Sientra, Inc.
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Registration No. 333-222453

PROSPECTUS SUPPLEMENT

(To prospectus dated February 2, 2018)

7,407,408 shares

Common stock

We are offering 7,407,408 shares of our common stock.

Our common stock is listed on the Nasdaq Global Select Market under the symbol SIEN. On May 2, 2018, the last reported sale price of our common stock on the Nasdaq Global Select Market was $14.62 per share.

We have granted the underwriters an option for a period of up to 30 days from the date of this prospectus supplement to purchase up to 1,111,111 additional shares of common stock at the public offering price less the underwriting discounts and commissions.

Certain existing stockholders, including members of management and our board of directors, have agreed to purchase an aggregate of 324,074 shares of our common stock in this offering at the public offering price. The underwriters will receive the same underwriting discount on the shares purchased by these existing stockholders that they will receive on the other shares sold to the public in this offering.

We refer you to Underwriting beginning on page S-53 of this prospectus supplement for additional information regarding underwriting compensation.

Investing in our common stock involves risks. See Risk Factors beginning on page S-11 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement.

	Per share	Total
Public offering price	$ 13.50	$ 100,000,008
Underwriting discount	$ 0.81	$ 6,000,000
Proceeds, before expenses, to us	$ 12.69	$ 94,000,008

These securities are not deposits, savings accounts, or other obligations of any bank or savings association and are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

Joint Bookrunning Managers

Stifel **Canaccord Genuity** **William Blair**

The date of this prospectus supplement is May 3, 2018

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Prospectus Supplement

You should rely only on the information contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or any free writing prospectus that we may provide to you. We have not, and the underwriters have not, authorized anyone to provide to you with different information, and you should not rely on any information not contained in or incorporated by reference into this prospectus supplement, the accompanying prospectus or any free writing prospectus that we may provide you. We are not, and the underwriters are not, offering to sell shares of our common stock or seeking offers to buy shares of our common stock in any jurisdictions where offers and sales are not permitted. The information contained in this prospectus supplement, the accompanying prospectus or any free writing prospectus that we may provide to you is accurate only as of the date of each document regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or any sale of shares of our common stock. In case there are any differences or inconsistencies between this prospectus supplement, the accompanying prospectus or any free writing prospectus that we may provide to you and the information incorporated by reference in them, you should rely on the information in the document with the most recent date.

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus dated February 2, 2018, provides more general information about our common stock. To the extent the information contained in this prospectus supplement differs or varies from the information contained in the accompanying prospectus or the documents incorporated by reference, you should rely on the information in this prospectus supplement. Generally, when we refer to the prospectus, we are referring to this prospectus supplement and the accompanying prospectus combined.

Unless the context indicates otherwise or we expressly state to the contrary, as used in this prospectus supplement and the accompanying prospectus, the terms the Company, Sientra, we, us and our refer to Sientra, Inc., a Delaware corporation. When we refer to you, we mean the holders of common stock of the Company.

MARKET, INDUSTRY AND OTHER DATA

Certain market and industry data and forecasts included or incorporated by reference in this prospectus supplement were obtained from independent market research, industry publications and surveys, governmental agencies, publicly available information and Realself, Inc. Industry surveys, publications and forecasts generally state that the information contained therein has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We believe the data from such third-party sources that is included in the prospectus supplement or incorporated herein by reference to be reliable. However, we have not independently verified any of such data and cannot guarantee its accuracy or completeness and cannot assure you that the trends reflected in this data will continue. Similarly, internal market research and industry forecasts, which we believe to be reliable based upon our management s knowledge of the market and the industry, have not been verified by any independent sources. While we are not aware of any misstatements regarding the market or industry data presented herein or incorporated herein by reference, our estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading Risk Factors in this prospectus supplement and in our Annual Report on Form 10-K for the year ended December 31, 2017, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended, each of which are incorporated herein by reference, and Special Note Regarding Forward-Looking Statements in this prospectus supplement.

Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which this data is derived. In that regard, when we refer to one or more sources of this type of data in any paragraph, you should assume that other data of this type appearing in the same paragraph is derived from the same sources, unless otherwise expressly stated or the context otherwise requires.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including our financial statements and related notes and the other information incorporated by reference into this prospectus supplement and the accompanying prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information referred to under the heading Risk Factors in this prospectus supplement beginning on page S-11 and in the documents incorporated herein by reference.

Our Business

We are a medical aesthetics company committed to making a difference in patients lives by enhancing their body image, growing their self-esteem and restoring their confidence. We were founded to provide greater choices to board-certified plastic surgeons and patients in need of medical aesthetics products. We have developed a broad portfolio of products with technologically differentiated characteristics, supported by independent laboratory testing and strong clinical trial outcomes. We sell our breast implants and tissue expanders, or Breast Products, exclusively to board-certified and board-admissible plastic surgeons and tailor our customer service offerings to their specific needs, which we believe helps secure their loyalty and confidence.

On June 11, 2017, we entered into a Merger Agreement with miraDry (formerly Miramar Labs) pursuant to which we commenced a tender offer to purchase all of the outstanding shares of miraDry s common stock. Pursuant to the transaction, which closed on July 25, 2017, we added the miraDry System, the only FDA cleared device to reduce underarm sweat, odor and hair of all colors to our aesthetics portfolio. Following our acquisition of miraDry in July 2017, we began selling the miraDry System and bioTips. As a result of the miraDry acquisition, we determined that we will conduct our business in two operating segments. The Breast Products segment is comprised of our breast implants, tissue expanders and scar management products. The miraDry segment is comprised of our recently acquired miraDry System.

