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, 2020

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: 001-37941

SENESTECH, INC.
(Exact name of registrant as specified in its charter)

Delaware	**20-2079805**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
23460 N. 19th Avenue, Suite 110 Phoenix, AZ	**85027**
(Address of principal executive offices)	(Zip Code)

(928) 779-4143
(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

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

Title of each class	**Trading symbol**	**Name of each exchange on which registered**
Common Stock, $0.001 par value	SNES	The NASDAQ Stock Market LLC (NASDAQ Capital Market)

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

Large accelerated filer	Accelerated filer	Non-accelerated filer	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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the registrant's common stock held by non-affiliates on June 30, 2020 (the last business day of the registrant's most recently completed second fiscal quarter) as reported by The NASDAQ Capital Market on such date was approximately $6,662,272. There were 3,398,832* shares of the registrant's common stock outstanding on June 30, 2020.

The number of shares of common stock outstanding as of March 29, 2021: 12,164,046

Documents Incorporated by Reference: None.

* Reflects a 1-for-20 reverse stock split of our outstanding common stock on February 4, 2020.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains “forward-looking statements” within the meaning of the safe-harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements can often be identified by words such as: “expect,” “believe,” “estimate,” “plan,” “strategy,” “future,” “potential,” “continue,” “may,” “should,” “will,” and similar references to future periods. Examples include, among others, statements about:

- The impacts and implications of the COVID-19 pandemic;
- Our commercialization and promotion strategy and plans, including key elements to our business strategy, how we commercialize, our sales approach, the tools we use, our hiring and retention strategy; our areas and markets of focus, our pricing strategy, our strategic relationships and which geographic markets we target;
- Our seeking, obtaining or maintaining regulatory approvals for our product candidates;
- Our expectations regarding the potential market size for our products and how the market may develop;
- Our estimates or expectations related to our revenue, cash flow, expenses, capital requirements and need for additional financing;
- Our ability, and the time required, to improve our cost structure and gross margins, and limit our cash burn;
- Our plans for our business, including for research and development;
- Our ability to enter into strategic arrangements and to achieve the expected results from such arrangements;
- The adequacy of our facilities to meet our current needs;
- The initiation, timing, progress and results of field studies and other studies and trials and our research and development programs;
- Our financial performance, including our ability to fund operations
- Developments and projections relating to our projects, competitors and our industry, including legislative developments and impacts from those developments; and
- Other risks and uncertainties, including those described or incorporated by reference under the caption “Risk Factors” in this Annual Report on Form 10-K.

These forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties and situations that are difficult to predict and that may cause our own, or our industry’s, actual results to be materially different from the future results that are expressed or implied by these statements. Accordingly, actual results may differ materially from those anticipated or expressed in such statements as a result of a variety of factors, including those discussed in Item 1A-“Risk Factors” of Part II of in this Annual Report on Form 10-K.

Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date made. Except as required by law, we undertake no obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

Any forward-looking statement made by us in this report is based only on information available to us on the date of this report. Except as may be required by law, we undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise.

ContraPest is a registered trademark of SenesTech Inc. This Annual Report on Form 10-K may also include trademarks and trade names owned by other parties, and all other such trademarks and trade names mentioned in this Annual Report on Form 10-K are the property of their respective owners.

PART I

Item 1. ***Business.***

Overview

SenesTech, Inc. (referred to in this report as “SenesTech,” the “Company,” “we” or “us”) has developed and is commercializing a global, proprietary technology for managing animal pest populations, initially rat populations, through fertility control.

Although there are myriad tools available to control rat populations, most rely on some form of lethal method to achieve effectiveness. Each of these solutions is inherently limited by rat species’ resilience and survival mechanisms as well as their extraordinary rate of reproduction. ContraPest®, our initial product, is unique in the pest control industry in attacking the reproductive systems of both male and female rats, which our field data shows results in a sustained reduction of the rat population.

Rats have plagued humanity throughout history. They pose significant threats to the environment, and to the health and food security of many communities. In addition, rodents cause extensive product loss and damage through consumption and contamination. Rats also cause significant damage to critical infrastructure by burrowing beneath foundations and gnawing on electrical wiring, insulation, fire proofing systems, electronics and computer equipment.

The most prevalent solution to rat infestations is the use of increasingly powerful rodenticides. Although these solutions provide short term results, there are growing concerns about secondary exposure and bioaccumulation of rodenticides in the environment, as well as concerns about rodenticides that have no antidotes. The pest management industry and Pest Management Professionals (“PMPs”) are being asked for new solutions that are both effective and less toxic. Our goal is to provide customers with not only a solution to combat their most difficult rat problems, but also offer an effective, non-lethal option to serve customers that are looking to decrease or remove the amount of rodenticide used in their pest control programs.

ContraPest is a liquid bait containing the active ingredients 4-vinylcyclohexene diepoxide (“VCD”) and triptolide. ContraPest limits reproduction of male and female rats beginning with the first breeding cycle following consumption. ContraPest is being marketed for use in controlling Norway and roof rat populations.

SenesTech began the registration process with the United States Environmental Protection Agency (the “EPA”) for ContraPest on August 23, 2015. On August 2, 2016, the EPA granted an unconditional registration for ContraPest as a Restricted Use Product (“RUP”), due to the need for applicator expertise for deployment. On October 18, 2018, the EPA approved the removal of the RUP designation. We believe ContraPest is the first and only non-lethal, fertility control product approved by the EPA for the management of rodent populations.

In addition to the EPA registration of ContraPest in the United States, ContraPest must obtain registration from the various state regulatory agencies prior to selling in each state. We have received registration for ContraPest in all 50 states and the District of Columbia, 47 of which have approved the removal of the RUP designation.

We expect to continue to pursue regulatory approvals and amendments to the existing U.S. registration for ContraPest to broaden the marketability and use of ContraPest, and if ContraPest begins to generate sufficient revenue, regulatory approvals for additional jurisdictions beyond the United States. In certain cases, our EPA and state registrations require completion of testing and certifications even though we have received approval for the product or its labelling. We continue to seek to comply with these requirements.

The Company also continues to research and develop enhancements to ContraPest that align with our target verticals and other potential fertility control options for additional species.

We were formed in July 2004 and incorporated in the state of Nevada. The Company subsequently reincorporated in the state of Delaware in November 2015. Our corporate headquarters and manufacturing site are in Phoenix, Arizona. On December 8, 2016, we went public and are currently traded on Nasdaq under the symbol SNES.

On February 4, 2020, we amended our amended and restated certificate of incorporation to effect a 1-for-20 reverse split of our issued and outstanding shares of our common stock. The accompanying condensed financial statements and notes thereto give retrospective effect to the reverse stock split for all periods presented. All issued and outstanding common stock, options and warrants exercisable for common stock, restricted stock units, preferred stock conversions to common stock and per share amounts contained in our condensed financial statements have been retrospectively adjusted.

Current Challenges in Pest Control Methodologies

Lethal rodenticides are often at the forefront of pest management programs but are rarely expected to immediately be 100% effective in removing all rats. Rat behavior, genetic resistance and reproduction can affect pest control programs and often negatively impact actual results. Studies have shown that successful bait uptake is influenced by rodent behavior and their interaction with their environment. Some of these behaviors are thought to be inherited as rats have evolved with humans and control campaigns, while others are conditioned through adverse effects learned in their environment.

In addition, rats that survive the initial exposure to a rodenticide may be genetically resistant to the effects and will pass that resistance onto their offspring who will carry this resistant trait to future generations. Because of this, conventional rodenticide producers are continually challenged to develop new, more lethal chemicals to control future rat populations.

Rats can reproduce multiple times throughout the year, producing approximately 6 litters a year with 12 pups each. This rapid reproduction rate can cause populations to rebound quickly after implementing a lethal control program. This means that PMPs typically need to visit a site often to combat not only the initial infestation, but also subsequent population spikes, or rebounds.

Rodenticides also have significant drawbacks, in that they persist in tissue and the environment and are indiscriminate in their effects. Consequently, there is growing concern about the adverse effects that rodenticides may have on children and pets due to accidental exposure, as well as on species that prey on rats, including birds of prey and large cats, due to the persistence of the rodenticide in the rat tissue. As a result, PMPs will need to include a wide variety of controls and alternative solutions that minimize these concerns.

Integrated Pest Management and Fertility Control

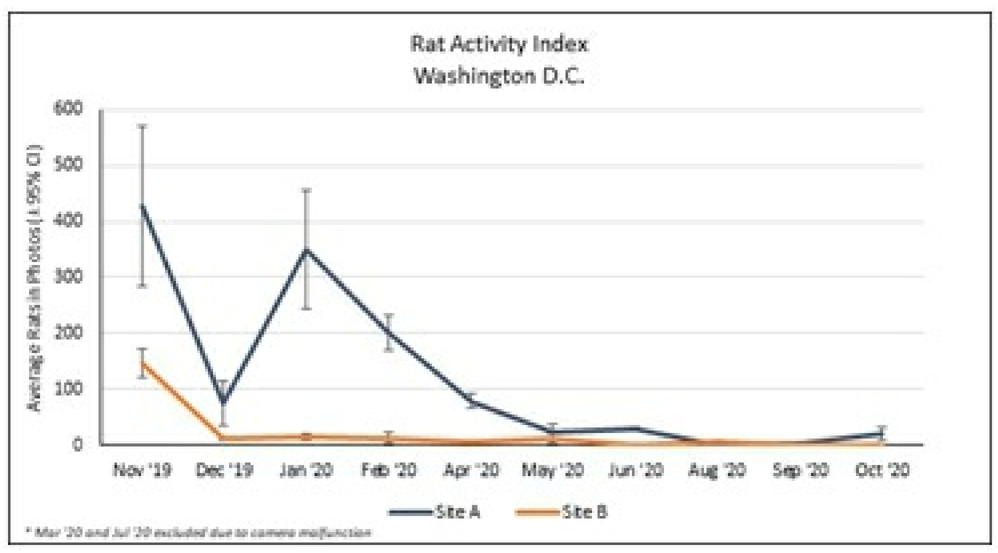
The most effective, long-term way to manage rats is by using a combination of tools that work together to magnify the efficacy of the pest management protocol; integrated pest management (IPM) is based upon this concept. An effective IPM program needs to reduce the existing rat population but also prevent that population from rebounding either through reproduction or through invasion by rodents in adjacent areas. In addition, an IPM program should focus on reducing the factors that make a particular location attractive to rats, such as abundant food and shelter. Regulatory agencies and industry experts recognize that fertility control is or can be an essential component of a safe and sustainable IPM program.

