinical trials and completion of patient follow-up depend on many factors, including the size of the patient population, the nature of the trial protocol, the proximity of patients to clinical sites, the eligibility criteria for the clinical trial, patient compliance, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the product being studied in relation to other available therapies, including any new treatments that may be cleared or approved for the indications we are investigating. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and efficacy of a product, or they may be persuaded to participate in contemporaneous clinical trials of a competitor's product. In addition, patients participating in our clinical trials may drop out before completion of the trial or suffer adverse medical events unrelated to our products. Delays in patient enrollment or failure of patients to continue to participate in a clinical trial may delay commencement or completion of the clinical trial, cause an increase in the costs of the clinical trial and delays, or result in the failure of the clinical trial.

We could also encounter delays if the FDA concluded that our financial relationships with our principal investigators resulted in a perceived or actual conflict of interest that may have affected the interpretation of a study, the integrity of the data generated at the applicable clinical trial site or the utility of the clinical trial itself. Principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive cash compensation and/or stock options in connection with such services. If these relationships and any related compensation to or ownership interest by the clinical investigator carrying out the study result in perceived or actual conflicts of interest, or the FDA concludes that the financial relationship may have affected interpretation of the study, the integrity of the data generated at the applicable clinical trial site may be questioned and the utility of the clinical trial itself may be jeopardized, which could result in the delay or rejection of our marketing application by the FDA. Any such delay or rejection could prevent us from commercializing any of our products in development.

Furthermore, clinical trials may also be delayed because of ambiguous or negative interim results. In addition, a clinical trial may be suspended or terminated by us, the FDA, the IRB overseeing the clinical trial at issue, the Data Safety Monitoring Board for such trial, any of our clinical trial sites with respect to that site, or other regulatory authorities due to several factors, including:

- failure to conduct the clinical trial in accordance with applicable regulatory requirements or our clinical protocols;
- inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;
- inability of a clinical investigator or clinical trial site to continue to participate in the clinical trial;
- unforeseen safety issues or adverse side effects;
- failure to demonstrate a benefit from using the product; and
- lack of adequate funding to continue the clinical trial.

Additionally, changes in regulatory requirements and guidance may occur and we may need to amend clinical trial protocols to reflect these changes. Amendments may require us to resubmit our clinical trial protocols to IRBs for reexamination, which may impact the costs, timing or successful completion of a clinical trial. If we experience delays in completion of, or if we terminate, any of our clinical trials, the commercial prospects for our products may be harmed and our ability to generate product revenue from these products will be delayed or not realized at all. In addition, any delays in completing our clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenue. Any of these occurrences may significantly harm our business, financial condition and prospects significantly. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of a clinical trial may also ultimately lead to the denial of regulatory approval of the subject product.

Our business could be adversely affected if we are unable to extend the cleared uses of the ARTAS® System and ARTAS® iX System or successfully pursue the development, regulatory clearance or approval and commercialization of future products.

The ARTAS® System and ARTAS® iX System for hair follicle dissection, which has been cleared for use in the U.S. only for dissecting hair follicles from the scalp in men diagnosed with AGA who have black or brown straight hair, recipient site making for the follicle transplantation sites and, in our ARTAS® iX System, robotic implantation in which hair follicles are robotically transplanted, which recently has been approved for commercial marketing in the U.S., are our only products. Our business could be adversely affected if we are unable to extend the cleared uses of the ARTAS® System and ARTAS® iX System or successfully pursue the development, regulatory clearance or approval and commercialization of future products. In the future, we may also become dependent on other products that we may develop or acquire. The clinical and commercial success of our products will depend on several factors, including the following:

- the ability to raise any additional required capital on acceptable terms, or at all;
- timely completion of our nonclinical studies and clinical trials, which may be significantly slower, or cost more than we anticipate and will depend substantially upon the performance of third-party contractors;
- whether we are required by the FDA or similar foreign regulatory agencies to conduct additional clinical trials or other studies beyond those planned to support the clearance or approval and commercialization of any future indications or products;
- our ability to demonstrate to the satisfaction of the FDA and similar foreign regulatory authorities the safety, efficacy and acceptable risk to benefit profile of any future indications or products;
- the prevalence, duration and severity of potential side effects or other safety issues experienced with our future approved products, if any;
- the timely receipt of necessary marketing approvals or clearances from the FDA and foreign regulatory authorities;

- achieving and maintaining, and, where applicable, ensuring that our third-party contractors achieve and maintain, compliance with our contractual obligations and with all regulatory requirements applicable to any future products or additional approved indications, if any;
- acceptance by physicians and patients of the benefits, safety and efficacy of any future products, if approved or cleared, including relative to alternative and competing treatments;
- our ability to establish and enforce intellectual property rights in and to our products or any future indications or products; and
- our ability to avoid third-party patent interference, intellectual property challenges or intellectual property infringement claims.

Even if regulatory approvals or clearances are obtained, we may never be able to successfully commercialize any future indications or products. Accordingly, we cannot provide assurances that we will be able to generate sufficient revenue through the sale of any future products to continue our business.

Our loan and security agreement contains restrictions that limit our flexibility in operating our business.

In May 2018, we entered into a loan and security agreement with Solar Capital Ltd. and other lenders, which was subsequently amended in June 2018, November 2018 and in January 2019. We borrowed $20.0 million under the loan and security agreement with Solar, the Solar Agreement. The Solar Agreement also contains various covenants that limit our ability to engage in specified types of transactions. Subject to limited exceptions, these covenants limit our ability, without Solar's consent, to, among other things:

- sell, lease, transfer, exclusively license or dispose of our assets;
- create, incur, assume or permit to exist additional indebtedness or liens, which may limit our ability to raise additional capital;
- make restricted payments, including paying dividends on, repurchasing or making distributions with respect to our capital stock;
- pay any cash dividend or make any other cash distribution or payment in respect of our capital stock more than $150,000 in aggregate per calendar year;
- make specified investments (including loans and advances);
- make changes to certain key personnel including our President and Chief Executive Officer;
- merge, consolidate or liquidate; and
- enter into certain transactions with our affiliates.

In addition, the Solar Agreement contains certain covenants that require us to achieve certain revenue and liquidity thresholds. These covenants under the agreement require us to meet certain minimum liquidity and minimum revenue covenants, which, if we fail to maintain or achieve, will result in a default and require us to repay all outstanding principal amounts and accrued interest repay all amounts outstanding. In the event of a default, if we are unable to repay all outstanding amounts Solar may foreclose on the collateral granted to it to collateralize such indebtedness and will significantly affect our ability to operate our business.

We will need to increase the size of our organization, and we may experience difficulties in managing growth.

As of December 31, 2018, we had 102 employees, with 39 employees in sales and marketing, 26 employees in customer support, 20 employees in research and development, including clinical, regulatory and certain quality control functions, three employees in manufacturing operations and 14 employees in general management and administration. We will need to continue to expand our sales, marketing, managerial, operational, finance and administrative resources for the ongoing commercialization of the ARTAS® System and ARTAS® iX System and continue our development activities of any future products.

Our existing management, personnel, systems and facilities may not be adequate to support our future growth. Our need to effectively execute our growth strategy requires that we:

- identify, recruit, retain, incentivize and integrate additional employees, including sales personnel;
- manage our internal development and operational efforts effectively while carrying out our contractual obligations to third parties; and
- continue to improve our operational, financial and management controls, reports systems and procedures.

If we fail to attract and retain senior management and key personnel, we may be unable to successfully grow our business.

Our success depends in part on our continued ability to attract, retain and motivate highly qualified management, clinical and other personnel. We are highly dependent upon our senior management, particularly our President and Chief Executive Officer, our management team and other key personnel. The loss of services of any of these individuals could delay or prevent enhancement of the ARTAS® System and ARTAS® iX System, the expansion of the ARTAS® System and ARTAS® iX System to new indications, or the development of any future products. Although we have entered into employment agreements with our senior management team, these agreements do not provide for a fixed term of service.

Competition for qualified personnel in the medical device field is intense due to the limited number of individuals who possess the skills and experience required by our industry. We will need to hire additional personnel and we may not be able to attract and retain quality personnel on acceptable terms, or at all. In addition, to the extent we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited or that they have divulged proprietary or other confidential information, or that their former employers own their research output.

Because we have opted to take advantage of the JOBS Act provision which allows us to delay implementing new accounting standards, our consolidated financial statements may not be directly comparable to other public companies.

Pursuant to the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued after 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. Because we have elected to take advantage of this provision of the JOBS Act, our consolidated financial statements and the reported results of operations contained therein may not be directly comparable to other public companies.

We incur significant costs because of operating as a public company, and our management devotes substantial time to new compliance initiatives. We may fail to comply with the rules that apply to public companies, including Section 404 of the Sarbanes-Oxley Act of 2002, which could result in sanctions or other penalties that would harm our business.

We incur significant legal, accounting and other expenses as a public company, including costs resulting from public company reporting obligations under the Securities Exchange Act of 1934, as amended, and regulations regarding corporate governance practices. The listing requirements of The Nasdaq Global Market and the rules of the Securities and Exchange Commission, or SEC, require that we satisfy certain corporate governance requirements relating to director independence, filing annual and interim reports, stockholder meetings, approvals and voting, soliciting proxies, conflicts of interest and a code of conduct. Our management and other personnel devote a substantial amount of time to ensure that we comply with all of these requirements. Moreover, the reporting requirements, rules and regulations will continue to increase our legal and financial compliance costs and will make some activities more time-consuming and costlier. Any changes we make to comply with these obligations may not be sufficient to allow us to satisfy our obligations as a public company on a timely basis, or at all. These reporting requirements, rules and regulations, coupled with the increase in potential litigation exposure associated with being a public company, could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors or board committees or to serve as executive officers, or to obtain certain types of insurance, including directors' and officers' insurance, on acceptable terms.

We are subject to Section 404 of The Sarbanes-Oxley Act of 2002, or Section 404, and the related rules of the SEC, which generally require our management and independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting. Beginning with this Annual Report on Form 10-K, we are required to file an annual management assessment of the effectiveness of our internal control over financial reporting. During the course of our review and testing, we may identify deficiencies and be unable to remediate them before we must provide the required reports.

If we have a material weakness in our internal controls over financial reporting, we may not detect errors on a timely basis and our consolidated financial statements may be materially misstated. We or our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting, which could harm our operating results, cause investors to lose confidence in our reported financial information and cause the market price of our stock to decline. In addition, as a public company we are required to file accurate and timely quarterly and annual reports with the SEC under the Securities Exchange Act of 1934, as amended. Any failure to report our financial results on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from The Nasdaq Global Market or other adverse consequences that would materially harm to our business and cause the market price of our common stock to decline.

Further, for so long as we remain an emerging growth company as defined in the JOBS Act, we intend to take advantage of certain exemptions from various reporting requirements that are applicable to 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. Once we are no longer an emerging growth company or, if prior to such date, we opt to no longer take advantage of the applicable exemption, our independent registered public accounting firm will be engaged to provide an attestation report on the effectiveness of our internal control over financial reporting. 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 our IPO, (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.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. Furthermore, the market for aesthetic medical procedures may be particularly vulnerable to unfavorable economic conditions. In particular, the ARTAS procedures will not receive coverage and reimbursement and, as a result, demand for this product will be tied to discretionary spending levels of our targeted patient population. The recent global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, such as the recent global financial crisis, could result in a variety of risks to our business, including weakened demand for the ARTAS® and ARTAS® iX Systems, ARTAS procedures or any future products, if approved, and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our manufacturers or suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our services. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the economic climate and financial market conditions could adversely impact our business.

We or the third parties upon whom we depend may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our corporate headquarters and other facilities are located in San Jose, California, which in the past has experienced both severe earthquakes and floods. We do not carry earthquake or flood insurance. Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects.

If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our ARTAS enterprise system, enterprise financial systems and records, manufacturing resource planning and enterprise quality systems, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. The disaster recovery and business continuity plan we have in place are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses because of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake or flood insurance, could have a material adverse effect on our business.

Furthermore, integral parties in our supply chain are similarly vulnerable to natural disasters or other sudden, unforeseen and severe adverse events. If such an event were to affect our supply chain, it could have a material adverse effect on our business.

Significant disruptions of information technology systems or breaches of data security could materially adversely affect our business, results of operations and financial condition.

We collect and maintain information in digital form that is necessary to conduct our business, and we are increasingly dependent on information technology systems and infrastructure to operate our business. In the ordinary course of our business, we collect, store and transmit large amounts of confidential information, including intellectual property, proprietary business information and personal information. It is critical that we do so in a secure manner to maintain the confidentiality and integrity of such confidential information. We have established physical, electronic, and organizational measures to safeguard and secure our systems to prevent a data compromise, and rely on commercially available systems, software, tools, and monitoring to provide security for our information technology systems and the processing, transmission and storage of digital information. We have also outsourced elements of our information technology infrastructure, and as a result a few third-party vendors may or could have access to our confidential information. Our internal information technology systems and infrastructure, and those of our current and any future collaborators, contractors and consultants and other third parties on which we rely, are vulnerable to damage from computer viruses, malware, natural disasters, terrorism, war, telecommunication and electrical failures, cyber-attacks or cyber-intrusions over the Internet, attachments to emails, persons inside our organization, or persons with access to systems inside our organization. The risk of a security breach or disruption, particularly through cyber-attacks or cyber intrusion, including by computer hackers, foreign governments, and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. In addition, the prevalent use of mobile devices that access confidential information increases the risk of data security breaches, which could lead to the loss of confidential information or other intellectual property. The costs to us to mitigate network security problems, bugs, viruses, worms, malicious software programs and security vulnerabilities could be significant, and while we have implemented security measures to protect our data security and information technology systems, our efforts to address these problems may not be successful, and these problems could result in unexpected interruptions, delays, cessation of service and other harm to our business and our competitive position. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our product development programs. Moreover, if a computer security breach affects our systems or results in the unauthorized release of personally identifiable information, our reputation could be materially damaged. In addition, such a breach may require notification to governmental agencies, the media or individuals pursuant to various federal and state privacy and security laws, if applicable, including the Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Clinical Health Act of 2009, or HITECH, and its implementing rules and regulations, as well as regulations promulgated by the Federal Trade Commission and state breach notification laws. We would also be exposed to a risk of loss or litigation and potential liability, which could materially adversely affect our business, results of operations and financial condition.

Our employees and independent contractors, including consultants, manufacturers, distributors, commercial collaborators, service providers and other vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have an adverse effect on our results of operations.

We are exposed to the risk that our employees and independent contractors, including consultants, manufacturers, distributors, commercial collaborators, service providers and other vendors may engage in misconduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or other unauthorized activities that violate the laws and regulations of the FDA and other similar regulatory bodies, including those laws that require the reporting of true, complete and accurate information to such regulatory bodies; manufacturing standards; U.S. federal and state healthcare fraud and abuse, data privacy laws and other similar non-U.S. laws; or laws that require the true, complete and accurate reporting of financial information or data. Activities subject to these laws also involve the improper use or misrepresentation of information obtained in the course of

clinical trials, the creation of fraudulent data in our nonclinical studies or clinical trials, or illegal misappropriation of product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third-parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. In addition, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and financial results, including, without limitation, the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgements, individual imprisonment, other sanctions, contractual damages, reputational harm, diminished profits and future earnings and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Risks Related to Intellectual Property

We may in the future become involved in lawsuits to defend ourselves against intellectual property disputes, which could be expensive and time consuming, and ultimately unsuccessful, and could result in the diversion of significant resources, and hinder our ability to commercialize our existing or future products.

Our success depends in part on not infringing the patents or violating the other proprietary rights of others. Intellectual property disputes can be costly to defend and may cause our business, operating results and financial condition to suffer. Significant litigation regarding patent rights occurs in the medical industry. Whether merited or not, it is possible that U.S. and foreign patents and pending patent applications controlled by third parties may be alleged to cover our products. We may also face allegations that our employees have misappropriated the intellectual property rights of their former employers or other third parties. Our competitors in both the U.S. and abroad, many of which have substantially greater resources and have made substantial investments in patent portfolios and competing technologies, may have applied for or obtained or may in the future apply for and obtain, patents that will prevent, limit, or otherwise interfere with our ability to make, use, sell, and/or export our products. Our competitors may have one or more patents for which they can threaten and/or initiate patent infringement actions against us and/or any of our third-party suppliers. Our ability to defend ourselves and/or our third-party suppliers may be limited by our financial and human resources, the availability of reasonable defenses, and the ultimate acceptance of our defenses by the courts or juries. Furthermore, if such patents are successfully asserted against us, this may result in an adverse impact on our business, including injunctions, damages, and/or attorneys' fees. From time to time and in the ordinary course of business, we may develop noninfringement and/or invalidity positions with respect to third-party patents, which may or not be ultimately adjudicated as successful by a judge or jury if such patents were asserted against us.

We may receive in the future, particularly as a public company, communications from patent holders, including non-practicing entities, alleging infringement of patents or other intellectual property rights or misappropriation of trade secrets, or offering licenses to such intellectual property. Any claims that we assert against perceived infringers could also provoke these parties to assert counterclaims against us alleging that we infringe their intellectual property rights. At any given time, we may be involved as either a plaintiff or a defendant in a number of patent infringement actions, the outcomes of which may not be known for prolonged periods of time.

The large number of patents, the rapid rate of new patent applications and issuances, the complexities of the technologies involved, and the uncertainty of litigation significantly increase the risks related to any patent litigation. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling, making, using, or exporting products that use the disputed intellectual property;
- obtain a license from the intellectual property owner to continue selling, making, exporting, or using products, which license may require substantial royalty payments and may not be available on reasonable terms, or at all;
- incur significant legal expenses;
- pay substantial damages or royalties to the party whose intellectual property rights we may be found to be infringing, potentially including treble damages if the court finds that the infringement was willful;
- if a license is available from a third-party, we may have to pay substantial royalties, upfront fees or grant cross-licenses to intellectual property rights for our products and services;

- pay the attorney fees and costs of litigation to the party whose intellectual property rights we may be found to be infringing;
- find non-infringing substitute products, which could be costly and create significant delay due to the need for FDA regulatory clearance;
- find alternative supplies for infringing products or processes, which could be costly and create significant delay due to the need for FDA regulatory clearance; and/or
- redesign those products or processes that infringe any third-party intellectual property, which could be costly, disruptive, and/or infeasible.

From time to time, we may be subject to legal proceedings and claims in the ordinary course of business with respect to intellectual property. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock. Finally, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations.

If any of the foregoing occurs, we may have to withdraw existing products from the market or may be unable to commercialize one or more of our products, all of which could have a material adverse effect on our business, results of operations and financial condition. Any litigation or claim against us, even those without merit, may cause us to incur substantial costs, and could place a significant strain on our financial resources, divert the attention of management from our core business and harm our reputation. Furthermore, as the number of participants in the robotic hair restoration surgery market grows, the possibility of intellectual property infringement claims against us increases.

In addition, we may indemnify our customers, suppliers and international distributors against claims relating to the infringement of the intellectual property rights of third parties relating to our products, methods, and/or manufacturing processes. Third parties may assert infringement claims against our customers, suppliers, or distributors. These claims may require us to initiate or defend protracted and costly litigation on behalf of our customers, suppliers or distributors, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers, suppliers, or distributors or may be required to obtain licenses for the products they use. If we cannot obtain all necessary licenses on commercially reasonable terms, our customers may be forced to stop using our products, or our suppliers may be forced to stop providing us with products.

Similarly, interference or derivation proceedings provoked by third parties or brought by the United Stated Patent and Trademark Office, or USPTO, or any foreign patent authority may be necessary to determine the priority of inventions or other matters of inventorship with respect to our patents or patent applications. We may also become involved in other proceedings, such as re-examination or opposition proceedings, before the USPTO or its foreign counterparts relating to our intellectual property or the intellectual property rights of others. An unfavorable outcome in any such proceedings could require us to cease using the related technology or to attempt to license rights to it from the prevailing party or could cause us to lose valuable intellectual property rights. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms, if any license is offered at all. Litigation or other proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may also become involved in disputes with others regarding the ownership of intellectual property rights. For example, we jointly develop intellectual property with certain parties, and disagreements may therefore arise as to the ownership of the intellectual property developed pursuant to these relationships. If we are unable to resolve these disputes, we could lose valuable intellectual property rights.

Changes in patent law could diminish the value of patents in general, thereby impairing our ability to protect our existing and future products.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art, may affect patent litigation, and switched the U.S. patent system from a “first-to-

invent" system to a "first-to-file" system. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to the patent on an invention regardless of whether another inventor had made the invention earlier. The USPTO recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, in particular, the first-to-file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. The Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

In addition, patent reform legislation may pass in the future that could lead to additional uncertainties and increased costs surrounding the prosecution, enforcement and defense of our patents and applications. Furthermore, the U.S. Supreme Court and the U.S. Court of Appeals for the Federal Circuit have made, and will likely continue to make, changes in how the patent laws of the U.S. are interpreted. For example, the U.S. Supreme Court has ruled on several patent cases in recent years, such as *Association for Molecular Pathology v. Myriad Genetics, Inc.* (Myriad I), *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, and *Alice Corporation Pty. Ltd. v. CLS Bank International*, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. Similarly, foreign courts have made, and will likely continue to make, changes in how the patent laws in their respective jurisdictions are interpreted. We cannot predict future changes in the interpretation of patent laws or changes to patent laws that might be enacted into law by U.S. and foreign legislative bodies. Those changes may materially affect our patents or patent applications and our ability to obtain additional patent protection in the future.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other similar provisions during the patent application process. In addition, periodic maintenance fees on issued patents often must be paid to the USPTO and foreign patent agencies over the lifetime of the patent. While an unintentional lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we fail to maintain the patents and patent applications covering our products or procedures, we may not be able to stop a competitor from marketing products that are the same as or similar to our own, which would have a material adverse effect on our business.

We may not be able to adequately protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on our products in all countries throughout the world would be prohibitively expensive. The requirements for patentability may differ in certain countries, particularly developing countries, and the breadth of patent claims allowed can be inconsistent. In addition, the laws of some foreign countries may not protect our intellectual property rights to the same extent as laws in the U.S. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, furthermore, may export otherwise infringing products to territories in which we have patent protection that may not be sufficient to terminate infringing activities.

We do not have patent rights in certain foreign countries in which a market may exist. Moreover, in foreign jurisdictions where we do have patent rights, proceedings to enforce such rights could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, and our patent applications at risk of not issuing. Additionally, such proceedings could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Thus, we may not be able to stop a competitor from marketing and selling in foreign countries products that are the same as or similar to our products, and our competitive position in the international market would be harmed.

We depend on certain technologies that are licensed to us. We do not control these technologies and any loss of our rights to them could prevent us from selling our products.

We are dependent on licenses from HSC Development LLC and James A. Harris, M.D. for some of our key technologies. We do not own the patents that underlie these licenses. Our rights to use the technology we license are subject to the negotiation of, continuation of and compliance with the terms of those licenses. In some cases, we do not control the prosecution, maintenance, or filing of the patents to which we hold licenses, or the enforcement of these patents against third parties. These patents and patent applications are not written by us or our attorneys, and we did not have control over the drafting and prosecution. Our licensors might not have given the same attention to the drafting and prosecution of these patents and applications as we would have if we had been the owners of the patents and applications and had control over the drafting and prosecution. We cannot be certain that drafting and/or prosecution of the licensed patents and patent applications by the licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights.

Our intellectual property agreements with third parties may be subject to disagreements over contract interpretation, which could narrow the scope of our rights to the relevant intellectual property or technology or increase our financial or other obligations to our licensors.

Certain provisions in our intellectual property agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could affect the scope of our rights to the relevant intellectual property or technology or affect financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact conceives or develops intellectual property that we regard as our own. Our assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our competitors or are in breach of non-competition or non-solicitation agreements with our competitors.

We could in the future be subject to claims that we or our employees have inadvertently or otherwise used or disclosed alleged trade secrets or other proprietary information of former employers or competitors. Although we have procedures in place that seek to prevent our employees and consultants from using the intellectual property, proprietary information, know-how or trade secrets of others in their work for us, we may in the future be subject to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement, or that we or these individuals have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of a former employer or competitor. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and could be a distraction to management. If our defense to those claims fails, in addition to paying monetary damages, a court could prohibit us from using technologies or functionalities that are essential to our products, if such technologies or functionalities are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers. An inability to incorporate technologies or functionalities that are important or essential to our products would have a material adverse effect on our business and may prevent us from selling our products or from practicing our processes. In addition, we may lose valuable intellectual property rights or personnel. Moreover, any such litigation or the threat thereof may adversely affect our ability to hire employees or contract with independent sales representatives. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our products, which could have an adverse effect on our business, results of operations and financial condition.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

We hold various trademarks for our products and services. Many of these trademarks are registered with the USPTO and corresponding government agencies in numerous other countries, and we hold trademark applications for these marks in a number of foreign countries, although the laws of many countries may not protect our trademark rights to

the same extent as the laws of the U.S. Actions taken by us to establish and protect our trademarks might not prevent imitation of our products or services, infringement of our trademark rights by unauthorized parties or other challenges to our ownership or validity of our trademarks. If any of these events occur, we may not be able to protect and enforce our rights in these trademarks, which we need in order to build name recognition with potential partners or customers in our markets of interest. In addition, unauthorized third-parties may have registered trademarks similar and identical to our trademarks in foreign jurisdictions or may in the future file for registration of such trademarks. If they succeed in registering or developing common law rights in such trademarks, and if we were not successful in challenging such third-party rights, we may not be able to use such trademarks to market our products and services in those countries. If we are unable to register our trademarks, enforce our trademarks, or bar a third-party from registering or using a trademark, our ability to establish name recognition based on our trademarks and compete effectively in our markets of interest may be adversely affected.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position may be harmed.

In addition to patent and trademark protection, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect our trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our consultants and vendors, or our former or current employees. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, however, any of these parties may breach the agreements and disclose our trade secrets and other unpatented or unregistered proprietary information, and once disclosed, we are likely to lose trade secret protection. Monitoring unauthorized uses and disclosures of our intellectual property is difficult, and we do not know whether the steps we have taken to protect our intellectual property will be effective. In addition, we may not be able to obtain adequate remedies for any such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the U.S. are less willing or unwilling to enforce trade secret protection.

Furthermore, our competitors may independently develop knowledge, methods and know-how similar, equivalent, or superior to our proprietary technology. Competitors could purchase our products and attempt to replicate some or all of the competitive advantages we derive from our development efforts, willfully infringe our intellectual property rights, design around our protected technology, or develop their own competitive technologies that fall outside of our intellectual property rights. In addition, our key employees, consultants, suppliers or other individuals with access to our proprietary technology and know-how may incorporate that technology and know-how into projects and inventions developed independently or with third parties. As a result, disputes may arise regarding the ownership of the proprietary rights to such technology or know-how, and any such dispute may not be resolved in our favor. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us and our competitive position could be adversely affected. If our intellectual property is not adequately protected so as to protect our market against competitors' products and methods, our competitive position could be adversely affected, as could our business.

Risks Related to Government Regulation

The ARTAS® and ARTAS® iX Systems and our operations are subject to extensive government regulation and oversight both in the U.S. and abroad, and our failure to comply with applicable requirements could harm our business.

The ARTAS® and ARTAS® iX Systems and related products and services are regulated as medical devices subject to extensive regulation in the U.S. and elsewhere, including by the FDA and its foreign counterparts. The FDA and foreign regulatory agencies regulate, among other things, with respect to medical devices:

- design, development and manufacturing;
- testing, labeling, content and language of instructions for use and storage;
- clinical trials;
- product safety;
- marketing, sales and distribution;
- premarket clearance and approval;

- record keeping procedures;
- advertising and promotion;
- recalls and field safety corrective actions;
- post-market surveillance, including reporting of deaths or serious injuries and malfunctions that, if they were to recur, could lead to death or serious injury;
- post-market approval studies; and
- product import and export.

The regulations to which we are subject are complex and have tended to become more stringent over time. Regulatory changes could result in restrictions on our ability to carry on or expand our operations, higher than anticipated costs or lower than anticipated sales.

In the U.S., before we can market a new medical device, or a new use of, new claim for or significant modification to an existing product, we must first receive either clearance under Section 510(k) of the FDCA or approval of a PMA application from the FDA, unless an exemption applies. In the 510(k) clearance process, before a device may be marketed, the FDA must determine that a proposed device is "substantially equivalent" to a legally-marketed "predicate" device, which includes a device that has been previously cleared through the 510(k) process, a device that was legally marketed prior to May 28, 1976 (pre-amendments device), a device that was originally on the U.S. market pursuant to an approved premarket approval, or PMA, application and later down-classified, or a 510(k)-exempt device. To be "substantially equivalent," the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Clinical data are sometimes required to support substantial equivalence. In the PMA process, the FDA must determine that a proposed device is safe and effective for its intended use based, in part, on extensive data, including, but not limited to, technical, pre-clinical, clinical trial, manufacturing and labeling data. The PMA process is typically required for devices that are deemed to pose the greatest risk, such as life- sustaining, life-supporting or implantable devices.

Modifications to products that are approved through a PMA application generally require FDA approval. Similarly, certain modifications made to products cleared through a 510(k) may require a new 510(k) clearance. Both the PMA approval and the 510(k)-clearance process can be expensive, lengthy and uncertain. The FDA's 510(k) clearance process usually takes from three to 12 months but can last longer. The process of obtaining a PMA is much costlier and more uncertain than the 510(k)-clearance process and generally takes from one to three years, or even longer, from the time the application is filed with the FDA. In addition, a PMA generally requires, and the 510(k)-clearance process sometimes requires, the performance of one or more clinical trials. Despite the time, effort and cost, we cannot assure you that any particular device will be approved or cleared by the FDA. Any delay or failure to obtain necessary regulatory approvals could harm our business.

In the U.S., we have obtained 510(k) premarket clearance from the FDA to market the ARTAS® and ARTAS® iX System for harvesting hair follicles from the scalp in men diagnosed with AGA who have black or brown straight hair. An element of our strategy is to continue to add new functionalities and enhance existing functionalities to the ARTAS® and ARTAS® iX Systems. We expect that certain modifications we may make to the ARTAS® and ARTAS® iX Systems may require new 510(k) clearance; however, future modifications may be subject to the substantially more costly, time-consuming and uncertain PMA process. If the FDA requires us to go through a lengthier, more rigorous examination for future products or modifications to existing products than we had expected, product introductions or modifications could be delayed or canceled, which could cause our sales to decline.

The FDA can delay, limit or deny clearance or approval of a device for many reasons, including:

- we may not be able to demonstrate to the FDA's satisfaction that the product or modification is substantially equivalent to the proposed predicate device or safe and effective for its intended use;
- the data from our pre-clinical studies and clinical trials may be insufficient to support clearance or approval, where required; and
- the manufacturing process or facilities we use may not meet applicable requirements.

The FDA's and other regulatory authorities' policies may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our products. For example, in December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among other things, is intended to modernize the regulation of medical devices and spur innovation, but its ultimate implementation remains unclear.

If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may fail to obtain any marketing clearances or approvals, lose any marketing clearance or approval that we may have obtained, and we may not achieve or sustain profitability.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the U.S. or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of several Executive Orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. Notably, on January 30, 2017, President Trump issued an Executive Order, applicable to all executive agencies including the FDA, requiring that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency must identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This Executive Order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the Executive Order requires agencies to identify regulations to offset any incremental cost of a new regulation and approximate the total costs or savings associated with each new regulation or repealed regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within OMB on February 2, 2017, the administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. In addition, on February 24, 2017, President Trump issued an executive order directing each affected agency to designate an agency official as a "Regulatory Reform Officer" and establish a "Regulatory Reform Task Force" to implement the two-for-one provisions and other previously issued executive orders relating to the review of federal regulations, however it is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Even after we have obtained the proper regulatory clearance or approval to market a product, we have ongoing responsibilities under FDA regulations. The failure to comply with applicable regulations could jeopardize our ability to sell the ARTAS® and ARTAS® iX Systems and result in enforcement actions such as:

- warning letters;
- fines;
- injunctions;
- civil penalties;
- termination of distribution;
- recalls or seizures of products;
- delays in the introduction of products into the market;
- total or partial suspension of production;
- refusal to grant future clearances or approvals;
- withdrawals or suspensions of current clearances or approvals, resulting in prohibitions on sales of our product or products; and
- in the most serious cases, criminal penalties.

Any of these sanctions could result in higher than anticipated costs or lower than anticipated sales and harm our reputation, business, financial condition and results of operations.

We are subject to extensive governmental regulation in foreign jurisdictions, such as Europe, and our failure to comply with applicable requirements could cause our business to suffer.

We must maintain regulatory approval in foreign jurisdictions in which we plan to market and sell the ARTAS® System.

In the European Economic Area or EEA, manufacturers of medical devices need to comply with the Essential Requirements laid down in Annex II to the EU Medical Devices Directive (Council Directive 93/42/EEC).

Compliance with these requirements is a prerequisite to be able to affix the CE mark to medical devices, without which they cannot be marketed or sold in the EEA. To demonstrate compliance with the Essential Requirements and obtain the right to affix the CE Mark, manufacturers of medical devices must undergo a conformity assessment procedure, which varies according to the type of medical device and its classification. Except for low risk medical devices (Class I with no measuring function and which are not sterile), where the manufacturer can issue an EC Declaration of Conformity based on a self-assessment of the conformity of its products with the Essential Requirements, a conformity assessment procedure requires the intervention of a Notified Body, which is an organization designated by a competent authority of an EEA country to conduct conformity assessments.

Depending on the relevant conformity assessment procedure, the Notified Body would audit and examine the Technical File and the quality system for the manufacture, design and final inspection of our devices. The Notified Body issues a CE Certificate of Conformity following successful completion of a conformity assessment procedure conducted in relation to the medical device and its manufacturer and their conformity with the Essential Requirements. This Certificate entitles the manufacturer to affix the CE mark to its medical devices after having prepared and signed a related EC Declaration of Conformity.

As a rule, demonstration of conformity of medical devices and their manufacturers with the Essential Requirements must be based, among other things, on the evaluation of clinical data supporting the safety and performance of the products during normal conditions of use. Specifically, a manufacturer must demonstrate that the device achieves its intended performance during normal conditions of use and that the known and foreseeable risks, and any adverse events, are minimized and acceptable when weighed against the benefits of its intended performance, and that any claims made about the performance and safety of the device (e.g., product labeling and instructions for use) are supported by suitable evidence. This assessment must be based on clinical data, which can be obtained from (1) clinical studies conducted on the devices being assessed, (2) scientific literature from similar devices whose equivalence with the assessed device can be demonstrated or (3) both clinical studies and scientific literature. With respect to active implantable medical devices or Class III devices, the manufacturer must conduct clinical studies to obtain the required clinical data, unless reliance on existing clinical data from equivalent devices can be justified. The conduct of clinical studies in the EEA is governed by detailed regulatory obligations. These may include the requirement of prior authorization by the competent authorities of the country in which the study takes place and the requirement to obtain a positive opinion from a competent Ethics Committee. This process can be expensive and time-consuming.

On April 5, 2017, the European Parliament passed the Medical Devices Regulation, which repeals and replaces the EU Medical Devices Directive. Unlike directives, which must be implemented into the national laws of the EEA member States, the regulations would be directly applicable, i.e., without the need for adoption of EEA member State laws implementing them, in all EEA member States and are intended to eliminate current differences in the regulation of medical devices among EEA member States. The Medical Devices Regulation, among other things, is intended to establish a uniform, transparent, predictable and sustainable regulatory framework across the EEA for medical devices and in vitro diagnostic devices and ensure a high level of safety and health while supporting innovation.

The Medical Devices Regulation will however only become applicable three years after publication. Once applicable, the new regulations will among other things:

- strengthen the rules on placing devices on the market and reinforce surveillance once they are available;
- establish explicit provisions on manufacturers' responsibilities for the follow-up of the quality, performance and safety of devices placed on the market;
- improve the traceability of medical devices throughout the supply chain to the end-user or patient through a unique identification number;
- set up a central database to provide patients, healthcare professionals and the public with comprehensive information on products available in the EU; and
- strengthen rules for the assessment of certain high-risk devices, such as implants, which may have to undergo an additional check by experts before they are placed on the market.

These modifications may have an impact on the way we conduct our business in the EEA.

We are subject to governmental regulation and other legal obligations, particularly related to privacy, data protection and information security. Our actual or perceived failure to comply with such obligations could harm our business.