We sell both our Breast Products and miraDry products in the U.S. through a direct sales organization, which as of December 31, 2017, consisted of 83 employees, including 68 sales representatives and 15 sales managers. Additionally, we also sell our miraDry System in several international markets where we leverage a combination of distributor relationships and direct sales efforts. As of December 31, 2017, our international operations were supported by 7 employees, including 6 sales representatives and 1 sales manager.

We have two reporting segments: Breast Products and miraDry. The Breast Products segment focuses on sales of our breast implants, tissue expanders and scar management products under the brands Sientra, AlloX2, Dermaspan, Softspan and our recently re-packaged BIOCORNEUM. The miraDry segment focuses on sales of the miraDry System, consisting of a console and a handheld device which uses consumable single-use bioTips.

Our Markets

The global market for aesthetic procedures is significant. The American Society for Aesthetic Plastic Surgery, or ASAPS, estimates that U.S. consumers spent approximately $15 billion on approximately 13 million aesthetic procedures in 2016, including both surgical and non-invasive cosmetic treatments.

Breast Products

Breast augmentation surgery remains the leading aesthetic surgical procedure by dollars and number of procedures in the United States, with over 333,000 primary breast augmentation procedures performed in the United States in 2017, according to ASAPS. Based on the number of procedures reported by ASAPS and American Society of Plastic Surgeons, or ASPS, and our estimates of average selling prices, implant mix and implants per procedure, we estimate the size of our current and potential breast markets to be approximately $1.5 billion on a global basis, with the size of our addressable U.S. market (based on our currently available breast products, including scar management products) estimated at approximately $700 million.

We sell our breast implants and tissue expanders exclusively to board-certified and board-admissible plastic surgeons, as determined by the American Board of Plastic Surgery, who we refer to as Plastic Surgeons. These surgeons have completed the extensive multi-year plastic surgery residency training required by the American Board of Plastic Surgery. While aesthetic procedures are performed by a wide range of medical professionals, including dermatologists, otolaryngologists, obstetricians, gynecologists, dentists and other specialists, the majority of aesthetic surgical procedures are performed by Plastic Surgeons. Plastic Surgeons are thought leaders in the medical aesthetics industry. According to the American Board of Plastic Surgery, there are approximately 6,500 board-certified plastic surgeons in the United States. In addition, our Breast Products segment is also supported by Multi Specialty Consultants, or MSCs, that sell scar management products directly to physicians, and we have recently expanded our sales channel to include a dedicated national accounts team focused on selling our tissue expanders to hospitals.

miraDry

According to the ASAPS, cosmetic procedures have increased by 35% over the past five years with nonsurgical procedures up 39%. Laser and light-based hair removal continues to be the largest volume among non-invasive and non-injectable procedures. As an emerging market, energy-based procedures for sweat and odor reduction are not currently tracked by ASAPS data. No one treatment procedure is offered by all physicians, and treatments vary in terms of the treatment goal and desired effect. As a result, the total aesthetic market as reported by ASAPS does not represent the market potential for miraDry or any other single product or treatment, but illustrates that each year patients elect to have millions of aesthetic procedures. We believe several factors are contributing to the ongoing growth in aesthetic procedures, including:

Broader availability of safe non-invasive aesthetic procedures. Technological developments have resulted in the introduction of a broader range of safe, non-invasive aesthetic procedures. According to ASAPS, non-invasive aesthetic treatments are growing faster than invasive surgical procedures.

Increased physician focus on aesthetic procedures. We believe increased restrictions imposed by managed care and government agencies on reimbursement for medical treatments are motivating our customers to establish or expand their elective aesthetic practices, which generally consist of procedures paid for directly by patients. We expect this trend to continue as our customers look for ways to expand their practices and improve profitability.

Hyperhidrosis is a medical condition of varying degree in which a person sweats excessively. The prevalence of hyperhidrosis in the United States is significant. A study published by Strutton et al. in the June 2004 issue of the Journal of the American Academy of Dermatology, or AAD, titled US prevalence of hyperhidrosis and impact on individuals with axillary hyperhidrosis: Results from a national survey, estimated that 2.8% of the general population has hyperhidrosis (in this study defined as excessive or abnormal sweating) with 50.8% thereof having axillary hyperhidrosis. Additionally, the general consensus of medical practitioners is that the definition of hyperhidrosis includes anyone who is bothered by their sweat. As such, the definition of axillary hyperhidrosis is broad in scope and

the condition depends upon whether patients have determined that their

sweating is excessive or abnormal. Because this assessment is subjectively determined by the patients themselves, there is no quantifiable standard that medical practitioners use to determine whether a patient is suffering from axillary hyperhidrosis. If patients subjectively determine that their sweating is excessive and as such are bothered by their sweating, such patients are considered to be suffering from axillary hyperhidrosis.

In 2017, we commissioned a survey of over 2,000 consumers, evaluating several criteria including sweat bothered, dissatisfaction with current treatment, interest in a non-surgical long-term solution, and interest in the miraDry product description. Based on this survey, we believe there are approximately 37 million people in the U.S. alone that are bothered by sweat, dissatisfied with their current treatment and/or have an interest in seeking a long-term solution, and that approximately 15 million people would be interested in our miraDry solution. Based on this survey and our average selling price per bioTip, we estimate the size of our addressable consumables market to be approximately $6 billion in the U.S. Further, based on this survey, our estimates of the number of aesthetic practices in the U.S., the indicated number of people interested in a miraDry solution and our average selling price per miraDry console, we estimate the size of our addressable equipment market to be approximately $1.4 billion on a global basis, with the size of our addressable U.S. market estimated at approximately $700 million.