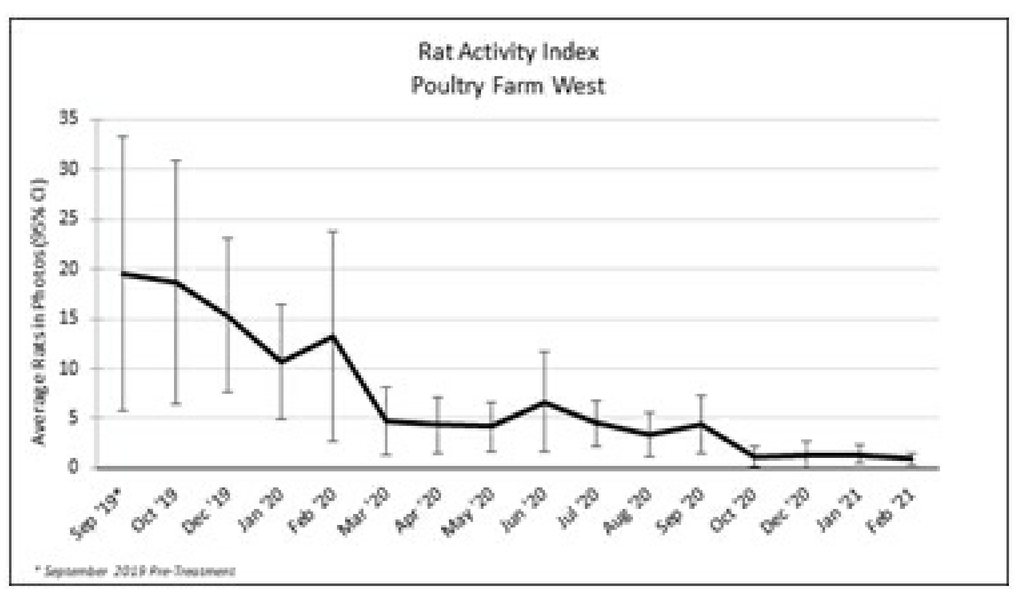
ContraPest is an innovative fertility control technology that targets the reproductive capabilities of both sexes in rat populations, inducing egg loss in female rats and impairing sperm development in males. Targeting both males and females with fertility control allows us to drive populations down and to sustain that population reduction. Its effectiveness has been demonstrated in numerous internal and third-party studies.

Using a proprietary bait delivery method, ContraPest is dispensed in a highly palatable liquid formulation that promotes sustained consumption by rat communities, helping to both reduce and keep populations down. Rats require 10% of their body weight in water per day, making ContraPest an attractive bait to add to pest management programs. The high fat content and sweet taste leads to repeated consumption even when other sought-after food sources are present. In both field and laboratory settings, ContraPest was chosen by rats even in the presence of abundant water sources and plentiful food choices including animal feed, trash and other options. Consumption of ContraPest does not cause illness in rats, and therefore, it does not change behavior or result in bait aversion.

We believe ContraPest can establish a new paradigm in rodent control. Adding ContraPest to an IPM program allows PMPs to bring the rodent population down initially and keep it at a manageable level by minimizing reproduction and thereby limiting population rebounds. Continued maintenance baiting of ContraPest at lower population levels dramatically reduces the risk of future population spikes, allowing PMPs to be more focused on eliminating the causes of future invasions through exclusion and sanitation initiatives. ContraPest's delivery system is designed to minimize handler exposure and is dispensed inside tamper-resistant bait stations, minimizing risks to non-target species.

The following graphs illustrate the incremental benefit of adding ContraPest to integrated pest management with conventional rodenticides. The data is derived from three programs we began in late 2019 to demonstrate the effectiveness of ContraPest to potential end-users and our study of the results through monitoring rat activity by camera. The data presented show the incremental benefit of ContraPest deployment beyond that achieved through rodenticides. Ongoing monitoring of the program locations has indicated that there has been no rebound in the rodent population from the current low levels.





(source: Company studies)

ContraPest can also be used as a standalone, non-lethal solution which allows for a decreased reliance on lethal rodenticides, where requested by the customer.

Other Applications

While our proprietary technology is effective on rodent species, there is a scientific basis to believe that our technology can be applied to other mammalian species. We have developed preliminary data with feral dogs, feral pigs, wallabies, mice and brushtail possums. While this data indicates potential for the continued development of fertility control technology in general, we are not pursuing these opportunities at this time. We believe that the size of the rat control market is sufficient for our near-term focus. We remain open to the potential to license our technology to other strategic partners to explore its applicability to other mammalian species.

Business Strategy

Our goal is to be a leader in the pest management industry; utilizing fertility control technologies to limit the adverse effects caused by rodent infestations, educate PMP's and the general public on alternatives or enhancements to lethal rodenticides and to develop additional product lines to address the needs of our customers. Key elements of our strategy are:

- Work to maximize market acceptance for, and generate sales of, our products, including by conducting field demonstrations at potential lead customers;
- Explore strategic partnerships to enable us to penetrate additional target markets and geographical locations;
- Manage the infrastructure for sales, marketing and distribution of ContraPest and any other product candidates for which we may receive regulatory approval;
- Seek additional regulatory approvals for ContraPest, including to more fully expand the market and use for ContraPest and, if we believe there is commercial viability, for our other product candidates;
- Further develop our manufacturing processes to contain costs while being able to scale to meet future demand of ContraPest and any other product candidates for which we receive regulatory approval;
- Continue product development of ContraPest and advance our research and development activities and, as our operating budget permits, advance the research and development programs for other product candidates;
- Maintain and protect our intellectual property portfolio; and

- Add operational, financial and management information systems and personnel, including personnel to support our product development and commercialization efforts and operations as a public company.

Marketing and Sales Approach

The pest control industry is highly competitive with a number of large competitors developing and marketing pest control products, particularly rodenticides, and services. Because fertility control in general and ContraPest specifically may be considered a disruptive technology, we have encountered resistance to initial adoption. We continue to build a robust set of case studies to demonstrate efficacy and cost efficiency, identify lead users and expand within market segments. In order to enhance the likelihood of success, we have currently targeted a few key market segments with the highest likelihood to add ContraPest into their IPM programs. These include agribusiness (egg hen farms, grain and protein production and grain storage, transport and sales facilities), municipalities and government agencies, D2C (direct to consumer) residential, zoos and sanctuaries, and commercial accounts.

In the United States, ContraPest is most commonly deployed and serviced by a licensed PMP, although some customers have in house pest management service personnel. In some circumstances, customers of pest management services will direct these PMPs to use certain products in the provision of their service. Initially, our marketing strategy involved sales to and through large distributors of pest control products. In 2019, we substantially modified this strategy to create two different sources of pull-through-demand: sales to PMPs and marketing and sales directly to end-user customers. We believe that by making end users aware of the existence and benefits of ContraPest, we are more likely to create demand through PMPs that would otherwise simply continue to use their existing rodenticide-based IPM models. We currently market ContraPest both to pest management companies and directly to target segments, using a direct to PMP sales channel; indirectly through distributor sales; and through our own direct sales force. In addition, in the fourth quarter of 2019, we added a new e-Commerce tool to enable customers in each of our target segments to buy directly from us. Finally, we have been pursuing strategic relationships with large pest management companies and key end-user organizations in our target segments for the distribution and sale of ContraPest.

In each of our target segments we have identified potential lead customers with whom we are working on large scale projects to demonstrate the efficacy of ContraPest in real world situations. We provide significant product support to these customers to make sure that we are not only achieving desired results, but also obtaining the data to support sales in the related market vertical. We believe that successful field trials with these influential end users will help drive significant subsequent sales to other participants in the relevant market.

We are also focused on expanding regulatory approvals for ContraPest to make the product more user friendly and available for use in an increased number of applications. These include alternative delivery methods and expansion of the label to additional applications and/or species.

Pricing and Value

Our pricing strategy takes into account the cost of goods sold, the cost of competitive products and the value of our product to the end user. We believe ContraPest will be perceived as a significant value as a complement to existing pest control products or as a non-lethal stand-alone solution for managing rat infestations and, as such, should command a premium price. Our experience is that once potential customers understand the advantages of ContraPest, they recognize that the benefits of long term sustained rodent reduction dramatically offsets the cost of the product. We plan to continue to use promotional efforts to support the value message and to justify our product’s premium price, built around the following proposed advantages:

- ContraPest targeted delivery for maximum efficacy.
- Our proprietary gravity feeding system optimizes consumption.
- ContraPest can be used as an anchor or enhancement for an IPM program, or as a stand-alone solution to decrease reliance on lethal control options.
- ContraPest is designed, formulated and dispensed in a manner that minimizes the exposure hazard for handlers and non-targeted species such as wildlife, livestock and pets.
- Over time, as the pest population decreases, the quantity deployed and consequently cost of ContraPest will decrease, bringing the long-term cost of ContraPest in line with other elements of integrated pest management.

We also focus on specific advantages for the individual customer and expect to position our product as having the following additional general advantages:

- Savings by reducing loss or contamination of food and product inventories;
- Savings by reducing damage to infrastructure and major production equipment;
- Reduction in labor and servicing costs due to dramatically reduced rodent populations;
- Creation of a more predictable cost model based on prevention versus treatment of spikes in population seen with rebound effect;
- Reduction in disease vectors; and
- Public relations and risk reduction advantages when reducing usage of lethal rodenticides and traps.

Raw Materials and Manufacturing Process

ContraPest contains two active ingredients, VCD, an industrial chemical, and triptolide, a plant derived chemical. ContraPest also contains several other inactive, Generally Recognized as Safe (GRAS), ingredients. Currently, we source VCD from standard industrial chemical supply providers. Triptolide is derived from the Thunder God Vine, Tripterygium wilfordii, which is commonly cultivated and harvested wild in southeastern China and other Asian countries. Triptolide is available from a variety of sources, but the process to purify triptolide for use in ContraPest is expensive. Thus, we are investigating other, less costly sources of triptolide.

Our manufacturing process involves the incorporation of our two active ingredients, in low concentrations, into several inactive ingredients. Once incorporated, the entire product goes through a micro-encapsulation process in order to stabilize the final formulation. This process allows ContraPest to be delivered to rats in a palatable, non-lethal and effective manner.

Currently, we have production scale capability in our facilities in Arizona to manufacture ContraPest. Our internal production capabilities allow us to meet our current and anticipated demand during 2020 for ContraPest.

Scientific Background Regarding our Product

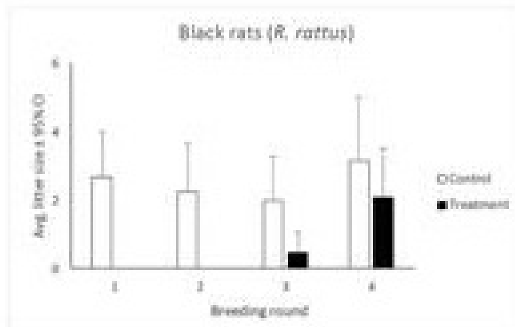
ContraPest is a liquid bait containing the active ingredients VCD and triptolide. When consumed, ContraPest targets reproduction, limiting fertility in male and female rats beginning with the first breeding cycle following consumption.