We are subject to diverse laws and regulations relating to data privacy and security, including, in the United States, the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, and, in the European Union (EU) and shortly in the European Economic Area (EEA), Regulation 2016/679, known as the General Data Protection Regulation, or GDPR. New global privacy rules are being enacted and existing ones are being updated and strengthened. Complying with these numerous, complex and often changing regulations is expensive and difficult, and failure to comply with any privacy laws or data security laws or any security incident or breach involving the misappropriation, loss or other unauthorized use or disclosure of sensitive or confidential patient or consumer information, whether by us, one of our business associates or another third-party, could have a material adverse effect on our business, reputation, financial condition and results of operations, including but not limited to: material fines and penalties; damages; litigation; consent orders; and injunctive relief.

Furthermore, these rules are constantly changing; for example, the GDPR came into effect in May this year reforming the European regime. The GDPR implements more stringent operational requirements than its predecessor legislation. For example, the GDPR requires us to make more detailed disclosures to data subjects, requires disclosure of the legal basis on which we can process personal data, makes it harder for us to obtain valid consent for processing, provides more robust rights for data subjects, introduces mandatory data breach notification through the EU, imposes additional obligations on us when contracting with service providers and requires us to adopt appropriate privacy governance including policies, procedures, training and data audit. If we do not comply with our obligations under the GDPR, we could be exposed to fines of up to the higher of 20,000,000 Euros or up to 4% of our total worldwide annual turnover in the event of a significant breach. In addition, we may be the subject of litigation and/or adverse publicity, which could have material adverse effect on our reputation and business.

We are also subject to evolving European laws on data export and electronic marketing. The rules on data export will apply when we transfer personal data to group companies or third parties outside of the EEA. For example, in 2015, the Court of Justice of the EU ruled that the U.S.-EU Safe Harbor framework, one compliance method by which companies could transfer personal data regarding citizens of the EU to the United States, was invalid and could no longer be relied upon. The U.S.-EU Safe Harbor framework was replaced with the U.S.-EU Privacy Shield framework, which is now under review and there is currently litigation challenging another EU mechanism for adequate data transfers, the standard contractual clauses. It is uncertain whether the Privacy Shield framework and/or the standard contractual clauses will be similarly invalidated by the European courts. These changes may require us to find alternative bases for the compliant transfer of personal data from the EEA to the U.S and we are monitoring developments in this area. The EU is also in the process of replacing the e-Privacy Directive with a new set of rules taking the form of a regulation, which will be directly implemented in the laws of each European member state, without the need for further enactment. The current draft of the e-Privacy Regulation retains strict op-in for electronic marketing and the penalties for contravention have significantly increased with fining powers to the same levels as GDPR (i.e. the greater of 20,000,000 Euros or 4% of total global annual revenue).

Modifications to the ARTAS® System or ARTAS® iX System and any future products that receive 510(k) clearances may require new 510(k) clearances or PMA approvals, and if we make such modifications without seeking new clearances or approvals, the FDA may require us to cease marketing or recall the modified products until clearances or approvals are obtained.

The ARTAS® and ARTAS® iX Systems have received 510(k) clearances from the FDA. Any modification to a 510(k)-cleared device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, design or manufacture, requires a new 510(k) clearance or, possibly, approval of a PMA. The FDA requires every manufacturer to make this determination in the first instance, but the FDA may review any manufacturer’s decision. The FDA may not agree with our decisions regarding whether new clearances or approvals are necessary. We have made modifications to the ARTAS® System in the past and have determined based on our review of the applicable FDA regulations and guidance that in certain instances new 510(k) clearances or PMA approvals were not required. We may make similar modifications or add additional functionalities in the future that we believe do not require a new 510(k) clearance or approval of a PMA. The FDA has issued a guidance document intended to assist manufacturers in determining whether modifications to cleared devices require the submission of a new 510(k), and such guidance has come under scrutiny in recent years, the practical impact of which is unclear. If

the FDA disagrees with our determination and requires us to submit new 510(k) notifications or PMA applications for modifications to our previously cleared products for which we have concluded that new clearances or approvals are unnecessary, we may be required to cease marketing or to recall the modified product until we obtain clearance or approval, which could require us to redesign our products, conduct clinical trials to support any modifications, and pay significant regulatory fines or penalties. In addition, the FDA may not approve or clear our products for the indications that are necessary or desirable for successful commercialization or could require clinical trials to support any modifications. Any delay or failure in obtaining required clearances or approvals would adversely affect our ability to introduce new or enhanced products in a timely manner, which in turn would harm our future growth. Any of these actions would harm our operating results.

We are subject to restrictions on the indications for which we are permitted to market our products, and any violation of those restrictions, or marketing of the ARTAS® System or ARTAS® iX System for off-label uses, could subject us to regulatory enforcement action.

The FDA's 510(k) clearance for the ARTAS® and ARTAS® iX Systems specifies the cleared indication for use of the product is dissecting hair follicles from the scalp in men diagnosed with AGA who have black or brown straight hair. The ARTAS® and ARTAS® iX Systems are intended to assist physicians in identifying and extracting hair follicular units from the scalp during hair transplantation.

We train our marketing and direct sales force to not promote the ARTAS® System or ARTAS® iX System for uses outside of the FDA-cleared indications for use, known as "off-label uses." We cannot, however, prevent a physician from using the ARTAS® System or ARTAS® iX System off-label when, in the physician's independent professional medical judgment, he or she deems it appropriate. There may be increased risk of injury to patients if physicians attempt to use the ARTAS® System or ARTAS® iX System off-label. Furthermore, the use of the ARTAS® System or ARTAS® iX System for indications other than those cleared by the FDA or approved by any foreign regulatory body may not effectively treat such conditions, which could harm our reputation in the marketplace among physicians and patients.

If the FDA or any foreign regulatory body determines that our promotional materials or training constitute promotion of an off-label use, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including, among other things, the issuance or imposition of an untitled letter, a warning letter, injunction, seizure, refusal to issue new 510(k)s or PMAs, withdrawal of existing 510(k)s or PMAs, refusal to grant export approvals, and civil fines or criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action under other regulatory authority, such as false claims laws, if they consider our business activities to constitute promotion of an off-label use, which could result in significant penalties, including, but not limited to, criminal, civil and administrative penalties, damages, fines, disgorgement, exclusion from participation in government healthcare programs and the curtailment of our operations.

The ARTAS® System or ARTAS® iX System may cause or contribute to adverse medical events that we are required to report to the FDA, and if we fail to do so, we would be subject to sanctions that could harm our reputation, business, financial condition and results of operations. The discovery of serious safety issues with the ARTAS® System or ARTAS® iX System, or a recall of the ARTAS® System or ARTAS® iX System either voluntarily or at the direction of the FDA or another governmental authority, could have a negative impact on us.

We are subject to the FDA's medical device reporting regulations and similar foreign regulations. The FDA's medical device reporting regulations require us to report to the FDA when we receive or become aware of information that reasonably suggests that the ARTAS® System or ARTAS® iX System may have caused or contributed to a death or serious injury or malfunctioned in a way that, if the malfunction were to recur, it could cause or contribute to a death or serious injury. The timing of our obligation to report is triggered by the date we become aware of the adverse event as well as the nature of the event. We may fail to report adverse events of which we become aware within the prescribed timeframe. We may also fail to recognize that we have become aware of a reportable adverse event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of the ARTAS® System ARTAS® iX System, as the case may be. If we fail to comply with our reporting obligations, the FDA could act, including warning letters, untitled letters, administrative actions, criminal prosecution, imposition of civil monetary penalties, revocation of our device clearance, seizure of our products or delay in clearance of future products.

The FDA and foreign regulatory bodies have the authority to require the recall of commercialized products in the event of material deficiencies or defects in design or manufacture of a product or if a product poses an unacceptable risk to health. The FDA's authority to require a recall must be based on a finding that there is reasonable probability that the device could cause serious injury or death. We may also choose to voluntarily recall a product if any material deficiency is found. A government-mandated or voluntary recall by us could occur because of an unacceptable risk to health, component failures, malfunctions, manufacturing defects, labeling or design deficiencies, packaging defects or other deficiencies or failures to comply with applicable regulations. We cannot assure you that product defects or other errors will not occur in the future. Recalls involving the ARTAS® System or ARTAS® iX System could be particularly harmful to our business, financial condition and results of operations because it is our only product.

Companies are required to maintain certain records of recalls and corrections, even if they are not reportable to the FDA. We may initiate voluntary withdrawals or corrections for the ARTAS® System or ARTAS® iX System in the future that we determine do not require notification of the FDA. If the FDA disagrees with our determinations, it could require us to report those actions as recalls and we may be subject to enforcement action. A future recall announcement could harm our reputation with customers, potentially lead to product liability claims against us and negatively affect our sales.

If we or our distributors do not obtain and maintain international regulatory registrations or approvals for the ARTAS® System, our ability to market and sell the ARTAS® System outside of the U.S. will be diminished.

Sale of the ARTAS® System outside the U.S. are subject to foreign regulatory requirements that vary widely from country to country. In addition, the FDA regulates exports of medical devices from the U.S. While the regulations of some countries may not impose barriers to marketing and selling the ARTAS® System or only require notification, others require that we or our distributors obtain the approval of a specified regulatory body. Complying with foreign regulatory requirements, including obtaining registrations or approvals, can be expensive and time-consuming, and we cannot be certain that we or our distributors will receive regulatory approvals in each country in which we plan to market the ARTAS® System or that we will be able to do so on a timely basis. The time required to obtain registrations or approvals, if required by other countries, may be longer than that required for FDA clearance, and requirements for such registrations, clearances, or approvals may significantly differ from FDA requirements. If we modify the ARTAS® System, we or our distributors may need to apply for additional regulatory approvals or other authorizations before we are permitted to sell the modified product. In addition, we may not continue to meet the quality and safety standards required to maintain the authorizations that we or our distributors have received. If we or our distributors are unable to maintain our authorizations in a particular country, we will no longer be able to sell the applicable product in that country, which could harm our business.

Regulatory clearance or approval by the FDA does not ensure clearance or approval by regulatory authorities in other countries, and clearance or approval by one or more foreign regulatory authorities does not ensure clearance or approval by regulatory authorities in other foreign countries or by the FDA. However, a failure or delay in obtaining regulatory clearance or approval in one country may have a negative effect on the regulatory process in others.

We must manufacture our products in accordance with federal and state regulations, and we could be forced to recall our installed systems or terminate production if we fail to comply with these regulations.

The methods used in, and the facilities used for, the manufacture of the ARTAS® and ARTAS® iX Systems and related products must comply with the FDA's Quality System Regulation, or QSR, which is a complex regulatory scheme that covers the procedures and documentation of the design, testing, production, process controls, quality assurance, labeling, packaging, handling, storage, distribution, installation, servicing and shipping of medical devices.

Furthermore, we are required to verify that our suppliers maintain facilities, procedures and operations that comply with our quality and applicable regulatory requirements. The FDA enforces the QSR through periodic announced or unannounced inspections of medical device manufacturing facilities, which may include the facilities of subcontractors. The ARTAS® and ARTAS® iX Systems are also subject to similar state regulations and various laws and regulations of foreign countries governing manufacturing.

We cannot guarantee that we or any subcontractors will take the necessary steps to comply with applicable regulations, which could cause delays in the delivery of the ARTAS® System or ARTAS® iX System. In addition, failure to comply with applicable FDA requirements or later discovery of previously unknown problems with the ARTAS® System or ARTAS® iX System manufacturing processes could result in, among other things:

- warning letters or untitled letters;
- fines, injunctions or civil penalties;
- suspension or withdrawal of approvals or clearances;
- seizures or recalls of our products;
- total or partial suspension of production or distribution;
- administrative or judicially imposed sanctions;
- the FDA's refusal to grant pending or future clearances or approvals for our products;
- clinical holds;
- refusal to permit the import or export of our products; and
- criminal prosecution to us or our employees.

Any of these actions could significantly and negatively impact supply of our products. If any of these events occurs, our reputation could be harmed, we could be exposed to product liability claims and we could lose customers and suffer reduced revenue and increased costs.

We may be subject to various federal and state laws pertaining to healthcare fraud and abuse, and any violations by us of such laws could result in fines or other penalties.

While procedures utilizing the ARTAS® and ARTAS® iX Systems are not currently covered or reimbursed by any third-party payor, our commercial, research and other financial relationships with healthcare providers and others may be subject to various federal and state laws intended to prevent healthcare fraud and abuse. Such laws include the U.S. federal Anti-Kickback Statute and similar laws that apply to state healthcare programs, private payors and self-pay patients; the U.S. federal civil and criminal false claims laws, such as the civil False Claims Act, and civil monetary penalties laws; state and federal data privacy and security laws and regulations; state and federal physician payment transparency laws; and state and federal consumer protection and unfair competition laws.

Further, these laws may impact any sales, marketing and education programs we currently have or may develop in the future and the way we implement any of those programs. Penalties for violations of these laws can include exclusion from federal healthcare programs and substantial civil and criminal penalties.

Recently enacted and future legislation may increase the difficulty and cost for us to sell our products.

In the U.S. and some non-U.S. jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, restrict or regulate post-approval activities and affect our ability to profitably sell our products. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively the Affordable Care Act, was enacted. The Affordable Care Act, imposed, among other things, an annual excise tax of 2.3% on any entity that manufactures or imports medical devices offered for sale in the U.S., which, due to subsequent legislative amendments, has been suspended from January 1, 2016 to December 31, 2019, and, absent further legislative action, will be reinstated starting January 1, 2020. It is uncertain the extent to which any challenges, amendments and attempts to repeal and replace the Affordable Care Act in the future may impact our business or financial condition. We expect that the Affordable Care Act, as well as other healthcare reform measures that may be adopted in the future, may potentially increase our costs to sell our product and decrease our profitability.

Recent U.S. tax legislation and future changes to applicable U.S. or foreign tax laws and regulations may have a material adverse effect on our business, financial condition and results of operations.

We are subject to income and other taxes in the U.S. and foreign jurisdictions. Changes in laws and policy relating to taxes or trade may have an adverse effect on our business, financial condition and results of operations. For example, the U.S. government recently enacted significant tax reform, and certain provisions of the new law may adversely affect us. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a more generally territorial system, and a one-time transition tax on the mandatory deemed repatriation of foreign earnings. The legislation is unclear in many respects and could be subject to potential amendments and technical corrections and will be subject to interpretations and implementing regulations by the Treasury and Internal Revenue Service, any of which could mitigate or increase certain adverse effects of the legislation. In addition, it is unclear how these U.S. federal income tax changes will affect state and local taxation. Generally, future changes in applicable U.S. or foreign tax laws and regulations, or their interpretation and application could have an adverse effect on our business, financial conditions and results of operations.

Risks Related to Our Common Stock

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 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 and others such as:

- any delays in the consummation of the Merger, or the Merger failing to occur;
- the continued growth in demand for the ARTAS® Systems and ARTAS procedures;
- our commercialization, marketing and manufacturing capabilities;
- 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® Systems 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® Systems;
- the effective pricing of the ARTAS® Systems, 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® Systems, 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 financial performance; 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 IPO. 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 IPO. 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 IPO, 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 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 we fail to adhere to the listing requirements of the Nasdaq Global Market, including maintaining a minimum market value our listed securities of $50.0 million, our common stock could be delisted.

Our common stock is listed on the Nasdaq Global Market and as such is subject to various requirements for continued listing under the rules of the Nasdaq Global Stock Market or Listing Rules. On January 18, 2019, we received a letter indicating that for 30 consecutive business days we did not maintain a minimum market value of listed securities, or MVLS of $50.0 million as required by the Listing Rules. In accordance with the Listing Rules, we have 180 calendar days, or until July 17, 2019, to regain compliance with the minimum MVLS rule. Additionally, on March 14, 2019, we received a letter indicating that for 30 consecutive business days we did not maintain a minimum closing bid price of $1.00 per share as required by the Listing Rules. In accordance with the Listing Rules, we have 180 calendar days, or until September 10, 2019, to regain compliance with the minimum bid price rule.

In accordance with the applicable Listing Rules, if we are unable to regain compliance prior to the expiration of the applicable grace period, we will be required to transfer to the Nasdaq Capital Market, subject to our ability to meet the listing standards of the Nasdaq Capital Market. If we are unable to meet the listing standards of the Nasdaq Capital Market, our common stock will be delisted. If our common stock is delisted from Nasdaq, we could be required to list on the over-the-counter, or OTC, market, which may adversely affect the price and trading liquidity of our common stock. Delisting from the Nasdaq may have other negative results, including the potential loss of confidence in us by suppliers, customers and employees, the loss of institutional investor interest, fewer business development opportunities and greater difficulty in obtaining financing on favorable terms or at all.

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 are an "emerging growth company" and as a result 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 IPO, (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 December 31, 2018, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially owned approximately 40.0% of our voting stock. 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 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). 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.

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 loan and the security agreement between us and Solar, we are not permitted to pay cash dividends more than $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.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Property

Our corporate headquarters is located in San Jose, California, where we occupy approximately 23,000 square feet of office space under a lease that expires in April 2022. In addition, we leased a manufacturing facility for approximately 2,500 square feet in San Jose, California under a lease that expires in April 2019. We believe that our facilities are sufficient to meet our current needs.

Item 3. Legal Proceedings.

On May 23, 2018, a putative shareholder class action complaint was filed in Superior Court of the State of California, County of San Mateo (the "Superior Court"), captioned Wong v. Restoration Robotics, Inc., et al., No. 18CIV02609. On June 21, 2018 and June 28, 2018, two putative class action complaints were filed in the United States District Court for the Northern District of California, captioned Guerrini v. Restoration Robotics, Inc., et al., No. 5:18-cv-03712-EJD and Yzeiraj v. Restoration Robotics, Inc., et al., No. 5:18-cv-03883-BLF, respectively. On July 24, 2018, the U.S. Northern District Court related the Guerrini and Yzeiraj actions and reassigned the Yzeiraj action to Judge Edward J. Davila. The Wong and Guerrini complaints name us as defendants, and certain of our current and former executive officers and directors, certain of our venture capital investors and the underwriters in our IPO. The Yzeiraj complaint names us as defendants and certain of our current and former executive officers and directors. The Wong complaint asserts claims under Sections 11, 12(a)(2) and 15 of the Securities Act of 1933, or the Securities Act. The Guerrini and Yzeiraj complaints assert claims under Sections 11 and 15 of the Securities Act. The complaints all allege, among other things, that our Registration Statement filed with the SEC on September 1, 2017 and the Prospectus filed with the SEC on October 13, 2017 in connection with our IPO were inaccurate and misleading, contained untrue statements of material facts, omitted to state other facts necessary to make the statements made not misleading and omitted to state material facts required to be stated therein. The complaints seek unspecified monetary damages, other equitable relief and attorneys' fees and costs.

On August 8, 2018, we, along with certain of our current and former executive officers and directors, filed a motion to dismiss the Wong complaint based on the forum selection clause designating the federal district courts as the exclusive forum for claims arising under the Securities Act contained in our Amended and Restated Certificate of Incorporation, and which asked the court in the alternative to stay the Wong action. Also, on August 8, 2018, the venture capital investor and underwriters' defendants in the Wong action filed demurrers to the Wong complaint, and we, along with certain of our current and former executive officers and directors, joined in the venture capital investor defendants' demurrer. A hearing on our motion to dismiss and the demurrers to the Wong complaint was held on October 24, 2018. We are unable to predict the date on which the Superior Court will issue any decision at this time.

On October 2, 2018, the U.S. Northern District Court granted a Motion for Consolidation of Related Actions, Appointment as Lead Plaintiff and Approval of Lead Counsel filed by Plaintiff Edgardo Guerrini, which consolidated the Guerrini and Yzeiraj actions under the caption In re Restoration Robotics, Inc. Securities Litigation, Case No. 5:18-cv-03712-EJD. The U.S. Northern District Court held an initial hearing on January 24, 2019.

We believe that these lawsuits are without merit and we intend to vigorously defend against these claims.

Further, we may from time to time continue to be involved in various legal proceedings of a character normally incident to the ordinary course of our business, which we do not deem to be material to our business and results of operations.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Price Range of Common Stock

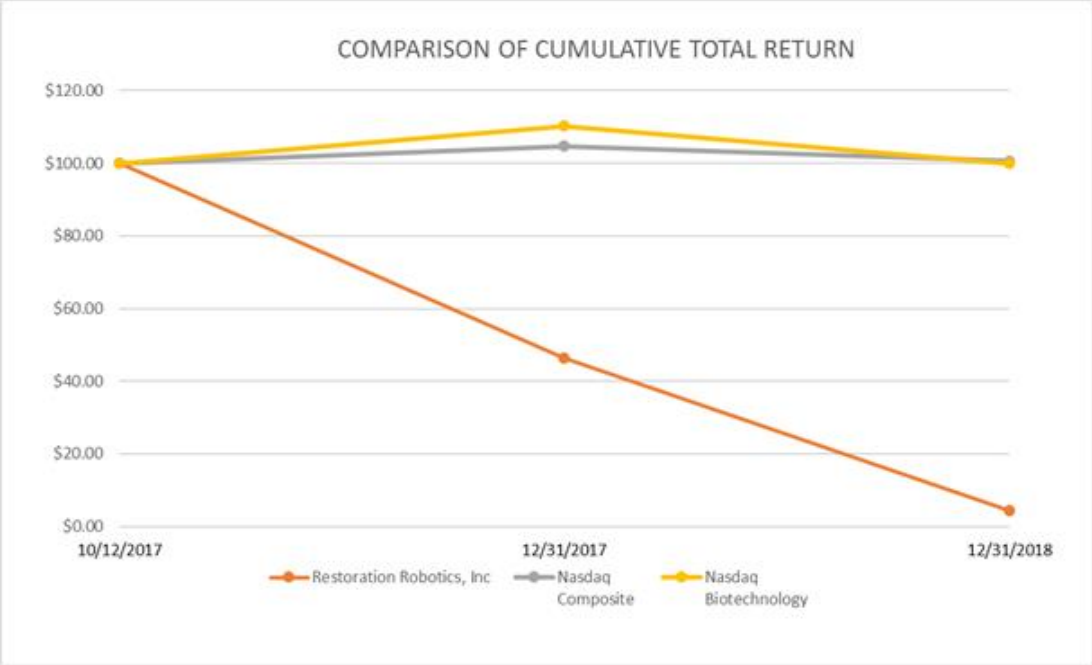
Our common stock has been listed on The Nasdaq Global Market under the symbol "HAIR" since October 12, 2017. Prior to that date, there was no public trading market for our common stock. The following table sets forth for the period indicated the high and low sale prices per share of our common stock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

	High	Low
Fiscal Year 2017		
Fourth Quarter (from October 12, 2017)	$ 11.95	$ 3.96
Fiscal Year 2018		
First Quarter	$ 8.20	$ 3.80
Second Quarter	$ 6.65	$ 2.61
Third Quarter	$ 3.79	$ 1.45
Fourth Quarter	$ 2.91	$ 0.35

On February 28, 2019, the last reported sale price of our common stock on The Nasdaq Global Market was $0.90 per share. As of February 28, 2019, there were 538 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.

Stock Price Performance Graph

The graph below shows a comparison from October 12, 2017, the date on which our common stock first began trading on The Nasdaq Global Market, of the cumulative total return on an assumed investment of $100.00 in cash in our common stock as compared to the same investment in the Nasdaq Composite Index and the Nasdaq Biotechnology Index, all through to December 31, 2018. Such returns are based on historical results and are not intended to suggest future performance. This graph shall not be deemed "soliciting material" or be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.



Dividend Policy

We have never declared or paid cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to fund, if any, for use in the operation of our business and do not anticipate paying any dividends on our common stock in the foreseeable future. Any future determination related to dividend policy will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

Recent Sale of Unregistered Securities

There were no unregistered securities issued and sold during the year ended December 31, 2018.

Use of Proceeds from Registered Securities

On August 16, 2018, we closed our public follow-on offering, in which we sold 11,500,000 shares of our common stock at a price to the public of $1.50 per share. The aggregate proceeds for the offering was approximately $17.3 million. The offer and sale of all the shares in the follow-on offering were registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-226598). After deducting underwriting discounts and commissions of approximately $1.2 million and other offering expenses of approximately $0.5 million, the net proceeds from the offering was approximately $15.6 million. There has been no material change in the planned use of proceeds from the follow-on offering as described in the final prospectus filed with the SEC on August 13, 2018 pursuant to Rule 424(b) under the Securities Act of 1933, as amended.

Issuer Purchases of Equity Securities

None.

Securities Authorized for Issuance under Equity Compensation Plans

The information called for by this item is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders. See Part III, Item 12 “Security Ownership of Certain Beneficial Owners and Management.”

Item 6. Selected Consolidated Financial Data.

The following selected consolidated financial data should be read in conjunction with, and are qualified by reference to, Part II, Item 8. “Consolidated Financial Statements and Related Notes” and Part II, Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” appearing elsewhere in this Annual Report on Form 10-K. Our historical results are not necessarily indicative of the results to be expected in the future.

The consolidated statements of operations for the years ended December 31, 2018, 2017 and 2016, and the consolidated balance sheet data at December 31, 2018 and 2017 are derived from, and are qualified by reference to, the consolidated financial statements that have been audited by our independent registered public accounting firm, which are included elsewhere in this Annual Report on Form 10-K. The consolidated balance sheet data at December 31, 2016 is derived from our audited consolidated financial statements not included in this Annual Report on Form 10-K.

	Year Ended, December 31,		
	2018	2017	2016
	(in thousands except share and per share data)		
Consolidated Statements of Operations Data:			
Revenue	$ 21,956	$ 21,297	$ 15,600
Cost of revenue	12,450	12,150	10,431
Gross profit	9,506	9,147	5,169
Operating expenses:			
Sales and marketing	18,204	14,390	12,483
Research and development	8,374	7,135	7,474
General and administrative	8,834	4,904	4,144
Total operating expenses	35,412	26,429	24,101
Loss from operations	(25,906)	(17,282)	(18,932)
Other income (expense), net:			
Interest expense	(2,224)	(2,027)	(2,483)
Gain on sale of investment	—	1,851	—
Other expense, net	(549)	(328)	(431)
Total other income (expense), net	(2,773)	(504)	(2,914)
Net loss before provision for income taxes	(28,679)	(17,786)	(21,846)
Provision for income taxes	47	56	—
Net loss	$ (28,726)	$ (17,842)	$ (21,846)
Net loss per share, basic and diluted (1)	$ (0.86)	$ (2.42)	$ (13.54)
Weighted-average shares used in computing net loss per share, basic and diluted	33,512,181	7,382,715	1,612,933

(1) Basic and diluted net loss per share is computed based on the weighted-average number of shares of common stock outstanding during each period. On September 15, 2017, the Company effected a 1-for-10 reverse stock split (i) every 10 shares of outstanding common stock were combined into one share of common stock, (ii) the number of shares of common stock for which each outstanding option to purchase common stock is exercisable was proportionately decreased on a 1-for-10 basis, (iii) the exercise price of each outstanding option to purchase common stock was proportionally increased on a l-for-10 basis, and (iv) the conversion ratio for each share of outstanding preferred stock which is convertible into our common stock was proportionately reduced on a 1-for-10 basis. All share and per share data in this table has been adjusted to reflect the reverse stock split. For additional information, see Notes 1 and 3 to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

	December 31,		
	2018	2017	2016
	(in thousands)		
Consolidated Balance Sheets Data:			
Cash and cash equivalents	$ 16,122	$ 23,545	$ 11,906
Working capital	20,112	17,686	4,889
Total assets	30,973	32,970	19,498
Debt, net of discount	19,467	13,001	20,450
Preferred stock warrant liabilities	—	—	693
Other long-term liabilities	594	459	563
Convertible preferred stock	—	—	135,735
Accumulated deficit	(193,213)	(164,487)	(146,645)
Total stockholders' equity (deficit)	1,582	13,194	(143,544)

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion contains management's discussion and analysis of our financial condition and results of operations and should be read together with the historical consolidated financial statements and the notes thereto included in Part II, Item 8 "Consolidated Financial Statements and Supplementary Data." This discussion contains forward-looking statements that reflect our plans, estimates and beliefs and involve numerous risks and uncertainties, including but not limited to those described in the "Risk Factors" section of this Annual Report on Form 10-K. Actual results may differ materially from those contained in any forward-looking statements. You should carefully read "Special Note Regarding Forward-Looking Statements" and Part I, Item 1A, "Risk Factors."

Overview

We are a medical technology company developing and commercializing a robotic device, the ARTAS® System, which assists physicians in performing many of the repetitive tasks that are a part of a follicular unit extraction, or FUE 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 robotically implant the hair follicles into the implant sites. In addition to the ARTAS® System, we also offer 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 37 other countries. In March 2018, we received 510(k) clearance from the FDA to expand the ARTAS technology to include implantation. In the third quarter of 2018, we commercially launched the next generation ARTAS® System, called ARTAS® iX System, which incorporates the implantation functionality as well as other functionalities. As of December 31, 2018, the ARTAS® System and ARTAS Hair Studio application are protected by over 80 patents in the U.S. and over 110 international patents.

On October 11, 2017, our Registration Statement on Form S-1 (File No. 333-220303) relating to our IPO of our common stock was declared effective by the SEC. Pursuant to such Registration Statement, we sold an aggregate of 3,897,910 shares of its common stock (inclusive of 322,910 shares of common stock from the subsequent exercise of the over-allotment option granted to the underwriters) at a price of $7.00 per share for aggregate cash proceeds of approximately $22.1 million after deducting offering costs and commissions of $5.2 million.

On May 10, 2018, we entered into a Loan and Security Agreement (the Solar Agreement) with Solar Capital Ltd. (Solar) and certain other lenders thereunder (together with Solar, the Lenders). Pursuant to the terms of the Solar Agreement, we borrowed $20.0 million with an interest rate at U.S. Dollar LIBOR plus 7.95% per annum (the Borrowings). All amounts borrowed under the Solar Agreement are secured by liens over all personal property of the Company. Monthly payments on any amounts drawn shall consist of the interest only payments for the first 18 months, followed by payments of principal and accrued interest monthly thereafter until the four-year anniversary of the date of the Solar Agreement. In connection with the Solar Agreement, we granted the Lenders warrants to purchase an aggregate of 161,725 shares of our common stock exercisable at a price of $3.71 per share. On November 2, 2018, the Solar Agreement was amended to modify the compliance requirement for certain revenue and liquidity threshold. As part of this amendment, we paid a fee of $50,000 to the Lenders and cancelled 161,725 Warrants (originally issued in May 2018, as mentioned above) and issued 161,725 new warrants of the Company's common stock, $0.0001 par value per share, at an exercise price of $1.76 per share. All other terms of the Warrants were unchanged. On February 13, 2019, the Solar Agreement was amended to modify the compliance requirement for certain liquidity thresholds. As part of this amendment, the Final Fee (as defined in the Solar Agreement) that is payable to the Lenders upon prepayment, default and maturity of the Solar Agreement, was amended and increased to $960,000. In addition, the Solar Agreement was amended to include new covenants covering certain operational milestones.

We used approximately $10.1 million of the net proceeds from the Solar Agreement loan to repay the entire outstanding principal balance and accrued interest under our existing loan agreement with Oxford Finance, LLC (Oxford) and terminated our loan agreement with Oxford.

In August 2018, we closed our public follow-on offering of 10,000,000 shares of our common stock, plus 1,500,000 shares of common stock from the subsequent exercise of the over-allotment option granted to the underwriters. The public offering price of the shares sold was $1.50 per share. We received aggregate proceeds of approximately $15.6 million from our follow-on offering and the subsequent exercise of the over-allotment

option, after deducting underwriting discounts and commissions, and offering costs totaling $1.7 million. We used the net proceeds from this offering to fund expanded commercialization activities and the launch of our ARTAS® iX System and for working capital and general corporate purposes.

On February 28, 2019, we entered into a Note Purchase Agreement pursuant to which we raised $5.0 million through the issuance of two unsecured subordinated convertible promissory notes, or the Notes, which were issued to Frederic Moll, M.D., one of our directors, and Interwest Partners IX, LP, one of our stockholders affiliated with Gil Kliman, M.D., one of our directors, or together the Investors. The maturity date of the Notes is August 28, 2020. The Notes bear interest on the unpaid principal amount at a rate of eight percent (8.0%) per annum from the date of issuance. The Notes are unsecured and subordinate in priority to our existing obligations under the Solar Agreement, as amended. All of the outstanding principal and unpaid accrued interest on the Notes will automatically be converted into shares of the same class and series of our capital stock issued to investors in the first issuance, or series of related issuances, of our capital stock with gross proceeds of at least $20.0 million following the date of the Notes.

We have funded our operations to date primarily from the issuance and sale of our common stock in our IPO and subsequent public follow-on offering, private placements of our equity securities and, to a lesser extent, through debt financings, exercises of our common stock warrants and payments from our customers. As of December 31, 2018, we had cash and cash equivalents of $16.1 million.

Need for Additional Capital

Our independent registered public accounting firm included an explanatory paragraph in its report on our consolidated financial statements as of and for the year ended December 31, 2018, raising substantial doubt about our ability to continue as a going concern. See “Liquidity and Capital Resources” and Note 1 to the consolidated financial statements for additional information describing the circumstances that led to the inclusion of this explanatory paragraph.

To date, we have incurred significant net losses and negative cash flows from operations. Our net loss was $28.7 million, $17.8 million, and $21.8 million for the years ended December 31, 2018, 2017 and 2016. As of December 31, 2018, we had an accumulated deficit of $193.2 million. Our principal sources of liquidity as of December 31, 2018 were cash and cash equivalents of $16.1 million.

Factors Affecting our Results of Operations

We believe there are several important factors that have impacted, and that we expect will impact, our results of operations.

Adoption of the ARTAS® System

The growth of our business depends on our ability to gain broader acceptance of the ARTAS® System and, in particular, the latest iteration of our ARTAS® System, ARTAS® iX, as well as the ARTAS procedure by successfully marketing and distributing the ARTAS® System and the ARTAS procedure. If we are unable to successfully commercialize our ARTAS® System and the ARTAS procedure, we may not be able to generate sufficient revenue to achieve or sustain profitability. In the near term, we expect we will continue to operate at a loss, and we anticipate we will finance our operations principally through offerings of our capital stock and by incurring debt. If we are unable to raise adequate additional capital, we will be unable to maintain our commercialization efforts and our revenue could decline.

Significant Investment in our Sales and Marketing

We have made certain strategic changes to and investments in our U.S. sales and global marketing organizations, which included terminating certain personnel and hiring new personnel and realigning our reporting and leadership structure in the sales organization. For example, throughout 2018 we are increasing the size of our U.S. sales force by hiring sales professionals with experience selling capital equipment and equipment to physicians in the aesthetic market. In addition, we are investing significantly in our sales and marketing efforts related to the launch of the ARTAS® iX System. Strategically, we have been focused on our branding and have consolidated our regional marketing teams to standardize our messaging and focus of our marketing spending with an aim to be more efficient and cost-effective. As a result, we have seen a reduction in and improved efficiency of our marketing spending.

While we increased revenue in 2018 because of increased unit sales in the U.S., these sales initiatives have also increased our sales and marketing expenses. Furthermore, we anticipate as we continue to advance the commercialization of the ARTAS® iX System, our sales and marketing expenses will continue to increase.

Revenue Composition and Trends

We derive our revenue from the sale and service of ARTAS® and iX Systems and procedure based fees, as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Systems	$ 11,884	$ 11,405	$ 7,193
Procedure	7,968	7,971	6,927
Service-related fees	2,104	1,921	1,480
Total revenue	$ 21,956	$ 21,297	$ 15,600

- Revenue from systems in 2018 increased as compared to 2017 due to the launch of the ARTAS® iX System in the second half of 2018 in the United States. We anticipate U.S. revenue from system sold going forward to be primarily from ARTAS iX System, while revenue from systems sold outside of the U.S. to be primarily from the combination of ARTAS System and ARTAS® iX System.
- Systems revenue increased from 2016 to 2017 as a result of higher volume of system sales due to an increase in sales and marketing activities internationally.
- Revenue from procedure-based fees was relatively unchanged in 2018 as compared to 2017 and increased 15% between 2017 and 2016.
- Revenue from service-related fees increased from 2016 to 2017 and again from 2017 to 2018 primarily due to an increase in each period in the number of post-warranty maintenance contracts sold.