Our Breast Products patent portfolio presently consists of one (1) pending U.S. patent application, as well as several in-licensed patent rights, and our miraDry patent portfolio presently consists of approximately twenty (20) granted or allowed U.S. patents, eight-six (86) granted or allowed foreign counterpart patents, nine (9) pending or published U.S. patent applications, and thirty-three (33) pending or published foreign counterpart patent applications. Our Breast Products trademark portfolio presently consists of twelve (12) worldwide registered trademarks and thirteen (13) pending worldwide trademark applications and our miraDry trademark portfolio presently consists of ninety (90) worldwide registered trademarks and seven (7) pending worldwide trademark applications.

Our Competitive Strengths

We believe that we are well positioned to take advantage of opportunities afforded by current market dynamics. By focusing on products with technologically differentiated characteristics, demonstrating strong clinical data, offering more product choices and providing services tailored specifically to the needs of physicians, we believe we can enhance our position in the market. Our competitive strengths include:

Proven and experienced leadership team. We have a highly experienced management team at both the corporate and operational levels with significant experience in the medical aesthetics industry. Members of our senior management team have extensive experience in the medical aesthetics industry.

Breast Products

Differentiated silicone gel and texturing technologies. We incorporate differentiated technologies into our proprietary breast implants to distinguish ourselves from our competitors, including our silicone shell, High-Strength Cohesive silicone gel and a textured surface. Our breast implants offer a desired balance between strength, shape retention and softness due to the High-Strength Cohesive silicone gel used in our products. In addition, the texturing on Sientra s implant shell is designed to reduce the incidence of malposition, rotation and capsular contracture.

Strong clinical trial outcomes. Our clinical trial results demonstrate the safety and effectiveness of our breast implants. Our breast implants were approved by the FDA based on data we collected from our ongoing, long-term clinical trial of our breast implants in 1,788 women across 36 investigational sites in the United States. The clinical data we collected over a ten-year follow-up period demonstrated rupture rates, capsular contracture rates and reoperation rates that were comparable to or better than those of our competitors, based on our competitors published ten-year data.

Innovative services that deliver an improved customer experience. Our customer service offerings are intended to accommodate and anticipate the needs of our Plastic Surgeons so they can focus on providing better services to their patients. We provide an industry-leading ten-year limited warranty that provides patients with a cash reimbursement for certain out-of-pocket costs related to revision surgeries in a covered event; a lifetime no-charge implant replacement program for covered ruptures; and our industry-first C3 Program through which we offer no-charge replacement implants to breast augmentation patients who experience capsular contracture within the first five years after implantation with our smooth or textured breast implants. On April 25, 2018, we announced our new Sientra Platinum20 Warranty, which we believe provides an industry leading policy of no-charge replacement implants, as well as financial assistance, for certain qualifying events occurring within twenty years of the initial procedure. We also offer specialized educational initiatives and a streamlined ordering, shipping and billing process.

Board-certified plastic surgeon focus. We sell our breast implants and tissue expanders exclusively to board-certified and board-admissible plastic surgeons who are thought leaders in the medical aesthetics industry. We address the specific needs of Plastic Surgeons through continued product innovation, expansion of our product portfolio and enhanced customer service offerings. We believe that securing the loyalty and confidence of Plastic Surgeons is essential to our success and that our association with Plastic Surgeons enhances our credibility and aligns with our focus on making a difference in patients lives.

miraDry

Strong clinical trial outcomes. The miraDry System is the only FDA cleared device to reduce underarm sweat, odor and hair of all colors. Clinical studies involving more than 150 patients have shown that one or two miraDry procedures can noticeably and measurably reduce the amount of sweat from the axilla, or underarm. In our study involving 120 subjects, 89% of patients that received treatment experienced reduction in their sweat with no reported deaths, injuries requiring immediate medical attention to prevent death, or permanent impairment. In a second study involving 31 patients, patients reported an average of 82% sweat reduction at 12 months and 100% of patients reported an improvement in their HDSS score at 24 months, with all patients reporting their sweating as either never noticeable or tolerable. Because sweat glands do not regenerate after the procedure, we believe the results are lasting.

Patient satisfaction. miraDry allows most patients to achieve noticeable and measurable aesthetic results without the pain, expense, downtime, and risks associated with invasive and minimally-invasive procedures for sweat, odor and hair reduction. In addition, unlike many other non-invasive procedures, patients are not required to undergo multiple or recurring treatment procedures to obtain aesthetic results. According to RealSelf.com, a leading online community helping people make confident choices in elective cosmetic procedures, as of January 16, 2018, the miraDry procedure received a 90% worth it rating from patients.

Reproducible results. The miraDry procedure requires limited training and skill to obtain successful aesthetic results. The miraDry System was designed to be easy to operate and largely automated, resulting in a more consistent application and reproducible results.

Differentiated, high-value product for physician practices. Our selective distribution strategy was designed to enable our customers to market miraDry as a highly differentiated, non-invasive sweat, odor, and hair reduction procedure. Based on our commercial data and customer experiences, we have seen attractive economic benefits for our customers.

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Our Strategy

Our objective is to become a leading global provider of differentiated medical aesthetic products and services tailored to meet the needs of physicians, allowing us to deliver on our commitment to enhance and make a difference in patients lives. To achieve our objective, we are pursuing the following business strategies:

Create awareness of our differentiated technologies, products and services with Plastic Surgeons and consumers. Since we commenced commercial operations, we have focused most of our marketing efforts on Plastic Surgeons to promote and create awareness of the benefits of our products. Among other marketing programs targeted at Plastic Surgeons, we offer educational initiatives exclusively to Plastic Surgeons through our Sientra Education Forums, and we have continued our consumer-directed efforts, including an exclusive collaboration with RealSelf.com. We believe that continuing to invest in expanding marketing initiatives will have a positive impact on our business.