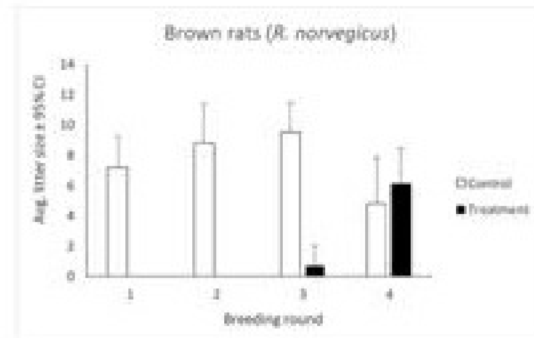
The female rat is born with a finite number of eggs, or oocytes. She remains fertile and will reproduce until the day she dies. Within the ovary, eggs develop within structures called follicles. The non-regenerating and least mature follicles are called primordial. The primordial follicles mature through primary, secondary and antral stages and ultimately ovulate. Once the primordial follicles have become depleted, ovarian failure occurs, which terminates reproductive capability.

VCD causes specific loss of small ovarian follicles (both primordial and primary). Because oocytes do not regenerate, repeated dosing causes loss of these follicles and leads to ovarian failure. Triptolide causes specific loss of growing follicles (secondary and antral). Female rats treated with triptolide ovulate fewer eggs because the follicles stop growing. In males, triptolide exerts a significant suppression of male fertility by preventing sperm maturation and impairing the movement of sperm.

The safety and efficacy of VCD and triptolide in fertility control are supported by considerable evidence. Because they induce follicle loss, both VCD and triptolide are considered ovotoxic, but they do not affect hormonal function and so are not endocrine disruptors. Studies show that VCD and triptolide do not persist within the bodies of rats and therefore do not bioaccumulate within the environment. VCD is so rapidly metabolized by ovarian tissue that the plasma half-life of VCD is 14.2 minutes. Triptolide has a plasma half-life of 21.7 minutes and is inactivated by liver enzymes. Less than 1% of VCD remains within rat tissues because metabolites of VCD, primarily tetrol and glutathione, are eliminated in urine and have no ovotoxic effects. There is no measurable accumulation of triptolide within rat internal organs. The speed with which VCD is metabolized makes it “an ideal fertility control agent (Sobinoff et al. 2008),” and makes its tendency to bioaccumulate negligible.

ContraPest is a contraceptive. The average duration of infertility ranges from 77 to over 180 days (2 to 6 months) but averages 119 days (± 4.6 days, N=61; Dyer and Mayer 2014; Siers et al. 2014; Shuster unpubl. SenesTech data). Both in the lab and in the field, ContraPest consumption has documented effects on fertility reduction and therefore in reducing rat populations.





Other Potential Products

We have developed a pipeline of potential additional fertility control and animal health products, with diverse applications, as outlined in the following chart below. As we currently focus on the commercialization of ContraPest, only minimal progress is expected on new product development during the coming year.

In addition, we have begun work on new formulations of ContraPest – particularly solid and semi-solid variants. Although solid bait is not essential to our near-term plans, the non-liquid formulations may expand the potential uses of ContraPest as well as pave the way for future sales through retail stores. Our plan is to attempt to accelerate the reformulation process through partnerships with others in the industry that will be able to give us access to proven technologies, thus reducing potential development time.

Product Candidate/Area	Development Status	Segment	Primary Target
Feral animal fertility control	Pilot study	Population management	Feral dogs and hogs
Non-surgical spay and neutering	Pilot study	Companion animal health	Companion dogs and cats
Boar taint	Laboratory and initial pilot study	Food production and safety	Boars
Animal cancer treatment	Concept	Companion animal health	Companion dogs

Competition

Currently, we are unaware of any other non-lethal fertility control products that target rats. However, there are other tools in IPM that may be used to control rat populations. These include:

- Sanitation -- a beginning component in the IPM program that addresses conditions that attract rodents in the first place (e.g., designated trash location with routine pickup or decluttering areas of attraction);
- Exclusion -- a preventative strategy of sealing up areas of a building where pests are likely to enter, in turn, denying pests access to the facility;
- Mechanical measures -- used initially through devices to trap and monitor rodents, which is low risk and least harmful to the environment;
- Biological controls -- the introduction of predators to manage rodents; and
- Chemical measures -- the deployment of agents that poison or repel rodents.

Our principal competition is the substitution of other tools that PMPs use in their IPM.

Government Regulation and Product Approval

Federal, state and local government authorities in the United States regulate, among other things, the testing, manufacturing, quality control, approval, labeling, packaging, storage, record-keeping, distribution and marketing of the products we develop. Our rat fertility control product must be approved by the EPA Office of Pesticide Programs before they can be legally marketed and sold in the United States. The process for obtaining regulatory approval and compliance with appropriate federal, state and local regulations is rigorous and requires the expenditure of substantial time and financial resources.

United States Review and Approval Processes

In the United States, the EPA regulates the sale, distribution and use of any pesticide under the Federal Insecticide, Fungicide and Rodenticide Act, or FIFRA. The EPA’s definition of a pesticide includes “any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.” FIFRA defines a pest as “any insect, rodent, nematode, fungus, or weed.” To register a new product with the EPA, all active ingredients within the product must be registered with the EPA.

The EPA granted registration for ContraPest effective August 2, 2016. This initial EPA approval labeled ContraPest as a restricted-use product, due to the need for applicator expertise for deployment. On October 18, 2018, the EPA removed the Restricted Use designation, meaning that we can sell ContraPest to consumers who do not have applicator expertise. ContraPest is currently limited by EPA requirements to indoor use and to use within one foot of manmade structures. We intend to diligently pursue additional related regulatory approvals from the EPA to support our product evolution, including seeking approval for full outdoor use, alternative formulations and for additional rodent species. This may entail the need to complete and submit to EPA additional studies, principally related to the effects on other animals and fish if ingested or if the product enters the water supply.

In addition to the EPA registration of ContraPest in the United States, we must obtain registration from the various state regulatory agencies prior to selling in each state. To date, we have received registration for ContraPest in all 50 states and the District of Columbia, 47 of which have approved the removal of the Restricted Use designation.

In addition to product registration, the EPA also approves all labeling (the container label, instructional inserts, and the Safety Data Sheet (SDS)) of ContraPest. Generally, states accept the EPA approved label as is. ContraPest’s labeling was submitted to states at initial registration and is resubmitted during state scheduled reregistration or for any significant labeling change requiring EPA approval.

In certain cases, our EPA and state registrations require completion of testing and certifications even after we have received approval for the product or its labelling. We continue to seek to comply with these requirements.

International Review and Approval Processes

We are researching potential international markets and will evaluate the regulatory landscapes of each prospective market. Country-specific regulatory laws have provisions that include requirements for certain labeling, safety, efficacy and manufacturers' quality control procedures to assure the consistency of the product, as well as company records and reports. Some specific in-country studies will be required for particular countries, but others will generally accept an EPA or EU compliant dossier.

Personnel

As of December 31, 2020, we had 29 full-time employees. Within our workforce, 7 employees are engaged in research and development and 22 in sales, business development, finance, regulatory, human resources, facilities, information technology and general management and administration.

None of our employees are represented by labor unions or covered by collective bargaining agreements.

Intellectual Property and Other Proprietary Rights

Maintaining a strong position in the rodenticide market requires constant innovation along with a healthy research program to evolve product lines to remain competitive and relevant to the needs of the changing global marketplace. We seek to protect our proprietary data and trade secrets with attention to data exchanges among employees, consultants, collaborators and research and trade partners.

Patent Filings

Our intellectual property portfolio supporting ContraPest consists of nine international patent filings (in the United States, Europe, Canada, Brazil, Russia, Japan, Mexico, South Korea, and Australia) addressing the ContraPest compound. Claims directed toward the compound include composition-of-matter involving a diterpenoid epoxide or salts thereof in combination with an organic diepoxide, use claims for inducing follicle depletion and for reducing the reproductive capability of a mammalian animal or non-human mammalian population. Issued claims will have a patent term extending to 2033 or longer based on patent term determinations in each of the filing countries. The novelty of ContraPest extends to its method of field distribution and has required innovation to perfect the dosing of our product to rodents. We have filed U.S. and international patent applications covering our novel bait station device to effectively and efficiently deliver our rodent bait at individual bait sites that would, if issued, offer patent term protection through at least 2036.

License Agreements

We have an exclusive patent license with the University of Arizona for background intellectual property that we plan to employ for future product development in the domestic animal fertility control market. The patent claims in the United States, Australia and New Zealand cover the use of 4-vinylcyclohexene diepoxide to deplete ovarian follicles in individual mammals and mammal populations. The license agreement, signed in 2005, will terminate with the last-to-expire patent claims, which have a term extending to 2026.

Trade Secrets and Trademarks

Beyond our patent right holdings, we broaden our intellectual property position with trademark, trade secret, know-how and continuous scientific discovery to accompany our product development efforts. We protect these proprietary assets with a combination of confidentiality terms in all commercial agreements or stand-alone confidentiality agreements along with rights-ownership agreements and structured information transfer understandings prior to beginning any collaborative projects. We own and maintain the ContraPest trademark and intend to register new trademarks for products from our evolving rodenticide product line and for products for mammalian species beyond rodentia.

Data Sets

We have exclusive use status with the EPA for the data sets we have developed and submitted to the EPA as part of our application for ContraPest. The exclusive use status applies to new active ingredients and the final formulation of the ContraPest product for a period of 10 years. For five years after the 10-year period of exclusivity, if another applicant or the EPA Administrator chooses to rely on one or more data sets that we submitted in support of an application submitted by another applicant, the new applicant must make a binding offer to compensate us and certify to the EPA that it has done so. If we and the offeror cannot reach agreement on the terms of the compensation for the use of such data sets, FIFRA requires resolution by binding arbitration. The EPA rules do not describe how the compensation should be determined, and there is publicly available information about some, but not all, binding arbitration decisions.

Where You Can Find Additional Information

We electronically file with the Securities and Exchange Commission ("SEC") our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. We make available on our website at www.senestech.com, free of charge, copies of these reports, as soon as reasonably practicable after electronically filing such reports with, or furnishing them to, the Securities and Exchange Commission. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this Annual Report on Form 10-K.

Item 1A. ***Risk Factors***

As discussed immediately prior to Item 1 of Part I, "Business" under "Cautionary Note Regarding Forward-Looking Statements," our actual results could differ materially from those expressed in our forward-looking statements. Factors that might cause or contribute to such differences include, but are not limited to, those discussed below. Additional risks and uncertainties not presently known to us, or that we currently deem immaterial, may also impair our business operations. If any of the following risks occur, our business, financial condition, operating results, cash flows and the trading price of our common stock could be materially adversely affected.