Historically, the majority of our revenue and our revenue growth has been generated through system sales. While we would expect our procedure-based fees to increase as our installed base of ARTAS® and ARTAS® iX Systems grow worldwide, the total number of procedures has not followed the increase in our installed base of systems sold. For example, our procedure-based revenue remained relatively unchanged between 2018 and 2017, whereas our installed base has grown from 2017 to 2018. While procedure-based revenue has increased, from 2016 to 2018, we believe that revenue from procedure-based fees may not grow proportionally as compared to the increase in our installed base and that it could vary from period-to-period due to a number of factors, including:

- physician uptake causing a slow ramp-up to utilizing the ARTAS® System or ARTAS® iX System, which is particularly evident with physicians who are new to hair restoration procedures or physicians who do not operate a solely hair restoration focused practice who are commonly the profile we are targeting;
- capacity limitations with the current installed base of ARTAS® System or ARTAS® iX System, which can result in procedure-based fees not growing as quickly as system sales, as high performing practitioners are limited in the number of procedures that can be performed in any given period;
- limited or no utilization of the ARTAS® System or ARTAS® iX System after purchase because of a change in physician preference or practice; and
- the concentration of ARTAS procedures being performed on a limited number of ARTAS® and ARTAS® iX Systems leading to volatility between periods if particular high-volume practitioners perform a smaller number of procedures in a given period.

In order to increase the number of procedures performed per ARTAS® System or ARTAS® iX System, and in turn increase revenue from procedure-based fees, we have, in connection with the leadership and sales and marketing changes, initiated programs to assist certain physicians in marketing efforts, patient education and practice optimization to increase utilization of the ARTAS® System and ARTAS® iX System. If these efforts are successful, we anticipate that the growth in procedure-based fees will increase and that quarterly fluctuations in the number of total procedures performed will be reduced.

Revenue from Markets Outside the U.S.

Since launching the ARTAS® System in 2011, we have obtained clearance to sell our products in over 60 countries. In June 2012, we obtained our CE mark to sell our product into the European Economic Area, or EEA. We have sold into 37 countries and sell directly into the U.S., Korea, Hong Kong, Singapore, Spain, Poland, Benelux, Scandinavia, Portugal, the Netherlands and through distributors in the other countries. We obtained clearance to sell in China in September 2016.

Revenue from markets outside of the U.S. accounted for 40% of our total revenue in 2018, compared to 58% in 2017 and 57% in 2016. Although we will continue to invest resources outside of the U.S., in 2018 we strategically shifted our sales strategy towards the U.S. market which has impacted the revenue mix between the U.S. and non-U.S. markets. In particular, in connection with our newly launched ARTAS® iX System, which was only cleared for sale in Europe in December 2018.

While we believe our newly launched ARTAS® iX System, which incorporates a robotic implantation functionality, could have a positive effect on system sales in the U.S., it may have a negative effect on system sales in international markets where it is not yet approved as potential customers in these markets may delay purchases of ARTAS® system until the implantation functionality is available in their market.

Factors Affecting Comparability

We anticipate that our quarterly results of operations may fluctuate for the foreseeable future due to several factors, including the performance of our direct sales force and international distributors and unanticipated interruptions and expenses related to our operations. In addition, due to the long lead time to finalize ARTAS® System unit sales with our physician customers, and the significant impact each unit sale has on a period's revenue due to the price of each unit, our quarterly revenue may not be comparable from one period to another.

Furthermore, our industry is characterized by seasonally lower demand during the third calendar quarter of the year, when both physicians and prospective patients take summer vacations. A detailed discussion of these and other factors that impact our business is provided in the "Risk Factors" section in this Annual Report on Form 10-K.

Components of Results of Operations

Revenue

We generate revenue from the sale and service of ARTAS Systems and procedure-based fees. For procedure-based fees, our physician customers in the U.S. generally pay on a per follicle-basis for the follicles to be harvested or on a per procedure basis for Harvest, Site Making, and/or Implantation. Outside of the U.S., physician customers pay in advance, generally on a per procedure basis for both follicle extraction and Site Making. Revenue from service-related fees are primarily from our ARTAS Care product offering (extended warranty service contracts) which are sold to customers in incremental one- or two-year service contracts which begin subsequent to the expiration of the twelve-month standard warranty.

Cost of Revenue

Cost of revenue primarily consists of product, fulfillment, and certain customer service costs. Product costs include the cost of systems, upgrades, disposable and reusable kits, personnel-related costs, fulfilment costs, and allocated shared costs (including rent, human resource, information technology, depreciation, and customer service personnel servicing customers with warranty and ARTAS Care contracts).

Sales and Marketing

Sales and marketing expenses primarily consist of personnel-related costs and travel expenses, consulting services, advertising, direct marketing, tradeshow, and promotional expenses, allocated shared costs (including rent, information technology, depreciation, and certain customer service personnel costs), and depreciation of property and equipment associated with sales and marketing activities.

Research and Development

Research and development expenses primarily consist of personnel-related costs associated with our research and development employees, consulting services, clinical studies, supplies, allocated shared costs (including rent, human resource, information technology, depreciation, and certain customer service personnel involved in the development of the ARTAS iX System).

General and Administrative

General and administrative expenses primarily consist of personnel-related costs and travel expenses for our executive, finance, legal, human resources, information technology and other administrative employees. In addition, general and administrative expenses include fees for third party professional services, including consulting, legal and accounting services and other corporate expenses, allocated shared costs (including rent, human resource, information technology, and depreciation).

Interest Expense

Interest expense consists of interest related to borrowings under our debt obligations.

Other Expense, Net

Other expense, net primarily consists of income and expense related to the change in fair value of convertible preferred stock warrant liabilities. Upon the completion of the IPO, the liability on the preferred stock warrants was reclassified to additional paid-in capital in stockholders' equity (deficit). Additionally, unamortized debt issuance and debt discounts written off by us and fees paid directly to our lenders in connection with the extinguishment of the Oxford loan and the new Solar loan in May 2018 are included in other income (expense), net.

Provision for Income Taxes

Provision for income taxes primarily consists of state and foreign income taxes. Due to cumulative losses, we maintain a valuation allowance against our deferred tax assets. We consider all available evidence, both positive and negative, in assessing the extent to which a valuation allowance should be applied against our deferred tax assets.

In December 2017, the United States enacted the 2017 U.S. Tax Cuts and Jobs Act, which among other things reduced the U.S. federal corporate tax rate from 35% to 21% for tax years beginning after December 31, 2017. As a result of the reduction in the federal corporate tax rate, we recorded a non-cash deferred tax expense of $20.7 million related to the remeasurement of our deferred tax assets, with corresponding reduction in the valuation allowance.

Results of Operations

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

	Year Ended December 31,		Change	
	2018	2017	$	%
	(dollars in thousands)			
Revenue	$ 21,956	$ 21,297	$ 659	3%
Cost of revenue	12,450	12,150	300	2
Gross profit	9,506	9,147	359	4
Gross margin	43%	43%		
Operating expenses:				
Sales and marketing	18,204	14,390	3,814	27
Research and development	8,374	7,135	1,239	17
General and administrative	8,834	4,904	3,930	80
Total operating expenses	35,412	26,429	8,983	34
Loss from operations	(25,906)	(17,282)	(8,624)	50
Other income (expense), net:				
Interest expense	(2,224)	(2,027)	(197)	10
Gain on sale of investment	—	1,851	(1,851)	(100)
Other expense, net	(549)	(328)	(221)	67
Total other income (expense), net	(2,773)	(504)	(2,269)	450
Net loss before provision for income taxes	(28,679)	(17,786)	(10,893)	61
Provision for income taxes	47	56	(9)	(16)
Net loss	$ (28,726)	$ (17,842)	$ (10,884)	61%

Revenue

Revenue increased $0.7 million, or 3%, to $22.0 million in 2018, compared to $21.3 million in 2017, primarily driven by the number of systems sold in the U.S. (29 systems sold in 2018 vs. 13 systems sold in 2017), which carry a higher average selling price in this region, coupled with the launch of our ARTAS iX System in second half of 2018 which carried a premium price compared to our previous generation ARTAS System. The increase was partially offset by fewer systems sold outside of the U.S. (19 systems sold in 2018 vs. 34 systems sold in 2017). Overall, the regional system mix was due to a strategic shift implemented in 2018, where we focused our sales and marketing efforts in the U.S. market, and due to ARTAS iX System only approved for sale in Europe in December 2018. We expect this trend to continue going forward. Revenue from procedures-based fees was relatively unchanged between 2018 and 2017, while revenue from service-related fees, which is mainly related to our ARTAS Care (extended warranty service contract), as a percentage of total revenue, net remained unchanged at approximately 10%.

Gross Margin

Gross margin typically fluctuates with product mix, selling prices, material costs and revenue level. Gross margin was 43% in 2018, which was relatively unchanged from 2017. In 2018, gross margins were positively driven by the implementation of certain cost efficiencies, which was partially offset by higher initial manufacturing, warranty and other costs associated with our next generation ARTAS® iX System and certain charges related to a loss contingency accrual of $0.5 million associated with the previous generation ARTAS System and excess components ordered in connection with the ARTAS® iX System. Part of the loss contingency charge was related to certain excess inventory components procured for our ARTAS® System by our third-party manufacturer, which we determined would be in excess of expected demand due to manufacturing changes associated with the ARTAS® System as a result of the approval of the implantation functionality. We initially anticipate higher manufacturing, warranty, and service costs associated with the ARTAS® iX System which will result in a lower gross margin moving forward.

Sales and Marketing

Sales and marketing expenses increased $3.8 million, or 27%, to $18.2 million in 2018, compared to $14.4 million in 2017. The increase was primarily due to the growth in employee headcount to support our overall sales and marketing activities, including the commercialization efforts for the next generation ARTAS® iX System, which was commercially launched in July 2018 in the United States.

Research and Development

Research and development expense increased $1.2 million, or 17%, to $8.4 million in 2018, compared to $7.2 million in 2017. The increase was primarily due to incremental outside services and consulting costs associated with the development of the ARTAS® iX System.

General and Administrative

General and administrative expenses increased $3.9 million, or 80%, to $8.8 million in 2018, compared to $4.9 million in 2017. The increase was primarily the result of an increase in our allowance for doubtful accounts for certain customers outside of the U.S. in addition to professional service costs, consisting of accounting, consulting, legal and other professional fees incurred in connection with our status as a public company following our IPO in October 2017.

Interest Expense

Interest expense increased $0.2 million, or 10%, to $2.2 million in 2018, compared to $2.0 million in 2017. The increase in interest expense was related to a higher average principal balance of our outstanding long-term-debt obligations as we refinanced our debt obligations in May 2018, with the proceeds from the loan agreement with Solar, which had a higher outstanding balance than the loan with Oxford which we repaid during this period.

Other Expense, Net

Other expense, net increased $0.2 million, or 67%, to $0.5 million in 2018, compared to $0.3 million in 2017. The increase in the other expense, net related to the unamortized debt issuance and debt discounts written off by us and fees paid directly to Oxford and Solar in connection with the extinguishment of the Oxford loan and entry into the new Solar loan in May 2018.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

	Year Ended December 31,		Change	
	2017	2016	$	%
	(dollars in thousands)			
Revenue	$ 21,297	$ 15,600	$ 5,697	37%
Cost of revenue	12,150	10,431	1,719	16
Gross profit	9,147	5,169	3,978	77
Gross margin	43%	33%		
Operating expenses:				
Sales and marketing	14,390	12,483	1,907	15
Research and development	7,135	7,474	(339)	(5)
General and administrative	4,904	4,144	760	18
Total operating expenses	26,429	24,101	2,328	10
Loss from operations	(17,282)	(18,932)	1,650	(9)
Other income (expense), net:				
Interest expense	(2,027)	(2,483)	456	(18)
Gain on sale of investment	1,851	—	1,851	—
Other expense, net	(328)	(431)	103	(24)
Total other income (expense), net	(504)	(2,914)	2,410	(83)
Net loss before provision for income taxes	(17,786)	(21,846)	4,060	(19)
Provision for income taxes	56	—	56	—
Net loss	$ (17,842)	$ (21,846)	$ 4,004	(18)%

Revenue

Revenue increased $5.7 million, or 37%, to $21.3 million in 2017, compared to $15.6 million in 2016. The overall increase in revenue was primarily due to an increase in system revenue of $4.2 million, or 58%, to $11.4 million in 2017, compared to $7.2 million in 2016. The increase in system revenue was due to increased unit sales, as we sold 47 systems in 2017, compared to 32 systems in 2016 largely as a result of increased sales and marketing activities. Procedures based fees increased $1.1 million, or 16% to $8.0 million in 2017, compared to $6.9 million in 2016. Service-related fees increased $0.4 million, or 27% to $1.9 million in 2017, compared to $1.5 million in 2016, primarily due to an increase in post-warranty maintenance contracts sold during 2017.

Gross Margin

Gross margin increased to 43% in 2017, compared to 33% in 2016. The increase in gross margin was the result of reduced procedure kit costs and a decrease in average customer support spending as we improved our service cost efficiency.

Sales and Marketing

Sales and marketing expenses increased $1.9 million, or 15%, to $14.4 million in 2017, compared to $12.5 million in 2016. The increase was primarily due to an increase in spending in advertising and other marketing activities in connection with our ongoing commercialization efforts of the ARTAS® System.

Research and Development

Research and development expense decreased $0.4 million, or 5%, to $7.1 million in 2017, compared to $7.5 million in 2016. The decrease was primarily due to lower headcount in software and hardware department in 2017 versus the comparable period in 2016.

General and Administrative

General and administrative expenses increased $0.8 million, or 18%, to $4.9 million in 2017, compared to $4.1 million in 2016. The increase was primarily the result of an increase in professional service costs, consisting of accounting, consulting, legal and other professional fees incurred in connection with our preparation to become a public company.

Interest Expense

Interest expense decreased $0.5 million, or 18%, to $2.0 million in 2017, compared to $2.5 million in 2016. The decrease in interest expense was related to a reduction in the principal balance of our outstanding long-debt obligations as we repaid a portion of the principal on our outstanding credit facility with Oxford Finance, LLC (Oxford).

Gain on Sale of Stock Investment

In the fourth quarter of 2017, the Company recognized a gain of $1.8 million on the sale of stock held in a privately-held company. There was no such activity in 2016.

Other Expense, Net

Other expense, net decreased $0.1 million, or 24%, to $0.3 million in 2017, compared to $0.4 million in 2016. The decrease in the other expense, net related to the change in fair value of our convertible preferred stock warrant liability. The expense was consistent between the periods as there were no changes between the periods in the number of convertible preferred stock warrants outstanding.

Liquidity and Capital Resources

To date, we have incurred significant net losses and negative cash flows from operations. Our net loss was $28.7 million, $17.8 million, and $21.8 million for the years ended December 31, 2018, 2017 and 2016, respectively. As of December 31, 2018, we had an accumulated deficit of $193.2 million. As of December 31, 2018, and 2017, we had cash and cash equivalents of $16.1 million and $23.5 million, respectively.

In connection with our IPO, we sold an aggregate of 3,897,910 shares of our common stock (inclusive of 322,910 shares of common stock from the exercise of the over-allotment option granted to the underwriters) at a price of $7.00 per share and we received aggregate cash proceeds of approximately $22.1 million, net of underwriting discounts and commissions, and offering costs. Additionally, in August 2018, we closed our follow-on public offering of 11,500,000 shares of our common stock with an offering price of $1.50 per share. We received aggregate proceeds of $15.6 million, net of underwriters' discounts and commissions, and offering costs totaling $1.6 million.

Debt Obligations

In May 2018, we entered into the Solar Agreement. The Solar Agreement consists of a four-year term loan for an aggregate principal amount of $20.0 million, for working capital, to fund our general business requirements and to repay our indebtedness under the Oxford Agreement. We used $10.1 million of the loan proceeds to repay the outstanding principal of $8.7 million, a final payment fee of $1.3 million plus accrued interest and prepayment fees of $0.1 million under the Oxford Agreement. The Borrowings under the Solar Agreement bear interest through maturity at a rate equal to the U.S. Dollar LIBOR rate plus 7.95% per annum. The outstanding balance on the Solar Agreement was $20.0 million as of December 31, 2018. The Solar Agreement contains various covenants. As of December 31, 2018, we were in compliance with all required covenants under the Solar Agreement, as amended.

Capital Resources

We have financed our operations principally through the issuance and sale of our common stock in our IPO and subsequent follow-on offering, private placements of our equity securities, and to a lesser extent, secured debt financing, exercises of our common stock warrants, and payments from customers. We anticipate that our existing cash and cash equivalents and cash generated from sales of our products, will not be sufficient to fund our current operating plans through the next twelve months. This raises substantial doubt about our ability to continue as a going concern.

We based our projections on the amount of time through which our financial resources will be adequate to support our operations on assumptions that may prove to be incorrect and we may use all our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with the ongoing commercialization of the ARTAS® System and ARTAS® iX System, we are unable to estimate the exact amount of our operating capital requirements. Our future funding requirements will depend on many factors, including, but not limited to:

- the revenue we generate from our operations;
- the scope and timing of our investment in our commercial infrastructure and salesforce;
- the costs of commercialization activities including product sales, marketing, manufacturing and distribution;
- the degree and rate of market acceptance of the ARTAS® System and the ARTAS procedure;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- our need to implement additional infrastructure and internal systems;
- the research and development activities we intend to undertake in order to expand the approved indications of use for the ARTAS® System and ARTAS® iX System;
- the emergence of competing technologies or other adverse market developments;
- any product liability or other lawsuits related to our products;
- the expenses needed to attract and retain skilled personnel;
- the costs associated with being a public company; and
- the costs associated with maintaining subsidiaries in foreign jurisdictions.

We cannot assure that we will ever be profitable or generate positive cash flow from operating activities.

We plan to continue to fund our current operating plans' needs through equity financings or other arrangements. To the extent that we raise additional capital through future equity financings, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our existing common stockholders. If we raise additional funds through the issuance of debt securities, these securities could contain covenants that would restrict our operations. There can be no assurance that such additional financing, if available, can be obtained on terms acceptable to us. If we are unable to obtain such additional financing, we would need to reevaluate our future operating plans.

Cash flows

The following table summarizes our cash flows for the periods indicated:

	Year Ended December 31,		
	2018	2017	2016
	(dollars in thousands)		
Cash used in operating activities	$ (28,699)	$ (19,256)	$ (16,164)
Cash provided by (used in) investing activities	(1,006)	1,622	(1,171)
Cash provided by financing activities	22,236	29,366	12,114
Effect of exchange rates of cash, cash equivalents and restricted cash	29	(93)	—
Net increase (decrease) in cash, cash equivalents and restricted cash	$ (7,440)	$ 11,639	$ (5,221)

Cash Flows from Operating Activities

In 2018, cash used in operating activities of $28.7 million was attributable to a net loss of $28.7 million and a decrease from operating assets and liabilities of $3.9 million, which were partially offset by $3.9 million in non-cash charges. The non-cash charges consisted primarily of provision for bad debt of $1.8 million, depreciation and amortization of $0.8 million, stock-based compensation of $0.7 million and amortization of debt discounts and issuance costs and non-cash loss on debt extinguishment of $0.6 million. The net change in operating assets and liabilities was primarily attributable to an increase in accounts payable and accrued other liabilities of $3.0 million, which was offset by an increase in accounts receivable of $4.5 million due to the timing of collections from customers in the fourth quarter of 2018 and an increase in inventory of $2.7 million primarily due to inventory build of ARTAS® iX system in 2018.

In 2017, cash used in operating activities of $19.3 million was attributable to a net loss of $17.8 million, and a decrease from operating assets and liabilities of $1.8 million, which were partially offset by $0.4 million in non-cash charges. The non-cash charges consisted primarily of depreciation and amortization of $0.6 million, amortization of debt discounts and issuance costs of $0.5 million, stock-based compensation of $0.5 million, and change in fair value of preferred stock warrant liabilities of $0.4 million as well as a provision for bad debt of $0.2 million, which was offset by a gain of $1.8 million on sale of our investment. The net change in operating assets and liabilities was primarily attributable to an increase in accounts receivable of $1.6 million, in prepaid expenses and other assets of $0.8 million, and an overall increase in accounts payable and accrued and other liabilities of $0.5 million due to the timing of receipt and payment of vendor invoices.

In 2016, cash used in operating activities of $16.2 million was attributable to a net loss of $21.8 million, partially offset by $2.2 million in non-cash charges and a net change in net operating assets and liabilities of $3.4 million. The non-cash charges consisted primarily of depreciation and amortization of $0.7 million, amortization of debt discounts and issuance costs of $0.7 million, stock-based compensation of $0.5 million, and change in fair value of preferred stock warrant liabilities of $0.3 million. The net change in operating assets and liabilities of $3.4 million was primarily attributable to a $2.9 million decrease in inventory due to the sale of inventory in excess of purchases, an overall increase of $1.2 million in accounts payable and accrued and other liabilities due to growth in operations and the timing of receipt and payment of vendor invoices, and a decrease of $0.3 million in prepaid expenses and other assets, partially offset by a $1.0 million increase in accounts receivable due to an increase in our post-warranty ARTAS Care maintenance and support contracts sold.

Cash Flows from Investing Activities

In 2018, cash used in investing activities related to purchases of property and equipment.

In 2017, cash provided by investing activities related to the sale of an investment in a privately-held company in the amount of $1.8 million, offset by $0.2 million in purchases of property and equipment.

In 2016, cash used in investing activities related primarily to tenant improvements paid by the landlord of our headquarters in San Jose, California.

Cash Flows from Financing Activities

In 2018, cash provided by financing activities was $22.2 million, consisting of net proceeds from our Solar loan of $19.6 million, net proceeds from our follow-on offering of $15.6 million and $0.3 million of stock option exercises, which was offset by $13.3 million used to repay our loan with Oxford.

In 2017, cash provided by financing activities was $29.3 million, consisting primarily of $22.1 million in net proceeds (including the payment of $2.9 million of deferred offering costs) received from the issuance of common stock upon in connection with our IPO, $10.2 million in net proceeds from the issuance of our Series C convertible preferred stock, and $5.0 million from the issuance of the Convertible Notes. Cash provided by financing activities was partially offset by repaying $8.0 million of the outstanding principal on our outstanding debt obligation with Oxford.

In 2016, cash provided by financing activities was $12.1 million received from the issuance of our Series C convertible preferred stock.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations as of December 31, 2018, which represent material expected or contractually committed future obligations.

	Payments Due by Period				
	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years	Total
	(dollars in thousands)				
Debt obligations, including interest (1)	$ 2,661	$ 18,328	$ 4,245	$ —	$ 25,234
Operating leases	518	1,084	188	—	1,790
Total contractual obligations	$ 3,179	$ 19,412	$ 4,433	$ —	$ 27,024

(1) Represents our loan with Solar and our anticipated repayment schedule for the loan. Pursuant to our loan agreement with Solar, the loan will mature in May 2022. The loan with Solar accrues interest at current U.S. Dollar LIBOR rate plus 7.95% per annum. The outstanding principal balance on the Solar loan was $20.8 million at December 31, 2018, which includes a final payment of $0.8 million to Solar on the maturity of the loan.

In addition to the contractual obligations listed in the table above, based on manufacturing changes associated with the commercialization of our ARTAS iX System, we determined that certain components procured or expected to be procured by Evolve Manufacturing Technologies, Inc., our single third-party manufacturer, who assemble the ARTAS® System, will be in excess of expected demand or usage. Additionally, in the fourth quarter of 2018, we recorded a $0.2 million charge related to other excess purchase commitments from another vendor based on cost reduction changes in 2019. As a result of these two matters, we recorded a loss contingency accrual totaling $0.5 million, which is reported in “Cost of revenue” in the consolidated statements of operations for the year ended December 31, 2018 and included in “Other accrued liabilities” on the consolidated balance sheets as of December 31, 2018.

Off-Balance Sheet Arrangements

We do not currently engage in off-balance sheet financing arrangements. In addition, we do not have any interest in entities referred to as variable interest entities, which includes special purpose entities and other structure finance entities.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with U.S GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses, and related disclosures. These estimates form the basis for judgments we make about the carrying values of our assets and liabilities, which are not readily apparent from other sources. We base our estimates and judgments on historical experience and on various other assumptions that we believe are reasonable under the circumstances. On an ongoing basis, we evaluate our estimates and assumptions. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to our consolidated financial statements included in this Report, we believe that the assumptions and estimates associated with stock-based compensation, preferred stock warrant liabilities, revenue recognition and income taxes have the most significant impact on our consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

Revenue Recognition

We generate revenue from sales of robotic systems and related procedures, and related support and maintenance. We derive revenue primarily from two sources: (i) product revenue, which consist of the sale of the ARTAS® System and ARTAS® iX System, procedure kits, upgrades and training; and (ii) support and maintenance revenue, which primarily consist of our ARTAS Care (i.e. extended warranty service contracts).

Revenue is recognized when all of the following criteria are met: (i) persuasive evidence of an arrangement exists; (ii) the product or service has been delivered; (iii) the sales price is fixed or determinable; and (iv) collection is reasonably assured.

We define each of the four criteria above as follows:

- ***Persuasive evidence of arrangement exists.*** We use purchase orders pursuant to the terms and conditions of a master agreement to support the evidence of an arrangement with distributors and use purchase agreements as evidence of arrangement with direct customers.
- ***Delivery has occurred.*** Provided that all other revenue recognition criteria have been met we typically recognize system revenue upon shipment for systems as title and risk of loss are transferred at that time, and there are no further obligations and no rights of return. Prior to January 1, 2018, we typically recognized system revenue upon customer acceptance for sales to direct customers. This change in accounting was as a result of a change in business process, which included the shipment of fully assembled systems starting in 2018. Procedure revenue is recognized upon shipment of disposable kits and delivery of the ARTAS key, if applicable. Revenue from ARTAS Care is recognized over time as the services are delivered.
- ***The sales price is fixed or determinable.*** We assess whether the fee is fixed or determinable based on the payment terms associated with the transaction. If the terms are extended beyond our normal payment terms, we will recognize revenue as the payments become due. Payments from distributors are not contingent on the distributors' receiving payment from the end-users.
- ***Collection is reasonably assured.*** We assess probability of collection on an individual basis based on a number of factors, including the credit-worthiness of the customer and past transaction history with the customer. We generally obtain a significant cash deposit from its customers prior to shipment.

We record our revenue net of sales tax and shipping and handling costs. Incremental direct costs incurred related to the acquisition or origination of a customer contract are expensed as incurred.

Multiple Element Arrangements

Our offering includes robotic systems containing software components that function together to provide the essential functionality of the product. Therefore, our hardware products inclusive of the core software are considered non-software deliverables and are not subject to industry-specific software revenue recognition guidance.

Our typical multiple element arrangement generally includes robotic systems (including the essential software), procedure key, product training, and procedure kits. We consider each of these deliverables to be separate units of accounting based on whether the delivered items have stand-alone value. We have determined that each unit of accounting has stand-alone value because they are sold separately by us or, for hardware products, because the customers can resell them to others on a stand-alone basis.

For the arrangements with multiple deliverables, we allocate the arrangement fee to each element based upon the relative selling price of such element. When applying the relative selling price method, we determine the selling price for each element using vendor-specific objective evidence, or VSOE, of selling price, if it exists, or if not, third-party evidence, or TPE, of selling price, if it exists. If neither VSOE nor TPE of selling price exist for an element, we use our best estimated selling price, or BESP, for that element. The revenue allocated to each element is then recognized when the basic revenue recognition criteria are met for that element.

Generally, we are not able to establish a selling price of our deliverables using VSOE or to determine TPE for our products and services. TPE is determined based on competitor prices for similar deliverables when sold separately. Generally, our go-to-market strategy differs from that of our peers and our offerings contain a significant level of differentiation such that the comparable pricing of products with similar functionality cannot be obtained.

When we are unable to establish the selling price of our deliverables using VSOE or TPE, we use BESP in our allocation of arrangement consideration. The objective of BESP is to determine the price at which we would transact a sale if the product or service were sold on a stand-alone basis. We determine BESP for a product or service by considering multiple factors including, but not limited to, industry and market conditions, competitive landscape, standard pricing practices and internal cost models. Additionally, we consider historical transactions, including transactions whereby the deliverable was sold on a stand-alone basis.

Deferred revenue primarily relates to ARTAS Care and training not yet provided to our customers. The current portion of deferred revenue represents the amounts that are expected to be recognized as revenue within one year of the consolidated balance sheet date.

Stock-Based Compensation

We account for share-based compensation costs in accordance with the accounting standards for share-based compensation, which require that all share-based payments to employees be recognized in the consolidated statements of operations based on their fair values.

- The fair value of stock options ("options") on the grant date is estimated using the Black-Scholes option-pricing model using the single-option approach. The Black-Scholes option pricing model requires the use of highly subjective and complex assumptions, including the option's expected term and the price volatility of the underlying stock, to determine the fair value of award. The Company recognizes the expense associated with options using a single-award approach over the requisite service period.

We recognize share-based compensation expense for the portion of the equity award that is expected to vest over the requisite service period for those awards and develops an estimate of the number of share-based awards which will ultimately vest, primarily based on historical experience. The estimated forfeiture rate is reassessed periodically throughout the requisite service period. Such estimates are revised if they differ materially from actual forfeitures. As required, the forfeiture estimates will be adjusted to reflect actual forfeitures when an award vests. For the award types discussed above, if an employee terminates employment prior to being vested in an award, then the award is forfeited.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the tax and financial reporting bases of the Company’s assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in future years in which those temporary differences are expected to be recovered or settled. Deferred tax assets are reduced through the establishment of a valuation allowance, if, based upon available evidence, it is determined that it is more likely than not that the deferred tax assets will not be realized. All deferred tax assets and liabilities are classified as non-current in the consolidated financial statements.

As further discussed in Note 10, Income Taxes, in the accompanying consolidated financial statements, we are assessing the impact of the U.S. tax reform that was enacted in December 2017. As a result of the new tax rule, we reduced our income tax rate from 35% to 21% for tax years beginning after December 31, 2017 resulting in a $20.7 million decrease in the deferred tax asset and the corresponding valuation allowance.

JOBS Act Accounting Election

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. 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, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

Recent Accounting Pronouncements

See Note 2 to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for recently adopted accounting pronouncements and recently issued accounting pronouncements not yet adopted as of the date of this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We are exposed to market risks in the ordinary course of our business. These risks primarily relate to interest rate and currency exchange rate fluctuations.

Interest Rate Risk

Our cash and cash equivalents are held in cash deposits and money market funds. Due to the short-term nature of these instruments, we do not believe that we have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. Declines in interest rates, however, would reduce our future interest income.

We are exposed to interest rate risk related to our debt obligations which are subject to variable interest rates. As of December 31, 2018, a 100-basis point increase in interest rates on our debt subject to variable interest rate fluctuations would increase our interest expense $0.2 million annually.

Foreign Currency Risk

Our sales contracts are primarily denominated in U.S. dollars and, therefore, substantially all of our revenue is not subject to foreign currency risk. However, a strengthening of the U.S. Dollar could increase the real cost of our products to our customers outside of the U.S., which could adversely affect our financial condition and operating results. In addition, a portion of our operating expenses are incurred outside the U.S. and are denominated in foreign currencies and are subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the British Pound Sterling, Euro, Hong Kong Dollar, and South Korean Won. Additionally, fluctuations in foreign currency exchange rates may cause us to recognize transaction gains and losses in our statement of operations. A 10% increase or decrease in current exchange rates would not have a material effect on our financial results. To date, foreign currency transaction gains and losses have not been material to our consolidated financial statements, and we have not engaged in any foreign currency hedging transactions.

Item 8. Consolidated Financial Statements and Supplementary Data.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Restoration Robotics, Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Restoration Robotics, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive loss, convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Going concern uncertainty

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company has incurred net operating losses, negative cash flows from operations since inception, and has an accumulated deficit as of December 31, 2018. These conditions, along with other matters as set forth in Note 2, raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2008.

Denver, CO

March 20, 2019

RESTORATION ROBOTICS, INC.

Consolidated Balance Sheets
(in thousands, except share and per share data)

	Year Ended, December 31,	
	2018	**2017**
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 16,122	$ 23,545
Accounts receivable, net of allowance of $1,772 and $229 as of December 31, 2018 and 2017	6,569	3,864
Inventory	5,522	2,761
Prepaid expenses and other current assets	1,278	1,562
Total current assets	29,491	31,732
Property and equipment, net	1,299	1,138
Restricted cash	83	100
Other assets	100	—
TOTAL ASSETS	$ 30,973	$ 32,970
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 3,815	$ 2,044
Accrued compensation	1,771	1,630
Other accrued liabilities	2,337	1,125
Deferred revenue	1,407	1,517
Current portion of long-term debt, net of discount of $617 and $270 as of December 31, 2018 and 2017	49	7,730
Total current liabilities	9,379	14,046
Other long-term liabilities	594	459
Long-term debt, net of discount of $746 and $29 as of December 31, 2018 and 2017	19,418	5,271
TOTAL LIABILITIES	29,391	19,776
Commitments and Contingencies (Note 6)		
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.0001 par value: 10,000,000 shares authorized as of December 31, 2018 and 2017; no shares issued and outstanding as of December 31, 2018 and 2017	—	—
Common stock, $0.0001 par value: 300,000,000 shares authorized as of December 31, 2018 and 2017; 40,677,012 and 28,940,282 shares issued and outstanding as of December 31, 2018 and 2017	4	3
Additional paid-in capital	194,841	177,757
Accumulated other comprehensive loss	(50)	(79)
Accumulated deficit	(193,213)	(164,487)
TOTAL STOCKHOLDERS' EQUITY	1,582	13,194
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 30,973	$ 32,970

The accompanying notes are an integral part of these consolidated financial statements.

RESTORATION ROBOTICS, INC.

Consolidated Statements of Operations
(in thousands, except share and per share data)

	Year Ended, December 31,		
	2018	2017	2016
Revenue	$ 21,956	$ 21,297	$ 15,600
Cost of revenue	12,450	12,150	10,431
Gross profit	9,506	9,147	5,169
Operating expenses:			
Sales and marketing	18,204	14,390	12,483
Research and development	8,374	7,135	7,474
General and administrative	8,834	4,904	4,144
Total operating expenses	35,412	26,429	24,101
Loss from operations	(25,906)	(17,282)	(18,932)
Other income (expense), net:			
Interest expense	(2,224)	(2,027)	(2,483)
Gain on sale of investment	—	1,851	—
Other expense, net	(549)	(328)	(431)
Total other income (expense), net	(2,773)	(504)	(2,914)
Net loss before provision for income taxes	(28,679)	(17,786)	(21,846)
Provision for income taxes	47	56	—
Net loss	$ (28,726)	$ (17,842)	$ (21,846)
Net loss per share, basic and diluted	$ (0.86)	$ (2.42)	$ (13.54)
Weighted-average shares used in computing net loss per share, basic and diluted	33,512,181	7,382,715	1,612,933

The accompanying notes are an integral part of these consolidated financial statements.

RESTORATION ROBOTICS, INC.

Consolidated Statements of Comprehensive Loss
(in thousands, except share and per share data)

	Year Ended December 31,		
	2018	2017	2016
Net loss	$ (28,726)	$ (17,842)	$ (21,846)
Other comprehensive income (loss):			
Cumulative translation adjustment	29	(93)	—
Comprehensive loss	$ (28,697)	$ (17,935)	$ (21,846)

The accompanying notes are an integral part of these consolidated financial statements.

RESTORATION ROBOTICS, INC.

Consolidated Statement of Convertible Preferred Stock and Stockholders' Equity (Deficit)

(in thousands, except share and per share data)

	Convertible Preferred Stock		Common Stock		Additional Paid-	Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Shares	Amount	in-Capital	Income (Loss)	Deficit	Equity (Deficit)
Balance — December 31, 2015	19,336,777	$ 123,662	1,595,277	—	$ 2,580	$ 14	$ (124,799)	$ (122,205)
Issuance of common stock pursuant to stock option exercises of vested options	—	—	20,218	—	41	—	—	41
Issuance of Series C convertible preferred stock for cash, net of issuance costs of $837	1,805,518	12,073	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	466	—	—	466
Net loss	—	—	—	—	—	—	(21,846)	(21,846)
Balance — December 31, 2016	21,142,295	135,735	1,615,495	—	3,087	14	(146,645)	(143,544)
Issuance of common stock pursuant to stock option exercises of vested options	—	—	21,843	—	43	—	—	43
Stock-based compensation	—	—	—	—	465	—	—	465
Issuance of Series C convertible preferred stock for cash net of issuance costs of $726	1,529,306	10,209	—	—	—	—	—	—
Adjustment for fractional shares from reverse stock split	—	—	137	—	—	—	—	—
Reclassification of preferred stock warrant liabilities to additional paid-in-capital	—	—	—	—	1,080	—	—	1,080
Conversion of convertible notes to common stock	—	—	718,184	—	5,027	—	—	5,027
Conversion of preferred stock to common stock upon initial public offering	(22,671,601)	(145,944)	22,671,601	3	145,941	—	—	145,944
Issuance of common stock in connection with initial public offering, net of issuance costs of $5,171	—	—	3,897,910	—	22,114	—	—	22,114
Issuance of common stock upon exercise of common stock warrants	—	—	15,112	—	—	—	—	—
Other comprehensive loss	—	—	—	—	—	(93)	—	(93)
Net loss	—	—	—	—	—	—	(17,842)	(17,842)
Balance — December 31, 2017	—	—	28,940,282	3	177,757	(79)	(164,487)	13,194
Issuance of common stock pursuant to stock option exercises of vested options	—	—	236,730	—	392	—	—	392
Stock-based compensation	—	—	—	—	667	—	—	667
Issuance of common stock warrants pursuant to debt financing	—	—	—	—	466	—	—	466
Issuance of common stock in connection with follow-on offering, net of issuance costs of $1,690	—	—	11,500,000	1	15,559	—	—	15,560
Other comprehensive gain	—	—	—	—	—	29	—	29
Net loss	—	—	—	—	—	—	(28,726)	(28,726)
Balance — December 31, 2018	—	$ —	40,677,012	$ 4	$ 194,841	$ (50)	$ (193,213)	$ 1,582

The accompanying notes are an integral part of these consolidated financial statements.