Selectively pursue acquisitions and expand into new markets. We may continue to selectively pursue domestic and international acquisitions of businesses or technologies that may allow us to leverage our relationships with Plastic Surgeons and our existing commercial infrastructure to provide us with new or complementary products or technologies, and allow us to compete in new geographic markets or market segments or to increase our market share. For example, we began selling BIOCORNEUM directly to physicians in the United States after we acquired the rights to do so, in addition to rights relating to certain other specified sales channels from Enaltus in March 2016. We began selling the AlloX2 and Dermaspan lines of breast tissue expanders, and the Softspan line of general tissue expanders, after we acquired these product lines from SSP in November 2016. We began selling the miraDry System and bioTips after the acquisition of miraDry in July 2017 and, based on our commissioned survey of over 2,000 consumers, we believe the market for these products represents a growing and demographically diverse opportunity to drive sales.

Broaden our product portfolio and launch new products and services. We plan to continue to develop products that address the unmet needs of physicians and patients by leveraging our innovative technologies in combination with our regulatory and product development expertise. We have a number of new breast implants and tissue expanders under development with different characteristics and configurations. We believe these expanded product choices will allow Plastic Surgeons to potentially achieve better outcomes for their patients. In addition, we plan to take advantage of cross selling and product bundling opportunities.

Highly optimized, experienced and fully trained sales force. We maintain separate North American sales forces within our Breast Products and miraDry segments. Our Breast Products sales force primarily consists of Plastic Surgery Consultants, or PSCs, focused on selling all breast products and tissue expanders exclusively to board-certified and board-admissible plastic surgeons. Additionally, our Breast Products segment is also supported by MSCs that sell scar management products directly to physicians. As of March 31, 2018, our Breast Products sales force comprised of 32 PSCs and 6 MSCs. Our miraDry sales force is a bifurcated organization that is split between Area Sales Managers, or ASMs, who focus on system sales, and Practice Development Managers, or PDMs, who focus on high margin consumable bioTip sales, assisting practices to market miraDry to patients, undergo product training and drive system utilization. As of March 31, 2018, our miraDry sales force comprised of 18 ASMs and 14 PDMs. We have continued to hire high quality, experienced sales representatives and sales management personnel in all categories and train the sales organization to optimize performance in their respective roles. We believe our sales force will continue to generate increased customer adoption and patient awareness momentum in the marketplace.

Invest in clinical studies and peer reviewed articles with key opinion leaders. We intend to continue to invest in clinical studies in order to provide published peer reviewed articles that support the clinical benefits of our products and technologies over those of our competitors. We believe our relationship with Plastic Surgeons and

our continued focus on providing differentiated products and services will allow us to leverage our existing capabilities to increase our share of the breast implant market specifically and the medical aesthetics market generally.

Increase our international presence. There is strong global demand for aesthetic procedures outside of North America. We intend to increase our market penetration outside of North America and build global brand recognition. We have received regulatory approval or are otherwise free to market miraDry in numerous international markets. We intend to seek regulatory approval to market miraDry in additional international markets, as well as grow our international sales and marketing organization to focus on increasing sales and market share, as well as strengthening our customer relationships. As part of this strategy, we are and intend to continue to opportunistically deploy a direct sales force in select international markets.

Our Products

Breast Products

Our primary products are silicone gel breast implants for use in breast augmentation and breast reconstruction procedures, which we offer in approximately 400 variations of shapes, sizes, fill volumes and textures. Our breast implants are primarily used in elective procedures that are generally performed on a cash-pay basis. Many of our proprietary breast implants incorporate one or more technologies that differentiate us from our competitors, including High-Strength Cohesive silicone gel and shell texturing. Our breast implants offer a desired balance between strength, shape retention and softness due to the silicone shell and High-Strength Cohesive silicone gel used in our implants. The texturing on Sientra s implant shell is designed to reduce the incidence of malposition, rotation and capsular contracture.

Our breast implants were approved by the FDA in 2012, based on three-year data from our recently completed, long-term clinical trial of our breast implants in 1,788 women across 36 investigational sites in the United States, which included 3,506 implants (approximately 53% of which were smooth and 47% of which were textured). According to a recent publication by the Plastic and Reconstructive Surgery Journal, our clinical trial represents the largest gel breast implant pivotal trial in the United States and examined the long-term safety and effectiveness of gel breast implants. The study included a large magnetic resonance imaging, or MRI, cohort, with 571 patients. The MRI cohort is a subset of study patients that underwent regular MRI screenings in addition to the other aspects of the clinical trial protocol prior to FDA approval. Post-approval, all patients in the long-term clinical trial were subject to serial MRI screenings as part of the clinical protocol. The clinical data we collected over a ten-year follow-up period demonstrated rupture rates, capsular contracture rates and reoperation rates that were comparable to, or better than, those of our competitors, at similar time points. In addition to our pivotal study, our clinical data is supported by our completed five-year Continued Access Study of 2,497 women in the United States. We have also commissioned a number of bench studies run by independent laboratories that we believe further demonstrate the advantages of our breast implants over those of our competitors.

On August 9, 2016, we announced our collaboration with Vesta Intermediate Funding, Inc., or Vesta, a Lubrizol Lifesciences company, pursuant to which we worked with Vesta to establish a dedicated manufacturing facility for our breast implants. On March 14, 2017, we announced that we had executed a definitive manufacturing agreement with Vesta for the manufacture and supply of our breast implants and that we had submitted a site-change pre-market approval, or PMA, supplement to the FDA for the manufacturing of our PMA-approved breast implants by Vesta. Vesta began manufacturing our breast products in October 2017 in order to build our inventory pending FDA approval of the PMA supplement. On January 30, 2018, we announced that the FDA granted approval of the PMA supplement for our contract manufacturer, Vesta, to manufacture our silicone gel breast implants. In support of the move to the Vesta manufacturing facility, we also implemented new manufacturing process improvements which, in consultation with the FDA, required three (3) additional

submissions. These submissions were approved by the FDA on January 10, 2018, January 19, 2018 and April 17, 2018. With these latest approvals, we intend to re-launch our breast implant business and scale implant supply into the second half of 2018. In addition, we offer BIOCORNEUM, an advanced silicone scar treatment, directly to physicians, surgeons and dermatologists.