Risks Relating to our Business

The impacts of the coronavirus pandemic could adversely affect our business, and other similar crises could result in similar or other harms.

The outbreak of the novel coronavirus (COVID-19) pandemic has resulted in widespread travel and transportation restrictions and closures of commercial spaces, industrial facilities and other spaces and businesses in and across the United States and the world, including in the locations we operate or target sales. As a result, our business has been impacted and we could face continued or more adverse effects. In addition, our results and financial condition may be adversely affected by federal or state legislation, or other similar laws, regulations, orders or other governmental or regulatory actions or best practices, that would impose new restrictions on our ability to operate our business or customers to operate their businesses. For example, our sales and technical field forces have been restricted from traveling or limited in travel, which adversely affects our ability to sell our products and complete field studies. While we have implemented cautionary procedures at our manufacturing facility, there may be disruptions to our ability to manufacture due to current and additional workplace controls. Our customers may be less inclined or unable to purchase our products or continue product studies due to restrictions under which they may be operating. Those restrictions have been and are more severe in some jurisdictions, such as California. If financial markets tighten, we may have more limited ability to raise necessary financing. The COVID-19 pandemic is also placing a significant budgetary burden on federal, state and local governments, which may impede or delay their ability to purchase our products. We source some of our critical raw materials from Asia, and the coronavirus has caused supply chain disruptions, which could limit a timely supply of materials. Each of these could have negative effects on our business, results of operations, financial condition and cash flows. Even if the coronavirus pandemic passes, another crisis with similar effects could develop and harm our business, financial results and liquidity. The degree to which the COVID-19 pandemic may impact our results of operations and financial condition is unknown at this time and will depend on future developments, including the ultimate severity and the duration of the pandemic, and further actions that may be taken by governmental authorities or businesses or individuals on their own initiatives in response to the pandemic.

Our success is dependent on the successful commercialization of ContraPest.

The EPA granted registration approval for ContraPest effective August 2, 2016, and as of July 12, 2018, we have received registration for ContraPest in all 50 states and the

District of Columbia. However, we have not yet had significant sales of ContraPest, which is our only product to date that is available for commercialization and the generation of revenue.

ContraPest and our other product candidates, if approved, may not achieve adequate market acceptance necessary for commercial success.

Even following receipt of regulatory approval for ContraPest or future regulatory approval of our other product candidates, such products may not gain market acceptance. Market acceptance of any of our product candidates for which we receive approval depends on a number of factors, including:

- The potential and perceived advantages of product candidates over alternative or complementary products;
- The effectiveness of our sales and marketing efforts and those of our collaborators;
- The efficacy and safety of such product candidates as demonstrated in trials;
- The uses, indications or limitations for which the product candidate is approved;
- Product labeling or product insert requirements of the EPA or other regulatory authorities;
- The timing of market introduction of our products as well as future competitive or alternative products;
- Relative convenience and ease of use; and
- Unfavorable publicity relating to the product.

If we cannot successfully commercialize our products, especially ContraPest, we will not become profitable.

If any of our approved product candidates fail to achieve sufficient market acceptance, we will not be able to generate significant revenues or become profitable. The commercial success of ContraPest will depend on a number of factors, including the following:

- The execution of a viable commercial strategy and the successful establishment of a commercial organization;
- Our success in educating end users about the benefits, administration and use of ContraPest;
- The effectiveness of our own or our potential strategic partners' marketing, sales and distribution strategy and operations;
- Convincing PMPs to deploy ContraPest in quantity as an enhancement to, or replacement of their current strategy of use of rodenticides;
- Establishment of commercially viable pricing;
- Our ability to manufacture quantities of ContraPest using commercially acceptable processes and at a scale sufficient to meet anticipated demand and enable us to reduce our cost of manufacturing; and
- A continued acceptable safety profile of ContraPest.

Many of these factors are beyond our control. If we are unable to successfully commercialize ContraPest, we may not be able to earn sufficient revenues or profits to continue our business.

We will require additional capital to fund our operations. Failure to obtain this necessary capital if needed may force us to delay, limit, or terminate our product development efforts or other operations.

Commercialization of ContraPest and developing further product candidates, including conducting experiments and field studies, obtaining and maintaining regulatory approval and commercializing any products approved for sale, is a time-consuming, expensive and uncertain process that takes years to complete. We expect our expenses to continue and to increase in connection with our ongoing activities, particularly as we advance our commercialization activities. We may expand our operations, and as a result of many factors, some of which may be currently unknown to us, our expenses may be higher than expected. Securing additional financing may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates, including ContraPest. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. If we are unable to raise additional capital when required or on acceptable terms, we may be required to:

- Significantly delay, scale back or discontinue the development or commercialization of our product candidates, including ContraPest;
- Seek strategic partners for the manufacturing, sales and distribution of ContraPest or any of our other product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available; and
- Relinquish, or license on unfavorable terms, our rights to technologies or product candidates that we otherwise would seek to develop or commercialize ourselves.

The occurrence of any of the events described above would have a material adverse effect on our business, operating results and prospects and on our ability to develop our product candidates.

ContraPest is the first product we have marketed, and if we are unable to establish and maintain an effective sales force and marketing and distribution infrastructures, or enter into and rely upon acceptable third-party relationships, we may be unable to generate any revenue.

We continue to develop a functional infrastructure for the sales, marketing, and distribution of our products and the cost of establishing and maintaining such an infrastructure may exceed the cost-effectiveness of doing so. In order to market ContraPest and any other products that may be approved by the EPA and comparable foreign regulatory authorities, we must continue to build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services for which we would incur substantial costs. If we are unable to establish and maintain adequate sales, marketing, and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenue and become profitable. Without an effective internal commercial organization or the support of a third party to perform sales and marketing functions, we may be unable to compete successfully.

Risks Regulations Have on Our Business

Regulatory approval processes of the EPA and comparable foreign regulatory authorities are lengthy, time-consuming and unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business may fail.

The EPA review process for a product with one or more new active ingredients typically takes approximately two years to complete and approval is never guaranteed. In addition, we continue to seek approvals to expand labels and use designations for ContraPest to broaden its market and usability. Our efforts could fail to receive marketing approval from the EPA or, with respect to ContraPest or our product candidates, from a comparable foreign regulatory authority for many reasons, including:

- Disagreement over the design or implementation of our trials;
- Failure to demonstrate a product candidate is safe or works according to our claims;
- Failure to demonstrate a product candidate's benefits outweigh its risks;
- Disagreement over our interpretation of data;
- Disagreement over whether to accept efficacy results from trials;
- The insufficiency of data collected from trials to obtain regulatory approval;
- Irreparable or critical compliance issues relating to our manufacturing process; or
- Changes in the approval policies or regulations that render our data insufficient for approval.

Any of these factors, some of which are beyond our control, could jeopardize our ability to obtain regulatory approval for and successfully market any of our product candidates. Any such setback in our pursuit of regulatory approval could have a material adverse effect on our business and prospects.

Even following receipt of any regulatory approval for ContraPest and our other product candidates, we will continue to face extensive regulatory requirements and our products may face future development and regulatory difficulties.

Even following receipt of any regulatory approval for ContraPest or our product candidates, our products will be subject to ongoing requirements by the EPA and comparable state and foreign regulatory authorities governing the manufacture, quality control, further development, labeling, packaging, storage, distribution, safety surveillance, import, export, advertising, promotion, recordkeeping and reporting of safety and other post-market information.

The safety profile of any product will continue to be closely monitored by the EPA and comparable foreign regulatory authorities after approval. In addition, we may be required, from time to time, to provide further testing results and certifications to the EPA and state regulatory agencies for ContraPest.

For instance, we have found it challenging to produce applicable stability test results for certain of our active ingredients, due in part to the small quantities used in the final product, and continue to work with the EPA to develop appropriate biological or chemical measurements of product stability. Because our data continue to demonstrate the long-term efficacy of ContraPest, we believe that the testing is a matter we will resolve.

If the EPA or comparable foreign regulatory authorities become aware of new information after approval of ContraPest or any other product candidate, or we are unable to adequately complete required testing and certification requirements, a number of potentially significant negative consequences could result, including:

- We may be forced to suspend marketing of such product;
- Regulatory authorities may withdraw their approvals of such product after certain procedural requirements have been met;
- Regulatory authorities may require additional warnings on the label that could diminish the usage or otherwise limit the commercial success of such product;
- The EPA or other regulatory bodies may issue safety alerts, press releases or other communications containing warnings about such product;
- The EPA may require the establishment or modification of restricted use or a comparable foreign regulatory authority may require the establishment or modification of a similar strategy that may, for instance, restrict distribution of our product and impose burdensome implementation requirements on us;
- We may be required to change the way the product is administered or conduct additional trials;
- We could be sued and held liable for harm caused;
- We may be subject to litigation or product liability claims; and
- Our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and could significantly harm our business, results of operations and prospects.

Moreover, existing government regulations may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of ContraPest or any other product candidates. 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 lose any marketing approval that we may have obtained and/or be subject to different marketing requirements or fines or enhanced government oversight and reporting obligations, which would adversely affect our business, prospects, and ability to achieve or sustain profitability.

Our future success is also dependent on regulatory approval and commercialization of our other product candidates.

We are working on a semi-solid product as well as an alternative dispenser. We cannot commercialize our product candidates in the United States without first obtaining regulatory approval for each product and each use pattern from the EPA or, if applicable, the Food and Drug Administration, or FDA, and from any related applicable state authorities. Before obtaining regulatory approvals for the commercial sale of any product candidate for a target indication, the law requires that applicants demonstrate through laboratory and field studies and related data showing that the product candidate will perform its intended function without causing unreasonable adverse effects on the environment. The EPA or a comparable foreign regulatory authority may require more information, including additional data to support approval that may delay or prevent approval.

Even following receipt of any regulatory approval for ContraPest and our other product candidates, we will continue to be subject to regulation of our manufacturing processes and advertising practices.

As a manufacturer of pest control products, we are subject to continual government oversight and periodic inspections by the EPA and other regulatory authorities. If we or a regulatory agency discover problems with a facility where our products are manufactured, a regulatory agency may impose restrictions on the manufacturing facility, including requiring recall or withdrawal of the product from the market or suspension of manufacturing until certain procedural requirements have been met. The occurrence of any such event or penalty could limit our ability to market ContraPest or any other product candidates and generate revenue.

In addition, the EPA strictly regulates the advertising and promotion of pest control products, and these pest control products may only be marketed or promoted for their EPA approved uses, consistent with the product's approved labeling. Advertising and promotion of any product candidate that obtains approval in the U.S. will be heavily scrutinized by the EPA, other applicable state regulatory agencies and the public. Violations, including promotion of our products for unapproved or off-label uses, are subject to enforcement actions, inquiries and investigations, and civil, criminal and/or administrative sanctions imposed by the EPA.