RESTORATION ROBOTICS, INC.

Consolidated Statements of Cash Flows
(in thousands, except share and per share data)

	Year Ended December 31,		
	2018	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (28,726)	$ (17,842)	$ (21,846)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	813	574	654
Loss on disposal of property and equipment	—	34	46
Amortization of debt discounts and issuance costs	470	551	737
Loss on extinguishment of debt	178	—	—
Stock-based compensation	667	465	466
Changes in fair value of preferred stock warrant liabilities	—	387	346
Gain on sale of investment	—	(1,851)	—
Non-cash interest expense on convertible notes	—	27	—
Provision for bad debt	1,772	229	—
Changes in operating assets and liabilities:			
Accounts receivable	(4,478)	(1,612)	(987)
Inventory	(2,761)	(19)	2,892
Prepaid expenses and other assets	185	(752)	324
Accounts payable	1,802	246	709
Deferred revenue	144	—	—
Accrued and other liabilities	1,235	307	495
Net cash used in operating activities	(28,699)	(19,256)	(16,164)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Proceeds from sale of property and equipment	—	—	2
Proceeds from sale of investment	—	1,851	—
Purchases of property and equipment	(1,006)	(229)	(1,173)
Net cash provided by (used in) investing activities	(1,006)	1,622	(1,171)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of common stock upon initial public offering, net	—	22,114	—
Proceeds from convertible notes	—	5,000	—
Proceeds from issuance of Series C convertible preferred stock, net	—	10,209	12,073
Proceeds from issuance of common stock upon follow-on offering, net	15,560	—	—
Proceeds from exercised stock options	392	43	41
Proceeds from long-term debt, net	19,584	—	—
Principal payments on long-term debt	(13,300)	(8,000)	—
Net cash provided by financing activities	22,236	29,366	12,114
Effect of exchange rate changes on cash, cash equivalents and restricted cash	29	(93)	—
NET INCREASE (DECREASE) IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	(7,440)	11,639	(5,221)
CASH, CASH EQUIVALENTS AND RESTRICTED CASH — Beginning of period	23,645	12,006	17,227
CASH, CASH EQUIVALENTS AND RESTRICTED CASH — End of period	$ 16,205	$ 23,645	$ 12,006
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid for income taxes	$ 35	$ 28	$ 56
Cash paid for interest	$ 1,757	$ 1,497	$ 1,738
SUPPLEMENTAL DISCLOSURES OF NON-CASH INVESTING AND FINANCING INFORMATION:			
Property and equipment purchased through AP and accrued liabilities	$ 25	$ 58	$ —
Discounts and issuance costs in connection with long-term debt	$ 1,246	$ —	$ —
Conversion of preferred stock into common stock	$ —	$ 145,944	$ —
Reclassification of preferred stock warrant liabilities to equity	$ —	$ 1,080	$ —
Conversion of convertible notes and accrued interest into common stock	$ —	$ 5,027	$ —
Issuance of warrants in connection with long-term debt	$ 466	$ —	$ —

The accompanying notes are an integral part of these consolidated financial statements.

1. NATURE OF OPERATIONS

Restoration Robotics, Inc. is a medical device company incorporated in the state of Delaware on November 22, 2002 and headquartered in San Jose, California. The Company develops an image-guided robotic system that enables follicular unit extraction (FUE) for use in the field of hair transplantation and markets the ARTAS® Robotic System in the United States and other countries. In these notes to the audited consolidated financial statements, the "Company," "Restoration Robotics," refers to Restoration Robotics, Inc. and its subsidiaries on a consolidated basis.

Initial Public Offering

On October 11, 2017, the Company's Registration Statement on Form S-1 (File No. 333-220303) relating to the initial public offering (IPO) of its common stock was declared effective by the Securities and Exchange Commission (SEC). Pursuant to such Registration Statement, the Company completed its IPO of 3,897,910 shares of its common stock (inclusive of 322,910 shares of common stock from the subsequent exercise of the over-allotment option granted to the underwriters) at a price of $7.00 per share for aggregate net cash of approximately $22,114, after deducting underwriter discounts and commissions, and offering costs of $5,171.

Immediately prior to the closing of the IPO, all outstanding shares of convertible preferred stock converted into 22,671,601 shares of common stock and all the outstanding convertible preferred stock warrants converted into common stock warrants resulting in the reclassification of our preferred stock warrant liabilities to additional paid-in capital. In addition, the principal and accrued interest on the outstanding Convertible Notes converted into 718,184 shares of common stock. The IPO closed on October 16, 2017.

Following the filing of the Restated Certificate of Incorporation of the Company on October 16, 2017, the number of shares of capital stock the Company is authorized to issue is 310,000,000 shares, of which 300,000,000 shares may be common stock and 10,000,000 shares may be preferred stock. Both the common stock and the preferred stock have a par value of $0.0001 per share.

Follow-on Public Offering

On August 16, 2018, the Company closed its follow-on public offering of 10,000,000 shares of its common stock, plus 1,500,000 shares of common stock from the subsequent exercise of the over-allotment option granted to the underwriters. The public offering price of the shares sold was $1.50 per share. The Company received aggregate net cash of approximately $15,560 from the follow-on offering, after deducting underwriting discounts and commissions and offering costs totaling $1,690. The Company is using the net proceeds from this offering (including net proceeds from the underwriters' exercise of their option to purchase additional shares of common stock) to fund expanded commercialization activities in connection with our recently launched ARTAS® iX System and for working capital and general corporate purposes.

Reverse Stock Split

On September 15, 2017, the Company effected a 1-for-10 reverse stock split of its common stock. Upon the effectiveness of the reverse stock split, (i) every 10 shares of outstanding common stock were combined into one share of common stock, (ii) the number of shares of common stock for which each outstanding option to purchase common stock is exercisable was proportionately decreased on a 1-for-10 basis, (iii) the exercise price of each outstanding option to purchase common stock was proportionally increased on a l-for-10 basis, and (iv) the conversion ratio for each share of outstanding preferred stock which is convertible into our common stock was proportionately reduced on a 1-for-10 basis. All the outstanding common stock share numbers (including shares of common stock into which our outstanding convertible preferred stock shares are convertible), share prices, exercise prices and per share amounts have been adjusted in these consolidated statements, on a retroactive basis, to reflect this l-for-10 reverse stock split for all periods presented. The par value per share and the authorized number of shares of common stock and convertible preferred stock were not adjusted as a result of the reverse stock split.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Liquidity

These consolidated financial statements are prepared on a going concern basis that contemplates the realization of assets and extinguishment of liabilities in the normal course of business. The Company has incurred net operating losses and negative cash flows from operations since inception. As of December 31, 2018, and 2017, the Company has an accumulated deficit of $193,213 and $164,487 and, as of such dates, did not have sufficient capital to fund its planned operations. As a result of the Company's recurring losses from operations and negative cash flows, the Company's independent registered public accounting firm included an explanatory paragraph in its current report on the Company's consolidated financial statements that such factors raise substantial doubt about the Company's ability to continue as a going concern. Management plans to manage expenses and obtain additional funds through a combination of equity and debt financing. In order to continue its operations, the Company must achieve profitable operations and/or obtain additional financing. Until the Company generates revenue at a level to support its cost structure, the Company expects to continue to incur substantial operating losses and net cash outflows. The Company may never become profitable and even if it does attain profitable operations, it may not be able to sustain profitability or positive cash flows on a recurring basis.

The Company will need to raise further capital in the future to service its debt and fund its operations until the time it can sustain positive cash flows. There can be no assurance that the Company will be successful in raising additional capital or that such capital, if available, will be on terms that are acceptable to the Company. If the Company is unable to raise sufficient additional capital, it may be compelled to reduce the scope of its operations and planned capital expenditures or sell certain assets, including intellectual property assets.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business, and, as such, the consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or amounts and classification of liabilities that might be necessary should the Company be unable to continue in existence.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (U.S. GAAP). The accompanying consolidated financial statements include the accounts of Restoration Robotics, Inc. and its wholly owned subsidiaries.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Restoration Robotics, Inc. and its wholly owned subsidiaries, which are located in the United States, United Kingdom, Spain, Hong Kong and South Korea. All significant intercompany accounts and transactions have been eliminated in consolidation.

Reclassification

Accrued compensation, which was previously included in other accrued liabilities in the prior year's consolidated balance sheet has been reclassified to conform to the current period's presentation. The reclassification had no impact on the previously reported consolidated balance sheet for the year ended December 31, 2017.

The provision for bad debt, which was previously included in accounts receivable in the prior year's consolidated statements of cash flow has been reclassified to conform to the current period's presentation. The reclassification had no impact on the previously reported consolidated statements of cash flow for the year ended December 31, 2017.

Use of Estimates

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Significant estimates and assumptions made in the accompanying consolidated financial statements include, but are not limited to revenue recognition, allowance for doubtful accounts, inventory valuation, stock-based compensation, warranty accrual and the recoverability of the Company's net deferred tax assets. The Company evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors and adjusts those estimates and assumptions when facts and circumstances dictate. Actual results could materially differ from those estimates.

Foreign Currency

The functional currency of the Company's non-U.S. subsidiaries is the local currency. Asset and liability balances denominated in non-U.S. dollar currencies are translated into U.S. dollars using period-end exchange rates, while revenue and expenses are based upon the exchange rate at the time of the transaction, if known, or at the average rate for the period. Differences are included in stockholders' equity (deficit) as a component of accumulated other comprehensive loss. Financial assets and liabilities denominated in currencies other than the functional currency are recorded at the exchange rate at the time of the transaction and subsequent gains and losses related to changes in the foreign currency are included in other income (expense), net in the accompanying consolidated statements of operations. The net foreign transaction gain or losses were insignificant for all periods presented.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less from the date of purchase to be cash equivalents. Cash and cash equivalents consist primarily of funds invested in readily available checking and savings accounts, investments in money market funds and short-term time deposits.

Restricted Cash

As of December 31, 2018, and 2017, the Company was required to hold $83 and $100, respectively, in a separate money market account as collateral for credit cards.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents, restricted cash and accounts receivable. Substantially all of the Company's cash and cash equivalents and restricted cash are held with two financial institutions, and the account balances exceed the Federal Deposit Insurance Corporation (FDIC) insurance limit. Accounts are insured by the FDIC up to $250 per financial institution. The Company has not experienced any losses in such accounts with these financial institutions.

Concentration of Customers

For the years ended December 31, 2018, 2017 and 2016, there were no customers accounting for more than 10% of the Company's revenue. As of December 31, 2018, there were no customers accounting for more than 10% of the Company's accounts receivable. As of December 31, 2017, two customers each accounted for 10% and 11% of the Company's accounts receivable.

Allowance for Doubtful Accounts

Accounts receivable do not bear interest and are typically not collateralized. The Company performs ongoing credit evaluations of its customers' financial condition and maintains an allowance for doubtful accounts. Uncollectible accounts are charged to expense when deemed uncollectible, and accounts receivable are presented net of an allowance for doubtful accounts. Accounts receivable are deemed past due in accordance with the contractual terms of the agreement. Actual losses may differ from our estimates and could be material to our consolidated financial position, results of operations and cash flows. The allowance for doubtful accounts was $1,772 and $229 at December 31, 2018 and 2017, respectively.

The allowance for doubtful accounts consisted of the following activity for years ended December 31, 2018 and 2017 (in thousands):

	As of December 31,	
	2018	2017
Balance at Beginning of Year	$ 229	$ —
Charge to expense	1,772	229
Write-offs, net of recoveries	(229)	—
Balance at End of Year	$ 1,772	$ 229

Inventory

Inventory is stated at the lower of cost or net realizable value and cost is principally determined using the first-in, first-out method. Costs include material, labor and overhead. Inventory that is obsolete or in excess of forecasted usage is written down to its estimated net realizable value based on assumptions about future demand and market conditions. Inventory write-downs are charged to cost of goods sold and a new cost basis for the inventory is established.

Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation and amortization. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets, which is between three and five years. Leasehold improvements are amortized over the lesser of the life of the lease or the useful life of the improvements. Maintenance and repairs are charged to expense as incurred. When assets are retired or otherwise disposed of, the cost and accumulated depreciation are removed from the consolidated balance sheet, and any resulting gain or loss is reflected in operations.

Impairment of Long-Lived Assets

Property and equipment are reviewed annually for impairment or whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amount to the future net undiscounted cash flows that the assets are expected to generate. If the carrying amount of an asset group exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset group exceeds the fair value of the asset group. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the projected discounted future net cash flows arising from the asset. There has been no impairment of long-lived assets for any of the periods presented.

Debt Issuance Costs

Costs related to the issuance of debt are presented as a direct deduction to the carrying value of the debt and are amortized to interest expense using the effective interest rate method over the term of the related debt.

Gain on Sale of Stock Investment

In the fourth quarter of 2017, the Company recognized a gain of $1,851 on the sale of stock held in a privately-held company that had been impaired and written-down to nil prior to fiscal year 2014.

Revenue Recognition

The Company generates revenue from sales of robotic systems and related procedures, and related support and maintenance. The Company derives revenue primarily from two sources: (i) Product revenue, which consist of the sale of the ARTAS System, procedure kits, upgrades and training; and (ii) Support and maintenance revenue, which primarily consist of our ARTAS Care (i.e. extended warranty service contracts).

Revenue is recognized when all of the following criteria are met: (l) persuasive evidence of an arrangement exists; (2) the product or service has been delivered; (3) the sales price is fixed or determinable; and (4) collection is reasonably assured.

The Company defines each of the four criteria above as follows:

- ***Persuasive Evidence of Arrangement Exists***. The Company uses purchase orders pursuant to the terms and conditions of a master agreement to support the evidence of an arrangement with distributors and uses purchase agreements as evidence of arrangement with direct customers.
- ***Delivery has Occurred***. Provided that all other revenue recognition criteria have been met the Company typically recognizes system revenue upon shipment for systems as title and risk of loss are transferred at that time, and there are no further obligations and no rights of return. Prior to January 1, 2018, the Company typically recognized system revenue upon customer acceptance for sales to direct customers. This change in accounting was as a result of a change in business process, which included the shipment of fully assembled systems starting in 2018. Procedure revenue is recognized upon shipment of disposable kits and delivery of the ARTAS key, if applicable. ARTAS Care (extended warranty contracts) are recognized over time as the services are delivered.

- ***The Sales Price is Fixed or Determinable***. The Company assesses whether the fee is fixed or determinable based on the payment terms associated with the transaction. If the terms are extended beyond the Company's normal payment terms, the Company will recognize revenue as the payments become due. Payments from distributors are not contingent on the distributors' receiving payment from the end-users.
- ***Collection is Reasonably Assured***. The Company assesses probability of collection on an individual basis based on a number of factors, including the credit-worthiness of the customer and past transaction history with the customer. The Company generally obtains a significant cash deposit from its customers prior to shipment.

The Company records its revenue net of sales tax and shipping and handling costs. Incremental direct costs incurred related to the acquisition or origination of a customer contract are expensed as incurred.

Multiple Element Arrangements

The Company's offering includes robotic systems containing software components that function together to provide the essential functionality of the product. Therefore, the Company's hardware products (inclusive of the core software) are considered non-software deliverables and are not subject to industry-specific software revenue recognition guidance.

The Company's typical multiple element arrangement generally includes robotic systems (including the essential software), procedure key, product training, and procedure kits. The Company considers each of these deliverables to be separate units of accounting based on whether the delivered items have stand-alone value. The Company has determined that each unit of accounting has stand-alone value because they are sold separately by the Company or, for hardware products, because the customers can resell them to others on a stand-alone basis.

For the arrangements with multiple deliverables, the Company allocates the arrangement fee to each element based upon the relative selling price of such element. When applying the relative selling price method, the Company determines the selling price for each element using vendor-specific objective evidence (VSOE) of selling price, if it exists, or if not, third-party evidence (TPE) of selling price, if it exists. If neither VSOE nor TPE of selling price exist for an element, the Company uses its best estimated selling price (BESP) for that element. The revenue allocated to each element is then recognized when the basic revenue recognition criteria are met for that element.

The Company is not able to establish a selling price of its deliverables using VSOE or to determine TPE for its products and services. TPE is determined based on competitor prices for similar deliverables when sold separately. Generally, the Company's go-to-market strategy differs from that of its peers and its offerings contain a significant level of differentiation such that the comparable pricing of products with similar functionality cannot be obtained.

When the Company is unable to establish the selling price of its deliverables using VSOE or TPE, the Company uses BESP in its allocation of arrangement consideration. The objective of BESP is to determine the price at which the Company would transact a sale if the product or service were sold on a stand-alone basis. The Company determines BESP for a product or service by considering multiple factors including, but not limited to, industry and market conditions, competitive landscape, standard pricing practices and internal cost models. Additionally, the Company considers historical transactions, including transactions whereby the deliverable was sold on a stand-alone basis.

Deferred revenue primarily relates to ARTAS Care (extended warranty) and training not yet provided to our customers. The current portion of deferred revenue represents the amounts that are expected to be recognized as revenue within one year of the consolidated balance sheet date.

Cost of Revenue

Cost of revenue consists of product and fulfillment costs. Product costs include the cost of systems and disposable kits manufacture, related labor and personnel costs and allocated shared costs. Fulfillment costs consist of costs incurred in the shipping and handling of inventory including the shipping costs to the Company's customers, labor and related personnel costs related to receiving, inspecting, warehousing, and preparing systems and reusable kits for shipment.

Cost of revenue for customer service is expensed as incurred and primarily consists of personnel costs and related benefits for employees associated with service contracts, travel costs and allocated shared costs (including rent and information technology).

Advertising Costs

The cost of advertising and media is expensed as incurred. For the years ended December 31, 2018, 2017 and 2016, advertising costs totaled $297, $99 and $130, respectively.

Research and Development

Research and development costs are charged to operations as incurred. Major components of research and development expenses consist of personnel costs, including salaries and benefits, hardware and software research and development costs, regulatory affairs, and clinical costs.

Warranty

The Company provides a one-year warranty on the ARTAS® System and accrues for the estimated future costs of repair or replacement upon customer acceptance or shipment. The warranty expense is accrued as a liability and recorded to cost of goods sold and is based upon historical information for the cost to repair or replace the system.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the tax and financial reporting bases of the Company's assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in future years in which those temporary differences are expected to be recovered or settled. Deferred tax assets are reduced through the establishment of a valuation allowance, if, based upon available evidence, it is determined that it is more likely than not that the deferred tax assets will not be realized. All deferred tax assets and liabilities are classified as non-current in the consolidated financial statements.

Uncertain Tax Positions

The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained on examination based on the technical merit of the position. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates it is more likely than not that the position will be sustained on examination, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount, which is more than 50% likely of being realized upon ultimate settlement.

The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments. The Company recognizes interest charges and penalties related to unrecognized tax benefits as a component of the tax provision.

Stock-Based Compensation

The Company accounts for share-based compensation costs in accordance with the accounting standards for share-based compensation, which require that all share-based payments to employees be recognized in the consolidated statements of operations based on their fair values.

- The fair value of stock options ("options") on the grant date is estimated using the Black-Scholes option-pricing model using the single-option approach. The Black-Scholes option pricing model requires the use of highly subjective and complex assumptions, including the option's expected term and the price volatility of the underlying stock, to determine the fair value of award. The Company recognizes the expense associated with options using a single-award approach over the requisite service period.
- The fair value of Restricted Stock Awards ("RSAs") is based on the stock price on the grant date using a single-award approach. RSAs granted to non-employees are re-measured at the end of each reporting period based on the stock price on the last business day of the reporting period. The RSAs are subject to a service vesting condition and are recognized on a straight-line basis over the requisite service period, adjusted for any re-measurement changes at the end of each reporting period. No RSAs have been granted to employees.

The Company recognizes share-based compensation expense for the portion of the equity award that is expected to vest over the requisite service period for those awards and develops an estimate of the number of share-based awards which will ultimately vest, primarily based on historical experience. The estimated forfeiture rate is reassessed periodically throughout the requisite service period. Such estimates are revised if they differ materially from actual forfeitures. As required, the forfeiture estimates will be adjusted to reflect actual forfeitures when an award vests. For the award types discussed above, if an employee terminates employment prior to being vested in an award, then the award is forfeited.

Net Loss Per Share

Prior to the conversion of all the preferred stock in connection with the IPO, the Company followed a two-class method when computing net loss per common share as we issue shares that meet the definition of participating securities. The two-class method determines net income (loss) per common share for each class of common stock and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires income for the period to be allocated between common stock and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed. The Company's convertible preferred stock contractually entitles the holders of such shares to participate in dividends but does not contractually require the holders of such shares to participate in the Company's losses. For periods in which the Company has reported net losses, diluted net loss per common share attributable to common stockholders is the same as basic net loss per common share attributable to common stockholders, because potentially dilutive common shares are not assumed to have been issued if their effect is anti-dilutive.

Defined Contribution Plan

The Company offers a defined contribution retirement savings plan under Section 401(k) of the Internal Revenue Code (IRC). This plan covers employees who meet minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. Company contributions to the plan may be made at the discretion of the Board of Directors.

There were no contributions by the Company during the years ended December 31, 2018, 2017 and 2016.

JOBS Act Accounting Election

The Company is an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. 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. The Company has 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 that it is (i) 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, these consolidated financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

Recently Issued Accounting Standards Not Yet Adopted

In May 2014, the Financial Accounting Standards Board (FASB) issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended by ASU No. 2015-14, ASU No. 2016-08, ASU No. 2016-10, ASU No. 2016-12, and ASU No. 2016-20, collectively, ASU 2014-09. ASU 2014-09 establishes a principle for recognizing revenue upon the transfer of promised goods or services to customers in an amount that reflects the expected consideration received in exchange for those goods or services and provides guidance on the recognition of costs related to obtaining and fulfilling customer contracts. For public entities, this standard is effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. For all other entities, this standard is effective for annual reporting periods beginning after December 15, 2018, and interim periods within annual periods beginning after December 15, 2019. Early adoption is permitted. ASU 2014-09 may be adopted either retrospectively to each prior period presented (full retrospective method) or with the cumulative effect recognized as of the date of initial application (modified retrospective method). The Company will adopt this standard on January 1, 2019 using the modified retrospective adoption method. The Company's assessment of areas to be impacted by the new standard identified the impact to the deferral of costs to obtain a contract, which are primarily commission expense directly incurred from the sales of products and related support. Based upon the Company's assessment, the new standard will not have a material impact on the consolidated financial statements, with the exception of expanded disclosures as required under Topic 606.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, or ASU 2016-02, which requires lessees to record most leases on their balance sheets but recognize the expenses on their income statements in a manner similar to current practice. Under ASU 2016-02, a lessee would recognize a lease liability for the obligation to make lease payments and a right-to-use asset for the right to use the underlying asset for the lease term. For public entities, this standard is effective for annual reporting periods beginning after December 15, 2018, including interim periods within that reporting period. For all other entities, this standard is effective for annual reporting periods beginning after December 15, 2019, and interim periods within annual periods beginning after December 15, 2020. Early adoption is permitted. The Company is currently evaluating the standard and its impact on the condensed consolidated financial statements.

In June 2018, the FASB issued ASU No. 2018-7, *Compensation – Stock Compensation (Topic 718)— Improvements to Nonemployee Share-Based Payment Accounting*. This guidance supersedes ASC 505-50 and expands the scope of ASC 718 to include all share-based payment arrangements related to the acquisition of goods and services from both nonemployees and employees. The amendments should be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. The Company will adopt this standard on January 1, 2019 using the modified retrospective adoption method. The Company does not expect a material change on the Company's consolidated financial statements and related disclosures upon the adoption of this standard.

3. NET LOSS PER SHARE

Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted-average number of common shares outstanding during the period, without consideration for common stock equivalents. Diluted net loss per share is computed by dividing net loss by the weighted-average number of common share equivalents outstanding for the period determined using the treasury-stock method. For purposes of this calculation, convertible preferred stock, preferred stock warrants and stock options are considered to be common stock equivalents and are only included in the calculation of diluted net loss per share when their effect is dilutive.

Due to the net loss, all the outstanding shares of common stock equivalents were excluded from the calculation of diluted net loss per share attributable to common stockholders for the periods presented because including them would have been antidilutive:

	As of December 31,		
	2018	2017	2016
Options to purchase common stock	3,989,432	1,930,752	1,831,757
Convertible preferred stock	—	—	21,142,295
Warrants for preferred stock	—	—	385,126
Warrants for common stock	272,211	306,456	—
Total potential dilutive shares	4,261,643	2,237,208	23,359,178

4. FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the reporting date. The carrying amount of the Company's debt approximates its fair value as of the balance sheet dates. The accounting guidance establishes a three-tiered hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value:

Level 1 - Quoted prices in active markets for identical assets or liabilities.

Level 2 - Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The categorization of a financial instrument within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement.

The Company classifies its cash equivalents and investments within Level 1 as it uses quoted market prices or alternative pricing sources and models utilizing market observable inputs. The following tables set forth the fair value of the Company's financial assets and liabilities by level within the fair value hierarchy:

	Fair Value Measurements as of December 31, 2018			
	Quoted Prices in Active Markets using Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets				
Cash Equivalents:				
Money market account	$ 13,968	$ —	$ —	$ 13,968
Restricted cash:				
Money market account	83			83
Total assets	$ 14,051	$ —	$ —	$ 14,051

	Fair Value Measurements as of December 31, 2017			
	Quoted Prices in Active Markets using Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets				
Cash Equivalents: (1)				
Money market account	$ 18,728	$ —	$ —	$ 18,728
Restricted cash:				
Money market account	100	—	—	100
Total assets	$ 18,828	$ —	$ —	$ 18,828

(1) The Company incorrectly overstated its cash equivalents by $4,817 in the fair value measurements footnote of its annual report on Form 10-K for the year ended December 31, 2017. Cash equivalents were $18,728, while cash was $4,817. The error in disclosure had no impact on previously reported cash and cash equivalents in the consolidated balance sheet as of December 31, 2017 or consolidated statement of operations for the year ended December 31, 2017.

5. BALANCE SHEET COMPONENTS

Inventory

Inventory consists of the following:

	December 31,	
	2018	2017
Raw materials	$ 2,464	$ —
Work-in-process	323	—
Finished goods	2,735	2,761
Total inventory	$ 5,522	$ 2,761

Inventory as of December 31, 2018, includes work-in-process and raw materials related to the Company's next generation ARTAS iX System, which was launched and manufactured by the Company starting in the third quarter of 2018. All ARTAS Systems were exclusively manufactured by the Company's contract manufacturer, Evolve Manufacturing Technologies, Inc., prior to the third quarter of 2018.

Property and Equipment, Net

Property and equipment, net consist of the following:

	December 31,	
	2018	2017
Computer hardware and software	$ 901	$ 721
Equipment	3,531	2,929
Leasehold improvements	874	869
Furniture and fixtures	457	270
Total property and equipment	5,763	4,789
Less: Accumulated depreciation and amortization	(4,464)	(3,651)
Total property and equipment, net	$ 1,299	$ 1,138

Depreciation and amortization expense were $813, $574, $654 for the years ended December 31, 2018, 2017 and 2016.

6. COMMITMENTS AND CONTINGENCIES

Operating Leases

The Company has various operating leases including 23,000 square feet of office space and 2,500 square feet of manufacturing space in San Jose, California, which expires in April 2022 and April 2019, respectively.

The Company recognizes rent expense on a straight-line basis over the non-cancelable lease period and records the difference between cash rent payments and the recognition of rent expense as a deferred rent liability. When leases contain escalation clauses, rent abatements and/or concessions, such as rent holidays and landlord or tenant incentives or allowances, the Company applies them in the determination of straight-line rent expense over the lease period.

Aggregate future minimum lease payments required under the Company's operating leases as of December 31, 2018 are as follows:

Years ending December 31,	
2019	$ 518
2020	534
2021	550
2022	188
Thereafter	—
Total future minimum lease payments	$ 1,790

The total rent expense for all operating leases for the years ended December 31, 2018, 2017 and 2016 was $564, $413, and $315.

Licensing Agreements

In July 2006, the Company entered into a license agreement with Rassman Licensing, LLC (Rassman) for non-exclusive, royalty bearing, non-transferable, perpetual, world-wide rights for use on approved fields relating to robotically controlled hair removal and implantation procedures. In consideration for this license, the Company paid Rassman a one-time payment of $1,000. The agreement, as amended, terminates on May 9, 2020. In February 2012, the Company amended its license agreement with Rassman. In exchange for a one-time $400 payment to Rassman, the Company now has a fully paid royalty-free license to a patent subject to this license agreement. Royalties for each of the years ended December 31, 2018, 2017 and 2016 were $0.

In July 2006, the Company entered into a license agreement with HSC Development, LLC for exclusive non-transferable, royalty-free worldwide rights for use in approved fields relating to a computer-controlled system in which a device is carried on a mechanized arm for extraction or implantation of a follicular unit without manual manipulation. In consideration for this license, the Company paid HSC Development, LLC a one-time payment of $25 and issued 2,500 shares of the Company's common stock. The agreement terminates on July 27, 2024.

Commitments

The Company has two master agreements and a component pricing agreement with Evolve Manufacturing Technologies, Inc. (Evolve) for the supply of the ARTAS® System and consumable products. The terms of these master agreements are substantially similar. The master agreement for the sale of ARTAS® Systems was effective beginning on April 1, 2016 and the master agreement for the sale of kits used with the ARTAS System was effective beginning on March 1, 2016. Both agreements are effective for an initial term of two years and will continue to automatically renew for additional twelve-month periods, subject to either party's right to terminate the agreement upon 180 days advance notice during the initial term, if our quarterly forecasted demand falls below 75% of our historical forecasted demand for the same period in the previous year or upon 120 days' advance notice after the initial term. Under the agreements, the Company has future purchase commitments up to $330 as of December 31, 2018.

In March 2018, the Company received U.S. FDA 510(k) clearance to expand the ARTAS® System technology to include an implantation functionality, referred to as ARTAS® iX. Based on manufacturing changes associated with the ARTAS® iX System, the Company determined that certain components procured or expected to be procured by Evolve, will be in excess of expected demand or usage based on the advance notice the Company provided to Evolve under the term of the agreement mentioned above. Additionally, in the fourth quarter of 2018, the Company recorded a $188 charge related to other excess purchase commitments from another vendor based on cost reduction changes in 2019. As a result of these two matters and although the Company will be taking steps to minimize the adverse impact on the business, based on information available as of December 31, 2018, the Company recorded a loss contingency accrual totaling $473, which is reported in "Cost of revenue" in the consolidated statements of operations for the year ended December 31, 2018 and included in "Other accrued liabilities" on the consolidated balance sheets as of December 31, 2018.

Legal Proceedings

From time to time the Company is involved in litigation arising out of claims in the normal course of business. Based on the information presently available, management believes that there are no claims or actions pending or threatened against us, the ultimate resolution of which will have a material effect on the Company's financial position, liquidity or results of operations, although the results of litigation are inherently uncertain.

Purported Shareholder Class Action

On May 23, 2018, a putative shareholder class action complaint was filed in Superior Court of the State of California, County of San Mateo (the "Superior Court"), captioned Wong v. Restoration Robotics, Inc., et al., No. 18CIV02609. On June 21, 2018 and June 28, 2018, two putative class action complaints were filed in the United States District Court for the Northern District of California, captioned Guerrini v. Restoration Robotics, Inc., et al., No. 5:18-cv-03712-EJD and Yzeiraj v. Restoration Robotics, Inc., et al., No. 5:18-cv-03883-BLF, respectively. On July 24, 2018, the U.S. Northern District Court related the Guerrini and Yzeiraj actions and reassigned the Yzeiraj action to Judge Edward J. Davila. The Wong and Guerrini complaints name the Company as defendants, and certain of its current and former executive officers and directors, certain of its venture capital investors and the underwriters in the Company's IPO. The Yzeiraj complaint names the Company as defendants and certain of its current and former executive officers and directors. The Wong complaint asserts claims under Sections 11, 12(a)(2) and 15 of the Securities Act of 1933, or the Securities Act. The Guerrini and Yzeiraj complaints assert claims under Sections 11 and 15 of the Securities Act. The complaints all allege, among other things, that the Company's Registration Statement filed with the SEC on September 1, 2017 and the Prospectus filed with the SEC on October 13, 2017 in connection with the Company's IPO were inaccurate and misleading, contained untrue statements of material facts, omitted to state other facts necessary to make the statements made not misleading and omitted to state material facts required to be stated therein. The complaints seek unspecified monetary damages, other equitable relief and attorneys' fees and costs.

On August 8, 2018, the Company, along with certain of its current and former executive officers and directors, filed a motion to dismiss the Wong complaint based on the forum selection clause designating the federal district courts as the exclusive forum for claims arising under the Securities Act contained in the Company's Amended and Restated Certificate of Incorporation, and which asked the court in the alternative to stay the Wong action. Also, on August 8, 2018, the venture capital investor and underwriters' defendants in the Wong action filed demurrers to the Wong complaint, and the Company, along with certain of its current and former executive officers and directors, joined in the venture capital investor defendants' demurrer. A hearing on the Company's motion to dismiss and the demurrers to the Wong complaint was held on October 24, 2018. The Company is unable to predict the date on which the Superior Court will issue any decision at this time.

On October 2, 2018, the U.S. Northern District Court granted a Motion for Consolidation of Related Actions, Appointment as Lead Plaintiff and Approval of Lead Counsel filed by Plaintiff Edgardo Guerrini, which consolidated the Guerrini and Yzeiraj actions under the caption In re Restoration Robotics, Inc. Securities Litigation, Case No. 5:18-cv-03712-EJD. The U.S. Northern District Court held an initial hearing on January 24, 2019.

The Company believes that these lawsuits are without merit and management intends to vigorously defend against these claims.

7. LONG-TERM DEBT

Loan and Security Agreement with Oxford Finance LLC

In May 2015, the Company entered into a loan and security agreement with Oxford Finance, LLC, or Oxford, (the Oxford Agreement). Under the terms of the loan and security agreement, the Company borrowed $20,000 with an interest rate at prime plus 8.5% per annum, which is collateralized by all personal property of the Company excluding intellectual property and issued 10-year warrants to purchase 110,486 shares of Series C Preferred Stock at $7.15 per share. The estimated fair value of the warrants at issuance was recorded as a discount on the loan and amortized into interest expense over the expected life of the loan. In connection with the loan agreement, the Company recorded $246 of credit facility fees and $153 of debt issuance cost as of January 31, 2015. The credit facility fees and debt issuance costs are a discount on the debt and are being amortized to interest expense over the term of the loan using the effective-interest method. The loan will mature in July 2019, at which time the Company must repay the outstanding principal balance which includes a final payment of $1,300. The outstanding principal balance on the loan was $13,300 and accrued interest totaled $85 as of December 31, 2017. The interest rate was 13% at December 31, 2017. In May 2018, the Company used the proceeds from the Solar Agreement to repay the indebtedness of the Oxford Agreement.

Borrowings under the Oxford Agreement are collateralized by all the assets of the Company excluding intellectual property. The Oxford Agreement includes customary restrictive covenants that impose operating and financial restrictions on the Company, including restrictions on our ability to take actions that could be in the Company's best interests. These restrictive covenants include operating covenants restricting, among other things, the Company's ability to incur additional indebtedness, effect certain acquisitions or make other fundamental changes. The Company was in compliance with all of the covenants as of December 31, 2017.

Loan and Security Agreement with Solar Capital Ltd.