We sell our silicone gel breast implants and tissue expanders exclusively to Plastic Surgeons. We seek to provide Plastic Surgeons with differentiated services, including enhanced customer service offerings and a twenty-year limited warranty that provides patients with cash reimbursement for certain out-of-pocket costs related to revision surgeries in a covered event; a lifetime no-charge implant replacement program for covered ruptures; and the industry s-first policy of no-charge replacement implants to patients who experience covered capsular contracture, double capsule and late-forming seroma events within twenty years of the initial implant procedure.

miraDry Products

In July 2017, we completed our acquisition of miraDry, following which we began selling the miraDry System, the only FDA cleared device indicated to reduce underarm sweat, odor and hair of all colors through the precise and non-invasive delivery of microwave energy to the region where sweat glands reside. The energy generates heat at the dermal-fat interface which results in destruction of the sweat glands. At the same time, a continuous hydro-ceramic cooling system protects the superficial dermis and keeps the heat focused at the dermal-fat interface where the sweat glands reside. Because sweat glands do not regenerate after the procedure, we believe the results are lasting. Microwaves are the ideal technology as the energy can be focused directly at the dermal-fat interface where the glands reside.

The miraDry System has been cleared by the FDA as indicated for use in the treatment of primary axillary hyperhidrosis, or a condition characterized by abnormal sweating in excess of that required for regulation of body temperature, plus unwanted underarm hair removal, and permanent reduction of underarm hair of all colors for Fitzpatrick skin types I IV. Permanent hair reduction is defined as long-term, stable reduction in the number of hairs regrowing when measured at 6, 9 and 12 months after the completion of a treatment regime. When used for the treatment of primary axillary hyperhidrosis, the miraDry System may reduce underarm odor. In addition, the miraDry System received CE mark approval for the treatment of primary axillary hyperhidrosis and approval in several other countries.

The miraDry System provides patients with a non-invasive and durable procedure to selectively destroy underarm sweat glands for both severely hyperhidrotic patients and those that are bothered by their underarm sweat. The miraDry System has been evaluated in clinical studies, which showed that the system reduced sweat in one or more procedures of approximately 60-minutes, allowing most patients to achieve immediately noticeable and durable results without the pain, expense, downtime, or repeat visits associated with surgical and minimally-invasive procedures. The sweat glands in the treated area are destroyed through targeted heating of the tissue, and because the body does not regenerate sweat glands, we believe the results will be lasting in most patients, although some patients may need to repeat the miraDry procedure to achieve the lasting results.

The miraDry System consists of a console and a handheld device which uses consumable single-use bioTips. The miraDry System has a global footprint, and we estimate that over 1,000 systems and over 125,000 bioTips have been sold to date. The miraDry procedure is not technique-dependent, does not require significant training or skill for the healthcare provider, and the user-interface guides the provider through each step of the procedure for each treatment. We sell our miraDry System and consumable single-use bioTips only to physicians, consisting of dermatologists, plastic surgeons, aesthetic specialists and physicians specializing in the treatment of hyperhidrosis. Aesthetic specialists are physicians who elect to offer aesthetic procedures as a significant part of their practices but are generally not board-certified dermatologists or plastic surgeons. Physicians can market the

miraDry procedure as a premium, highly-differentiated, non-surgical sweat reduction procedure. We are approved to sell the miraDry System in over 40 international markets outside of North America, including countries in Asia, Europe, the Middle East and South America.

Intellectual Property

Our Breast Products patent portfolio presently consists of one (1) pending U.S. patent application, as well as several in-licensed patent rights and our miraDry patent portfolio presently consists of approximately twenty (20) granted or allowed U.S. patents, eight-six (86) granted or allowed foreign counterpart patents, nine (9) pending or published U.S. patent applications, and thirty-three (33) pending or published foreign counterpart patent applications.

Our Breast Products trademark portfolio presently consists of twelve (12) worldwide registered trademarks and thirteen (13) pending worldwide trademark applications and our miraDry trademark portfolio presently consists of ninety (90) worldwide registered trademarks and seven (7) pending worldwide trademark applications.

Recent Events

First Quarter Preliminary Financial Results

We have not finalized our financial statements for the quarter ended March 31, 2018. Based upon our current preliminary estimates and information available to us as of the date of this prospectus supplement, we expect to report that we generated net sales of approximately $14.5 million for the quarter ended March 31, 2018, including net sales of $8.5 million and $6.0 million generated by our Breast Product and miraDry segments, respectively. Net sales generated by the Breast Product segment were driven in part by record sales of BIOCORNEUM, and by positive momentum in quarterly net sales of our tissue expander products as compared to the quarter ended March 31, 2017. Net sales generated by the miraDry segment were driven by substantial net sales growth in our U.S. and international markets.

In addition, we expect to report that we had cash and cash equivalents of approximately $16.0 million as of March 31, 2018. This amount does not include our full drawdown of the $10.0 million second tranche made available pursuant to the terms of our amended Credit and Security Agreement (Term Loan), or the Agreement, with MidCap Financial Trust and the financial institutions that are or become parties to the Agreement as lenders, as described below.