Failure to obtain regulatory approval in foreign jurisdictions would prevent ContraPest or any other product candidates from being marketed in those jurisdictions.

To market and sell our products globally, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. Obtaining foreign regulatory approvals and maintaining compliance with foreign regulatory requirements could result in significant delays, difficulties, and cost for us and could delay or prevent the introduction of our products in certain countries. Approval by the EPA does not ensure approval by regulatory authorities in other countries or jurisdictions, but EPA approval may influence decisions by the foreign regulatory authority. If we are unable to obtain approval of ContraPest or for any of our other product candidates by regulatory authorities in the world market, the commercial prospects of that product candidate may be significantly diminished and our business prospects could decline.

Risks Related to our Operations and Supply Chain

We depend on key personnel to operate our business. If we are unable to retain, attract and integrate qualified personnel, our ability to develop and successfully grow our business could be harmed.

We believe that our success is highly dependent on our ability to attract and retain highly skilled and experienced sales, research and development, and other personnel. If one or more of our executive officers or key employees terminates employment or becomes disabled or experiences long-term illness, we may not be able to replace their expertise, fully integrate new personnel or replicate the prior working relationships, and the loss of their services might significantly delay or prevent the achievement of our research, development and business objectives. Qualified individuals with the breadth of skills and experience in our industry that we require are in high demand, and we may incur significant costs to attract them. Many of the other companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a more established history in the industry. They also may provide more diverse opportunities and better chances for career advancement. Our failure to attract or retain key personnel could impede the achievement of our research, development and commercialization objectives.

We have internal manufacturing capabilities to meet our current and near term forecasted demand for ContraPest, however, we must develop additional manufacturing capability or rely upon third parties to manufacture our products to meet future demand and our single location manufacturing operations could be disrupted.

Our existing internal manufacturing platform is adequate for meeting our current and near term forecasted demand for ContraPest. We may be required to spend significant time and resources to expand these manufacturing facilities to fully meet future demand. If we are unable to develop full-scale manufacturing capabilities, we may not be able to meet demand of our products without relying on third party manufacturers, which could adversely affect our operations or financial condition.

In addition, if our manufacturing operations fail or becomes disrupted for any reason, including because of labor, disasters, and equipment malfunctions, among others, our ability to timely produce ContraPest may be adversely affected, which would harm our sales and reputation. We only operate in single location, which means we do not have back-up facilities to produce our products during a time when our manufacturing facility becomes unavailable.

We will need to expand our operations and grow the size of our organization, and we may experience difficulties in managing this growth.

As of December 31, 2020, we had 29 full-time employees. As our development and commercialization plans and strategies develop, we will need additional managerial, operational, sales, marketing, scientific, financial headcount and other resources. Our management, personnel, and systems currently in place may not be adequate to support this future growth. Future growth would impose significant added responsibilities on members of management, including:

- Identifying, recruiting, maintaining, motivating and integrating additional employees with the expertise and experience we will require;
- Managing our internal development efforts effectively while complying with our contractual obligations to licensors, licensees, contractors and other third parties;
- Managing additional relationships with various strategic partners, suppliers and other third parties;
- Managing our trials effectively, which we anticipate being conducted at numerous field study sites;
- Improving our managerial, development, operational, marketing, production and finance reporting systems and procedures; and
- Expanding our facilities.

Our failure to accomplish any of these tasks could prevent us from successfully growing our business.

Business or supply chain disruptions could seriously harm our future revenues and financial condition and increase our costs and expenses, particularly because we have limited suppliers and a critical ingredient is sourced from China.

Our operations could be subject to a variety of potential business disruptions, including power shortages, telecommunications failures, water shortages, floods, fires, earthquakes, extreme weather conditions, medical epidemics and other natural or manmade disasters or other interruptions, for which we are predominantly self-insured. We do not carry insurance for all categories of risk that our business may encounter. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. Moreover, we rely on third parties to supply various ingredients and other items which are critical for producing our product candidates.

We currently use one supplier for each of our two active ingredients, triptolide and VCD. Our ability to produce our product candidates would be disrupted if the operations of these suppliers are affected by a manmade or natural disaster or other business interruption. Because triptolide is sourced from China and other Asian countries, we have a greater risk of supply interruption, including as a result of tariff and trade disputes, or disruptive events like the outbreak of the Coronavirus. The ultimate impact on our operations from any business interruption impacting us or any of our significant suppliers is unknown, but our operations and financial condition would likely suffer adverse consequences. Further, any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our business, results of operations, financial condition and cash flows from future prospects.

We are dependent on triptolide, a key ingredient for ContraPest, which has limited sources and must be in a very refined condition.

If we are unable to develop additional sources of or alternatives to triptolide, a key ingredient for ContraPest, our long-term ability to produce ContraPest at a cost effective price could be in jeopardy. If market demand for triptolide causes the price to increase beyond our ability to market at a competitive price or causes the quality of the refined ingredient to be less than needed for our production, our ability to commercialize ContraPest could be limited or delayed, which would adversely affect our business, results of operations and financial condition.

A variety of risks associated with marketing our product candidates internationally could materially adversely affect our business.

We may seek regulatory approval of our product candidates outside of the U.S. and, in that case, we expect that we will be subject to additional risks related to operating in foreign countries if we obtain the necessary approvals, including:

- Differing regulatory requirements in foreign countries;
- Unexpected changes in tariffs, trade barriers, price and exchange controls and other regulatory requirements;
- Economic weakness, including inflation or political instability in particular foreign economies and markets;
- Compliance with tax, employment, immigration and labor laws for employees living or traveling internationally;
- Foreign taxes, including withholding of payroll taxes;
- Foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- Difficulties staffing and managing foreign operations;

- Workforce uncertainty in countries where labor unrest is more common than in the United States;
- Potential liability under the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, or comparable foreign regulations;
- Challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- Production shortages resulting from any events affecting raw material supply or manufacturing capabilities internationally; and
- Business interruptions resulting from geopolitical actions, including war and terrorism.

These and other risks associated with our international operations may materially adversely affect our ability to attain or maintain profitable operations.

Risks Relating to Protections of our Intellectual Property and Legal Actions

If we fail to obtain or protect intellectual property rights, our competitive position could be harmed.

We depend on our ability to protect our proprietary technology. We rely on trade secret, patent, copyright and trademark laws, and confidentiality, licensing, and other agreements with employees and third parties, all of which offer only limited protection. Our commercial success will depend in part on our ability to obtain and maintain intellectual property protection in the United States and other countries with respect to our proprietary technology and products. Where we deem appropriate, we seek to protect our proprietary position by filing patent applications in the United States and internationally related to our novel technologies and products that are important to our business. However, our financial resources constrain us from seeking protection in every instance, so we may rationalize and selectively pursue expensive patent protection. Patent positions can be highly uncertain, involve complex legal and factual questions and be the subject of litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patents, including those patent rights licensed to us by third parties, are highly uncertain.

The steps we have taken to protect our proprietary rights may not be adequate to preclude misappropriation of our proprietary information or infringement of our intellectual property rights, both inside and outside the United States. The rights already granted under any of our currently issued patents and those that may be granted under future issued patents may not provide us with the proprietary protection or competitive advantages we are seeking. If we are unable to obtain and maintain protection for our technology and products, or if the scope of the protection obtained is not sufficient, our competitors could develop and commercialize technology and products similar or superior to ours, and our ability to successfully commercialize our technology and products may be adversely affected.

With respect to patent rights, we do not know whether any of our pending patent applications for any of our technologies or products will result in the issuance of patents that protect such technologies or products, or if our licensed patent will effectively prevent others from commercializing competitive technologies and products. Our pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. Further, the examination process may require us to narrow the claims for our pending patent applications, which may limit the scope of patent protection that may be obtained if these applications issue. Because the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, issued patents that we own or have licensed from third parties may be challenged in the courts or patent offices in the U.S. and internationally. Such challenges may result in the loss of patent protection, the narrowing of claims in such patents, or the invalidity or unenforceability of such patents, which could limit our ability to stop others from using or commercializing similar or identical technology and products or limit the duration of the patent protection for our technology and products. Protecting against the unauthorized use of our patented technology, trademarks and other intellectual property rights, is expensive, difficult, and in some cases, may not be possible. In some cases, it may be difficult or impossible to detect third party infringement or misappropriation of our intellectual property rights, even in relation to issued patent claims, and proving any such infringement may be even more difficult.

Intellectual property rights do not necessarily address all potential threats to any competitive advantage we may have.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- Others may be able to make compounds that are the same as or similar to our future products but that are not covered by the claims of the patents that we own or have exclusively licensed;
- We might not have been the first to file patent applications covering certain of our inventions;
- Others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing on our intellectual property rights;
- Issued patents that we own or have exclusively licensed may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- Our competitors might conduct research and development activities in the U.S. and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- We may not develop additional proprietary technologies that are patentable or otherwise protectable;
- Employees may violate confidentiality and proprietary invention assignment agreements and we may not have the resources to enforce those agreements or otherwise enforce our patent rights; and
- The patents of others may have an adverse effect on our business.

Our technology may be found to infringe third party intellectual property rights.

Third parties may in the future assert claims or initiate litigation related to their patent, copyright, trademark and other intellectual property rights in technology that is important to us. The asserted claims and/or litigation could include claims against us, our licensors, or our suppliers alleging infringement of intellectual property rights with respect to our product candidates or components of those products. Regardless of the merit of the claims, they could be time consuming, resulting in costly litigation and diversion of technical and management personnel, or require us to develop non-infringing technology or enter into license agreements. We cannot assure you that licenses will be available on acceptable terms, if at all. Furthermore, because of the potential for significant damage awards, which are not necessarily predictable, it is not unusual to find even arguably unmeritorious claims resulting in large settlements. If any infringement or other intellectual property claim made against us by any third party is successful, or if we fail to develop non-infringing technology or license the proprietary rights on commercially reasonable terms and conditions, our business, operating results and financial condition could be materially adversely affected.

If our product candidates, methods, processes and other technologies infringe the proprietary rights of other parties, we could incur substantial costs and we may have to:

- Obtain licenses, which may not be available on commercially reasonable terms, if at all;
- Redesign our product candidates or processes to avoid infringement;

- Stop using the subject matter claimed to be held by others;
- Pay damages; or
- Defend litigation or administrative proceedings which may be costly whether we win or lose, and which could result in a substantial diversion of our financial and management resources.

We may need to license intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

A third party may hold intellectual property, including patent rights that are important or necessary to the development of our product candidates. It may be necessary for us to use the patented or proprietary technology of a third party to manufacture or otherwise commercialize our own technology or products, in which case we would be required to obtain a license from such third party. Licensing such intellectual property may not be available or may not be available on commercially reasonable terms, which could have a material adverse effect on our business and financial condition.

We may be subject to legal proceedings in the ordinary course of our business that could result in significant harm to our business, financial condition and operating results.