In May 2018, the Company entered into a Loan and Security Agreement (the Solar Agreement) with Solar Capital Ltd. (Solar) and certain other lenders thereunder (together with Solar, the Lenders), and Solar, as the Collateral Agent. The Solar Agreement consists of a four-year term loan for an aggregate principal amount of $20,000 (the Borrowings), for working capital, to fund the Company's general business requirements and to repay indebtedness of the Company under the Oxford Agreement. The Company used $10,085 of the loan proceeds to repay the outstanding principal of $8,667, a final payment fee of $1,300 plus accrued interest and prepayment fees of $118 under the Oxford Agreement. The Borrowings under the Solar Agreement bear interest through maturity at a rate equal to the U.S. Dollar LIBOR rate plus 7.95% per annum (the Interest Rate). The outstanding balance on the loan was $20,000 and accrued interest totaled $178 as of December 31, 2018. The Interest Rate was 10.3% at December 31, 2018.

Pursuant to the terms of the Solar Agreement, the Company shall make interest only payments until December 1, 2019 (the Interest Only Period). The Interest Only Period may be extended up to three additional months, if the Company achieves certain revenue and capital fundraising thresholds. Following cessation of the Interest Only Period, the Company shall make equal monthly payments on the outstanding principal balance of the Borrowings and any unpaid and accrued interest such that the Borrowings shall be fully repaid on May 1, 2022.

In addition, pursuant to the Solar Agreement, the Company issued the Lenders warrants (the Warrants) to purchase an aggregate of 161,725 shares of the Company's common stock, $0.0001 par value per share, at an exercise price of $3.71 per share. The Warrants were immediately exercisable upon issuance, and excluding certain mergers or acquisitions, will expire on the ten-year anniversary of the date of issuance. The fair value of the Warrants issued was determined to be $404 using a Black-Scholes valuation model with the following assumptions: common stock price at issuance of $3.71 per share; exercise price of $3.71; risk-free interest rate of 2.97% based upon observed risk-free interest rates; expected volatility of 55.50% based on the Company's implied volatility; expected term of ten years, which is the contractual life of the Warrants; and a dividend yield of 0%. The fair value of the Warrants was recorded as a debt discount within notes payable and an increase to additional paid-in capital on the Company's balance sheet. The debt discount is being amortized as interest expense over the term of the Solar Agreement, using the effective interest method.

The third-party transaction costs (not paid directly to the lenders) related to the debt of $404are accounted for as a debt discount and classified within notes payable on the Company's balance sheet and amortized as interest expense over the term of the loan using the effective interest method. Unamortized debt discounts related to the Oxford Agreement and all fees paid directly to Solar and Oxford totaling $505 in connection with the debt financing in May 2018 were written off to "Other income (expense), net" in the consolidated statements of operations.

The obligations under the Solar Agreement are secured by a lien on substantially all the Company's property. The Solar Agreement contains certain affirmative covenants, negative covenants and events of default, including, covenants and restrictions that among other things, require the Company and its subsidiary to satisfy certain financial covenants including covenants requiring the Company to satisfy certain revenue and liquidity thresholds, and restricts the ability of the Company and its subsidiary's ability to, incur liens, incur additional indebtedness, make loans and investments, engage in mergers and acquisitions, engage in asset sales or sale and leaseback transactions, and declare dividends or redeem or repurchase capital stock. A failure to comply with these covenants could permit the Lenders under the Solar Agreement to declare the Borrowings, together with accrued but unpaid interest and certain Prepayment Fees, to be immediately due and payable. On November 2, 2018, the Solar Agreement was amended to modify the compliance requirement for certain revenue and liquidity threshold. As part of this amendment, the Company paid a fee of $50 to the Lenders and cancelled 161,725 Warrants (originally issued in May 2018, as mentioned above) and issued 161,725 new warrants of the Company's common stock, $0.0001 par value per share, at an exercise price of $1.76 per share. The Warrants were immediately exercisable upon issuance, and excluding certain mergers or acquisitions, will expire on the nine and a half year' anniversary of the date of issuance. The fair value of the warrants issued, after taking into account the amendment on November 2, 2018, was determined to be $466 using a Black-Scholes valuation model with the following assumptions: common stock price at issuance of $1.96 per share, exercise price of $1.76; risk-free interest rate of 3.22% based upon observed risk-free interest rates, expected volatility of 59.70% based on the Company's implied volatility; expected term of ten years, which is the contractual life of the Warrants, and a dividend yield of 0%. The fair value of the Warrants was recorded as a debt discount within notes payable and an increase to additional paid-in capital on the Company's balance sheet. As of December 31, 2018, the Company was in compliance with all covenants under the Solar Agreement, as amended.

The Company is also required to make mandatory prepayments of the Borrowings, subject to specified exceptions, upon defaulting on any payments of principal or interest on the Borrowings, the occurrence of certain specified defaults of the covenants in the Solar Agreement, the occurrence of a material adverse change in the business, operations or conditions of the Company and specified other events (each, an Event of Default). Upon the occurrence and continuation of an Event of Default, the Borrowings shall accrue at the Interest Rate plus 4.0%.

If all or any of the Borrowings are prepaid or required to be prepaid under the Solar Agreement, then the Company shall pay, in addition to such prepayment, a prepayment premium (the Prepayment Premium) equal to (i) with respect to any such prepayment paid on or prior to May 1, 2019, 3.0% of the principal amount of the Borrowings being prepaid, (ii) with respect to any prepayments paid after May 1, 2019 but on or prior to May 1, 2020, 2.0% of the principal amount of the Borrowings being prepaid and (iii) with respect to any prepayments paid after May 1, 2020 but on or prior to May 1, 2021, 1.0% of the principal amount of the Borrowings being prepaid. Notwithstanding the foregoing, if the Lenders each participate in a refinancing of the Borrowings, then the Prepayment Premium shall be 0%.

The scheduled principal payments on the outstanding borrowings as of December 31, 2018 are as follows:

	As of December 31, 2018
2019	$ 667
2020	8,000
2021	8,000
2022	4,163
Total	20,830
Less: debt discounts and issuance costs	(1,363)
Less: current portion	(49)
Non-current portion	$ 19,418

For the year ended December 31, 2018 and 2017, the Company made principal repayments of $13,300 and $8,000.

8. COMMON STOCK RESERVED FOR ISSUANCE

The Company is required to reserve and keep available out of its authorized but unissued shares of common stock a number of shares sufficient to affect the conversion of all outstanding shares of convertible preferred stock (and preferred stock warrants), plus options granted and available for grant under the incentive plans.

	December 31, 2018	December 31, 2017
Outstanding common stock warrants	272,211	306,456
Outstanding and issued stock options	3,989,432	1,930,752
Shares reserved for future option grants	437,241	271,490
Total common stock reserved for issuance	4,698,884	2,508,698

9. STOCK OPTION PLAN

2017 Plan

The 2017 Equity Incentive Plan (2017 Plan) became effective on October 11, 2017. Under the 2017 Plan, 1,913,831 shares of common stock were initially reserved for the grant of incentive stock options (ISOs), non-statutory stock options (NSOs), stock appreciation rights, restricted stock awards, restricted stock unit awards, and other forms of equity compensation to employees, directors and consultants. In addition, the Company's 2017 Plan provides for the grant of performance cash awards to employees, directors and consultants. Prior to the 2017 Plan, 306,756 shares that had been available for future awards under 2015 Plan (defined below) as of October 11, 2017, were added to the initial reserve available under 2017 Plan, bringing the total number of shares reserved for issuance under the 2017 Plan upon effective date to 2,220,587 shares. The number of shares reserved for issuance under the 2017 Plan will increase automatically on the first day of each fiscal year beginning in 2018 and ending in 2027, equal to the lesser of (i) 4% of the shares of stock outstanding on the last day of the immediately preceding fiscal year or (ii) number of shares of stock as determined by the Company's board of directors.

2005 and 2015 Plan

The Company granted options under 2015 Equity Incentive Plan (the 2015 Plan) and 2005 Stock Option Plan (the 2005 Plan) until October 2017 when they were terminated as to future awards, although they continue to govern the terms of options that remain outstanding under the 2005 Plan and the 2015 Plan, as the case may be. The 2005 Plan provided for the granting of ISOs and NSOs. In 2015, the Company established its 2015 Plan, which superseded and replaced the 2005 Plan. In connection with the Board of Directors approval of the 2017 Plan, all remaining shares available for future award under the 2015 Plan were transferred to the 2017 Plan, and the 2015 Plan was terminated.

The Company recognized stock-based compensation for its employees and non-employees in the accompanying consolidated statements of operations as follows:

	Year Ended December 31,		
	2018	2017	2016
Cost of revenue	$ 19	$ 10	$ 12
Sales and marketing	149	74	85
Research and development	58	101	102
General and administrative	441	280	267
Total stock-based compensation	$ 667	$ 465	$ 466

Stock Options

The fair value of each option is estimated at the date of grant using the Black-Scholes option pricing formula with the following assumptions:

	Year Ended December 31,		
	2018	2017	2016
Expected term (in years)	5.10-6.10	4.95-7.50	5.53–6.11
Risk-free interest rate	2.40-2.96%	1.77-2.13%	1.30–1.84%
Expected volatility	53.72-59.74%	51.62-55.38%	52.71–56.58%
Expected dividend rate	0%	0%	0%

Expected Term—The expected term represents expected term of the Company's identified peer group of publicly-traded companies and will continue to apply this methodology until sufficient historical information regarding its own expected term becomes available.

Volatility—Since the Company does not have a trading history for its common stock, the expected volatility was derived from the historical stock volatilities of comparable peer public companies within its industry that are considered to be comparable to the Company's business over a period equivalent to the expected term of the stock-based awards.

Risk-Free Interest Rate—The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the date of grant for zero-coupon U.S. Treasury notes with maturities approximately equal to the stock-based awards' expected term.

Dividend Rate—The expected dividend is zero as the Company has not paid nor does it anticipate paying any dividends on its common stock in the foreseeable future.

Fair Value of Common Stock—Prior to the closing of the Company's IPO, the fair value of the Company's common stock was determined by the Company's board of directors because there was no public market for the Company's common stock as the Company was a private company. The Company's board of directors determined the fair value of the common stock by considering a number of objective and subjective factors, including having valuations of its common stock performed by an unrelated valuation specialist, valuations of comparable peer public companies, sales of the Company's convertible preferred stock to unrelated third parties, operating and financial performance, the lack of liquidity of the Company's capital stock, and general and industry-specific economic outlook. After the closing of the Company's IPO, the fair value of the Company's common stock is used to estimate the fair value of the stock-based awards at grant date.

The following table summarizes stock option activity under the Company's stock option plan:

	Number of Shares	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding – December 31, 2015	1,410,708	$ 1.90	7.9	$ —
Options granted	1,179,644	1.70		
Options exercised	(20,218)	2.00		
Options cancelled	(737,377)	2.00		
Options expired	(1,000)	0.50		
Outstanding – December 31, 2016	1,831,757	1.80	8.7	$ 14
Options granted	192,420	3.12		
Options exercised	(21,843)	2.01		
Options cancelled	(71,582)	1.81		
Outstanding – December 31, 2017	1,930,752	1.90	7.9	$ 5,322
Options granted	2,551,707	1.98		
Options exercised	(236,730)	1.66		
Options cancelled	(256,297)	2.03		
Outstanding - December 31, 2018	3,989,432	$ 1.95	8.7	$ —
Vested and expected to vest – December 31, 2018	3,531,802	$ 1.96	8.6	$ —
Exercisable – December 31, 2018	1,187,091	$ 1.82	7.2	$ —

The weighted-average grant date fair value of options granted was $1.06, $1.73 and $0.86 per share for years ended December 31, 2018, 2017 and 2016.

The total intrinsic value of options exercised were $417, $1.18 and $0 for years ended December 31, 2018, 2017 and 2016.

Unamortized stock-based compensation was $2,351 as of December 31, 2018, which is expected to be recognized over a weighted-average period of approximately 3.13 years.

Restricted Stock Awards

The Company's Board of Directors appointed Keith Sullivan, a current Board member of the Company, as interim Chief Commercial Officer, effective November 1, 2018, and for a period up to one year. Under the terms of the arrangement, Mr. Sullivan was granted 360,000 restricted stock awards, which shall vest in quarterly installments equal to 25% of the shares starting with the first vest date on January 15, 2019 so long as Mr. Sullivan is providing services. As of December 31, 2018, the Company had $133 of unrecognized compensation expense, net of estimated forfeitures, which it expects to recognize over the next 10 months. The aggregate intrinsic value of the RSAs outstanding was $157.

10. INCOME TAXES

The geographical breakdown of loss before provision for income taxes is as follows:

	Year Ended December 31,		
	2018	2017	2016
Domestic	$ (28,477)	$ (17,732)	$ (21,696)
Foreign	(202)	(54)	(150)
Net loss before provision for income taxes	$ (28,679)	$ (17,786)	$ (21,846)

The components of the provision for income taxes are as follows:

	Year Ended December 31,		
	2018	2017	2016
Current tax provision:			
Federal	$ —	$ —	$ —
State	9	4	4
Foreign	38	56	16
Total current tax provision	47	60	20
Deferred tax provision (benefit):			
State	—	(4)	(4)
Foreign	—	—	(16)
Total deferred tax provision (benefit)	$ —	$ (4)	$ (20)
Total provision for income taxes	$ 47	$ 56	$ —

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

A valuation allowance is provided when it is more likely than not that the deferred tax assets will not be realized. The Company has established a valuation allowance in the U. S. and Korea to offset net deferred tax assets for all periods presented due to the uncertainty of realizing future tax benefits from net operating loss carryforwards and other deferred tax assets. The valuation allowance increased by $6,156 and decreased by $13,888 for the years ended December 31, 2018 and 2017. The decrease in valuation allowance in 2017 was due to the change in the corporate tax rate from 35% to 21% and the resulting revaluation of the deferred tax assets.

On December 22, 2017, the Tax Cuts and Jobs Act (the "Act") was enacted into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system and a one-time transition tax on the mandatory deemed repatriation of foreign earnings. ASC 740 requires the Company to recognize the effect of the tax law changes in the period of enactment. However, the SEC staff has issued SAB 118 which will allow the Company to record provisional amounts during the measurement period.

In the fourth quarter of 2018, the Company completed its analysis of the impact of U.S. Tax Reform under SAB 118. The amounts originally recorded in the 2017 year-end financial statements were adjusted for the tax rate impact of return to provision adjustments to the Net Operating Loss (“NOL”) carryforward. The tax rates valuing the carryforward changed from 35% to 21%, creating an impact on the ending deferred balances of $21. However, this effect was fully offset by the full valuation allowance, so no additional tax was recognized.

The Company’s effective tax rate substantially differed from the federal statutory tax rate primarily due to the change in the valuation allowance. The reconciliation between income taxes computed at the federal statutory income tax rate and the provision for income taxes is as follows:

	Year Ended December 31,		
	2018	2017	2016
U.S. federal statutory income tax at 21% for 2018 and 34% for 2017 and 2016, respectively	$ (6,022)	$ (6,046)	$ (7,306)
Research tax credits	(112)	(75)	(99)
Stock-based compensation	66	85	102
Adjustment of deferred tax balances following changes in tax rates	—	20,748	—
Other	(41)	303	117
Change in valuation allowance	6,156	(14,955)	7,206
Total current tax provision	47	60	20
Total deferred tax benefit	—	(4)	(20)
Total provision for income taxes	$ 47	$ 56	$ —

The components of the deferred tax assets are as follows:

	December 31,	
	2018	2017
Deferred tax assets:		
Net operating loss carryforwards	$ 42,359	$ 37,173
Research and development credits	3,041	2,823
Accrual and reserves	2,003	1,251
Total deferred tax assets	47,403	41,247
Less: valuation allowance	(47,403)	(41,247)
Total net deferred tax assets	$ —	$ —

As of December 31, 2018, the Company has federal and state NOL carryforwards of approximately $178,393 and $96,232. The use of these NOL carryforwards might be subject to limitation under the rules regarding a change in stock ownership as determined by the IRC and similar state provisions (the "Code"); however, a complete analysis of the limitation of the NOL carryforwards will not be complete until the time the Company projects it will be able to utilize such NOLs. The NOL carryforwards expire between 2022 and 2038, and valuation allowances have been reserved, where necessary. In addition, as of December 31, 2018, the Company also had NOL carryforwards in South Korea of approximately $1,426 which begin to expire in 2025.

The Company also had federal and state research and development credit carryforwards of approximately $1,602 and $1,822, as of December 31, 2018. The federal credit will expire starting in 2025 if not utilized. The state credits have no expiration date.

Utilization of the research and development credit carryforwards may be subject to an annual limitation due to the ownership percentage change limitations provided by the Code. However, the Company has not conducted a formal study to determine the extent of the limitations, which could impact the realizability of these credit carryforwards in future periods. The annual limitations may result in the expiration of the net operating losses and research and development credits before utilization.

The Company has not provided for U.S. income taxes on undistributed earnings of its foreign subsidiaries because it intends to permanently re-invest these earnings outside the U.S. The cumulative amount of such undistributed earnings upon which no U.S. income taxes have been provided was $443 as of December 31, 2018. These earnings have been subject to U.S. federal income tax via the one-time transition tax on previously undistributed foreign earnings or via the newly enacted Global Intangible Low-Taxed Income ("GILTI") provision. If these foreign earnings were to be repatriated in the future, the amount of unrecognized deferred tax liability for state income or foreign withholding taxes on these undistributed earnings is not expected to be significant as of December 31, 2018.

Uncertain Tax Positions

The activity related to the gross amount of unrecognized tax benefits is as follows:

	Year Ended December 31,	
	2018	2017
Balance as of the beginning of the year	$ 1,362	$ 1,283
Increases related to tax positions in prior period	8	5
Increases related to tax positions taken during the current period	97	74
Balance at the end of the year	$ 1,467	$ 1,362

These amounts are related to certain deferred tax assets with a corresponding valuation allowance. If recognized, the impact on the Company's effective tax rate would not be material due to the full valuation allowance. Management believes that there will not be any significant changes in the Company's unrecognized tax benefits in the next twelve-months.

The Company recognizes interest and penalties related to unrecognized tax benefits in the provision for income taxes in the accompanying consolidated statement of operations. Accrued interest and penalties, if applicable, are included in accrued liabilities in the consolidated balance sheet. For the years ended December 31, 2018, 2017 and 2016, the Company did not recognize any accrued interest and penalties.

The Company files income tax returns in the United States and in various state jurisdictions with varying statutes of limitations. Tax years 2002 through 2018 remain open to examination by the United States and various state jurisdictions. The Company is not currently under examination by the Internal Revenue Service or any other jurisdiction for any year.

11. SEGMENT AND GEOGRAPHIC INFORMATION

Operating segments are defined as components of an entity for which separate financial information is available and that is regularly reviewed by the Chief Operating Decision Maker (CODM) in deciding how to allocate resources to an individual segment and in assessing performance. The Company's CODM is its Chief Executive Officer. The Company has determined it operates in a single operating segment and has one reportable segment, as the CODM reviews financial information presented on a consolidated basis for purposes of making operating decisions, allocating resources, and evaluating financial performance. The Company does not assess the performance of individual product line on measures of profit or loss, or asset-based metrics. Therefore, the information below is presented only for revenues by geography.

Revenue by geographic location, which is based on the product shipped to location, is summarized as follows:

	Year Ended December 31,		
	2018	2017	2016
United States	$ 13,132	$ 8,919	$ 6,736
Europe and Middle East	3,504	5,784	3,112
Asia Pacific	4,007	4,353	3,552
Rest of World	1,313	2,241	2,200
Total revenue	$ 21,956	$ 21,297	$ 15,600

As of December 31, 2018, and 2017, all long-term assets were located within the United States.

12. SELECTED QUARTERLY FINANCIAL DATA

The following tables present certain selected unaudited consolidated quarterly financial information for each of the eight quarters ended December 31, 2018. This consolidated quarterly information has been prepared on the same basis as the consolidated financial statements and includes all adjustments necessary to state fairly the information for the periods presented. The selected consolidated quarterly financial results from operations for the years ended December 31, 2018 and 2017 are set forth therein. Net loss per share for all periods presented has been retroactively adjusted to reflect the 1-for-10 reverse stock split effected on September 15, 2017.

	Fiscal 2018 Quarter Ended,			
	March 31, 2018 Unaudited	June 30, 2018 Unaudited	September 30, 2018 Unaudited	December 31, 2018 Unaudited
Revenue, net	$ 5,005	$ 5,475	$ 4,818	$ 6,658
Gross profit	$ 1,820	$ 2,961	$ 2,155	$ 2,570
Net loss	$ (7,431)	$ (6,244)	$ (7,070)	$ (7,981)
Basic and diluted net loss per share	$ (0.26)	$ (0.21)	$ (0.20)	$ (0.20)

	Fiscal 2017 Quarter Ended,			
	March 31, 2017 Unaudited	June 30, 2017 Unaudited	September 30, 2017 Unaudited	December 31, 2017 Unaudited
Revenue, net	$ 5,475	$ 5,789	$ 4,177	$ 5,856
Gross profit	$ 2,383	$ 2,302	$ 1,703	$ 2,759
Net loss	$ (5,175)	$ (5,007)	$ (6,596)	$ (1,064)
Basic and diluted net loss per share	$ (3.20)	$ (3.09)	$ (4.07)	$ (0.04)

13. RELATED PARTY TRANSACTIONS

During the year ended December 31, 2018, the Company did not engage in any related party transactions. During the year ended December 31, 2017, the Company had engaged in a commercial transaction with a then-member of the Company's board of directors. The aggregate revenue for this transaction was $83 for the year ended December 31, 2017. There were no accounts receivable due from this then-member of the board of directors as of December 31, 2017. In January 2017, that member of the Company's board of directors resigned.

14. SUBSEQUENT EVENT (unaudited)

Amendment to Solar Loan

On February 13, 2019, the Company entered into a Third Amendment to the Loan and Security Agreement (the "Third Amendment"), which amended the Solar Agreement with the Lenders. Pursuant to the terms of the Third Amendment, the Solar Agreement was amended to modify the compliance requirement for certain liquidity thresholds to provide the Company with additional flexibility. As part of the Third Amendment, the Final Fee (as defined in the Solar Agreement) that is payable to the Lenders upon prepayment, default and maturity of the Solar Agreement, was amended and increased to $960. In addition, the Solar Agreement was amended to include certain additional changes to covenants covering certain operational milestones.

Issuance of Convertible Promissory Notes

On February 28, 2019, the Company entered into a Note Purchase Agreement pursuant to which the Company raised $5.0 million through the issuance of two unsecured subordinated convertible promissory notes (the "Notes") to Frederic Moll, M.D., one of the Company's directors, and Interwest Partners IX, LP, one of the Company's stockholders affiliated with Gil Kliman, M.D., one of the Company's directors (together, the "Investors").

The maturity date of the Notes is August 28, 2020 (the "Maturity Date"). The Notes bear interest on the unpaid principal amount at a rate of eight percent (8.0%) per annum from the date of issuance. The Notes are unsecured and subordinate in priority to the Company's existing obligations under the Solar Agreement, as amended.

All of the outstanding principal and unpaid accrued interest on the Notes will automatically be converted into shares of the same class and series of capital stock of the Company issued to other investors in any Qualified Financing to occur after the date of the Notes, at a conversion price equal to the price per share of the securities of the Company sold in such Qualified Financing. A "Qualified Financing" means the first issuance or series of related issuances of capital stock of the Company after the date of the Notes with gross proceeds to the Company of at least $20.0 million. Upon the occurrence of certain events of default or the Maturity Date, the Notes require the Company to repay the principal amount of the Notes and any unpaid accrued interest.

Proposed Merger with Venus

On March 15, 2019, the Company entered into the Merger Agreement with Venus to combine the companies in an all-stock transaction. The Merger Agreement and the Merger (as defined below) have been approved by the Company's board of directors and the board of directors of Venus. The transaction is expected to close in the third quarter of 2019, subject to customary closing conditions, including the approval by stockholders of the Company and Venus and receipt of all necessary regulatory approvals.

The Merger Agreement provides that, upon the terms and subject to the satisfaction or waiver of the conditions set forth therein, Merger Sub will be merged with and into Venus, with Venus continuing as the surviving corporation and a direct wholly-owned subsidiary of the Company.

Under the terms of the transaction, the Company and Venus shareholders will own approximately 15% and 85% of the combined company, respectively, on a fully diluted basis, without giving effect to the shares issued in the proposed equity financing that is expected to close immediately after the merger. EW Healthcare Partners has committed to lead a $21.0 million equity investment, priced at $0.825 per share (subject to adjustment for stock splits), in the combined company's common stock contingent on the closing of the merger transaction. Additional investors committed to participating in the proposed equity financing include HealthQuest Capital, Madryn Asset Management, Longitude Capital Management, Fred Moll and Aperture Venture Partners. In addition to the equity financing, Fred Moll and InterWest Partners previously funded a $5.0 million convertible note into the Company, which will convert into the combined company's common stock at the closing of the equity financing led by EW Healthcare, at a price of $0.825 per share (subject to adjustment for stock splits).

Concurrent with closing of the transaction, the Company anticipates effecting a reverse stock split. The Company expects to have approximately 283.2 million shares outstanding (or approximately 18.9 million shares outstanding after giving effect to an anticipated 1-for-15 reverse stock split) and after taking into account shares issued to the former Venus Concept shareholders in the merger, shares issued as part of the $21.0 million equity investment, and shares issued upon conversion of the $5.0 million convertible notes issued by the Company in February, 2019, as discussed above.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of disclosure controls and procedures.

As of December 31, 2018, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, performed an evaluation of the effectiveness of our "disclosure controls and procedures" which are defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act), as controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to the company's management, including its Chief Executive Officer and the Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at December 31, 2018.

Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objective and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control system is designed to provide reasonable assurance regarding the preparation and fair presentation of financial statements for external purposes in accordance with generally accepted accounting principles. All internal control systems, no matter how well designed, have inherent limitations and can provide only reasonable assurance that the objectives of the internal control system are met.

We have performed an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of our internal control over financial reporting, based on criteria established by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in its 2013 Internal Control-Integrated Framework. Based on that evaluation, our management, including our Chief Executive Officer and Chief Financial Officer, concluded that our internal control over financial reporting was effective as of December 31, 2018.

As an emerging growth company, our independent registered accounting firm is not required to issue an attestation report on our internal control over financial reporting.

Changes in internal control over financial reporting.

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item is incorporated herein by reference to our Proxy Statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 11. Executive Compensation.

The information required by this item is incorporated herein by reference to our Proxy Statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this item is incorporated herein by reference to our Proxy Statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this item is incorporated herein by reference to our Proxy Statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 14. Principal Accounting Fees and Services.

The information required by this item is incorporated herein by reference to our Proxy Statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of the fiscal year covered by this Annual Report on Form 10-K.

PART IV

Item 15. Exhibits, Consolidated Financial Statement Schedules.

(a) The following documents are filed as part of this report:

1. Consolidated Financial Statements

See Index to Consolidated Financial Statements at Item 8 herein.

2. Consolidated Financial Statement Schedules

No consolidated financial statement schedules are provided because the information called for is not required or is shown either in the consolidated financial statements or notes thereto.

3. Exhibits

See the Exhibit Index immediately preceding the signature page of this Annual Report on Form 10-K.

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Form	Date	Number	Filed Herewith
3.1	Amended and Restated Certificate of Incorporation of Restoration Robotics, Inc.	8-K	10-17-17	3.1	
3.4	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	Secured Promissory Note, dated May 19, 2015, by and between Oxford Finance LLC and the Company to purchase 276,224 shares of Series C Preferred Stock.	S-1	9-1-17	10.14	
4.6	Secured Promissory Note, dated May 19, 2015, by and between Oxford Finance LLC and the Company to purchase 220,979 shares of Series C Preferred Stock.	S-1	9-1-17	10.15	
4.7	Secured Promissory Note, dated May 19, 2015, by and between Oxford Finance LLC and the Company to purchase 220,979 shares of Series C Preferred Stock.	S-1	9-1-17	10.16	
4.8	Secured Promissory Note, dated May 19, 2015, by and between Oxford Finance LLC and the Company to purchase 220,979 shares of Series C Preferred Stock.	S-1	9-1-17	10.17	
4.9	Secured Promissory Note, dated May 19, 2015, by and between Oxford Finance LLC and the Company to purchase 165,734 shares of Series C Preferred Stock.	S-1	9-1-17	10.18	
4.10	Form of New Common Stock Warrant issued to the Solar Lenders, dated November 2, 2018.				X
4.11	Note Purchase Agreement, dated February 28, 2019, by and between the Company and the Note Investors named therein				X
4.12	Convertible Promissory Note, dated February 28, 2019, by and between the Company and Frederic Moll				X
4.13	Convertible Promissory Note, dated February 28, 2019, by and between the Company and Interwest Partners IX, LP				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	

Exhibit Number	Exhibit Description	Form	Date	Number	Filed Herewith
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	
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	99.7	
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	

Exhibit Number	Exhibit Description	Form	Date	Number	Filed Herewith
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 and Solar Capital Ltd.	8-K	5-10-18	10.1	
10.30†	First Amendment to the Loan and Security Agreement, dated June 29, 2018, by and between the Company and Solar Capital Ltd.				X
10.31†	Second Amendment to the Loan and Security Agreement, dated November 2, 2018, by and between the Company and Solar Capital Ltd.				X
10.32†	Third Amendment to the Loan and Security Agreement, dated February 13, 2019, by and between the Company and Solar Capital Ltd.				X
21.1	List of Subsidiaries.				X
23.1	Consent of Grant Thornton LLP, independent registered public accounting firm.				X
24.1	Power of Attorney. Reference is made to the signature page of this Annual Report on Form 10-K.				
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
101.INS	XBRL Instance Document				X
101.SCH	XBRL Taxonomy Extension Schema Document				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				X

Exhibit Number	Exhibit Description	Form	Date	Number	Filed Herewith
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				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.

* The certifications attached as Exhibit 32.1 and Exhibit 32.2 that accompany this Annual Report on Form 10-K are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Restoration Robotics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, irrespective of any general incorporation language contained in such filing.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

Restoration Robotics, Inc.

Date: March 20, 2019

By: /s/ Ryan Rhodes

Ryan Rhodes
President, Chief Executive Officer and Director

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints each of Ryan Rhodes and Mark Hair his or her true and lawful attorney-in-fact and agent, with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney as of the date indicated opposite his/her name.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Ryan Rhodes Ryan Rhodes	President, Chief Executive Officer and Director (Principal Executive Officer)	March 20, 2019
/s/ Mark Hair Mark Hair	Chief Financial Officer (Principal Financial and Accounting Officer)	March 20, 2019
/s/ Frederic Moll, M.D Frederic Moll, M.D.	Chairman and Director	March 20, 2019
/s/ Jeffrey Bird, M.D., Ph.D. Jeffrey Bird, M.D., Ph.D.	Director	March 20, 2019
/s/ Gil Kliman, M.D. Gil Kliman, M.D.	Director	March 20, 2019
/s/ Keith Sullivan Keith Sullivan	Director	March 20, 2019
/s/ Craig Taylor Craig Taylor	Director	March 20, 2019
/s/ Shelley Thunen Shelley Thunen	Director	March 20, 2019

Exhibit 4.10

Execution Version

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN SECTIONS 5.3 AND 5.4 BELOW, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE COMPANY, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

FORM OF WARRANT TO PURCHASE STOCK

Company:	Restoration Robotics, Inc.
Number of Shares:	
Type/Series of Stock:	Common Stock, with par value of $0.0001 per share
Warrant Price:	
Issue Date:	
Expiration Date:	
Credit Facility:	This Warrant to Purchase Stock ("Warrant") is issued in connection with that certain Loan and Security Agreement of May 10, 2018, between the Holder and the Company (as may be amended from time to time, the "Loan Agreement").

THIS WARRANT CERTIFIES THAT, for good and valuable consideration, Solar Capital Ltd., a Maryland corporation with an office located at 500 Park Avenue, 3rd Floor, New York, NY 10022 (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "Holder") is entitled to purchase the number of fully paid and non-assessable - (the "Shares") of the above-stated Type/Series of Stock (the "Class") of the above-named company (the "Company") at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to the Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by the Company), or other form of payment acceptable to the Company for the aggregate Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, the Company shall issue to the Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to the Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to the Company in payment of the aggregate Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3 Fair Market Value. If the Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "Trading Market"), the fair market value of a Share shall be the volume-weighted average closing price of a share of common stock reported for the ten (10) Business Days immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company. If the Company's common stock is not traded in a Trading Market, the Board of Directors of the Company shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Promptly after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, the Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to the Company or, in the case of mutilation, on surrender of this Warrant to the Company for cancellation, the Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6 Treatment of Warrant Upon Acquisition of Company.

(a) Acquisition. For the purpose of this Warrant, "Acquisition" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of the Company (ii) any merger or consolidation of the Company into or with another person or entity (other than a merger or consolidation effected exclusively to change the Company's domicile), or any other corporate reorganization, in which the stockholders of the Company in their capacity as such immediately prior to such merger, consolidation or reorganization, own less than a majority of the Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation or reorganization; or (iii) any sale or other transfer by the stockholders of the Company of shares representing at least a majority of the Company's then-total outstanding combined voting power.

(b) Treatment of Warrant at Acquisition. In the event of an Acquisition in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "Cash/Public Acquisition"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Acquisition.

(c) The Company shall provide Holder with written notice of its request relating to the Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice), which is to be delivered to Holder not less than five (5) Business Days prior to the closing of the proposed Cash/Public Acquisition. Notwithstanding the foregoing, if, immediately prior to the Cash/Public Acquisition, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall promptly notify the Holder of the number of Shares (or such other securities) issued upon such exercise to the Holder.

(d) Upon the closing of any Acquisition other than a Cash/Public Acquisition defined above, the acquiring, surviving or successor entity shall assume the obligations of this Warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant.

(e) As used in this Warrant, "Marketable Securities" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded in Trading Market, and (iii) Holder would be able to publicly re-sell, within six (6) months following the closing of such Acquisition, all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise this Warrant in full on or prior to the closing of such Acquisition.

1.7 Registration Rights. As to any Shares Holder receives or is entitled to receive upon any exercise or conversion of this Warrant, Holder shall be entitled to such demand registration rights and such piggyback registration rights as are commensurate with such registration rights are set forth in that certain Investors' Rights Agreement, dated as of February 7, 2013 by and among the Company and certain of the Company's stockholders, as the same may be amended from time to time, or similar agreement (the "Investors' Rights Agreement").

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend or distribution on the outstanding shares of the Class payable in common stock or other securities or property (other than cash), then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of securities and property which Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the Company subdivides

the outstanding shares of the Class by reclassification or otherwise into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased, and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations substitutions, replacements or other similar events.

2.3 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of the Warrant, the Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (i) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (ii) the then-effective Warrant Price.

2.4 Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, the Company, at the Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. The Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

SECTION 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is equal to the lesser of (a) the ten (10) day trailing average of the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date, and (b) the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date.

(b) All Shares which may be issued upon the exercise of this Warrant, shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. The Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of the Class, common stock and other securities as will be sufficient to permit the exercise in full of this Warrant.

3.2 Notice of Certain Events. If the Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(b) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class; or

(c) effect an Acquisition or to liquidate, dissolve or wind up. then, in connection with each such event, the Company shall give Holder:

(1) at least five (5) Business Days prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (a) and (b) above; and

(2) in the case of the matters referred to in (c) and (d) above at least five (5) Business Days prior written notice of the date when the same will take place (and specifying the date on which the holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event).

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if the Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

SECTION 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER.

The Holder represents and warrants to the Company as follows:

4.1 Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 Reserved.

4.7 No Voting Rights. Holder, as a Holder of this Warrant, will not have any voting rights until the exercise of this Warrant.

SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Pacific time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise upon Expiration. In the event that, upon the Expiration Date, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares shall be imprinted with a legend in substantially the following form:

THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO SOLAR CAPITAL LTD. DATED NOVEMBER 2, 2018, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company). The Company shall not require Holder to provide an opinion of counsel if the transfer is to any entity under common management control with Holder, or any affiliate of Holder, provided that any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Act. Additionally, the Company shall also not require an opinion of counsel if there is no material question as to the availability of Rule 144 promulgated under the Act.

5.4 Transfer Procedure. After receipt by Holder of the executed Warrant, Holder may transfer all of this Warrant to any entity under common management control with Holder, or an affiliate thereof or successor thereto (the "Subsequent Holder"), by execution of an Assignment substantially in the form of Appendix 2. Subject to the provisions of Section 5.3 and upon providing the Company with written notice, Subsequent Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant to any transferee, provided, however, in connection with any such transfer, the Subsequent Holder will give the Company notice of the portion of the Warrant being transferred with the name, address and taxpayer identification number of the transferee and Holder will surrender this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable); and provided further, that any subsequent transferee shall agree in writing with the Company to be bound by all of the terms and conditions of this Warrant.