The estimates of our net sales for the quarter ended March 31, 2018 and our cash and cash equivalents as of March 31, 2018 are preliminary and actual amounts that we report will be subject to our financial closing procedures and any final adjustments that may be made prior to the time that our financial results for the quarter ended March 31, 2018 are finalized and filed with the Securities and Exchange Commission. The preliminary financial information included herein has been prepared by, and is the responsibility of, our management. KPMG LLP has not audited, reviewed, compiled, or applied agreed-upon procedures with respect to the preliminary financial information and does not express an opinion or any other form of assurance with respect thereto. As we complete our financial closing procedures and finalize our financial results for the quarter ended March 31, 2018, we will be required to make significant judgments in a number of areas. While we are currently unaware of any items that would require us to make adjustments to the financial information set forth above, it is possible that we may identify such items and that any resulting changes could be material. Accordingly, undue reliance should not be placed on these preliminary estimates. These preliminary estimates are not necessarily indicative of any future period and should be read together with Risk Factors, Special Note Regarding Forward-Looking Statements, and Management s Discussion and Analysis of Financial Condition and Results of Operations and our financial statements and related notes included elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus.

FDA Approval

On April 18, 2018, we announced that we had received FDA approval of all submissions relating to our site-change regarding the manufacturing facility operated by Vesta.

Loan Agreement Amendment

On April 18, 2018, we entered into the first amendment, or the Amendment, to our Agreement with MidCap Financial Trust and the financial institutions that are or become parties to the Agreement as lenders. Pursuant to the Amendment, the parties agreed to adjust the date by which Sientra must obtain FDA approval of in order to access the $10.0 million second tranche loan from March 31, 2018 to April 30, 2018. As of the date of this prospectus supplement, we have drawn $10.0 million under this term loan.

Corporate Information

We incorporated in Delaware on August 29, 2003 under the name Juliet Medical, Inc. and subsequently changed our name to Sientra, Inc. in April 2007. Our principal executive offices are located at 420 South Fairview Avenue, Suite 200, Santa Barbara, California, 93117, and our telephone number is (805) 562-3500. Our website is located at www.sientra.com, and our investor relations website is located at http://investors.sientra.com. The information found on our website is not part of this prospectus supplement.

THE OFFERING

Common stock offered by us	7,407,408 shares (or 8,518,519 shares if the underwriters exercise their option to purchase additional shares in full).
Common stock to be outstanding after this offering	26,809,383 shares (or 27,920,494 shares if the underwriters exercise their option to purchase additional shares in full).
Option to purchase additional shares	We have granted the underwriters an option to purchase up to 1,111,111 additional shares of our common stock. This option is exercisable, in whole or in part, for a period of 30 days from the date of this prospectus supplement.
Use of proceeds	We intend to use the net proceeds from this offering to implement sales and marketing initiatives, expand our U.S. and global commercial organizations, fund our research and development efforts, and for general corporate purposes, including general and administrative expenses, capital expenditures and general working capital purposes. We may also use a portion of the net proceeds to acquire or invest in complementary businesses, products and technologies, although we have no current commitments or agreements with respect to any acquisitions as of the date hereof. See Use of Proceeds on page S-44.
Risk factors	You should read the Risk Factors section of this prospectus and in the documents incorporated by reference in this prospectus for a discussion of factors to consider before deciding to purchase shares of our common stock.
Symbol on the Nasdaq Global Select Market	SIEN

The number of shares of common stock to be outstanding after this offering is based on 19,401,975 shares of common stock outstanding as of December 31, 2017, and excludes, in each case as of December 31, 2017:

47,710 shares of common stock issuable upon exercise of outstanding warrants, at an exercise price of $14.671 per share;

2,179,787 shares of common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of $7.60 per share;

928,552 shares of common stock issuable upon the vesting of outstanding restricted stock units; and

851,121 shares of common stock reserved for issuance under the 2014 Equity Incentive Plan, the 2014 Employee Stock Purchase Plan and the Inducement Plan.

Certain existing stockholders, including members of management and our board of directors, have agreed to purchase an aggregate of 324,074 shares of our common stock in this offering at the public offering price. The underwriters will receive the same underwriting discount on the shares purchased by these existing stockholders that they will receive on the other shares sold to the public in this offering. The shares purchased by such members of management or our board of directors are subject to lock-up agreements with the underwriters described in Underwriting.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making an investment decision, please carefully review the risks described below, together with all other information in this prospectus supplement, the accompanying prospectus and the other documents incorporated by reference and in any free writing prospectus that we have authorized for use in connection with this offering. The occurrence of any of those risks could materially and adversely affect our business, prospects, financial condition, results of operations or cash flow. Other risks and uncertainties that we do not now consider to be material or of which we are not now aware may become important factors that affect us in the future. Any of these risks could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section entitled Special Note Regarding Forward-Looking Statements.

Risks Relating to this Offering

Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development of our product candidates and cause the price of our common stock to decline.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase. You may also experience future dilution as a result of future equity offerings.

Since the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on a public offering price of $13.50 per share, and without deducting underwriting discounts and commissions but after deducting estimated offering expenses payable by us, and based on a net tangible book value of our common stock of $(0.19) per share as of December 31, 2017, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of $10.15 per share in the net tangible book value of common stock. See Dilution for a more detailed discussion of the dilution you will incur if you purchase shares of common stock in this offering.

In addition, we have a significant number of stock options, restricted stock units and warrants outstanding, and, in order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. In the event that the outstanding options, restricted stock units or warrants are exercised or settled, or that we make additional issuances of common stock or other convertible or exchangeable securities, you could experience additional dilution. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders, including investors who purchase shares of common stock in this offering. The price per share at which we sell additional shares of our common stock or securities convertible into common stock in future transactions may be higher or lower than the price per share in this offering.

Future sale of our common stock could cause our stock price to decline.

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales might occur, may reduce the prevailing market price of our common stock and make it more difficult for you to sell

your common stock at a time and price that you deem appropriate. In addition, any sales of securities by us or existing stockholders could have a material adverse effect on the market price of our common stock.