We could be subject to legal proceedings and claims from time to time in the ordinary course of our business, including actions arising from tort, contract or other claims. See "Legal Proceedings" elsewhere in this filing for more information. Litigation is expensive, time consuming, and could divert management's attention away from running our business. The outcome of litigation or other proceedings is subject to significant uncertainty, and it is possible that an adverse resolution of one or more such proceedings could result in reputational harm and/or significant monetary damages, injunctive relief or settlement costs that could adversely affect our results of operations or financial condition as well as our ability to conduct our business as it is presently being conducted. Insurance might not cover such claims, might not provide sufficient payments to cover all the costs to resolve one or more such claims and might not be available on terms acceptable to us. In addition, regardless of merit or outcome, claims brought against us that are uninsured or underinsured could result in unanticipated costs, which could harm our business, financial condition and operating results and reduce the trading price of our stock.

For example, we have become aware that we were involved in a transaction in which an investor of the Company may have resold approximately 175,000 shares of our common stock pursuant to a registration statement that was not declared effective by the Securities and Exchange Commission (SEC). As a result, it is possible that the SEC brings an action against us, or we may ultimately be responsible for an action for rescission by purchasers of the securities that were resold. If the SEC were to bring such an enforcement action against us, or if purchasers were to bring such an action for rescission, it may have a material adverse effect on our financial position.

Product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to the use of ContraPest and any of our other products. If we cannot successfully defend ourselves against claims from our product users, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- Decreased demand for any product that we may develop;
- Termination of field studies or other research and development efforts;
- Injury to our reputation and significant negative media attention;
- Significant costs to defend the related litigation;
- Substantial monetary awards to plaintiffs;
- Loss of revenue;
- Diversion of management and scientific resources from our business operations; and
- The inability to commercialize our product candidates.

We may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing. Large judgments have been awarded in class action lawsuits based on products that had unanticipated side effects, including, without limitation, any potential adverse effects of our products on humans or other species. A successful product liability claim or series of claims brought against us, particularly if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

Risks Related to our Reporting and Cybersecurity

We have not fully assessed our internal control over financial reporting. If we experience material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, we may not be able to accurately or timely report our financial condition or results of operations, which may adversely affect investor confidence in us and, as a result, the value of our Common Stock.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our financial statements will not be prevented or detected on a timely basis.

This Annual Report on Form 10-K for the year ended December 31, 2020 does not include an attestation report of the company's registered public accounting firm due to a transition period established by rules of the SEC for smaller reporting companies and emerging growth companies. As a result, we have not yet fully assessed our internal control over financial reporting and are unable to assure that the measures we have taken to date, together with any measures we may take in the future, will be sufficient to remediate the control deficiencies that led to our material weaknesses in our internal control over financial reporting, or to avoid potential future material weaknesses.

If we are unable to develop and maintain an effective system of internal control over financial reporting, successfully remediate any existing or future material weaknesses in our internal control over financial reporting, or identify any additional material weaknesses, the accuracy and timing of our financial reporting may be adversely affected, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports and Nasdaq listing requirements, investors may lose confidence in our financial reporting, and our stock price may decline as a result.

Privacy breaches and other cyber security risks related to our business could negatively affect our reputation, credibility and business.

We expect to begin making direct-to-consumer sales through our new e-Commerce tool, which depends on information technology systems and networks. We are also responsible for storing data relating to our customers and employees and rely on third party vendors for the storage, processing and transmission of personal and Company information. Consumers, lawmakers and consumer advocates alike are increasingly concerned over the security of personal information transmitted over the Internet, consumer identity theft and privacy. We do not control our third-party service providers and cannot guarantee that they have implemented reasonable security measures to protect our employees' and customers' identity and privacy, or that no electronic or physical computer break-ins or security breaches will occur in the future. Our systems and technology are vulnerable from time-to-time to damage, disruption or interruption from, among other things, physical damage, natural disasters, inadequate system capacity, system issues, security breaches, "hackers," email blocking lists, computer viruses, power outages and other failures or disruptions outside of our control. A significant breach of customer, employee or Company data could damage our reputation and our relationship with customers, and could result in lost sales, sizable fines, significant breach-notification costs and lawsuits, as well as adversely affect our results of operations. We may also incur additional costs in the future related to the implementation of additional security measures to protect against new or enhanced data security and privacy threats, or to comply with state, federal and international laws that may be enacted to address those threats.

Risks Related to our Capital Stock, Funding and Trading in our Stock

We have incurred significant operating losses every quarter since our inception and anticipate that we will continue to incur significant operating losses in the future.

Investment in product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to become commercially viable or gain regulatory approval. To date, we have financed our operations primarily through the sale of equity securities and debt financings as well as research grants. We have generated minimal revenue from product sales to date. We continue to incur significant sales, marketing, research, development, and other expenses related to our ongoing operations. As a result, we are not profitable and have incurred losses in every reporting period since our inception. For the years ended December 31, 2020 and 2019, we reported net losses of $8.4 million and $10.0 million, respectively. As of December 31, 2020, we had an accumulated deficit since inception of $104.2 million.

Since inception, we have dedicated a majority of our resources to the discovery and development and marketing of our proprietary product candidates. We expect to continue to incur significant expenses and operating losses for the foreseeable future. The size of our losses will depend, in part, on the rate of future expenditures and our ability to generate revenues. In particular, we expect to incur substantial and increased expenses as we:

- Attempt to achieve market acceptance for our products;
- Continue to establish an infrastructure for the sales, marketing and distribution of ContraPest and any other product candidates for which we may receive regulatory approval;
- Scale up manufacturing processes and quantities to prepare for the commercialization of ContraPest and any other product candidates for which we receive regulatory approval;
- Continue the research and development of ContraPest and our other product candidates, including engaging in any necessary field studies;
- Seek regulatory approvals for ContraPest in various jurisdictions and for our other product candidates;
- Expand our research and development activities and advance the discovery and development programs for other product candidates;
- Maintain, expand and protect our intellectual property portfolio; and
- Add operational, financial and management information systems and personnel, including personnel to support our clinical development and commercialization efforts and operations as a public company.

We may encounter unforeseen expenses, difficulties, complications, delays, and other unknown factors that may adversely affect our financial condition. Our prior losses and expected future losses have had, and will continue to have, an adverse effect on our financial condition. If ContraPest or any other product candidate does not gain or maintain sufficient regulatory approval, or if approved, fails to achieve market acceptance, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations. A decline in the value of our company could cause you to lose all or part of your investment.

If we are unable to continue as a going concern, our securities will have little or no value.

We have incurred operating losses since our inception, and we expect to continue to incur significant expenses and operating losses for the foreseeable future. Our financial statements as of December 31, 2020 and 2019 have been prepared under the assumption that we will continue as a going concern. Our independent registered public accounting firm included in its opinion for the years ended December 31, 2020 and 2019 an explanatory paragraph referring to our net loss from operations and net capital deficiency and expressing substantial doubt in our ability to continue as a going concern without additional capital becoming available. If we encounter continued issues or delays in the commercialization of ContraPest or greater than anticipated expenses, our prior losses and expected future losses could have an adverse effect on our financial condition and negatively impact our ability to fund continued operations, obtain additional financing in the future and continue as a going concern. There are no assurances that such financing, if necessary, will be available to us at all or will be available in sufficient amounts or on reasonable terms. Our financial statements do not include any adjustments that may result from the outcome of this uncertainty. If we are unable to generate additional funds in the future through financings, sales of our products, licensing fees, royalty payments or from other sources or transactions, we will exhaust our resources and will be unable to continue operations. If we cannot continue as a going concern, our stockholders would likely lose most or all of their investment in us.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.

Until such time, if ever, as we can generate sufficient product revenues, we expect to finance our cash needs primarily through the sale of equity securities and debt financings, and possibly through credit facilities and government and foundation grants. We may also seek to raise capital through third party collaborations, strategic alliances and similar arrangements. We currently do not have any committed external source of funds.

Raising funds in the future may present additional challenges and future financing may not be available in sufficient amounts or on terms acceptable to us, if at all. The terms of any financing arrangements we enter into may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities by us, or the possibility of such issuance, may cause the market price of our shares to decline. For example, during 2020, we completed equity financings that resulted in the issuance of shares of Common Stock and warrants to purchase Common Stock, resulting in substantial dilution to the existing stockholders. Similarly, in the first quarter of 2021, we again issued shares of Common Stock and warrants to purchase Common Stock, resulting in additional substantial dilution to the existing stockholders. We generally have raised capital as the opportunity arises.

Certain of our agreements with investors and our outstanding warrants contain provisions that impose limitations on our ability to participate in certain variable rate transactions, including at-the-market transactions, which may limit our opportunities to obtain financing in sufficient amounts or on acceptable terms. The sale of additional equity or convertible debt securities would dilute all of our stockholders, and if such sales occur at a deemed issuance price that is lower than the current exercise price of our outstanding warrants sold to investors in November 2017, the exercise price for those warrants would adjust downward to the deemed issuance price pursuant to price adjustment protection contained within those warrants. Our various warrants contain other terms that may affect our fundraising.

The incurrence of indebtedness through credit facilities would result in increased fixed payment obligations and, potentially, the imposition of restrictive covenants. Those covenants may include limitations on our ability to incur additional debt, making capital expenditures or declaring dividends, and may impose limitations on our ability to acquire, sell, or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business.

If we raise additional funds through collaborations, strategic alliances, or licensing arrangements or other marketing or distribution arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to expand our operations or otherwise capitalize on our business opportunities, our business, financial condition and results of operations could be materially adversely affected.

If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or commercialization efforts, or grant others rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Our share price may be volatile, which could subject us to securities class action litigation and your investment in our securities could decline in value.

Our stock could be subject to wide fluctuation in response to many risk factors listed in this section, and others beyond our control, including:

- Market acceptance and commercialization of our products;
- Our being able to timely demonstrate achievement of milestones, including those related to revenue generation, cost control, cost effective source supply, and regulatory approvals;
- Our ability to remain listed on The Nasdaq Capital Market;
- Results and timing of our submissions with the regulatory authorities;
- Failure or discontinuation of any of our development programs;
- Regulatory developments or enforcements in the United States and non-U.S. countries with respect to our products or our competitors' products;
- Failure to achieve pricing acceptable to the market;
- Regulatory actions with respect to our products or our competitors' products;
- Actual or anticipated fluctuations in our financial condition and operating results or our continuing to sustain operating losses;
- Competition from existing products or new products that may emerge;
- Announcements by us or our competitors of significant acquisitions, strategic arrangements, joint ventures, collaborations or capital commitments;
- Issuance of new or updated research or reports by securities analysts;
- Announcement or expectation of additional financing efforts, particularly if our cash available for operations significantly decreases or if the financing efforts result in a price adjustment to certain outstanding warrants;
- Fluctuations in the valuation of companies perceived by investors to be comparable to us;
- Share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- Disputes or other developments related to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- Entry by us into any material litigation or other proceedings;
- Sales of our Common Stock by us, our insiders, or our other stockholders;
- Exercise of outstanding warrants;
- Market conditions for equity securities; and
- General economic and market conditions unrelated to our performance.