5.5 Notices. All notices and other communications hereunder from the Company to the Holder, or vice versa, shall be deemed delivered and effective (i) when given personally, (ii) on the third (3rd) Business Day after being mailed by first-class registered or certified mail, postage prepaid, (iii) upon actual receipt if given by facsimile or electronic mail and such receipt is confirmed in writing by the recipient, or (iv) on the first Business Day following delivery to a reliable overnight courier service, courier fee prepaid, in any case at such address as may have been furnished to the Company or Holder, as the case may be, in writing by the Company or such Holder from time to time in accordance with the provisions of this Section 5.5. All notices to Holder shall be addressed as follows until the Company receives notice of a change of address in connection with a transfer or otherwise:

Solar Capital Ltd.
500 Park Avenue, 3rd Floor New York, NY 10022
Attn: Anthony Storino Telephone: (646) 308 - 8730
Fax: (212) 993-1698
Email: storino@solarcapltd.com
With a copy (which shall not constitute notice) to:

Baker Botts L.L.P.
101 California Street, Suite 3600 San Francisco, CA 94111
Attn: Jeff Kayes Fax: (415) 291-6331
Email: jeff.kayes@bakerbotts.com

Notice to the Company shall be addressed as follows until Holder receives notice of a change in address:

Restoration Robotics, Inc. 128 Baytech Drive
San Jose, CA
Attn: Chief Financial Officer
Email: markh@restorationrobotics.com

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

Latham & Watkins LLP 140 Scott Drive
Menlo Park, CA 94025 Attn: Brian J. Cuneo
Email: Brian.Cuneo@lw.com

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.8 Counterparts; Facsimile/Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically or by facsimile shall be binding to the same extent as an original signature page with regards to any agreement subject to the terms hereof or any amendment thereto.

5.9 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

5.10 Headings. The headings in this Warrant are for purposes of reference only and shall not limit or otherwise affect the meaning of any provision of this Warrant.

5.11 Business Days. "Business Day" is any day that is not a Saturday, Sunday or a day on which banks in New York, New York are closed.

[*Signature page follows*]

IN WITNESS WHE REOF, the parties have caused this Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

RESTORATION ROBOTICS, INC.

By: _____
Name: _____
Title: _____

"HOLDER"

SOLAR CAPITAL LTD.

By: _____
Name: _____
Title: _____

Active 389547745

APPENDIX 1

NOTICE OF EXERCISE

1. The undersigned Holder hereby exercises its right purchase _ shares of the Common/ Stock of Restoration Robotics, Inc. (the "Company") in accordance with the attached Warrant To Purchase Stock, and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ] check in the amount of $_____payable to order of the Company enclosed herewith
[ ] Wire transfer of immediately available funds to the Company's account below:
[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant
[ ] Other [Describe]

2. Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____
_____
(Address)

3. By its execution below and for the benefit of the Company, Holder hereby restates each of the representations and warranties in Section 4 of the Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____

By: _____
Name: _____
Title: _____
(Date): _____

APPENDIX 2
ASSIGNMENT

For value received, **SOLAR CAPITAL LTD.**, hereby sells, assigns and transfers unto:

Name: [_____]
Address: [_____]
[_____]
Tax ID: [_____]

that certain Warrant to Purchase Stock issued by Restoration Robotics, Inc., a Delaware corporation (the "Company"), on November 2, 2018 (the "Warrant") together with all rights, title and interest therein.

SOLAR CAPITAL LTD.

By: _____

Name: _____

Title: _____

By its execution below, and for the benefit of the Company, [_____] agrees to all other provisions of the Warrant as of the date hereof.

[_____]

By: _____

Name: _____

Title: _____

Exhibit 4.11

RESTORATION ROBOTICS, INC.
NOTE PURCHASE AGREEMENT

February 28, 2019

TABLE OF CONTENTS

NOTE PURCHASE AGREEMENT

THIS NOTE PURCHASE AGREEMENT (this "Agreement") is made as of February 28, 2019, by and among **RESTORATION ROBOTICS, INC.,** a Delaware corporation (the "Company"), and the lenders (each individually a "Lender," and collectively the "Lenders") named on the Schedule of Lenders attached hereto (the "Schedule of Lenders"). Capitalized terms not otherwise defined in this Agreement shall have the meanings ascribed to them in Section 1 below.

In consideration of the mutual promises and covenants contained in this Agreement, the parties hereto agree as follows:

1. Definitions.

(a) "Act" means the Securities Act of 1933, as amended.

(b) "Common Stock" shall mean the Company's common stock, $0.0001 par value per share.

(c) "Financing Shares" shall mean, collectively, the shares of capital stock issued upon conversion or cancellation of the Notes.

(d) "Notes" shall mean the one or more Unsecured Subordinated Convertible Promissory Notes issued to the Lenders pursuant to Section 2 below, the form of which is attached hereto as Exhibit A.

(e) "Qualified Financing" shall have the meaning given to such term in the Notes.

(f) "Requisite Lenders" shall mean Lenders holding at least 66% of the aggregate principal amount of the Notes then outstanding.

2. Sale and Issuance of Notes.

2.1 Closing.

(a) The closing of the sale and purchase of Notes under this Agreement (the "Closing") shall take place remotely on February 28, 2019, unless another date, time and place is agreed to in writing by the Company and the Requisite Lenders (such date, the "Closing Date").

(b) At the Closing, each Lender agrees to purchase, and the Company agrees to sell and issue to such Lender, a Note in the principal amount set forth opposite such Lender's name in the Schedule of Lenders attached hereto under the heading "*Principal Amount of Note at Closing*".

(c) The obligation of each Lender to purchase a Note at the Closing is subject to the Company's delivery to such Lender, at or before the Closing, of a Note executed by the Company representing the applicable principal amount.

3. Terms and Conditions of Notes. Each Note shall be convertible into shares of the Company's capital stock as expressly set forth in such Note and shall contain all other rights and restrictions, and be subject to all other terms and conditions, set forth in the form of Note attached hereto as Exhibit A.

4. Representations and Warranties of the Company. The Company hereby represents and warrants to each Lender that the following representations are true and complete as of the date hereof and as of the date of each Closing:

4.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing, and in good standing under the laws of the State of Delaware and has all requisite corporate power and authority to carry on its business as now conducted. The Company is duly qualified to transact business and is in good standing in each jurisdiction in which the failure to so qualify would have a material adverse effect on its business or properties.

4.2 Authorization. Except for the authorization and issuance of the shares issuable in connection with the Qualified Financing, all corporate action has been taken on the part of the Company, its officers, directors and stockholders necessary for the authorization, execution and delivery of this Agreement and the Notes. Except as may be limited by applicable bankruptcy, insolvency, reorganization, or similar laws relating to or affecting the enforcement of creditors' rights, the Company has taken all corporate action required to make all of the obligations of the Company reflected in the provisions of this Agreement and the Notes the valid and enforceable obligations they purport to be.

4.3 Compliance with Other Instruments. Neither the authorization, execution and delivery of this Agreement, nor the issuance and delivery of the Notes, will constitute or result in a material default or violation of any law or regulation applicable to the Company or any material term or provision of the Company's Amended and Restated Certificate of Incorporation or its current bylaws or any material agreement or instrument by which it is bound or to which its properties or assets are subject.

4.4 Governmental Consents and Filings. Assuming the accuracy of the representations made by the Purchasers in Section 5 of this Agreement, no consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of the Company in connection with the consummation of the transactions contemplated by this Agreement, except for any required filings pursuant to applicable state or federal securities laws, which have been made or will be made in a timely manner.

5. Representations and Warranties of the Lenders. Each Lender hereby represents and warrants, severally and not jointly, to the Company that the following representations are true and complete as of the date hereof and as of the date of each Closing:

5.1 Authorization. This Agreement constitutes such Lender's valid and legally binding obligation, enforceable in accordance with its terms, except as may be limited by (i) applicable bankruptcy, insolvency, reorganization, or similar laws relating to or affecting the enforcement of creditors' rights and (ii) laws relating to the availability of specific performance, injunctive relief or other equitable remedies. Each Lender represents that it has full power and authority to enter into this Agreement.

5.2 Purchase Entirely for Own Account. Each Lender acknowledges that this Agreement is made with Lender in reliance upon such Lender's representation to the Company that the Notes, the Warrants and the Financing Shares (collectively, the "Securities") will be acquired for investment for Lender's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that such Lender has no present intention of selling, granting any participation in, or otherwise distributing the same. By executing this Agreement, each Lender further represents that such Lender does not have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participation to such person or to any third person, with respect to the Securities.

5.3 Disclosure of Information. Each Lender acknowledges that it has received all the information it considers necessary or appropriate for deciding whether to acquire the Securities. Each Lender further represents that it has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of the Securities.

5.4 Investment Experience. Each Lender is an investor in securities of companies in the development stage and acknowledges that it is able to fend for itself, can bear the economic risk of its investment and has such knowledge and experience in financial or business matters that it is capable of evaluating the merits and risks of the investment in the Securities. If other than an individual, each Lender also represents it has not been organized solely for the purpose of acquiring the Securities.

5.5 Accredited Investor. Each Lender is an "accredited investor" within the meaning of Rule 501 of Regulation D of the Securities and Exchange Commission (the "SEC"), as presently in effect.

5.6 Restricted Securities. Each Lender understands that the Securities are characterized as "restricted securities" under the federal securities laws inasmuch as they are being acquired from the Company in a transaction not involving a public offering and that under such laws and applicable regulations such securities may be resold without registration under the Act only in certain limited circumstances. Each Lender represents that it is familiar with SEC Rule 144, as presently in effect, and understands the resale limitations imposed thereby and by the Act.

5.7 Legends. It is understood that the Securities may bear the following legend:

"THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED, HYPOTHECATED, OR OTHERWISE TRANSFERRED EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT REGISTRATION IS NOT REQUIRED UNDER SUCH ACT OR UNLESS SOLD PURSUANT TO RULE 144 UNDER SUCH ACT."

6. Miscellaneous.

6.1 Successors and Assigns. Except as otherwise provided herein, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

6.2 Governing Law. This Agreement and any controversy arising out of or relating to this Agreement shall be governed by, and construed in accordance with, the laws of the State of New York (without regard to conflict of law principles that would result in the application of any law other than the law of the State of New York).

6.3 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices. All notices and other communications given or made pursuant hereto shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, if not so confirmed, then on the next business day, (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the respective parties at the following addresses (or at such other addresses as shall be specified by notice given in accordance with this Section 6.5):

If to the Company:

RESTORATION ROBOTICS, INC.
128 Baytech Drive
San Jose, California 95134 Attention: Chief
Financial Officer
With a copy to (which shall not constitute notice): Latham &
Watkins LLP
140 Scott Dr.
Menlo Park, California 94025
Attention: Brian J. Cuneo, Esq. If to
Lenders:
At the respective addresses shown on the signature pages hereto.

6.6 Finder's Fee. Each party represents that it neither is nor will be obligated for any finder's fee or commission in connection with the transactions contemplated by this Agreement. Lender agrees to indemnify and to hold harmless the Company from any liability for any commission or compensation in the nature of a finder's fee (and the costs and expenses of defending against such liability or asserted liability) for which Lender or any of its officers, partners, employees or representatives is responsible. The Company agrees to indemnify and hold harmless each Lender from any liability for any commission or compensation in the nature of a finder's fee (and the costs and expenses of defending against such liability or asserted liability) for which the Company or any of its officers, employees or representatives is responsible.

6.7 Expenses. If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other relief to which such party may be entitled. The Company and the Lenders will bear their own legal and other expenses with respect to the transactions contemplated by this Agreement.

6.8 Entire Agreement; Amendments and Waivers. This Agreement and the Notes and the other documents delivered pursuant hereto constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and thereof. The Company's agreements with each of the Lenders are separate agreements, and the sales of the Notes to each of the Lenders are separate sales. Nonetheless, any term of this Agreement, the Notes may be amended and the observance of any term of this Agreement, the Notes may be waived (either generally or in a particular instance and either retroactively or prospectively), with the written consent of the Company and the Requisite Lenders; provided that such amendment affects each Lender in materially the same manner. Any waiver or amendment effected in accordance with this Section shall be binding upon each party to this Agreement and any holder of any Note purchased under this Agreement at the time outstanding and each future holder of all such Notes.

6.9 Effect of Amendment or Waiver. Each Lender acknowledges that by the operation of Section 6.8 hereof, the Requisite Lenders, will have the right and power to diminish or eliminate all rights of such Lender under this Agreement and each Note issued to such Lender.

6.10 Severability. If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement and the balance of the Agreement shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

6.11 Stock Purchase Agreement. Each Lender understands and agrees that the conversion of the Notes into Financing Shares may require such Lender's execution of certain agreements (in form reasonably agreeable to the Lender) relating to the purchase and sale of such securities.

6.12 Exculpation Among Lenders. Each Lender acknowledges that it is not relying upon any person, firm, corporation or stockholder, other than the Company and its officers and directors in their capacities as such, in making its investment or decision to invest in the Company. Each Lender agrees that no other Lender nor the respective controlling persons, officers, directors, partners, agents, stockholders or employees of any other Lender shall be liable for any action heretofore or hereafter taken or omitted to be taken by any of them in connection with the purchase and sale of the Securities.

6.13 Further Assurance. From time to time, the Company shall execute and deliver to the Lenders such additional documents and shall provide such additional information to the Lenders as any Lender may reasonably require to carry out the terms of this Agreement and the Notes and any agreements executed in connection herewith or therewith, or to be informed of the financial and business conditions and prospects of the Company.

6.14 Waiver of Jury Trial. TO THE EXTENT EACH MAY LEGALLY DO SO, EACH PARTY HERETO HEREBY EXPRESSLY WAIVES ANY RIGHT TO TRIAL BY JURY OF ANY CLAIM, DEMAND, ACTION, CAUSE OF ACTION, OR PROCEEDING ARISING UNDER OR WITH RESPECT TO THIS AGREEMENT, OR IN ANY WAY CONNECTED WITH, OR RELATED TO, OR INCIDENTAL TO, THE DEALING OF THE PARTIES HERETO WITH RESPECT TO THIS AGREEMENT, OR THE TRANSACTIONS RELATED THERETO, IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND IRRESPECTIVE OF WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE. TO THE EXTENT EACH MAY LEGALLY DO SO, EACH PARTY HERETO HEREBY AGREES THAT ANY SUCH CLAIM, DEMAND, ACTION, OR PROCEEDING SHALL BE DECIDED BY A COURT TRIAL WITHOUT A JURY AND THAT EITHER PARTY HERETO MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS AGREEMENT WITH ANY COURT AS WRITTEN EVIDENCE OF THE CONSENT OF ANY OTHER PARTY HERETO TO THE WAIVER OF ITS RIGHT TO TRIAL BY JURY.

[Remainder of Page Intentionally Left Blank.]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

RESTORATION ROBOTICS, INC.

By: /s/ Mark Hair
Name: Mark Hair
Title: Chief Financial Officer

Address:

RESTORATION ROBOTICS, INC.
128 Baytech Drive
San Jose, California 95134
Attention: Chief Financial Officer

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

LENDERS:

INTERWEST PARTNERS IX, LP

By: InterWest management Partners IX, LLC
Its: General Partner

By: /S/ Gilbert H. Kliman
Name: Gilbert H., Kliman
Title: Managing Director

FRED MOLL

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

LENDERS:

INTERWEST PARTNERS IX, LP

By: InterWest management Partners IX, LLC
Its: General Partner

By: _____
Name: _____
Title: _____

FRED MOLL: /S/ FRED MOLL

SCHEDULE OF LENDERS

Name of Lender	Principal Amount of Note at First Closing
InterWest Partners IX, LP 2710 Sand Hill Road, Suite 200 Menlo Park, CA 94025 c/o InterWest Attn: Email:	$2,000,000.00
Fred Moll 4000 E. Denny Blaine PLace Seattle, WA 98112 Email: fredmoll@gmail.com	$3,000,000.00
TOTAL	**$5,000,000.00**

Exhibit A

Form of Unsecured Subordinated Promissory Note

NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, THIS NOTE AND THE INDEBTEDNESS EVIDENCED HEREBY AND THE EXERCISE OF ANY RIGHT OR REMEDY IN RESPECT OF SUCH INDEBTEDNESS ARE SUBJECT TO THE PROVISIONS OF THAT CERTAIN SUBORDINATION AGREEMENT, DATED AS OF FEBRUARY 28, 2019 (AS AMENDED, RESTATED, SUPPLEMENTED OR OTHERWISE MODIFIED FROM TIME TO TIME IN ACCORDANCE WITH THE TERMS THEREOF, THE "SUBORDINATION AGREEMENT"), AMONG SOLAR CAPITAL LTD., A MARYLAND CORPORATION AS "SENIOR CREDITOR" DEFINED THEREIN, THE HOLDER AND THE OTHER HOLDERS OF THE NOTES (AS DEFINED BELOW). IN THE EVENT OF ANY CONFLICT BETWEEN THE TERMS OF THE SUBORDINATION AGREEMENT AND THIS NOTE, THE TERMS OF THE SUBORDINATION AGREEMENT SHALL GOVERN AND CONTROL.

THIS NOTE AND ANY SHARES ACQUIRED UPON CONVERSION OF THIS NOTE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT FILED UNDER SUCH ACT OR PURSUANT TO AN OPINION OF COUNSEL SATISFACTORY TO THE MAKER THAT SUCH REGISTRATION IS NOT REQUIRED.

RESTORATION ROBOTICS, INC.
UNSECURED SUBORDINATED CONVERTIBLE PROMISSORY NOTE

$3,000,000.00 February 28, 2019

No. CN-2

FOR VALUE RECEIVED, Restoration Robotics, Inc., a Delaware corporation (the "Maker"), promises to pay to Fred Moll or his assigns (the "Holder") the principal sum of $3,000,000.00, together with interest on the unpaid principal balance of this Note from time to time outstanding at the rate of 8.0% per year until paid in full. This Note is one of a series of Notes issued pursuant to that certain Note Purchase Agreement dated February 28, 2019 among the Maker, the Holder and certain other investors as the same may be amended, restated or otherwise modified from time to time (the "Purchase Agreement"). Capitalized terms used but not defined herein shall have the meaning set forth in the Purchase Agreement.

Subject to the conversion provisions set forth herein, all principal and accrued interest under this Note shall be due and payable on August 28, 2020 (the "Maturity Date") and in no event earlier than such date.

Interest on this Note shall be computed on the basis of a year of 365/366 days for the actual number of days elapsed. All payments by the Maker under this Note shall be in immediately available funds.

Effective upon the closing of a Qualified Financing (as defined below), all of the outstanding principal and interest under this Note will automatically be converted into shares of the same class and series of capital stock of the Maker issued to other investors in the Qualified Financing (the "Qualified Financing Securities") at a conversion price equal to the price per share of Qualified Financing Securities paid by the other investors in the Qualified Financing, with any resulting fraction of a share rounded to the nearest whole share (with 0.5 being rounded up) and on the same terms offered to the other investors in the Qualified Financing. "Qualified Financing" means the first issuance or series of related issuances of capital stock of the Maker (or its successor entity) after the date hereof, with immediately available gross proceeds to the Maker (excluding proceeds from this and any other indebtedness of the Maker that convert into equity in such financing) of at least $20,000,000. The Maker shall notify the Holder in writing of the anticipated occurrence of the Qualified Financing at least five days prior to the closing date of the Qualified Financing.

This Note shall become immediately due and payable without notice or demand (but subject to the conversion rights set forth herein) upon the occurrence at any time of any of the following events of default (individually, an "Event of Default" and collectively, "Events of Default"):

(1) the Maker fails to pay any of the principal, interest or any other amounts payable under this Note when due and payable after the occurrence of the Discharge of the Senior Debt (as defined in the Subordination Agreement);

(2) the Maker files any petition or action for relief under any bankruptcy, reorganization, insolvency or moratorium law or any other law for the relief of, or relating to, debtors, now or hereafter in effect, or seeks the appointment of a custodian, receiver, trustee (or other similar official) of the Maker or all or any substantial portion of the Maker's assets, or makes any assignment for the benefit of creditors or takes any action in furtherance of any of the foregoing, or fails to generally pay its debts as they become due;

(3) an involuntary petition is filed, or any proceeding or case is commenced, against the Maker (unless such proceeding or case is dismissed or discharged within 60 days of the filing or commencement thereof) under any bankruptcy, reorganization, arrangement, insolvency, adjustment of debt, liquidation or moratorium statute now or hereafter in effect, or a custodian, receiver, trustee, assignee for the benefit of creditors (or other similar official) is applied or appointed for the Maker or to take possession, custody or control of any property of the Maker, or an order for relief is entered against the Maker in any of the foregoing;

(4) any of the Maker's indebtedness for borrowed money is accelerated as a result of a default or breach of or under any agreement or instrument evidencing or relating to such indebtedness for borrowed money;

(5) the Maker suspends the operation of the usual business of the Maker; or

(6) the Maker admits in writing its inability to pay its debts as they become due, or makes a general assignment for the benefit of creditors.

Notwithstanding the foregoing, if any of the foregoing shall occur prior to the date upon which the Discharge of the Senior Debt (as defined in the Subordination Agreement) shall have occurred and such event or circumstance is not also an "Event of Default" under the Senior Loan Agreement (as defined below), such event or circumstance shall not be an Event of Default hereunder until the occurrence of the Discharge of the Senior Debt (as defined in the Subordination Agreement).

Upon the occurrence of an Event of Default, the Holder shall have then, or at any time thereafter, all of the rights and remedies afforded creditors generally by the applicable federal laws or the laws of the State of New York; provided that Holder, by countersigning below, agrees not to pursue any such rights or remedies unless and until such action is approved by the written consent of the holders of at least 66% of the aggregate amount of outstanding principal under the Notes.

The Holder agrees that the indebtedness evidenced by this Note is expressly subordinated in right of priority and payment to the prior payment in full of all current senior secured indebtedness of the Company outstanding under certain Loan and Security Agreement, dated as of May 10, 2018, by and among the Maker, Solar Capital Ltd. (as amended, the "Term Agent") and the other parties thereto, as may be amended, restated, modified, extended or amended and restated from time to time (the "Senior Loan Agreement"), pursuant to the Subordination Agreement.

This Note may not be prepaid, in whole or in part, without the prior written consent of the Holder.

All payments by the Maker under this Note shall be made without set-off or counterclaim and be free and clear and without any deduction or withholding for any taxes or fees of any nature whatever, unless the obligation to make such deduction or withholding is imposed by law.

The amendment or waiver of any term of this Note, the resolution of any controversy or claim arising out of or relating to this Note and the provision of notice shall be conducted pursuant to the terms of the Purchase Agreement.

No delay or omission on the part of the Holder in exercising any right under this Note shall operate as a waiver of such right or of any other right of the Holder, nor shall any delay, omission or waiver on any one occasion be deemed a bar to or waiver of the same or any other right on any future occasion.

The parties hereto hereby acknowledge and agree that, notwithstanding that the Note is titled as an "Unsecured Subordinated Convertible Promissory Note," for United States federal and state income tax purposes the Note is, and at all times has been, more properly characterized as equity. Accordingly, the parties hereto agree to treat the Note as equity for all United States federal and state income tax purposes (including, without limitation, on their respective tax returns or other informational statements). For the avoidance of doubt, the Maker hereby agrees that, with regard specifically to the rule set forth in Section 385 of the Internal Revenue Code of 1986, as amended, the Maker will treat the Note as equity as of the time of issuance. For the avoidance of doubt, nothing in this paragraph shall prevent any party hereto from negotiating or settling a dispute with the Internal Revenue Service or any other tax authority regarding the tax treatment of the Note.

All payments by the Maker under this Note shall be applied first to the accrued interest due and payable hereunder and the remainder, if any, to the outstanding principal.

The Maker and every endorser or guarantor of this Note, regardless of the time, order or place of signing, hereby waives presentment, demand, protest and notices of every kind and assents to any permitted extension of the time of payment and to the addition or release of any other party primarily or secondarily liable hereunder.

The Holder agrees that no stockholder, director or officer of the Maker shall have any personal liability for the repayment of this Note.

Until the conversion of this Note, the Holder shall not have or exercise any rights by virtue hereof as a stockholder of the Maker.

[*Remainder of Page Intentionally Left Blank*]

RESTORATION ROBOTICS, INC

By: /s/ Mark Hair
Name: Mark Hair
Title: CFO

HOLDER

FRED MOLL

RESTORATION ROBOTICS, INC

By: _____
Name: _____
Title: _____

HOLDER

FRED MOLL

/S/ FRED MOLL

NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, THIS NOTE AND THE INDEBTEDNESS EVIDENCED HEREBY AND THE EXERCISE OF ANY RIGHT OR REMEDY IN RESPECT OF SUCH INDEBTEDNESS ARE SUBJECT TO THE PROVISIONS OF THAT CERTAIN SUBORDINATION AGREEMENT, DATED AS OF FEBRUARY 28, 2019 (AS AMENDED, RESTATED, SUPPLEMENTED OR OTHERWISE MODIFIED FROM TIME TO TIME IN ACCORDANCE WITH THE TERMS THEREOF, THE "SUBORDINATION AGREEMENT"), AMONG SOLAR CAPITAL LTD., A MARYLAND CORPORATION AS "SENIOR CREDITOR" DEFINED THEREIN, THE HOLDER AND THE OTHER HOLDERS OF THE NOTES (AS DEFINED BELOW). IN THE EVENT OF ANY CONFLICT BETWEEN THE TERMS OF THE SUBORDINATION AGREEMENT AND THIS NOTE, THE TERMS OF THE SUBORDINATION AGREEMENT SHALL GOVERN AND CONTROL.

THIS NOTE AND ANY SHARES ACQUIRED UPON CONVERSION OF THIS NOTE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT FILED UNDER SUCH ACT OR PURSUANT TO AN OPINION OF COUNSEL SATISFACTORY TO THE MAKER THAT SUCH REGISTRATION IS NOT REQUIRED.

RESTORATION ROBOTICS, INC.
UNSECURED SUBORDINATED CONVERTIBLE PROMISSORY NOTE

$2,000,000.00 February 28, 2019

No. CN-1

FOR VALUE RECEIVED, Restoration Robotics, Inc., a Delaware corporation (the "Maker"), promises to pay to InterWest Partners IX, LP or its its assigns (the "Holder") the principal sum of $2,000,000.00, together with interest on the unpaid principal balance of this Note from time to time outstanding at the rate of 8.0% per year until paid in full. This Note is one of a series of Notes issued pursuant to that certain Note Purchase Agreement dated February 28, 2019 among the Maker, the Holder and certain other investors as the same may be amended, restated or otherwise modified from time to time (the "Purchase Agreement"). Capitalized terms used but not defined herein shall have the meaning set forth in the Purchase Agreement.

Subject to the conversion provisions set forth herein, all principal and accrued interest under this Note shall be due and payable on August 28, 2020 (the "Maturity Date") and in no event earlier than such date.

Interest on this Note shall be computed on the basis of a year of 365/366 days for the actual number of days elapsed. All payments by the Maker under this Note shall be in immediately available funds.

Effective upon the closing of a Qualified Financing (as defined below), all of the outstanding principal and interest under this Note will automatically be converted into shares of the same class and series of capital stock of the Maker issued to other investors in the Qualified Financing (the "Qualified Financing Securities") at a conversion price equal to the price per share of Qualified Financing Securities paid by the other investors in the Qualified Financing, with any resulting fraction of a share rounded to the nearest whole share (with 0.5 being rounded up) and on the same terms offered to the other investors in the Qualified Financing. "Qualified Financing" means the first issuance or series of related issuances of capital stock of the Maker (or its successor entity) after the date hereof, with immediately available gross proceeds to the Maker (excluding proceeds from this and any other indebtedness of the Maker that convert into equity in such financing) of at least $20,000,000. The Maker shall notify the Holder in writing of the anticipated occurrence of the Qualified Financing at least five days prior to the closing date of the Qualified Financing.

This Note shall become immediately due and payable without notice or demand (but subject to the conversion rights set forth herein) upon the occurrence at any time of any of the following events of default (individually, an "Event of Default" and collectively, "Events of Default"):

(1) the Maker fails to pay any of the principal, interest or any other amounts payable under this Note when due and payable after the occurrence of the Discharge of the Senior Debt (as defined in the Subordination Agreement);

(2) the Maker files any petition or action for relief under any bankruptcy, reorganization, insolvency or moratorium law or any other law for the relief of, or relating to, debtors, now or hereafter in effect, or seeks the appointment of a custodian, receiver, trustee (or other similar official) of the Maker or all or any substantial portion of the Maker's assets, or makes any assignment for the benefit of creditors or takes any action in furtherance of any of the foregoing, or fails to generally pay its debts as they become due;

(3) an involuntary petition is filed, or any proceeding or case is commenced, against the Maker (unless such proceeding or case is dismissed or discharged within 60 days of the filing or commencement thereof) under any bankruptcy, reorganization, arrangement, insolvency, adjustment of debt, liquidation or moratorium statute now or hereafter in effect, or a custodian, receiver, trustee, assignee for the benefit of creditors (or other similar official) is applied or appointed for the Maker or to take possession, custody or control of any property of the Maker, or an order for relief is entered against the Maker in any of the foregoing;

(4) any of the Maker's indebtedness for borrowed money is accelerated as a result of a default or breach of or under any agreement or instrument evidencing or relating to such indebtedness for borrowed money;

(5) the Maker suspends the operation of the usual business of the Maker; or

(6) the Maker admits in writing its inability to pay its debts as they become due, or makes a general assignment for the benefit of creditors.

Notwithstanding the foregoing, if any of the foregoing shall occur prior to the date upon which the Discharge of the Senior Debt (as defined in the Subordination Agreement) shall have occurred and such event or circumstance is not also an "Event of Default" under the Senior Loan Agreement (as defined below), such event or circumstance shall not be an Event of Default hereunder until the occurrence of the Discharge of the Senior Debt (as defined in the Subordination Agreement).

Upon the occurrence of an Event of Default, the Holder shall have then, or at any time thereafter, all of the rights and remedies afforded creditors generally by the applicable federal laws or the laws of the State of New York; provided that Holder, by countersigning below, agrees not to pursue any such rights or remedies unless and until such action is approved by the written consent of the holders of at least 66% of the aggregate amount of outstanding principal under the Notes.

The Holder agrees that the indebtedness evidenced by this Note is expressly subordinated in right of priority and payment to the prior payment in full of all current senior secured indebtedness of the Company outstanding under certain Loan and Security Agreement, dated as of May 10, 2018, by and among the Maker, Solar Capital Ltd. (as amended, the "Term Agent") and the other parties thereto, as may be amended, restated, modified, extended or amended and restated from time to time (the "Senior Loan Agreement"), pursuant to the Subordination Agreement.

This Note may not be prepaid, in whole or in part, without the prior written consent of the Holder.

All payments by the Maker under this Note shall be made without set-off or counterclaim and be free and clear and without any deduction or withholding for any taxes or fees of any nature whatever, unless the obligation to make such deduction or withholding is imposed by law.

The amendment or waiver of any term of this Note, the resolution of any controversy or claim arising out of or relating to this Note and the provision of notice shall be conducted pursuant to the terms of the Purchase Agreement.

No delay or omission on the part of the Holder in exercising any right under this Note shall operate as a waiver of such right or of any other right of the Holder, nor shall any delay, omission or waiver on any one occasion be deemed a bar to or waiver of the same or any other right on any future occasion.

The parties hereto hereby acknowledge and agree that, notwithstanding that the Note is titled as an "Unsecured Subordinated Convertible Promissory Note," for United States federal and state income tax purposes the Note is, and at all times has been, more properly characterized as equity. Accordingly, the parties hereto agree to treat the Note as equity for all United States federal and state income tax purposes (including, without limitation, on their respective tax returns or other informational statements). For the avoidance of doubt, the Maker hereby agrees that, with regard specifically to the rule set forth in Section 385 of the Internal Revenue Code of 1986, as amended, the Maker will treat the Note as equity as of the time of issuance. For the avoidance of doubt, nothing in this paragraph shall prevent any party hereto from negotiating or settling a dispute with the Internal Revenue Service or any other tax authority regarding the tax treatment of the Note.

All payments by the Maker under this Note shall be applied first to the accrued interest due and payable hereunder and the remainder, if any, to the outstanding principal.

The Maker and every endorser or guarantor of this Note, regardless of the time, order or place of signing, hereby waives presentment, demand, protest and notices of every kind and assents to any permitted extension of the time of payment and to the addition or release of any other party primarily or secondarily liable hereunder.

The Holder agrees that no stockholder, director or officer of the Maker shall have any personal liability for the repayment of this Note.

Until the conversion of this Note, the Holder shall not have or exercise any rights by virtue hereof as a stockholder of the Maker.

[Remainder of Page Intentionally Left Blank]

RESTORATION ROBOTICS, INC.

By: /s/ Mark Hair
Name: Mark Hair
Title: CFO

HOLDER:

INTERWEST PARTNERS IX , LP
By: InterWest management Partners IX, LLC
Its: General Partner

By: _____
Name: _____
Title: _____

RESTORATION ROBOTICS, INC.

By: _____
Name: _____
Title: _____

HOLDER:

INTERWEST PARTNERS IX, LP
By: InterWest management Partners IX, LLC
Its: General Partner

By: /s/ Gilbert H. Kliman
Name: Gilbert H. Kliman
Title: Managing Director

CERTAIN MATERIAL (INDICATED BY ASTERISKS) HAS BEEN OMITTED FROM THIS DOCUMENT PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT. THE OMITTED MATERIAL HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION.

Execution Version

FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT (this•*" Agreement")* is entered into as of June 29, 2018, among Restoration Robotics, Inc., a Delaware corporation (the *"Borrower"),* Solar Capital Ltd., a Maryland corporation (in its capacity as collateral agent, the *"Collateral Agent")* and the Lenders party hereto, comprising the Required Lenders under the Loan Agreement referred to below (each, a *"**Lender**"* and , collective l y, the *"**Lenders**").*

RECITALS

A. The Borrower, the Lenders party thereto, and the Collateral Agent, are parties to that certain Loan and Security Agreement, dated as of May 10, 2018 (as amended, supplemented or otherwise modified prior to the date hereof, the *"**Loan Agreement**").*

B. The Borrower, the Lenders and the Collateral Agent wish to correct a mathematical error in the Revenue Projections, subject to the term s and conditions hereof.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows:

I. **Definitions.** Capitalized terms used but not defined in this Agreement shall have the meanings given to them in the Loan Agreement.

2. **Amendment to the Loan and Security Agreement.** Exhibit G to the Loan Agreement shall be replaced in its entirety with Exhibit t A hereto.

3. **Integration.** This Agreement and the other Loan Documents represent the entire agreement relating to the subject matter of this Agreement and supersede all prior negotiations and agreements with respect to the substance of this Agreement. All prior agreements, understandings, representations, warranties, and negotiations between the parties about the subject matter of this Agreement and the Loan Document s merge into this Agreement and the Loan Documents

4. **Counterparts.** This Agreement ma y be executed in an y number of counterparts and all of such counterpart s taken together shall be deemed to constitute one and the same instrument.

5. **Miscellaneous.**

5.1 Except as expressly amended pursuant hereto, the Loan Agreement and the other Loan Documents shall remain unchanged and in full force and effect and are hereby ratified and confirmed in all respects.

5.2 This Agreement shall constitute a Loan Document under the Loan Agreement.

5.3 Each provision of this Agreement is severable from every other provision in determining the enforceability of any provision.

5.4 This Agreement is effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any Agreement waiver or modification

of any term or condition of any Loan Document, or (b) otherwise prejudice any right or remedy which the Collateral Agent or any Lender may now have or may have in the future under or in connection with any

Loan Document.

5.5 This Agreement and all document s related hereto shall constitute Loan Documents, shall be construed in connection with and as part of the Loan Documents.

6. **Governing Law. THIS AGREEMENT AND THE RIGHT S AND OBLIGATIONS OF THE PARTIES HERETO SHALL IN ALL RESPECTS BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAWS PRINCIPLES OF SUCH STATE (OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW)), INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, REGARDLESS OF THE LOCATION OF THE COLLATERAL, PROVIDED, HOWEVER, THAT IF THE LAWS OF ANY JURISDICTION OTHER THAN NEW YORK SHALL GOVERN IN REGARD TO THE VALIDITY, PERFECTION OR EFFECT OF PERFECTION OF ANY LIEN OR IN REGARD TO PROCEDURAL MATTERS AFFECTING ENFORCEMENT OF ANY LIENS IN COLLATERAL, SUCH LAWS OF SUCH OTHER JURISDICTIONS SHALL CONTINUE TO APPLY TO THAT EXTENT.** This Agreement is subject to the provisions of Sect ion 11 of the Loan Agreement relating to jurisdiction, venue, jury trial waiver and judicial reference, which provisions are by this reference incorporated herein, *mutatis mutandis*, as if set forth herein in full.

[Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement, as of the date first above written.

THE BORROWER

RESTORATION ROBOTICS, INC.

By: /s/ Mark Hair
Name: Mark Hair
Title: Chief Financial Officer

COLLATERAL AGENT AND LENDER:

SOLAR CAPITAL LTD.

By /s/ Anthony J. Storino
Name: Anthony Storino
Title: Authorized Signatory

LENDER:

WESTERN ALLIANCE BANK

By: /s/ Bill Wickline
Name: Bill Wickline
Title: Director of Portfolio Management

EXHIBIT A
Revenue Projections

[REDACTED]

Restoration Robotics - Minimum Revenue Calculation

Month Ending	Management Case	Covenant (%)	Minimum Rev. Required	
May-18	[***]	*[***]*	[***]	= Revised
Jun -18	[***]	*[***]*	[***]	
Jul-18	[***]	*[***]*	[***]	
Aug -18	[***]	*[***]*	[***]	
Sep-18	[***]	*[***]*	[***]	
Oct-18	[***]	*[***]*	[***]	
Nov-18	[***]	*[***]*	[***]	
Dec-18	[***]	*[***]*	[***]	
Jan-19	[***]	*[***]*	[***]	
Feb-19	[***]	*[***]*	[***]	
Mar-19	[***]	*[***]*	[***]	
Apr-19	[***]	*[***]*	[***]	
Ma y-19	[***]	*[***]*	[***]	
J un-19	[***]	*[***]*	[***]	
Jul-19	[***]	*[***]*	[***]	
Aug-19	[***]	*[***]*	[***]	
Sep-19	[***]	*[***]*	[***]	
Oct-19	[***]	*[***]*	[***]	
No v-19	[***]	*[***]*	[***]	
Dec-19	[***]	*[***]*	[***]	
Jan-20	[***]	*[***]*	[***]	
Feb-20	[***]	*[***]*	[***]	
Mar-20	[***]	*[***]*	[***]	
Apr-20	[***]	*[***]*	[***]	
May-20	[***]	*[***]*	[***]	
Jun-20	[***]	*[***]*	[***]	
Jul-20	[***]	*[***]*	[***]	
Aug -20	[***]	*[***]*	[***]	
Sep-20	[***]	*[***]*	[***]	
Oct-20	[***]	*[***]*	[***]	
Nov-20	[***]	*[***]*	[***]	
Dec -20	[***]	*[***]*	[***]	
Jan-21	[***]	*[***]*	[***]	
Feb-21	[***]	*[***]*	[***]	
Mar-21	[***]	*[***]*	[***]	
Apr-21	[***]	*[***]*	[***]	
May-21	[***]	*[***]*	[***]	
Jun-21	[***]	*[***]*	[***]	
J ul-21	[***]	*[***]*	[***]	
Aug -21	[***]	*[***]*	[***]	
Se p-21	[***]	*[***]*	[***]	
Oct-21	[***]	*[***]*	[***]	
Nov-21	[***]	*[***]*	[***]	
Dec-21	[***]	*[***]*	[***]	
J an-22	[***]	*[***]*	[***]	
Feb-22	[***]	*[***]*	[***]	
Mar-22	[***]	*[***]*	[***]	
Apr-22	[***]	*[***]*	[***]	

[***] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

CERTAIN MATERIAL (INDICATED BY ASTERISKS) HAS BEEN OMITTED FROM THIS DOCUMENT PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT. THE OMITTED MATERIAL HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION.

Execution Version

SECOND AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS SECOND AMENDMENT TO LOAN AND SECURITY AGREEMENT (this "***Agreement***") is entered into as of November 2, 2018, to be effective as of September 30, 2018 upon satisfaction of the conditions set forth in Section 3 below, among Restoration Robotics, Inc., a Delaware corporation (the "***Borrower***"), Solar Capital Ltd., a Maryland corporation (in its capacity as collateral agent, the "***Collateral Agent***") and the Lenders party hereto, comprising the Required Lenders under the Loan Agreement referred to below (each, a "***Lender***" and, collectively, the "***Lenders***").

RECITALS

A. The Borrower, the Lenders party thereto, and the Collateral Agent, are parties to that certain Loan and Security Agreement, dated as of May 10, 2018, as amended by that certain First Amendment to Loan and Security Agreement, dated as of June 29, 2018 (as amended, supplemented or otherwise modified prior to the date hereof, the "***Loan Agreement***").

B. The Borrower has requested certain amendments to the Loan Agreement. Although the Lenders and the Collateral Agent are under no obligation to do so, they have agreed to such requests, subject to the terms and conditions hereof.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows:

1. **Definitions.** Capitalized terms used but not defined in this Agreement shall have the meanings given to them in the Loan Agreement.

2. **Amendments to the Loan Agreement**. The Loan Agreement shall be amended as follows:

2.1 Section 7.13. Section 7.13 of the Loan Agreement shall be amended and restated in its entirety as follows:

Borrower shall not allow, at any time, the unrestricted cash and Cash Equivalents of Borrower and its Subsidiaries to be an amount less than Twelve Million Five Hundred Thousand Dollars ($12,500,000.00); provided, however, this covenant shall no longer apply after the latest of the following to occur, (a) Borrower has provided evidence reasonably satisfactory to the Collateral Agent that Borrower has received after March 23, 2018 at least Twenty Five Million Dollars ($25,000,000.00) in aggregate unrestricted net cash proceeds from the sale and issuance of Borrower's common or preferred stock pursuant to one or more bona fide equity financings on terms reasonably acceptable to Collateral Agent, (b) Borrower has provided evidence reasonably satisfactory to the Collateral Agent that Borrower has at least Fifteen Million Dollars ($15,000,000.00) of actual net revenue for any trailing six-month period ending after November 1, 2018, and (c) December 31, 2019.

2.2 The deadline for the deliveries required pursuant to Section 6.2(a)(i) and Section 6.2(b) of the Loan Agreement with respect to the month ending on September 30, 2018 shall be November 5, 2018 rather than October 30, 2018.

2.3 Exhibit G. Exhibit G to the Loan Agreement shall be replaced in its entirety with Exhibit A hereto.

3. **Conditions to Effectiveness**. The effectiveness of Section 2 shall be subject to the satisfaction of each of the following conditions precedent, each in form and substance reasonably satisfactory to Collateral Agent:

3.1 the due execution and delivery to the Collateral Agent of this Agreement by each party hereto;

3.2 the due execution and delivery to the Collateral Agent of the Warrants substantially in the forms attached hereto as Exhibit B;

3.3 the delivery to the Collateral Agent of a certificate of Borrower which (a) attaches copies of the current Operating Documents of the Borrower or certifies that the copies of such Operating Documents previously delivered to the Collateral Agent pursuant to the terms of the Loan Agreement have not been amended, supplemented or restated since the date of such delivery; (b) attaches copies of the resolutions adopted by Borrower's board of directors which approves the transactions contemplated by the Agreement; and (c) attaches certified copies of the signatures of incumbent officers of the Borrower or certifies that no changes in such officers has occurred since the most recent delivery of such certified signatures;

3.4 the Borrower shall have paid to the Lenders in accordance with their respective Pro Rata Shares an amendment fee of Fifty Thousand Dollars ($50,000.00); and

3.5 the Borrower shall have paid to the Lenders the reasonable out-of-pocket costs and expenses of the Collateral Agent and the Lenders party hereto, and the reasonable fees and disbursements of counsel to the Collateral Agent and the Lenders party hereto, in connection with the negotiation, preparation, execution and delivery of this Agreement and any other documents to be delivered in connection herewith.

4. **Representations and Warranties.** The Borrower represents and warrants to the Collateral Agent and each Lender as follows:

4.1 Each of the representations and warranties made by the Borrower in or pursuant to any Loan Document (a) that is qualified by materiality is true and correct, and (b) that is not qualified by materiality is true and correct in all material respects, in each case, on and as of the date of this Agreement, except to the extent that any such representation and warranty specifically relates to an earlier date, in which case such representation and warranty was true and correct in all material respects as of such earlier date.

4.2 The Borrower has the power and authority to execute and deliver this Agreement and to perform its obligations under the Loan Documents.

4.3 The execution and delivery by the Borrower of this Agreement, the performance by Borrower of its obligations under the Loan Agreement, have been duly authorized by all necessary corporate action on the part of the Borrower.

4.4 The execution and delivery by the Borrower of this Agreement and the performance

by the Borrower of its obligations hereunder do not (a) conflict with any of the Operating Documents of the Borrower, (b) contravene, conflict with, constitute a default under or violate any material Requirement of Law applicable to the Borrower, (c) contravene, conflict or violate any applicable order, writ, judgment, injunction, decree, determination or award of any Governmental Authority by which Borrower or any of its property or assets may be bound or affected, (d) require any action by, filing, registration, or qualification with, or Governmental Approval from, any Governmental Authority (except such Governmental Approvals which have already been obtained and are in full force and effect), or (e) constitute an event of default under any material agreement by which Borrower or any of its properties, is bound.

4.5 This Agreement has been duly executed and delivered by the Borrower and is the valid and binding obligation of the Borrower, enforceable against the Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

4.6 Both immediately prior to giving effect hereto and immediately thereafter, no Default or Event of Default has occurred and is continuing under the Loan Agreement or the Loan Documents.

5. **Reaffirmation of Loan Documents**. The Borrower hereby grants, ratifies and reaffirms the security interest in its Collateral granted to the Collateral Agent pursuant to the terms of the Loan Agreement, and also ratifies and reaffirms its obligations under each Loan Document to which it is party, and acknowledges and agrees that each such Loan Document shall remain in full force and effect after giving effect to the consummation of this Agreement. This Agreement is not a novation and the terms and conditions of this Agreement shall be in addition to and supplemental to all terms and conditions set forth in the Loan Documents. In the event of any conflict or inconsistency between this Agreement and the terms of any other Loan Document, the terms of this Agreement shall be controlling, but such other Loan Document shall not otherwise be affected or the rights therein impaired.

6. **Integration**. This Agreement and the other Loan Documents represent the entire agreement relating to the subject matter of this Agreement and supersede all prior negotiations and agreements with respect to the substance of this Agreement. All prior agreements, understandings, representations, warranties, and negotiations between the parties about the subject matter of this Agreement and the Loan Documents merge into this Agreement and the Loan Documents

7. **Counterparts.** This Agreement may be executed in any number of counterparts and all of such counterparts taken together shall be deemed to constitute one and the same instrument.

8. Miscellaneous.

8.1 Except as expressly amended pursuant hereto, the Loan Agreement and the other Loan Documents shall remain unchanged and in full force and effect and are hereby ratified and confirmed in all respects.

8.2 This Agreement shall constitute a Loan Document under the Loan Agreement.

8.3 Each provision of this Agreement is severable from every other provision in determining the enforceability of any provision.

8.4 This Agreement is effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any Agreement, waiver or modification of any term or condition of any Loan Document, or (b) otherwise prejudice any right or remedy which the Collateral Agent or any Lender may now have or may have in the future under or in connection with any

Loan Document.

8.5 This Agreement and all documents related hereto shall constitute Loan Documents, shall be construed in connection with and as part of the Loan Documents.

9. **Governing Law. THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HERETO SHALL IN ALL RESPECTS BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAWS PRINCIPLES OF SUCH STATE (OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW)), INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, REGARDLESS OF THE LOCATION OF THE COLLATERAL, PROVIDED, HOWEVER, THAT IF THE LAWS OF ANY JURISDICTION OTHER THAN NEW YORK SHALL GOVERN IN REGARD TO THE VALIDITY, PERFECTION OR EFFECT OF PERFECTION OF ANY LIEN OR IN REGARD TO PROCEDURAL MATTERS AFFECTING ENFORCEMENT OF ANY LIENS IN COLLATERAL, SUCH LAWS OF SUCH OTHER JURISDICTIONS SHALL CONTINUE TO APPLY TO THAT EXTENT.** This Agreement is subject to the provisions of Section 11 of the Loan Agreement relating to jurisdiction, venue, jury trial waiver and judicial reference, which provisions are by this reference incorporated herein, *mutatis mutandis*, as if set forth herein in full.

[Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement, as of the date first above written.

THE BORROWER

RESTORATION ROBOTICS,

By: /s/ Mark Hair
Name: Mark Hair
Title: Chief Financial Officer

COLLATERAL AGENT AND LENDER:

SOLAR CAPITAL **LTD.**

By: /s/Anthony J. Storino
Name: Anthony Storino
Title: Authorized Signatory

LENDER:

SCP PRNATE CREDIT INCOME FUNDS L.P.

By: /s/ Anthony J. Storino
Name: Anthony Storino
Title: Authorized Signatory

LENDER:

SUNS SPV LLC

By: /s/ Richard Petoka
Name: Richard Petoka
Title: Authorized Signatory

LENDER:

WESTERN ALLIANCE BANK

By: /s/ Lindsay Fouty
Name: Lindsay Fouty
Title: V.P. Portfolio Management

EXHIBIT A
Revenue Projections

Restoration Robotics - Minimum Revenue Calculation

Month Ending	Management Case	Covenant %	Minimum Revenue Required
Sep-18	[***].	**[***]**.	**[***]**.
Oct-18	[***].	**[***]**.	**[***]**.
Nov-18	[***].	**[***]**.	**[***]**.
Dec-18	[***].	**[***]**.	**[***]**.
Jan-19	[***].	**[***]**.	**[***]**.
Feb-19	[***].	**[***]**.	**[***]**.
Mar-19	[***].	**[***]**.	**[***]**.
Apr-19	[***].	**[***]**.	**[***]**.
May-19	[***].	**[***]**.	**[***]**.
Jun-19	[***].	**[***]**.	**[***]**.
Jul-19	[***].	**[***]**.	**[***]**.
Aug-19	[***].	**[***]**.	**[***]**.
Sep-19	[***].	**[***]**.	**[***]**.
Oct-19	[***].	**[***]**.	**[***]**.
Nov-19	[***].	**[***]**.	**[***]**.
Dec-19	[***].	**[***]**.	**[***]**.
Jan-20	[***].	**[***]**.	**[***]**.
Feb-20	[***].	**[***]**.	**[***]**.
Mar-20	[***].	**[***]**.	**[***]**.
Apr-20	[***].	**[***]**.	**[***]**.
May-20	[***].	**[***]**.	**[***]**.
Jun-20	[***].	**[***]**.	**[***]**.
Jul-20	[***].	**[***]**.	**[***]**.
Aug-20	[***].	**[***]**.	**[***]**.
Sep-20	[***].	**[***]**.	**[***]**.
Oct-20	[***].	**[***]**.	**[***]**.
Nov-20	[***].	**[***]**.	**[***]**.
Dec-20	[***].	**[***]**.	**[***]**.
Jan-21	[***].	**[***]**.	**[***]**.
Feb-21	[***].	**[***]**.	**[***]**.
Mar-21	[***].	**[***]**.	**[***]**.
Apr-21	[***].	**[***]**.	**[***]**.
May-21	[***].	**[***]**.	**[***]**.
Jun-21	[***].	**[***]**.	**[***]**.
Jul-21	[***].	**[***]**.	**[***]**.
Aug-21	[***].	**[***]**.	**[***]**.
Sep-21	[***].	**[***]**.	**[***]**.

[***] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Oct-21	[***].	**[***]**.	**[***]**.
Nov-21	**[***]**.	**[***]**.	**[***]**.
Dec-21	**[***]**.	**[***]**.	**[***]**.
Jan-22	**[***]**.	**[***]**.	**[***]**.
Feb-22	**[***]**.	**[***]**.	**[***]**.
Mar-22	**[***]**.	**[***]**.	**[***]**.
Apr-22	**[***]**.	**[***]**.	**[***]**.

[***] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT B
Warrants

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN SECTIONS 5.3 AND 5.4 BELOW, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE COMPANY, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

WARRANT TO PURCHASE STOCK

Company:	Restoration Robotics, Inc.
Number of Shares:	40,431
Type/Series of Stock:	Common Stock, with par value of $0.0001 per share
Warrant Price:	$1.755 per share
Issue Date:	November 2, 2018
Expiration Date:	May 10, 2028 (See also Section 5.1(b))
Credit Facility:	This Warrant to Purchase Stock ("Warrant") is issued in connection with that certain Loan and Security Agreement dated as of May 10, 2018, between the Holder and the Company (as may be amended from time to time, the "Loan Agreement").

THIS WARRANT CERTIFIES THAT, for good and valuable consideration, Western Alliance Bank, an Arizona corporation with an office located at 55 S. Almaden Boulevard, San Jose, CA 95113 (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "Holder") is entitled to purchase the number of fully paid and non-assessable - (the "Shares") of the above-stated Type/Series of Stock (the "Class") of the above-named company (the "Company") at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to the Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by the Company), or other form of payment acceptable to the Company for the aggregate Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, the Company shall issue to the Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to the Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to the Company in payment of the aggregate Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3 Fair Market Value. If the Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "Trading Market"), the fair market value of a Share shall be the volume-weighted average closing price of a share of common stock reported for the ten (10) Business Days immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company. If the Company's common stock is not traded in a Trading Market, the Board of Directors of the Company shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Promptly after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, the Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to the Company or, in the case of mutilation, on surrender of this Warrant to the Company for cancellation, the Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6 Treatment of Warrant Upon Acquisition of Company.

(a) Acquisition. For the purpose of this Warrant, "Acquisition" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of the Company (ii) any merger or consolidation of the Company into or with another person or entity (other than a merger or consolidation effected exclusively to change the Company's domicile), or any other corporate reorganization, in which the stockholders of the Company in their capacity as such immediately prior to such merger, consolidation or reorganization, own less than a majority of the Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation or reorganization; or (iii) any sale or other transfer by the stockholders of the Company of shares representing at least a majority of the Company's then-total outstanding combined voting power.

(b) Treatment of Warrant at Acquisition. In the event of an Acquisition in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "Cash/Public Acquisition"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Acquisition.

(c) The Company shall provide Holder with written notice of its request relating to the Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice), which is to be delivered to Holder not less than five (5) Business Days prior to the closing of the proposed Cash/Public Acquisition. Notwithstanding the foregoing, if, immediately prior to the Cash/Public Acquisition, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall promptly notify the Holder of the number of Shares (or such other securities) issued upon such exercise to the Holder.

(d) Upon the closing of any Acquisition other than a Cash/Public Acquisition defined above, the acquiring, surviving or successor entity shall assume the obligations of this Warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant.

(e) As used in this Warrant, "Marketable Securities" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded in Trading Market, and (iii) Holder would be able to publicly re-sell, within six (6) months following the closing of such Acquisition, all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise this Warrant in full on or prior to the closing of such Acquisition.

1.7 Registration Rights. As to any Shares Holder receives or is entitled to receive upon any exercise or conversion of this Warrant, Holder shall be entitled to such demand registration rights and such piggyback registration rights as are commensurate with such registration rights are set forth in that certain Investors' Rights Agreement, dated as of February 7, 2013 by and among the Company and certain of the Company's stockholders, as the same may be amended from time to time, or similar agreement (the "Investors' Rights Agreement").

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend or distribution on the outstanding shares of the Class payable in common stock or other securities or property (other than cash), then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of securities and property which Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the Company subdivides the outstanding shares of the Class by reclassification or otherwise into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations substitutions, replacements or other similar events.

2.3 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of the Warrant, the Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (i) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (ii) the then-effective Warrant Price.

2.4 Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, the Company, at the Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. The Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

SECTION 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is equal to the lesser of (a) the ten (10) day trailing average of the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date, and (b) the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date.

(b) All Shares which may be issued upon the exercise of this Warrant, shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. The Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of the Class, common stock and other securities as will be sufficient to permit the exercise in full of this Warrant.

3.2 Notice of Certain Events. If the Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(c) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class; or

(d) effect an Acquisition or to liquidate, dissolve or wind up. then, in connection with each such event, the Company shall give Holder:

(1) at least five (5) Business Days prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (a) and (b) above; and

(2) in the case of the matters referred to in (c) and (d) above at least five (5) Business Days prior written notice of the date when the same will take place (and specifying the date on which the holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event).

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if the Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

SECTION 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER.

The Holder represents and warrants to the Company as follows:

4.1 Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 Reserved.

4.7 No Voting Rights. Holder, as a Holder of this Warrant, will not have any voting rights until the exercise of this Warrant.

SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Pacific time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise upon Expiration. In the event that, upon the Expiration Date, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares shall be imprinted with a legend in substantially the following form:

THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO WESTERN ALLIANCE BANK DATED

NOVEMBER 2, 2018, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company). The Company shall not require Holder to provide an opinion of counsel if the transfer is to Holder's parent company, Western Alliance Bancorporation, or any affiliate of Holder, provided that any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Act. Additionally, the Company shall also not require an opinion of counsel if there is no material question as to the availability of Rule 144 promulgated under the Act.

5.4 Transfer Procedure. After receipt by Holder of the executed Warrant, Holder may transfer all of this Warrant to Holder's parent company, Western Alliance Bancorporation, or an affiliate thereof or successor thereto (the "Subsequent Holder"), by execution of an Assignment substantially in the form of Appendix 2. Subject to the provisions of Section 5.3 and upon providing the Company with written notice, Subsequent Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant to any transferee, provided, however, in connection with any such transfer, the Subsequent Holder will give the Company notice of the portion of the Warrant being transferred with the name, address and taxpayer identification number of the transferee and Holder will surrender this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable); and provided further, that any subsequent transferee shall agree in writing with the Company to be bound by all of the terms and conditions of this Warrant.

5.5 Notices. All notices and other communications hereunder from the Company to the Holder, or vice versa, shall be deemed delivered and effective (i) when given personally, (ii) on the third (3rd) Business Day after being mailed by first-class registered or certified mail, postage prepaid, (iii) upon actual receipt if given by facsimile or electronic mail and such receipt is confirmed in writing by the recipient, or (iv) on the first Business Day following delivery to a reliable overnight courier service, courier fee prepaid, in any case at such address as may have been furnished to the Company or Holder, as the case may be, in writing by the Company or such Holder from time to time in accordance with the provisions of this Section 5.5. All notices to Holder shall be addressed as follows until the Company receives notice of a change of address in connection with a transfer or otherwise:

Western Alliance Bank
55 S. Almaden Boulevard
San Jose, CA 95113
Attn: Robert Lake

Email: rob.lake@bridgebank.com

Notice to the Company shall be addressed as follows until Holder receives notice of a change in address:

Restoration Robotics, Inc. 128 Baytech Drive
San Jose, CA
Attn: Chief Financial Officer
Email: markh@restorationrobotics.com

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

Latham & Watkins LLP 140 Scott Drive
Menlo Park, CA 94025 Attn: Brian J. Cuneo
Email: Brian.Cuneo@lw.com

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.8 Counterparts; Facsimile/Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically or by facsimile shall be binding to the same extent as an original signature page with regards to any agreement subject to the terms hereof or any amendment thereto.

5.9 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

5.10 Headings. The headings in this Warrant are for purposes of reference only and shall not limit or otherwise affect the meaning of any provision of this Warrant.

5.11 Business Days. "Business Day" is any day that is not a Saturday, Sunday or a day on which banks in New York, New York are closed.

[*Signature page follows*]

IN WITNESS WHEREOF, the parties have caused this Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

RESTORATION ROBOTICS, INC.

By: _____
Name: Mark Hair
Title: Chief Financial Officer

"HOLDER"

WESTERN ALLIANCE BANK

By: _____
Name:
Title:

APPENDIX 1

NOTICE OF EXERCISE

1. The undersigned Holder hereby exercises its right purchase _____ shares of the Common/ Stock of Restoration Robotics, Inc. (the "Company") in accordance with the attached Warrant To Purchase Stock, and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ] check in the amount of $_____ payable to order of the Company enclosed herewith

[ ] Wire transfer of immediately available funds to the Company's account
[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant
[ ] Other [Describe] _____

2. Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3. By its execution below and for the benefit of the Company, Holder hereby restates each of the representations and warranties in Section 4 of the Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____

By: _____

Name: _____

Title: _____

(Date): _____

APPENDIX 2 ASSIGNMENT

For value received, **WESTERN ALLIANCE BANK**, hereby sells, assigns and transfers unto:

Name: WESTERN ALLIANCE BANCORPORATION
Address: One E. Washington, Suite 1400
Phoenix, Arizona 85004
Tax ID:

that certain Warrant to Purchase Stock issued by Restoration Robotics, Inc., a Delaware corporation (the "***Company***"), on November 2, 2018 (the "***Warrant***") together with all rights, title and interest therein.

WESTERN ALLIANCE BANK

By: _____

Name: _____

Title: _____

By its execution below, and for the benefit of the Company, Western Alliance Bancorporation agrees to all other provisions of the Warrant as of the date hereof.

WESTERN ALLIANCE BANCORPORATION

By: _____

Name: _____

Title: _____

Schedule 1

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN SECTIONS 5.3 AND 5.4 BELOW, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE COMPANY, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

WARRANT TO PURCHASE STOCK

Company:	Restoration Robotics, Inc.
Number of Shares:	32,345
Type/Series of Stock:	Common Stock, with par value of $0.0001 per share
Warrant Price:	$1.755 per share
Issue Date:	November 2, 2018
Expiration Date:	May 10, 2028 (See also Section 5.1(b))
Credit Facility:	This Warrant to Purchase Stock ("Warrant") is issued in connection with that certain Loan and Security Agreement of May 10, 2018 between the Holder (as assignee of Solar Capital Ltd.) and the Company (as may be amended from time to time, the "Loan Agreement").

THIS WARRANT CERTIFIES THAT, for good and valuable consideration, SCP Private Credit Income Fund L.P. a Delaware limited partnership with an office located at 500 Park Avenue, 3rd Floor, New York, NY 10022 (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "Holder") is entitled to purchase the number of fully paid and non-assessable - (the "Shares") of the above-stated Type/Series of Stock (the "Class") of the above- named company (the "Company") at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to the Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by the Company), or other form of payment acceptable to the Company for the aggregate Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, the Company shall issue to the Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to the Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to the Company in payment of the aggregate Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3 Fair Market Value. If the Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "Trading Market"), the fair market value of a Share shall be the volume-weighted average closing price of a share of common stock reported for the ten (10) Business Days immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company. If the Company's common stock is not traded in a Trading Market, the Board of Directors of the Company shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Promptly after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, the Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to the Company or, in the case of mutilation, on surrender of this Warrant to the Company for cancellation, the Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6 Treatment of Warrant Upon Acquisition of Company.

(a) Acquisition. For the purpose of this Warrant, "Acquisition" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of the Company (ii) any merger or consolidation of the Company into or with another person or entity (other than a merger or consolidation effected exclusively to change the Company's domicile), or any other corporate reorganization, in which the stockholders of the Company in their capacity as such immediately prior to such merger, consolidation or reorganization, own less than a majority of the Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation or reorganization; or (iii) any sale or other transfer by the stockholders of the Company of shares representing at least a majority of the Company's then-total outstanding combined voting power.

(b) Treatment of Warrant at Acquisition. In the event of an Acquisition in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "Cash/Public Acquisition"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Acquisition.

(c) The Company shall provide Holder with written notice of its request relating to the Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice), which is to be delivered to Holder not less than five (5) Business Days prior to the closing of the proposed Cash/Public Acquisition. Notwithstanding the foregoing, if, immediately prior to the Cash/Public Acquisition, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall promptly notify the Holder of the number of Shares (or such other securities) issued upon such exercise to the Holder.

(d) Upon the closing of any Acquisition other than a Cash/Public Acquisition defined above, the acquiring, surviving or successor entity shall assume the obligations of this Warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant.

(e) As used in this Warrant, "Marketable Securities" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded in Trading Market, and (iii) Holder would be able to publicly re-sell, within six (6) months following the closing of such Acquisition, all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise this Warrant in full on or prior to the closing of such Acquisition.

1.7 Registration Rights. As to any Shares Holder receives or is entitled to receive upon any exercise or conversion of this Warrant, Holder shall be entitled to such demand registration rights and such piggyback registration rights as are commensurate with such registration rights are set forth in that certain Investors' Rights Agreement, dated as of February 7, 2013 by and among the Company and certain of the Company's stockholders, as the same may be amended from time to time, or similar agreement (the "Investors' Rights Agreement").

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend or distribution on the outstanding shares of the Class payable in common stock or other securities or property (other than cash), then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of securities and property which Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the Company subdivides the outstanding shares of the Class by reclassification or otherwise into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations substitutions, replacements or other similar events.

2.3 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of the Warrant, the Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (i) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (ii) the then-effective Warrant Price.

2.4 Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, the Company, at the Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. The Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

SECTION 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is equal to the lesser of (a) the ten (10) day trailing average of the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date, and (b) the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date.

(b) All Shares which may be issued upon the exercise of this Warrant, shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. The Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of the Class, common stock and other securities as will be sufficient to permit the exercise in full of this Warrant.

3.2 Notice of Certain Events. If the Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(c) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class; or

(d) effect an Acquisition or to liquidate, dissolve or wind up. then, in connection with each such event, the Company shall give Holder:

(1) at least five (5) Business Days prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (a) and (b) above; and

(2) in the case of the matters referred to in (c) and (d) above at least five (5) Business Days prior written notice of the date when the same will take place (and specifying the date on which the holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event).

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if the Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

SECTION 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER.

The Holder represents and warrants to the Company as follows:

4.1 Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 Reserved.

4.7 No Voting Rights. Holder, as a Holder of this Warrant, will not have any voting rights until the exercise of this Warrant.

SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Pacific time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise upon Expiration. In the event that, upon the Expiration Date, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares shall be imprinted with a legend in substantially the following form:

THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO SCP PRIVATE CREDIT INCOME FUND L.P. DATED NOVEMBER 2, 2018, MAY NOT BE OFFERED, SOLD, PLEDGED OR

OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company). The Company shall not require Holder to provide an opinion of counsel if the transfer is to any entity under common management control with Holder, or any affiliate of Holder, provided that any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Act. Additionally, the Company shall also not require an opinion of counsel if there is no material question as to the availability of Rule 144 promulgated under the Act.

5.4 Transfer Procedure. After receipt by Holder of the executed Warrant, Holder may transfer all of this Warrant to any entity under common management control with Holder, or an affiliate thereof or successor thereto (the "Subsequent Holder"), by execution of an Assignment substantially in the form of Appendix 2. Subject to the provisions of Section 5.3 and upon providing the Company with written notice, Subsequent Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant to any transferee, provided, however, in connection with any such transfer, the Subsequent Holder will give the Company notice of the portion of the Warrant being transferred with the name, address and taxpayer identification number of the transferee and Holder will surrender this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable); and provided further, that any subsequent transferee shall agree in writing with the Company to be bound by all of the terms and conditions of this Warrant.

5.5 Notices. All notices and other communications hereunder from the Company to the Holder, or vice versa, shall be deemed delivered and effective (i) when given personally, (ii) on the third (3rd) Business Day after being mailed by first-class registered or certified mail, postage prepaid, (iii) upon actual receipt if given by facsimile or electronic mail and such receipt is confirmed in writing by the recipient, or (iv) on the first Business Day following delivery to a reliable overnight courier service, courier fee prepaid, in any case at such address as may have been furnished to the Company or Holder, as the case may be, in writing by the Company or such Holder from time to time in accordance with the provisions of this Section 5.5. All notices to Holder shall be addressed as follows until the Company receives notice of a change of address in connection with a transfer or otherwise:

SCP Private Credit Income Fund L.P.
c/o Solar Capital Ltd.
500 Park Avenue, 3rd Floor
New York, NY 10022
Attn: Anthony Storino
Telephone: (646) 308 - 8730
Fax: (212) 993-1698
Email: storino@solarcapltd.com

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

Baker Botts L.L.P.
101 California Street, Suite 3600 San Francisco, CA 94111
Attn: Jeff Kayes Fax: (415) 291-6331
Email: jeff.kayes@bakerbotts.com

Notice to the Company shall be addressed as follows until Holder receives notice of a change in address:

Restoration Robotics, Inc. 128 Baytech Drive
San Jose, CA
Attn: Chief Financial Officer

Email: markh@restorationrobotics.com

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

Latham & Watkins LLP 140 Scott Drive
Menlo Park, CA 94025 Attn: Brian J. Cuneo
Email: Brian.Cuneo@lw.com

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.8 Counterparts; Facsimile/Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically or by facsimile shall be binding to the same extent as an original signature page with regards to any agreement subject to the terms hereof or any amendment thereto.

5.9 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

5.10 Headings. The headings in this Warrant are for purposes of reference only and shall not limit or otherwise affect the meaning of any provision of this Warrant.

5.11 Business Days. "Business Day" is any day that is not a Saturday, Sunday or a day on which banks in New York, New York are closed.

[*Signature page follows*]

IN WITNESS WHEREOF, the parties have caused this Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

RESTORATION ROBOTICS, INC.

By: _____
Name: Mark Hair
Title: Chief Financial Officer

"HOLDER"

SCP PRIVATE CREDIT INCOME FUND L.P.

By: _____
Name: Richard Peteka
Title: Authorized Signatory

APPENDIX 1

NOTICE OF EXERCISE

1. The undersigned Holder hereby exercises its right purchase _____ shares of the Common/ Stock of Restoration Robotics, Inc. (the "Company") in accordance with the attached Warrant To Purchase Stock, and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ] check in the amount of $_____ payable to order of the Company enclosed herewith

[ ] Wire transfer of immediately available funds to the Company's account
[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant
[ ] Other [Describe] _____

2. Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3. By its execution below and for the benefit of the Company, Holder hereby restates each of the representations and warranties in Section 4 of the Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____

By: _____

Name: _____

Title: _____

(Date): _____

APPENDIX 2 ASSIGNMENT

For value received, **SCP Private Credit Income Fund L.P.**, hereby sells, assigns and transfers unto:

Name: [_____]
Address: [_____]
[_____]
Tax ID: [_____]

that certain Warrant to Purchase Stock issued by Restoration Robotics, Inc., a Delaware corporation (the "***Company***"), on November 2, 2018 (the "***Warrant***") together with all rights, title and interest therein.

SCP PRIVATE CREDIT INCOME FUND L.P.

By: _____

Name: _____

Title: _____

By its execution below, and for the benefit of the Company, [_____] agrees to all other provisions of the Warrant as of the date hereof.

[____]

By: _____

Name: _____

Title: _____

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN SECTIONS 5.3 AND 5.4 BELOW, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE COMPANY, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

WARRANT TO PURCHASE STOCK

Company:	Restoration Robotics, Inc.
Number of Shares:	72,776
Type/Series of Stock:	Common Stock, with par value of $0.0001 per share
Warrant Price:	$1.755 per share
Issue Date:	November 2, 2018
Expiration Date:	May 10, 2028 (See also Section 5.1(b))
Credit Facility:	This Warrant to Purchase Stock ("Warrant") is issued in connection with that certain Loan and Security Agreement of May 10, 2018, between the Holder and the Company (as may be amended from time to time, the "Loan Agreement").

THIS WARRANT CERTIFIES THAT, for good and valuable consideration, Solar Capital Ltd., a Maryland corporation with an office located at 500 Park Avenue, 3rd Floor, New York, NY 10022 (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "Holder") is entitled to purchase the number of fully paid and non-assessable - (the "Shares") of the above-stated Type/Series of Stock (the "Class") of the above-named company (the "Company") at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to the Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by the Company), or other form of payment acceptable to the Company for the aggregate Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, the Company shall issue to the Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to the Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to the Company in payment of the aggregate Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3 Fair Market Value. If the Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "Trading Market"), the fair market value of a Share shall be the volume-weighted average closing price of a share of common stock reported for the ten (10) Business Days immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company. If the Company's common stock is not traded in a Trading Market, the Board of Directors of the Company shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Promptly after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, the Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to the Company or, in the case of mutilation, on surrender of this Warrant to the Company for cancellation, the Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6 Treatment of Warrant Upon Acquisition of Company.

(a) Acquisition. For the purpose of this Warrant, "Acquisition" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of the Company (ii) any merger or consolidation of the Company into or with another person or entity (other than a merger or consolidation effected exclusively to change the Company's domicile), or any other corporate reorganization, in which the stockholders of the Company in their capacity as such immediately prior to such merger, consolidation or reorganization, own less than a majority of the Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation or reorganization; or (iii) any sale or other transfer by the stockholders of the Company of shares representing at least a majority of the Company's then-total outstanding combined voting power.

(b) Treatment of Warrant at Acquisition. In the event of an Acquisition in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "Cash/Public Acquisition"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Acquisition.

(c) The Company shall provide Holder with written notice of its request relating to the Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice), which is to be delivered to Holder not less than five (5) Business Days prior to the closing of the proposed Cash/Public Acquisition. Notwithstanding the foregoing, if, immediately prior to the Cash/Public Acquisition, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall promptly notify the Holder of the number of Shares (or such other securities) issued upon such exercise to the Holder.