For example, on February 20, 2018, we entered into an At-The-Market Equity Offering Sales Agreement with Stifel, Nicolaus & Company, Incorporated, as sales agent, pursuant to which we may offer and sell, from time to time, through Stifel, Nicolaus & Company, Incorporated, shares of our common stock having an aggregate offering price of up to $50.0 million by any method deemed to be an at-the-market offering as defined in Rule 415 under the Securities Act. As of the date hereof, all of the shares of common stock available for sale pursuant to the At-The-Market Equity Offering Sales Agreement remain available to be sold, subject to certain conditions as specified in the sales agreement, and sales of these shares could have a material adverse effect on the market price of our common stock.

Further, we have a significant number of stock options, restricted stock units and warrants outstanding. If a substantial number of shares of common stock underlying these options, restricted stock units and warrants are sold, or if it is perceived that they will be sold, in the public market, it could have a material adverse effect on the market price of our common stock.

If securities and/or industry analysts fail to continue publishing research about our business, if they change their recommendations adversely or if our results of operations do not meet their expectations, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If one or more of these analysts cease coverage of our company 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. In addition, it is likely that in some future period our operating results will be below the expectations of securities analysts or investors. If one or more of the analysts who cover us downgrade our stock, or if our results of operations do not meet their expectations, our stock price could decline.

Because we do not intend to declare cash dividends on our shares of common stock in the foreseeable future, stockholders must rely on appreciation of the value of our common stock for any return on their investment.

We have never declared or paid cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends in the foreseeable future. In addition, the terms of any existing or future debt agreements may preclude us from paying dividends. As a result, we expect that only appreciation of the price of our common stock, if any, will provide a return to investors in this offering for the foreseeable future.

Risks Relating to Our Business and Our Industry

We will need to raise additional equity or debt capital, which may not be available on acceptable terms, or at all. If we are unable to raise additional funds, there may be substantial doubt in our ability to continue as a going concern. In addition, the report of our independent registered public accounting firm included in our Annual Report contains an explanatory paragraph with respect to our liquidity.

As of December 31, 2017, we had cash and cash equivalents of approximately $26.6 million. We have incurred recurring losses from operations and cash outflows from operating activities that raise substantial doubt about our ability to continue as a going concern. In addition, while we were in compliance with the financial covenants in our credit agreement with MidCap Financial Trust at December 31, 2017, given the potential violations of those covenants during fiscal 2018, we have classified the debt as current in the consolidated balance sheet at December 31, 2017. To fund our ongoing operating and capital needs, we will need to raise additional equity or debt capital. We have taken steps to address our cash position. For example, following our receipt of FDA approvals to commercialize our breast implants manufactured at the facility operated by Vesta on April 18, 2018, we secured the ability to borrow a $10.0 million term loan pursuant to the credit agreement. As of

the date of this prospectus supplement, we have drawn $10.0 million under this term loan. We announced receipt of this FDA approval on April 18, 2018. In addition, on February 20, 2018, we entered into an At-The-Market Equity Offering Sales Agreement with Stifel, Nicolaus & Company, Incorporated, as sales agent, pursuant to which we may offer and sell, from time to time, through Stifel, Nicolaus & Company, Incorporated, shares of our common stock having an aggregate offering price of up to $50.0 million by any method deemed to be an at-the-market offering as defined in Rule 415 under the Securities Act of 1933, as amended (the Securities Act). In addition to the foregoing actions, we will likely seek to raise additional equity or debt capital. There can be no assurance, however, that we will be successful in completing an equity or debt financing on a timeframe that coincides with our cash needs, on acceptable terms, or completing it at all.

As a result of the uncertainty surrounding our ability to raise additional capital and as to our future liquidity, the report of our independent registered public accounting firm included in our Annual Report on Form 10-K included an explanatory paragraph that refers to conditions that raise substantial doubt about our ability to continue as a going concern. The consolidated financial statements included in our Annual Report were prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. However, if we are not successful in raising sufficient additional capital as needed, we may be compelled to reduce the scope of our operations and planned capital expenditures and/or sell or license certain assets at inopportune times, which could have a material and adverse effect on our ability to pursue our business strategy and our future financial condition.

We have incurred significant net operating losses since inception and cannot assure you that we will achieve profitability.

Since our inception, we have incurred significant net operating losses. As of December 31, 2017, we had an accumulated deficit of $279.5 million. To date, we have financed our operations primarily through sales of preferred stock, borrowings under our term loans, sales of our products since 2012, our initial public offering and follow-on public offerings of our common stock. We have devoted substantially all of our resources to the acquisition and clinical development of our products, the commercial launch of our products, the development of a sales and marketing team and the assembly of a management team to manage our business.

For the year ended December 31, 2017, our net loss was $64.0 million. The extent of our future operating losses and the timing of profitability are uncertain. We will need to generate significant sales to achieve profitability, and we might not be able to do so. Even if we do generate significant sales, we might not be able to achieve, sustain or increase profitability on a quarterly or annual basis in the future. If our sales grow more slowly than we have forecasted, or if our operating expenses exceed our forecasts, our financial performance and results of operations will be adversely affected.

We may not successfully integrate newly acquired businesses into our business operations or realize the benefits of partnerships with other companies, acquisitions of complementary products or technologies or other strategic alternatives.

We have recently completed a series of business and product acquisitions including our acquisition of miraDry and our product acquisitions, including BIOCORNEUM and tissue expanders from SSP. As a result of these acquisitions, we have undergone substantial changes to our business and product offerings in a short period of time. In addition, in the future, we may consider other opportunities to partner with or acquire other businesses, products or technologies that may enhance our product platform or technology, expand the breadth of our markets or customer base or advance our business strategies.