Furthermore, the capital markets can experience extreme price and volume fluctuations that may affect the market prices of equity securities of many companies. These broad market and industry fluctuations, as well as general economic, political, and market conditions such as recessions, interest rate changes, or international currency fluctuations, may negatively impact the market price of shares of our Common Stock. In addition, such fluctuations could subject us to securities class action litigation, which could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business. You may not realize any return on your investment in us and may lose some or all of your investment.

Future sales, or the possibility of future sales, of a substantial number of our common shares could adversely affect the price of the shares and dilute stockholders.

Future sales of a substantial number of shares of our Common Stock, or the perception that such sales will occur, could cause a decline in the market price of our Common Stock. This is particularly true if we sell our stock at a discount. As of March 29, 2021, we had 143,501 shares of our Common Stock subject to outstanding warrants that contain anti-dilution adjustments that provide for an adjustment to the exercise price for certain dilutive issuances of securities. If we offer or issue additional securities at a deemed price lower than the current exercise price of these outstanding warrants, these warrants will adjust pursuant to the price adjustment protection contained within these warrants. For example, our January 2020 registered direct offering resulted in an additional downward adjustment of the exercise price of these warrants from $19.00 per share to $7.126 per share and our inducement offering in October 2020 resulted in an additional downward adjustment of the exercise price of these warrants from $7.126 per share to $1.3659 per share. Any future issuance of Common Stock or securities convertible or exercisable into our Common Stock could cause a further downward adjustment of the exercise price of these warrants to the deemed issuance price if the issuance price is less than the exercise price of the warrants at the time of the new issuance.

Also, in the future, we may issue additional shares of our Common Stock or other equity or debt securities convertible into Common Stock in connection with a financing, acquisition, litigation settlement, employee arrangements, or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and could cause our common share price to decline.

An active market in the shares may not continue to develop in which investors can resell our Common Stock.

We cannot predict the extent to which an active market for our Common Stock will continue to develop or be sustained, or how the development of such a market might affect the market price for our Common Stock. Market conditions in effect at the time you acquire our stock may not be indicative of the price at which our Common Stock will trade in the future. Investors may not be able to sell their Common Stock at or above the price they acquired it.

If securities or industry analysts, or other sources of information, do not publish research, or publish inaccurate or unfavorable research or other information about our business, our stock price and trading volume could decline.

The trading market for our Common Stock may depend on the research, reports and other information that securities or industry analysts, or other third-party sources of information, publish about us or our business. We do not have any control over these analysts or other third-party sources of information. From time to time inaccurate or unfavorable research or other information about our business, financial condition, results of operations and stock ownership may be published. We cannot assure that analysts will cover us or provide favorable coverage. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock, our share price could decline. If one or more of these analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline. If incorrect or misleading information is disseminated publicly by third parties about us, our stock price could decline.

We may not be able to comply with all applicable listing requirements or standards of The Nasdaq Capital Market and Nasdaq could delist our Common Stock.

Our Common Stock is listed on The Nasdaq Capital Market. In order to maintain that listing, we must satisfy minimum financial and other continued listing requirements and standards. On November 12, 2019, we received an initial deficiency letter from the listing qualifications staff of The Nasdaq Stock Market ("Nasdaq") providing notification that the bid price for our Common Stock had closed below $1.00 per share for the previous 30 consecutive business days and that as a result our Common Stock no longer met the minimum bid price requirement for listing on The Nasdaq Capital Market. We were provided with an initial compliance period of 180 calendar days, or until May 11, 2020, to regain compliance with the minimum bid price requirement. We implemented a 1-for-20 reverse stock split on February 4, 2020. On February 20, 2020 we received notification from Nasdaq that we had regained compliance with the minimum bid price requirement. However, we can provide no assurance that we will be able to maintain compliance with the minimum bid price requirement.

In the event that we are unable to maintain compliance with the applicable Nasdaq listing requirements or standards of The Nasdaq Capital Market, our Common Stock could be delisted from The Nasdaq Capital Market, which could have a material adverse effect on our financial condition and which could cause the value of our Common Stock to decline. If our Common Stock is not eligible for listing or quotation on another market or exchange, trading of our Common Stock could be conducted in the over-the-counter market or on an electronic bulletin board established for unlisted securities such as the Pink Sheets or the OTC Bulletin Board. In such event, it could become more difficult to dispose of, or obtain accurate price quotations for, our Common Stock, and there would likely be a reduction in our coverage by security analysts and the news media, which could cause the price of our Common Stock to decline further. In addition, it may be difficult for us to raise additional capital if we are not listed on a national securities exchange.

Our corporate documents, Delaware law and certain warrants contain provisions that could discourage, delay or prevent a change in control of our company.

Provisions in our certificate of incorporation and our bylaws may discourage, delay or prevent a merger or acquisition involving us that our stockholders may consider favorable. For example, our certificate of incorporation currently provides for a staggered board of directors, whereby directors serve for three-year terms, with approximately one-third of the directors coming up for reelection each year. Having a staggered board will make it more difficult for a third party to obtain control of our board of directors through a proxy contest, which may be a necessary step in an acquisition of us that is not favored by our board of directors. Additionally, most of our warrants provide a Black Scholes value-based payment to the warrant holders in connection with certain transactions that may discourage, delay or prevent a merger or acquisition.

We are also subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law. Under these provisions, if anyone becomes an "interested stockholder," we may not enter into a "business combination" with that person for three years without special approval, which could discourage a third party from making a takeover offer and could delay or prevent a change of control. For purposes of Section 203, "interested stockholder" means, generally, someone owning 15% or more of our outstanding voting stock or an affiliate of ours that owned 15% or more of our outstanding voting stock during the past three years, subject to certain exceptions as described in Section 203.

We are an "emerging growth company" as that term is used in the JOBS Act, and we intend to take advantage of reduced disclosure and governance requirements applicable to emerging growth companies, which could result in our Common Stock being less attractive to investors and adversely affect the market price of our Common Stock or make it more difficult to raise capital as and when we need it.

We are an "emerging growth company" as that term is used 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 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved, and exemptions from any rules that the Public Company Accounting Oversight Board may adopt requiring mandatory audit firm rotation or a supplement to the auditor's report on the financial statements. We currently intend to take advantage of some of the reduced regulatory and reporting requirements that will be available to us under the JOBS Act, so long as we qualify as an "emerging growth company." For example, so long as we qualify as an "emerging growth company," we may elect not to provide you with certain information, including certain financial information and certain information regarding compensation of our executive officers, that we would have otherwise been required to provide in filings we make with the SEC, which may make it more difficult for investors and securities analysts to evaluate us.

Because of the exemptions from various reporting requirements provided to us as an "emerging growth company," we may be less attractive to investors and it may be difficult for us to raise additional capital as and when we need it. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. 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. Investors may be unable to compare our business with other companies in our industry if they believe that our financial accounting is not as transparent as other companies in our industry. If we are unable to raise additional capital as and when we need it, our business, results of operations, financial condition and cash flows, and future prospects may be materially and adversely affected.

Item 1B. ***Unresolved Staff Comments.***

Not applicable.

Item 2. ***Properties.***

As of December 31, 2020, our corporate headquarters is located in Phoenix, Arizona, where we lease and occupy approximately 5,529 square feet of office space pursuant to a lease that commenced on December 1, 2019 and expires in November 2024. Also, as of December 31, 2020, our manufacturing facility completed it's relocation from Flagstaff, Arizona, where we occupied a total of 7,632 square feet of space, to a facility in Phoenix, Arizona, where we lease and occupy approximately 5,105 square feet of space. The lease for our manufacturing facility that commenced on August 1, 2020 and expires on November 30, 2024. We believe that our existing facilities are adequate and meet our current needs for business, manufacturing and research.

Item 3. ***Legal Proceedings.***

None.

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.***

Market Information

Our common stock is traded on the NASDAQ Capital Market under the symbol "SNES." Our common stock was initially listed for trading on the NASDAQ Capital Market on December 8, 2016.

Holders

As of March 29, 2021, there were approximately 703 holders of record of our common stock. Because many shares of our common stock are held by brokers and other institutions on behalf of stockholders, we are unable to determine the total number of beneficial owners represented by these holders of record.

Dividends

We have never declared or paid any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Company

We withhold shares of common stock in connection with the vesting of restricted stock units to satisfy required tax withholding obligations when they occur. There were no purchases of our equity securities during the twelve months ended December 31, 2020.

Item 6. ***Selected Financial Data.***

Information for Item 6, Selected Financial Data, has been omitted pursuant to SEC modernization rules that are effective as of the filing date of this report.

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the consolidated financial statements and the notes thereto included elsewhere in this Annual Report on Form 10-K. In addition to historical financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, beliefs and expectations that involve risks and uncertainties. Our actual results and the timing of events could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in the sections of this report titled "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements."

Overview

Since our inception, we have sustained significant operating losses in the course of our research and development activities and commercialization efforts and expect such losses to continue for the near future. We have generated limited revenue to date from product sales, research grants and licensing fees received under a former license. We have primarily funded our operations to date through the sale of equity securities, including convertible preferred stock, common stock and warrants to purchase common stock; and debt financing, consisting primarily of convertible notes.

Through December 31, 2020, we had received net proceeds of $75.7 million from our sales of common stock, preferred stock and issuance of convertible and other promissory notes and an aggregate of $1.7 million from research grants and licensing fees and an aggregate of $0.9 million in product sales. At December 31, 2020, we had an accumulated deficit of $104.2 million and cash and cash equivalents of $3.6 million.

On April 15, 2020, the Company also received cash proceeds of $645,700 from the Paycheck Protection Program (or "PPP") of the Coronavirus Aid, Relief, and Economic Security Act. We used the proceeds from the PPP Loan to retain employees, maintain payroll and make lease, interest and utility payments.

In addition, we entered into a security private placement agreement on February 2, 2021, which resulted in gross proceeds to the Company of approximately $10.00 million, before deducting fees payable to the placement agent and other estimated offering expenses payable by us.

We have incurred significant operating losses every year since our inception. Our net losses were $8.4 million and $10.0 million for the years ended December 31, 2020 and 2019, respectively. We expect to continue to incur significant expenses and generate operating losses for at least the next 12 months.