(d) Upon the closing of any Acquisition other than a Cash/Public Acquisition defined above, the acquiring, surviving or successor entity shall assume the obligations of this Warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant.

(e) As used in this Warrant, "Marketable Securities" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded in Trading Market, and (iii) Holder would be able to publicly re-sell, within six (6) months following the closing of such Acquisition, all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise this Warrant in full on or prior to the closing of such Acquisition.

1.7 Registration Rights. As to any Shares Holder receives or is entitled to receive upon any exercise or conversion of this Warrant, Holder shall be entitled to such demand registration rights and such piggyback registration rights as are commensurate with such registration rights are set forth in that certain Investors' Rights Agreement, dated as of February 7, 2013 by and among the Company and certain of the Company's stockholders, as the same may be amended from time to time, or similar agreement (the "Investors' Rights Agreement").

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend or distribution on the outstanding shares of the Class payable in common stock or other securities or property (other than cash), then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of securities and property which Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the Company subdivides the outstanding shares of the Class by reclassification or otherwise into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations substitutions, replacements or other similar events.

2.3 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of the Warrant, the Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (i) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (ii) the then-effective Warrant Price.

2.4 Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, the Company, at the Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. The Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

SECTION 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is equal to the lesser of (a) the ten (10) day trailing average of the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date, and (b) the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date.

(b) All Shares which may be issued upon the exercise of this Warrant, shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. The Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of the Class, common stock and other securities as will be sufficient to permit the exercise in full of this Warrant.

3.2 Notice of Certain Events. If the Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(c) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class; or

(d) effect an Acquisition or to liquidate, dissolve or wind up. then, in connection with each such event, the Company shall give Holder:

(1) at least five (5) Business Days prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (a) and (b) above; and

(2) in the case of the matters referred to in (c) and (d) above at least five (5) Business Days prior written notice of the date when the same will take place (and specifying the date on which the holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event).

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if the Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

SECTION 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER.

The Holder represents and warrants to the Company as follows:

4.1 Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 Reserved.

4.7 No Voting Rights. Holder, as a Holder of this Warrant, will not have any voting rights until the exercise of this Warrant.

SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Pacific time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise upon Expiration. In the event that, upon the Expiration Date, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares shall be imprinted with a legend in substantially the following form:

THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO SOLAR CAPITAL LTD. DATED NOVEMBER 2, 2018, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE

TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company). The Company shall not require Holder to provide an opinion of counsel if the transfer is to any entity under common management control with Holder, or any affiliate of Holder, provided that any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Act. Additionally, the Company shall also not require an opinion of counsel if there is no material question as to the availability of Rule 144 promulgated under the Act.

5.4 Transfer Procedure. After receipt by Holder of the executed Warrant, Holder may transfer all of this Warrant to any entity under common management control with Holder, or an affiliate thereof or successor thereto (the "Subsequent Holder"), by execution of an Assignment substantially in the form of Appendix 2. Subject to the provisions of Section 5.3 and upon providing the Company with written notice, Subsequent Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant to any transferee, provided, however, in connection with any such transfer, the Subsequent Holder will give the Company notice of the portion of the Warrant being transferred with the name, address and taxpayer identification number of the transferee and Holder will surrender this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable); and provided further, that any subsequent transferee shall agree in writing with the Company to be bound by all of the terms and conditions of this Warrant.

5.5 Notices. All notices and other communications hereunder from the Company to the Holder, or vice versa, shall be deemed delivered and effective (i) when given personally, (ii) on the third (3rd) Business Day after being mailed by first-class registered or certified mail, postage prepaid, (iii) upon actual receipt if given by facsimile or electronic mail and such receipt is confirmed in writing by the recipient, or (iv) on the first Business Day following delivery to a reliable overnight courier service, courier fee prepaid, in any case at such address as may have been furnished to the Company or Holder, as the case may be, in writing by the Company or such Holder from time to time in accordance with the provisions of this Section 5.5. All notices to Holder shall be addressed as follows until the Company receives notice of a change of address in connection with a transfer or otherwise:

Solar Capital Ltd.
500 Park Avenue, 3rd Floor
New York, NY 10022
Attn: Anthony Storino
Telephone: (646) 308 - 8730
Fax: (212) 993-1698
Email: storino@solarcapltd.com

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

Baker Botts L.L.P.
101 California Street, Suite 3600 San Francisco, CA 94111
Attn: Jeff Kayes Fax: (415) 291-6331
Email: jeff.kayes@bakerbotts.com

Notice to the Company shall be addressed as follows until Holder receives notice of a change in address:

Restoration Robotics, Inc. 128 Baytech Drive
San Jose, CA
Attn: Chief Financial Officer
Email: markh@restorationrobotics.com

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

Latham & Watkins LLP 140 Scott Drive
Menlo Park, CA 94025 Attn: Brian J. Cuneo
Email: Brian.Cuneo@lw.com

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.8 Counterparts; Facsimile/Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically or by facsimile shall be binding to the same extent as an original signature page with regards to any agreement subject to the terms hereof or any amendment thereto.

5.9 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

5.10 Headings. The headings in this Warrant are for purposes of reference only and shall not limit or otherwise affect the meaning of any provision of this Warrant.

5.11 Business Days. "Business Day" is any day that is not a Saturday, Sunday or a day on which banks in New York, New York are closed.

[*Signature page follows*]

IN WITNESS WHEREOF, the parties have caused this Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

RESTORATION ROBOTICS, INC.

By: _____
Name: Mark Hair
Title: Chief Financial Officer

"HOLDER"

SOLAR CAPITAL LTD.

By: _____
Name: Anthony Storino
Title: Authorized Signatory

APPENDIX 1

NOTICE OF EXERCISE

1. The undersigned Holder hereby exercises its right purchase _____ shares of the Common/ Stock of Restoration Robotics, Inc. (the "Company") in accordance with the attached Warrant To Purchase Stock, and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ] check in the amount of $_____ payable to order of the Company enclosed herewith

[ ] Wire transfer of immediately available funds to the Company's account
[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant
[ ] Other [Describe] _____

2. Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3. By its execution below and for the benefit of the Company, Holder hereby restates each of the representations and warranties in Section 4 of the Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____

By: _____

Name: _____

Title: _____

(Date): _____

APPENDIX 2 ASSIGNMENT

For value received, **SOLAR CAPITAL LTD.**, hereby sells, assigns and transfers unto:

Name: [_____]
Address: [_____]
[_____]
Tax ID: [_____]

that certain Warrant to Purchase Stock issued by Restoration Robotics, Inc., a Delaware corporation (the "***Company***"), on November 2, 2018 (the "***Warrant***") together with all rights, title and interest therein.

SOLAR CAPITAL LTD.

By: _____

Name: _____

Title: _____

By its execution below, and for the benefit of the Company, [_____] agrees to all other provisions of the Warrant as of the date hereof.

[____]

By: _____

Name: _____

Title: _____

Execution Version

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN SECTIONS 5.3 AND 5.4 BELOW, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE COMPANY, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

WARRANT TO PURCHASE STOCK

Company:	Restoration Robotics, Inc.
Number of Shares:	16,173
Type/Series of Stock:	Common Stock, with par value of $0.0001 per share
Warrant Price:	$1.755 per share
Issue Date:	November 2, 2018
Expiration Date:	May 10, 2028 (See also Section 5.1(b))
Credit Facility:	This Warrant to Purchase Stock ("Warrant") is issued in connection with that certain Loan and Security Agreement dated as of May 10, 2018, between the Holder and the Company (as may be amended from time to time, the "Loan Agreement").

THIS WARRANT CERTIFIES THAT, for good and valuable consideration, SUNS SPV LLC, a Delaware limited liability company with an office located at 500 Park Avenue, 3rd Floor, New York, NY 10022 (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "Holder") is entitled to purchase the number of fully paid and non- assessable - (the "Shares") of the above-stated Type/Series of Stock (the "Class") of the above-named company (the "Company") at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to the Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by the Company), or other form of payment acceptable to the Company for the aggregate Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, the Company shall issue to the Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to the Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to the Company in payment of the aggregate Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3 Fair Market Value. If the Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "Trading Market"), the fair market value of a Share shall be the volume-weighted average closing price of a share of common stock reported for the ten (10) Business Days immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company. If the Company's common stock is not traded in a Trading Market, the Board of Directors of the Company shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Promptly after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, the Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to the Company or, in the case of mutilation, on surrender of this Warrant to the Company for cancellation, the Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6 Treatment of Warrant Upon Acquisition of Company.

(a) Acquisition. For the purpose of this Warrant, "Acquisition" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of the Company (ii) any merger or consolidation of the Company into or with another person or entity (other than a merger or consolidation effected exclusively to change the Company's domicile), or any other corporate reorganization, in which the stockholders of the Company in their capacity as such immediately prior to such merger, consolidation or reorganization, own less than a majority of the Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation or reorganization; or (iii) any sale or other transfer by the stockholders of the Company of shares representing at least a majority of the Company's then-total outstanding combined voting power.

(b) Treatment of Warrant at Acquisition. In the event of an Acquisition in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "Cash/Public Acquisition"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Acquisition.

(c) The Company shall provide Holder with written notice of its request relating to the Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice), which is to be delivered to Holder not less than five (5) Business Days prior to the closing of the proposed Cash/Public Acquisition. Notwithstanding the foregoing, if, immediately prior to the Cash/Public Acquisition, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall promptly notify the Holder of the number of Shares (or such other securities) issued upon such exercise to the Holder.

(d) Upon the closing of any Acquisition other than a Cash/Public Acquisition defined above, the acquiring, surviving or successor entity shall assume the obligations of this Warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant.

(e) As used in this Warrant, "Marketable Securities" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and is then current in its filing of all

required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded in Trading Market, and (iii) Holder would be able to publicly re-sell, within six (6) months following the closing of such Acquisition, all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise this Warrant in full on or prior to the closing of such Acquisition.

1.7 Registration Rights. As to any Shares Holder receives or is entitled to receive upon any exercise or conversion of this Warrant, Holder shall be entitled to such demand registration rights and such piggyback registration rights as are commensurate with such registration rights are set forth in that certain Investors' Rights Agreement, dated as of February 7, 2013 by and among the Company and certain of the Company's stockholders, as the same may be amended from time to time, or similar agreement (the "Investors' Rights Agreement").

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend or distribution on the outstanding shares of the Class payable in common stock or other securities or property (other than cash), then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of securities and property which Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the Company subdivides the outstanding shares of the Class by reclassification or otherwise into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations substitutions, replacements or other similar events.

2.3 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of the Warrant, the Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (i) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (ii) the then-effective Warrant Price.

2.4 Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, the Company, at the Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. The Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

SECTION 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is equal to the lesser of (a) the ten (10) day trailing average of the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date, and (b) the Company's common stock price, as determined as of the close of business on the business day immediately prior to the Issue Date.

(b) All Shares which may be issued upon the exercise of this Warrant, shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. The Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of the Class, common stock and other securities as will be sufficient to permit the exercise in full of this Warrant.

3.2 Notice of Certain Events. If the Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(c) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class; or

(d) effect an Acquisition or to liquidate, dissolve or wind up. then, in connection with each such event, the Company shall give Holder:

(1) at least five (5) Business Days prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (a) and (b) above; and

(2) in the case of the matters referred to in (c) and (d) above at least five (5) Business Days prior written notice of the date when the same will take place (and specifying the date on which the holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event).

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if the Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

SECTION 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER.

The Holder represents and warrants to the Company as follows:

4.1 Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 Reserved.

4.7 No Voting Rights. Holder, as a Holder of this Warrant, will not have any voting rights until the exercise of this Warrant.

SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Pacific time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise upon Expiration. In the event that, upon the Expiration Date, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares shall be imprinted with a legend in substantially the following form:

THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO SUNS SPV LLC DATED NOVEMBER 2, 2018, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company). The Company shall not require Holder to provide an opinion of counsel if the transfer is to any entity under common management control with Holder, or any affiliate of Holder, provided that any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Act. Additionally, the Company shall also not require an opinion of counsel if there is no material question as to the availability of Rule 144 promulgated under the Act.

5.4 Transfer Procedure. After receipt by Holder of the executed Warrant, Holder may transfer all of this Warrant to any entity under common management control with Holder, or an affiliate thereof or successor thereto (the "Subsequent Holder"), by execution of an Assignment substantially in the form of Appendix 2. Subject to the provisions of Section 5.3 and upon providing the Company with written notice, Subsequent Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant to any transferee, provided, however, in connection with any such transfer, the Subsequent Holder will give the Company notice of the portion of the Warrant being transferred with the name, address and taxpayer identification number of the transferee and Holder will surrender this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable); and provided further, that any subsequent transferee shall agree in writing with the Company to be bound by all of the terms and conditions of this Warrant.

5.5 Notices. All notices and other communications hereunder from the Company to the Holder, or vice versa, shall be deemed delivered and effective (i) when given personally, (ii) on the third (3rd) Business Day after being mailed by first-class registered or certified mail, postage prepaid, (iii) upon actual receipt if given by facsimile or electronic mail and such receipt is confirmed in writing by the recipient, or (iv) on the first Business Day following delivery to a reliable overnight courier service, courier fee prepaid, in any case at such address as may have been furnished to the Company or Holder, as the case may be, in writing by the Company or such Holder from time to time in accordance with the provisions of this Section 5.5. All notices to Holder shall be addressed as follows until the Company receives notice of a change of address in connection with a transfer or otherwise:

SUNS SPV LLC
c/o Solar Capital Ltd.
500 Park Avenue, 3rd Floor
New York, NY 10022
Attn: Anthony Storino Telephone: (646) 308 - 8730
Fax: (212) 993-1698
Email: storino@solarcapltd.com

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

Baker Botts L.L.P.
101 California Street, Suite 3600 San Francisco, CA 94111
Attn: Jeff Kayes Fax: (415) 291-6331
Email: jeff.kayes@bakerbotts.com

Notice to the Company shall be addressed as follows until Holder receives notice of a change in address:

Restoration Robotics, Inc. 128 Baytech Drive
San Jose, CA
Attn: Chief Financial Officer
Email: markh@restorationrobotics.com

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

Latham & Watkins LLP 140 Scott Drive
Menlo Park, CA 94025 Attn: Brian J. Cuneo
Email: Brian.Cuneo@lw.com

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.8 Counterparts; Facsimile/Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically or by facsimile shall be binding to the same extent as an original signature page with regards to any agreement subject to the terms hereof or any amendment thereto.

5.9 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

5.10 Headings. The headings in this Warrant are for purposes of reference only and shall not limit or otherwise affect the meaning of any provision of this Warrant.

5.11 Business Days. "Business Day" is any day that is not a Saturday, Sunday or a day on which banks in New York, New York are closed.

[*Signature page follows*]

IN WITNESS WHEREOF, the parties have caused this Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

RESTORATION ROBOTICS, INC.

By: _____
Name: Mark Hair
Title: Chief Financial Officer

"HOLDER"

SUNS SPV LLC

By: _____
Name: Richard Peteka
Title: Authorized Signatory

APPENDIX 1

NOTICE OF EXERCISE

1. The undersigned Holder hereby exercises its right purchase_____ shares of the Common/ Stock of Restoration Robotics, Inc. (the "Company") in accordance with the attached Warrant To Purchase Stock, and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ] check in the amount of $_____payable to order of the Company enclosed herewith

[ ] Wire transfer of immediately available funds to the Company's account
[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant
[ ] Other [Describe]

2. Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3. By its execution below and for the benefit of the Company, Holder hereby restates each of the representations and warranties in Section 4 of the Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____

By: _____

Name: _____

Title: _____

(Date): _____

APPENDIX 2 ASSIGNMENT

For value received, **SUNS SPV LLC**, hereby sells, assigns and transfers unto:

Name: [_____]
Address: [_____]
[_____]
Tax ID: [_____]

that certain Warrant to Purchase Stock issued by Restoration Robotics, Inc., a Delaware corporation (the "***Company***"), on November 2, 2018 (the "***Warrant***") together with all rights, title and interest therein.

SUNS SPV LLC

By: _____

Name: _____

Title: _____

By its execution below, and for the benefit of the Company, [_____] agrees to all other provisions of the Warrant as of the date hereof.

[____]

By: _____

Name: _____

Title: _____

CERTAIN MATERIAL (INDICATED BY ASTERISKS) HAS BEEN OMITTED FROM THIS DOCUMENT PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT. THE OMITTED MATERIAL HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION.

Execution Version

THIRD AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS THIRD AMENDMENT TO LOAN AND SECURITY AGREEMENT (this "***Agreement***") is entered into as of February 13, 2019, among Restoration Robotics, Inc., a Delaware corporation (the "***Borrower***"), Solar Capital Ltd., a Maryland corporation (in its capacity as collateral agent, the "***Collateral Agent***") and the Lenders party hereto, comprising the Required Lenders under the Loan Agreement referred to below (each, a "***Lender***" and, collectively, the "***Lenders***").

RECITALS

A. The Borrower, the Lenders party thereto, and the Collateral Agent, are parties to that certain Loan and Security Agreement, dated as of May 10, 2018, as amended by that certain First Amendment to Loan and Security Agreement, dated as of June 29, 2018 and that certain Second Amendment to Loan and Security Agreement, entered into as of November 2, 2018 (as amended, supplemented or otherwise modified prior to the date hereof, the "***Loan Agreement***").

B. The Borrower has requested certain amendments to the Loan Agreement. Although the Lenders and the Collateral Agent are under no obligation to do so, they have agreed to such requests, subject to the terms and conditions hereof.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows:

1. Definitions. Capitalized terms used but not defined in this Agreement shall have the meanings given to them in the Loan Agreement.

2. Amendments to the Loan Agreement. The Loan Agreement shall be amended as follows:

2.1 Definition of Final Fee. The definition of "Final Fee" is hereby amended by replacing "Eighty Hundred Thirty Thousand Dollars ($830,000.00)" with "Nine Hundred Sixty Thousand Dollars ($960,000.00)."

2.2 New Section 6.12. A new Section 6.12 shall be added to the Loan Agreement as follows:

6.12 Equity or Subordinated Debt Raise. On or before February 28, 2019, Borrower shall have provided evidence reasonably satisfactory to the Collateral Agent that Borrower has received after February 1, 2019 at least Five Million Dollars ($5,000,000.00) in aggregate unrestricted net cash proceeds from the sale and issuance of Borrower's common or preferred stock pursuant to one or more bona fide equity financings or the issuance of Subordinated Debt, in each case on terms reasonably acceptable to Collateral Agent

2.3 New Section 6.13. A new Section 6.13 shall be added to the Loan Agreement as follows:

6.13 Letter of Intent. On or before February 28, 2019, Borrower shall have provided an executed letter of intent for the acquisition of 100% of the equity of or all or substantially all of the assets (with an assumption of all liabilities of) the Borrower or the merger of the Borrower, including the repayment in full of the Obligations, in form and substance satisfactory to the Collateral Agent.

2.4 Section 7.13. Section 7.13 of the Loan Agreement shall be amended and restated in its entirety as follows:

7.13 Minimum Liquidity. Borrower shall not allow, at any time, the unrestricted cash and Cash Equivalents of Borrower and its Subsidiaries to be an amount less than (a) as of any date of determination on or prior to June 15, 2019, Ten Million Five Hundred Thousand Dollars ($10,500,000.00), and (b) as of any date of determination on or after June 16, 2019 Twelve Million Five Hundred Thousand Dollars ($12,500,000.00); provided, however, this covenant shall no longer apply after the latest of the following to occur, (i) Borrower has provided evidence reasonably satisfactory to the Collateral Agent that Borrower has received after March 23, 2018 at least Twenty Five Million Dollars ($25,000,000.00) in aggregate unrestricted net cash proceeds from the sale and issuance of Borrower's common or preferred stock pursuant to one or more bona fide equity financings on terms reasonably acceptable to Collateral Agent, (ii) Borrower has provided evidence reasonably satisfactory to the Collateral Agent that Borrower has at least Fifteen Million Dollars ($15,000,000.00) of actual net revenue for any trailing six-month period ending after November 1, 2018, and (iii) December 31, 2019.

2.5 Section 8.2. Section 8.2(a) of the Loan Agreement is hereby amended and restated as follows:

(a) Borrower or any of its Subsidiaries fails or neglects to perform any obligation in Sections 6.2 (Financial Statements, Reports, Certificates), 6.4 (Taxes), 6.5 (Insurance), 6.6 (Operating Accounts), 6.7 (Protection of Intellectual Property Rights), 6.9 (Landlord Waivers; Bailee Waivers), 6.10 (Creation/Acquisition of Subsidiaries), Section 6.12 (Equity or Subordinated Debt Raise), Section 6.13 (Letter of Intent) or Borrower violates any provision in Section 7; or

2.6 Exhibit D. Exhibit G to the Loan Agreement shall be replaced in its entirety with Exhibit A hereto.

3. **Conditions to Effectiveness.** The effectiveness of Section 2 shall be subject to the satisfaction of each of the following conditions precedent, each in form and substance reasonably satisfactory to Collateral Agent:

3.1 the due execution and delivery to the Collateral Agent of this Agreement by each party hereto;

3.2 the Borrower shall have paid to the Lenders in accordance with their respective Pro Rata Shares an amendment fee of Twenty Thousand Dollars ($20,000.00); and

3.3 the Borrower shall have paid to the Lenders the reasonable out-of-pocket costs and expenses of the Collateral Agent and the Lenders party hereto, and the reasonable fees and disbursements of counsel to the Collateral Agent and the Lenders party hereto, in connection with the negotiation, preparation, execution and delivery of this Agreement and any other documents to be delivered in connection herewith.

4. **Representations and Warranties.** The Borrower represents and warrants to the Collateral Agent and each Lender as follows:

4.1 Each of the representations and warranties made by the Borrower in or pursuant to any Loan Document (a) that is qualified by materiality is true and correct, and (b) that is not qualified by materiality is true and correct in all material respects, in each case, on and as of the date of this Agreement, except to the extent that any such representation and warranty specifically relates to an earlier date, in which case such representation and warranty was true and correct in all material respects as of such earlier date.

4.2 The Borrower has the power and authority to execute and deliver this Agreement and to perform its obligations under the Loan Documents.

4.3 The execution and delivery by the Borrower of this Agreement, the performance by Borrower of its obligations under the Loan Agreement, have been duly authorized by all necessary corporate action on the part of the Borrower.

4.4 The execution and delivery by the Borrower of this Agreement and the performance by the Borrower of its obligations hereunder do not (a) conflict with any of the Operating Documents of the Borrower, (b) contravene, conflict with, constitute a default under or violate any material Requirement of Law applicable to the Borrower, (c) contravene, conflict or violate any applicable order, writ, judgment, injunction, decree, determination or award of any Governmental Authority by which Borrower or any of its property or assets may be bound or affected, (d) require any action by, filing, registration, or qualification with, or Governmental Approval from, any Governmental Authority (except such Governmental Approvals which have already been obtained and are in full force and effect), or (e) constitute an event of default under any material agreement by which Borrower or any of its properties, is bound.

4.5 This Agreement has been duly executed and delivered by the Borrower and is the valid and binding obligation of the Borrower, enforceable against the Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

4.6 Both immediately prior to giving effect hereto and immediately thereafter, no Default or Event of Default has occurred and is continuing under the Loan Agreement or the Loan Documents.

5. **Reaffirmation of Loan Documents.** The Borrower hereby grants, ratifies and reaffirms the security interest in its Collateral granted to the Collateral Agent pursuant to the terms of the Loan Agreement, and also ratifies and reaffirms its obligations under each Loan Document to which it is party, and acknowledges and agrees that each such Loan Document shall remain in full force and effect after giving effect to the consummation of this Agreement. This Agreement is not a novation and the terms and conditions of this Agreement shall be in addition to and supplemental to all terms and conditions set forth in the Loan Documents. In the event of any conflict or inconsistency between this Agreement and the terms of any other Loan Document, the terms of this Agreement shall be controlling, but such other Loan Document shall not otherwise be affected or the rights therein impaired.

6. **Integration.** This Agreement and the other Loan Documents represent the entire agreement relating to the subject matter of this Agreement and supersede all prior negotiations and agreements with respect to the substance of this Agreement. All prior agreements, understandings, representations, warranties, and negotiations between the parties about the subject matter of this Agreement and the Loan Documents merge into this Agreement and the Loan Documents

7. **Counterparts.** This Agreement may be executed in any number of counterparts and all of such counterparts taken together shall be deemed to constitute one and the same instrument.

8. **Miscellaneous.**

8.1 Except as expressly amended pursuant hereto, the Loan Agreement and the other Loan Documents shall remain unchanged and in full force and effect and are hereby ratified and confirmed in all respects.

8.2 This Agreement shall constitute a Loan Document under the Loan Agreement.

8.3 Each provision of this Agreement is severable from every other provision in determining the enforceability of any provision.

8.4 This Agreement is effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any Agreement, waiver or modification of any term or condition of any Loan Document, or (b) otherwise prejudice any right or remedy which the Collateral Agent or any Lender may now have or may have in the future under or in connection with any Loan Document.

8.5 This Agreement and all documents related hereto shall constitute Loan Documents, shall be construed in connection with and as part of the Loan Documents.

9. **Governing Law. THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HERETO SHALL IN ALL RESPECTS BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAWS PRINCIPLES OF SUCH STATE (OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW)), INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, REGARDLESS OF THE LOCATION OF THE COLLATERAL, PROVIDED, HOWEVER, THAT IF THE LAWS OF ANY JURISDICTION OTHER THAN NEW YORK SHALL GOVERN IN REGARD TO THE VALIDITY, PERFECTION OR EFFECT OF PERFECTION OF ANY LIEN OR IN REGARD TO PROCEDURAL MATTERS AFFECTING ENFORCEMENT OF ANY LIENS IN COLLATERAL, SUCH LAWS OF SUCH OTHER JURISDICTIONS SHALL CONTINUE TO APPLY TO THAT EXTENT.** This Agreement is subject to the provisions of Section 11 of the Loan Agreement relating to jurisdiction, venue, jury trial waiver and judicial reference, which provisions are by this reference incorporated herein, *mutatis mutandis*, as if set forth herein in full.

[Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement, as of the date first above written.

THE BORROWER

RESTORATION ROBOTICS, INC.

By: /s/ Mark Hair
Name: Mark Hair
Title: CFO

COLLATERAL AGENT AND LENDER:

SOLAR CAPITAL LTD.

By: /s/ Anthony Storino
Name: Anthony Storino
Title: Authorized Signatory

LENDER:

SCP PRIVATE CREDIT INCOME FUNDS L.P.

By: /s/ Anthony Storino
Name: Anthony Storino
Title: Authorized Signatory

LENDER:

SUNS SPV LLC

By: /s/ Anthony Storino
Name: Anthony Storino
Title: Authorized Signatory

LENDER:

WESTERN ALLIANCE BANK

By: /s/ Lindsay Fouty
Name: Lindsay Fouty
Title: VP, Portfolio Management

Exhibit A

Replacement Exhibit D

[*See attached*]

EXHIBIT D

Compliance Certificate

TO: SOLAR CAPITAL LTD., as Collateral Agent and Lender
WESTERN ALLIANCE BANK, as Lender

FROM: Restoration Robotics, Inc.

The undersigned authorized officer ("**Officer**") of Restoration Robotics, Inc. ("**Borrower**"), hereby certifies that in accordance with the terms and conditions of the Loan and Security Agreement dated as of May 10, 2018 by and among Borrower, Collateral Agent, and the Lenders from time to time party thereto (the "**Loan Agreement**;" capitalized terms used but not otherwise defined herein shall have the meanings given them in the Loan Agreement),

(a) Borrower is in complete compliance for the period ending _____ with all required covenants except as noted below;

(b) There are no Events of Default or events that with the passage of time could result in an Event of Default, except as noted below;

(c) Except as noted below, all representations and warranties of Borrower stated in the Loan Documents (other than the Warrants) are true and correct in all material respects on date hereof; provided, however, that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof; and provided, further that those representations and warranties expressly referring to a specific date shall be true, accurate and complete in all material respects as of such date

(d) Borrower, and each of Borrower's Subsidiaries, has timely filed all required tax returns and reports, Borrower, and each of Borrower's Subsidiaries, has timely paid all foreign, federal, state, and local taxes, assessments, deposits and contributions owed by Borrower, or Subsidiary, except as otherwise permitted pursuant to the terms of Section 5.8 of the Loan Agreement;

(e) No Liens have been levied or claims made against Borrower or any of its Subsidiaries relating to unpaid employee payroll or benefits of which Borrower has not previously provided written notification to Collateral Agent and the Lenders.

Attached are the required documents, if any, supporting our certification(s). The Officer, on behalf of Borrower, further certifies that the attached financial statements are prepared in accordance with Generally Accepted Accounting Principles (GAAP) and are consistently applied from one period to the next except as explained in an accompanying letter or footnotes and except, in the case of unaudited financial statements, for the absence of footnotes and subject to year-end and audit adjustments as to the interim financial statements.

Please indicate compliance status since the last Compliance Certificate by circling Yes, No, or N/A under "Complies" column.

	Reporting Covenant	Requirement	Actual	Complies		
1)	Financial statements	Monthly within 30 days		Yes	No	N/A
2)	Annual (CPA Audited) statements	Within 180 days after FYE		Yes	No	N/A
3)	Annual Financial Projections/Budget (prepared on a monthly basis)	Annually (within 60 days after FYE or 10 days of approval), and when revised (within 7 days of approval)		Yes	No	N/A
4)	8-K, 10-K and 10-Q Filings	If applicable, within 5 days of filing		Yes	No	N/A
5)	Compliance Certificate	Monthly within 30 days		Yes	No	N/A
6)	Total amount of Borrower's unrestricted cash and Cash Equivalents at the last day of the measurement period		$_____	Yes	No	N/A
7)	Total amount of Borrower's Subsidiaries' unrestricted cash and Cash Equivalents at the last day of the measurement period		$_____	Yes	No	N/A

Deposit and Securities Accounts
(Please list all accounts; attach separate sheet if additional space needed)

	Institution Name	Account Number	New Account?		Account Control Agreement in place?	
1)			Yes	No	Yes	No
2)			Yes	No	Yes	No
3)			Yes	No	Yes	No
4)			Yes	No	Yes	No

Financial Covenants

[7.13 – Minimum Liquidity Requirement

1.	Unrestricted Cash and Cash Equivalents:	_____]1	
2.	Does this comply with the Minimum of $10,500,000 on or prior to June 15, 2019 or $12,000,000 thereafter?	Yes	No

1 To be included only if applicable.

[7.14 – Minimum Revenue Requirement

1. Actual 12 month Trailing Revenue for this month: $ _____

2. Does this comply with the Minimum Revenue Required in Column D below for this month: Yes No

A	B	C	D
Month Ending	Management Case Revenue Projection (12 Month Trailing)	Minimum Percent Achievement for Covenant	Minimum Revenue Required for Covenant (12 Month Trailing)
9/30/2018	**[***]**	**[***]**	**[***]**
10/31/2018	**[***]**	**[***]**	**[***]**
11/30/2018	**[***]**	**[***]**	**[***]**
12/31/2018	**[***]**	**[***]**	**[***]**
1/31/2019	**[***]**	**[***]**	**[***]**
2/28/2019	**[***]**	**[***]**	**[***]**
3/31/2019	**[***]**	**[***]**	**[***]**
4/30/2019	**[***]**	**[***]**	**[***]**
5/31/2019	**[***]**	**[***]**	**[***]**
6/30/2019	**[***]**	**[***]**	**[***]**
7/31/2019	**[***]**	**[***]**	**[***]**
8/31/2019	**[***]**	**[***]**	**[***]**
9/30/2019	**[***]**	**[***]**	**[***]**
10/31/2019	**[***]**	**[***]**	**[***]**
11/30/2019	**[***]**	**[***]**	**[***]**
12/31/2019	**[***]**	**[***]**	**[***]**
1/31/2020	**[***]**	**[***]**	**[***]**
2/29/2020	**[***]**	**[***]**	**[***]**
3/31/2020	**[***]**	**[***]**	**[***]**
4/30/2020	**[***]**	**[***]**	**[***]**
5/31/2020	**[***]**	**[***]**	**[***]**

[***] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

6/30/2020	**[***]**	**[***]**	**[***]**
7/31/2020	**[***]**	**[***]**	**[***]**
8/31/2020	**[***]**	**[***]**	**[***]**
9/30/2020	**[***]**	**[***]**	**[***]**
10/31/2020	**[***]**	**[***]**	**[***]**
11/30/2020	**[***]**	**[***]**	**[***]**
12/31/2020	**[***]**	**[***]**	**[***]**
1/31/2021	**[***]**	**[***]**	**[***]**
2/28/2021	**[***]**	**[***]**	**[***]**
3/31/2021	**[***]**	**[***]**	**[***]**
4/30/2021	**[***]**	**[***]**	**[***]**
5/31/2021	**[***]**	**[***]**	**[***]**
6/30/2021	**[***]**	**[***]**	**[***]**
7/31/2021	**[***]**	**[***]**	**[***]**
8/31/2021	**[***]**	**[***]**	**[***]**
9/30/2021	**[***]**	**[***]**	**[***]**
10/31/2021	**[***]**	**[***]**	**[***]**
11/30/2021	**[***]**	**[***]**	**[***]**
12/31/2021	**[***]**	**[***]**	**[***]**
1/31/2022	**[***]**	**[***]**	**[***]**
2/28/2022	**[***]**	**[***]**	**[***]**
3/31/2022	**[***]**	**[***]**	**[***]**
4/30/2022	**[***]**	**[***]**	**[***]**

[***] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Other Matters

1)	Have there been any changes in Key Persons since the last Compliance Certificate?	Yes	No
2)	Have there been any transfers/sales/disposals/retirement of Collateral or IP prohibited by the Loan Agreement?	Yes	No
3)	Have there been any new or pending claims or causes of action against Borrower or any of its Subsidiaries that involve more than Two Hundred Fifty Thousand Dollars ($250,000.00)?	Yes	No
4)	Have there been any amendments of or other changes to the capitalization table of Borrower and to the Operating Documents of Borrower or any of its Subsidiaries? If yes, provide copies of any such amendments or changes with this Compliance Certificate.	Yes	No
5)	Has Borrower or any Subsidiary entered into any Material Agreement, amended any Material Agreement, or modified any other license, agreement or other contractual arrangement such that it would become a Material Agreement? If yes, please explain and provide a copy of the Material Agreement(s) and/or amendment(s).	Yes	No
6)	Has Borrower provided the Collateral Agent with all notices required to be delivered under Sections 6.2(a) and 6.2(b) of the Loan Agreement?	Yes	No

Exceptions

Please explain any exceptions with respect to the certification above: (If no exceptions exist, state “No exceptions.” Attach separate sheet if additional space needed.)

Restoration Robotics, Inc.

By: _____
Name: _____
Title: _____

Date:

COLLATERAL AGENT USE ONLY

Received by: _____ Date: _____

Verified by: _____ Date: _____

Compliance Status: Yes No

Exhibit 21.1

List of Subsidiaries of
Restoration Robotics, Inc.

Name	Jurisdiction of Incorporation or Organization
Restoration Robotics, Inc. Limited	Hong Kong
Restoration Robotics Europe Limited	United Kingdom
Restoration Robotics Korea Yuhan Hoesa	Republic of Korea
Restoration Robotics Spain S.L.	Spain

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated March 19, 2019, with respect to the consolidated financial statements included in the Annual Report of Restoration Robotics, Inc. on Form 10-K for the year ended December 31, 2018. We consent to the incorporation by reference of said report in the Registration Statements of Restoration Robotics, Inc. on Form S-8 (File No. 333-223448 and File No. 333-220993) and Form S-3 (File No. 333-228562).

/s/ GRANT THORNTON LLP

Denver, Colorado
March 20, 2019

Exhibit 31.1

CERTIFICATION OF PRESIDENT AND CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Ryan Rhodes, certify that:

1. I have reviewed this annual report on Form 10-K of Restoration Robotics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13(a)-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 20, 2019

By: /s/ RYAN RHODES

Name: Ryan Rhodes
President, Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Mark Hair, certify that:

1. I have reviewed this annual report on Form 10-K of Restoration Robotics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 20, 2019

By: /s/ MARK HAIR

Name: Mark Hair
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the annual report of Restoration Robotics, Inc. (the "Company") on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 20, 2019

By: /s/ RYAN RHODES

Name: Ryan Rhodes
President, Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the annual report of Restoration Robotics, Inc. (the "Company") on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 20, 2019

By: /s/ MARK HAIR

Name: Mark Hair
Chief Financial Officer
(Principal Financial Officer)