Integrating the business practice and operations of a new business with that of our own is a complex, costly and time-consuming process, which requires significant management attention and resources. The integration process may

disrupt our existing operations and, if implemented ineffectively, would preclude realization of the full benefits expected by us. Our failure to meet the challenges involved in successfully integrating our

acquisitions in order to realize the anticipated benefits may cause an interruption of, or a loss of momentum in, our operating activities and could adversely affect our results of operations. Potential difficulties, costs and delays we may encounter as part of the integration process may include:

- distracting management from day-to-day operations;
- potential incompatibility of corporate cultures;
- an inability to achieve synergies as planned;
- risks associated with the assumption of contingent or other liabilities of acquisition targets;
- adverse effects on existing business relationships with suppliers or customers;
- inheriting and uncovering previously unknown issues, problems and costs from the acquired company;
- uncertainties associated with entering new markets in which we have limited or no experience;
- increased legal and accounting costs relating to the partnership or acquisition or compliance with regulatory matters;
- delays between our expenditures to acquire new products, technologies or businesses and the generation of net sales from those acquired products, technologies or businesses;
- realization of assets and settlement of liabilities at amounts equal to estimated fair value as of the acquisition date of any acquisition or disposition;
- costs and delays in implementing common systems and procedures (including technology, compliance programs, financial systems, distribution and general business operations, among others); and
- increased difficulties in managing our business due to the addition of international locations.

Any one or all of these factors may increase operating costs or lower anticipated financial performance. Many of these factors are also outside of our control. In addition, even if new business operations are integrated successfully, we may not realize the full benefits of the acquisition, including the synergies, cost savings or sales or growth opportunities that we expect or within the anticipated time frame. Additional unanticipated costs may be incurred in the integration of the businesses. All of these factors could decrease or delay the expected accretive effect of the transaction, and negatively impact the price of our common stock. The failure to integrate the business operations of miraDry or any

acquired business successfully would have a material adverse effect on our business, financial condition and results of operations.

In addition to integration related issues, the acquisition of miraDry has significantly increased the size of our business, augmenting a number of the risks included in these risk factors. Future success depends, in part, upon our ability to manage this expanded business, which will pose substantial challenges for management. There can be no assurance that we will be successful realizing the expected benefits from this acquisition.

We depend on a positive reaction from our Plastic Surgeons and their patients, and on an adequate supply of our products, to successfully re-establish our market position and achieve profitability.

Our Breast Products segment has historically accounted for substantially all of our net sales and we expect our Breast Products to continue to be a substantial majority of our net sales.

We depend on a continued positive reception from our Plastic Surgeon customers and their patients to be able to reestablish the market position we had prior to the voluntary suspension of our Breast Products manufactured by Silimed. Additionally, our re-entry into the market has required us to effectively and responsibly educate accounts on the results of our testing and reconfirm our strong clinical data, while providing the same high levels of customer service to which our Plastic Surgeons are accustomed. Our plastic surgery consultants are working diligently to solidify the confidence and support of all our Plastic Surgeons; however, if we are not successful in re-establishing and maintaining these relationships or competing effectively in this market, our net sales, market share and financial performance will be affected negatively.

Any inability to manage inventory supply issues, an inadequacy of current inventory levels that we have built since October 2017 pending FDA approval of the PMA supplement, the potential loss of market acceptance of our Breast Products, or any adverse rulings by regulatory authorities, any adverse publicity or other adverse events relating to us or our Breast Products, or the introduction of competitive products by our competitors and other third parties, would adversely affect our business, financial condition and results of operations.

If the market acceptance for the miraDry System, which has a limited commercial history, fails to grow significantly, our business and future prospects will be harmed.

Commercial sales of the miraDry System commenced in the United States in 2012. We expect that the net sales we generate from our miraDry System and bioTips will represent high margin sales (on a gross margin basis) and account for a substantial amount of our net sales for the next several years, with high margin consumables comprising a sizable percentage of our miraDry segment s net sales. Accordingly, our success depends on the acceptance among physicians and patients of the miraDry procedure as a preferred treatment for being sweat-bothered. Although we have received FDA clearance to market the miraDry procedure for the treatment of primary axillary hyperhidrosis and permanent hair reduction in the United States and are approved or are otherwise free to market the miraDry procedure in over 40 international markets, the degree of market acceptance of the miraDry procedure by physicians and patients is unproven. We believe that market acceptance of the miraDry procedure will depend on many factors, including:

- the perceived advantages or disadvantages of the miraDry System compared to other products and procedures;
- the safety and efficacy of the miraDry System relative to other products and alternative procedures;
- the price of the miraDry System relative to other products and alternative procedures;
- our success in expanding our sales and marketing organization;
- the effectiveness of our marketing, advertising, and commercialization initiatives;
- the development and publication of long-term clinical data in peer-reviewed journals supporting the long term efficacy of the miraDry procedure;
- our ability to obtain regulatory clearance to market miraDry for additional treatment indications in the United States and other international markets;
- education of physicians, especially general practitioners and dermatologists, regarding alternative procedures for sweat-bothered patients through key opinion leaders and product demonstrations at conferences, physician offices and webinars; and

the success of patient education through direct-to-consumer marketing campaigns that utilize social media outlets and testimonials.

We cannot guarantee that the miraDry System will achieve broad market acceptance among physicians and patients. We expect to derive a substantial portion of sales from the miraDry Systems and the sale of our consumable bioTip products, which represent higher margin products (e.g., 50% - 90% gross margin) within our product portfolio. As a result, any failure of this product to achieve meaningful market acceptance will harm our business, sales, profitability and future prospects.

We rely on sole suppliers to manufacture some of our products, including our breast implants and our scar management, tissue expander and bioTips products, and any production problems or inability to meet our demand could adversely affect our business prospects.

We rely on sole suppliers to manufacture certain of our products or the components used therein, and the loss of any such supplier or any disruption in operations, production probl