We have historically utilized, and intend to continue to utilize, various forms of stock-based awards in order to hire, retain and motivate talented employees, consultants and directors and encourage them to devote their best efforts to our business and financial success. In addition, we believe that our ability to grant stock-based awards is a valuable and necessary compensation tool that aligns the long-term financial interests of our employees, consultants and directors with the financial interests of our stockholders. As a result, a significant portion of our operating expenses includes stock-based compensation expense. Stock-based compensation expense has been, and will continue to be for the foreseeable future, a significant recurring expense in our business and an important part of our compensation strategy. Specifically, our stock-based compensation expense for the year ended December 31, 2020 and December 31, 2019 was $0.6 million and $0.9 million, respectively, which represented 8.1% and 8.5%, respectively, of our total operating expenses for those periods.

Components of our Results of Operations

Grant Revenue

Grant revenue is comprised entirely of grant funding provided by the City of Phoenix, Arizona for jobs created in the City of Phoenix, Arizona during the year ended December 31, 2020.

Sales

Sales are comprised primarily of sales, net of discounts and promotions, of ContraPest and related components, to our distributors and customers, as well as consulting and implementation services provided in conjunction with ContraPest deployments.

Cost of Sales

Cost of sales consist primarily of cost of products sold, including scrap and reserves for obsolescence. We continue to focus on improving our cost structure, with the goals of shifting resources to commercialization, significantly reducing our year-over-year burn rate and achieving a 50% or greater gross margin. Steps have included relocating to more cost-efficient space, organizational restructuring, and improving our manufacturing and supply processes and reducing staffing. We expect to realize the benefits from these steps in the coming quarters.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred in connection with the research and development of ContraPest and our other product candidates, which costs include:

- Employee related expenses, including salaries, related benefits, travel and stock-based compensation expense for employees engaged in research and development functions;
- Expenses incurred in connection with the development of our product candidates; and
- Facilities, depreciation and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance and supplies.

We expense research and development costs as incurred.

We continue to investigate other applications of our core technology to other product candidates, which includes laboratory tests and academic collaborations. We also continue to develop our supply chain, particularly identifying and improving our sourcing of triptolide, a key active ingredient for our product candidates. At this time, we cannot reasonably estimate the costs for further development of ContraPest or the cost associated with the development of any of our other product candidates.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of salaries and related costs, including stock-based compensation, for personnel in executive, finance, sales, marketing and administrative functions. Selling, general and administrative expenses also include direct and allocated facility-related costs as well as professional fees for legal, consulting, accounting and audit services.

We plan to continue to utilize various forms of stock-based compensation awards in order to attract and retain qualified employees. As a result, we anticipate that stock-based compensation expense will continue to represent a significant portion of our selling, general and administrative expenses for the foreseeable future.

Interest Income

Interest income consists primarily of interest income earned on cash and cash equivalents.

Interest Expense

Interest expense consists primarily of interest accrued on our finance lease and note commitments.

Other Income (Expense), Net

Other income (expense), net, consists primarily of recognized change in value of short-term investments, income (expense) related to the year-over-year fair market value adjustment of our derivative warrant and any recognized gains or losses related to the sale of fixed assets.

Income Taxes

Deferred tax assets and liabilities are determined based on differences between the financial statement and tax basis of assets and liabilities, as well as a consideration of net operating loss and credit carry forwards, using enacted tax rates in effect for the period in which the differences are expected to impact taxable income. A valuation allowance is established, when necessary, to reduce deferred tax assets to the amount that is more likely than not to be realized. The Company's effective tax rate for the years ended December 31, 2020 and December 31, 2019 has been affected by the valuation allowance on the Company's deferred tax assets.

Since our inception, we have not recorded any U.S. federal or state income tax benefits for the net losses we have incurred in each year or for our earned research and development tax credits, due to our uncertainty of realizing a benefit from those items. At December 31, 2020, the Company has federal and state net operating loss carryforwards of approximately $69.5 million and $56.1 million, respectively, not considering the IRC Section 382 annual limitation discussed below. The federal loss carryforwards begin to expire in 2029, unless previously utilized. In addition, the Company has approximately $25.1 million of the total $69.5 million of net operating losses that do not expire, as these losses were generated after the law change introduced as part of the Tax Cuts and Jobs Act.

Additionally, the utilization of the net operating loss carryforwards are subject to an annual limitation under Section 382 and 383 of the Internal Revenue Code od 1986, and similar state tax provisions due to ownership change limitations that have occurred previously or that could occur in the future. These ownership changes limit the amount of net operating loss carryforwards and other deferred tax assets that can be utilized to offset future taxable income and tax, respectively. In general, an ownership change, as defined by Section 382 and 383. results from transactions increasing ownership of certain stockholders or public groups in the stock of the corporation by more than 50 percent points over a three-year period. The Company has not conducted an analysis of an ownership change under section 382. To the extent that a study is completed and an ownership change is deemed to occur, the Company's net operating losses could be limited

Comparison of the Years December 31, 2020 to 2019

The following table summarizes our results of operations for the years ended December 31, 2020 and 2019:

SENESTECH, INC.
CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except shares and per share data)

	For the Years Ended December 31, 2020	For the Years Ended December 31, 2019
Revenue:		
Grant revenue	$ 24	$ -
Sales	258	143
Cost of sales	281	101
Gross profit	1	42
Operating expenses:		
Research and development	1,494	1,908
Selling, general and administrative	6,440	8,421
Total operating expenses	7,934	10,329
Net operating loss	(7,933)	(10,287)
Other income (expense):		
Interest income	3	45
Interest expense	(28)	(42)
Other income (expense)	21	266
Total other income (expense)	(4)	269
Net loss and comprehensive loss	(7,937)	(10,018)
Warrant revaluation	-	11
Deemed dividend-warrant price protection-revaluation adjustment	436	-
Net loss attributable to common shareholders	$ (8,373)	$ (10,029)
Weighted average common shares outstanding - basic and fully diluted	3,006,475	1,304,045

Net loss per common share - basic and fully diluted	$	(2.78)	$	(7.69)

Grant Revenue

Grant revenue for the year ended December 31, 2020 was $24,000 compared to $0 in 2019 as the grant was earned for jobs created in the City of Phoenix, Arizona during the 12 months ended December 31, 2020.

Sales

Sales, shown net of sales discounts and promotions, were $258,000 for the year ended December 31, 2020, compared to $143,000 for year ended December 31, 2019. Sales increased by $115,000 in 2020 due, in part, to our implementation of an internet sales capability, augmenting our existing pull through sales strategy, where demand from the consumer market encourages, or pulls, resellers and pest management professionals to offer our products, as well as billings of $18,500 for customer product implementation services. These initiatives have shown initial promise. However, we believe the benefit has been offset by reduced sales, reflecting continued reduced spending by customers due to the COVID-19 pandemic.

Cost of Sales

Cost of sales was $281,000 or 108.9% of net sales for the year ended December 31, 2020, compared to $101,000 or 70.6% of net sales for the year ended December 31, 2019. The increase in cost of goods sold of $180,000 in 2020 is primarily due to a reserve for obsolete product delivery system supplies of $119,000 and higher sales volume, offset by reduced scrap expense and continued process improvement and efficiencies. Without the reserve for delivery system supplies, cost of sales for the year ended December 31, 2020 would have been $162,000 or 62.8% of net sales, reflecting the impact of reduced scrap expense and continued process improvement and efficiencies. We anticipate cost of goods sold as a percentage of sales will improve in the future due to manufacturing efficiencies as a result of scale-up activities.

Gross Profit

Gross profit for the year ended December 31, 2020 was $1,000 or less than 1% of net sales, compared to a gross profit of $42,000 or 29.4% of net sales, for the year ended December 31, 2019. The decrease in gross profit was primarily due to a reserve for obsolete product delivery system supplies of $119,000. Gross profit for the year ended December 31, 2020 would have been $120,000 or 42.6% of net sales without this reserve, reflecting the impact of reduced scrap expense and continued process improvement and efficiencies.,

Research and Development Expenses

	Year Ended December 31, 2020	Year Ended December 31, 2019	Increase (Decrease)
	(in thousands)		
Direct research and development expenses:			
Personnel related (including stock-based compensation)	$ 604	$ 807	$ (203)
Facility related	167	261	(94)
Other	723	840	(117)
Total research and development expenses	$ 1,494	$ 1,908	$ (414)

Research and development expenses were $1.5 million for the year ended December 31, 2020, compared to $1.9 million for the year ended December 31, 2019. The $414,000 decrease in research and development expenses was primarily due to a decrease of $203,000 in personnel-related costs, including stock-based compensation expense, due to the classification of certain field support employees to sales and marketing, a decrease in facility related expenses of $94,000 and a decrease in other research and development expenses of $117,000.

With our continued focus on commercialization of ContraPest, we determined that certain field support employees previously classified as research and development are now refocused on sales and marketing efforts and thus, reclassified as such.

Facility-related expenses decreased $94,000 due primarily to the cancellation of a facility lease of 1,954 square feet of research and development space in Flagstaff, Arizona at December 31, 2019 and reduced allocation of facility expenses to research and development with the renewal of only a portion of the Flagstaff facilities in December 2019, offset by rent expense at the new manufacturing facility in Phoenix, Arizona, as discussed in Note 13 - Commitments and Contingencies.

The year over year decrease in other research and development expenses of $117,000 was primarily due to increased consulting expenses related to certain product testing and development expenses offset by lower depreciation expense allocation due to sale of certain fixed assets and certain assets becoming fully depreciated during the year ended December 31, 2020, and a reclass of other expenses related to certain field support employees to sales and marketing as described above.

We also continue to develop our supply chain, particularly identifying and improving our sourcing key ingredients for our product candidates.

Selling, General and Administrative Expenses

Selling, general and administrative expenses were $6.4 million for the year ended December 31, 2020, compared to $8.4 million for the year ended December 31, 2019. The decrease of $2.0 million in selling, general and administrative expenses was primarily due to a reduction of $1.4 million in net salary costs, including stock compensation expenses, $309,000 reduction in travel related expenses, $190,000 reduction in professional services and a reduction in marketing costs of $150,000.

Net salaries and wages were lower due primarily to a decrease in salaries and wages of $645,000 due to a provision for severance expense booked in December of 2019 for the termination of certain executive service contracts, a reduction of stock compensation expenses of $228,000 related to option grants fully vesting and resulting in lower stock compensation expense and the impact of temporary salary reductions by management to control expenses during the COVID-19 pandemic during 2020, offset by increased salaries and wages due to the reclassification of certain field support employees to sales and marketing, as noted above. The decrease in travel expenses of $309,000 for the year ended December 31, 2020, as compared to the same period in 2019, was a direct result of COVID-19 travel restrictions put in place in March 2020. The reduction in professional services expense was due to termination of an outside sales force contract, reduced utilization of field study consultants and lower Board of Director compensation expense as a result of voluntary reductions in compensation to control costs during the COVID-19 pandemic. In addition, the pandemic restricted access to trade shows and other marketing activities during the year ended December 31, 2020 resulting in lower marketing expenses than the same period in 2019.

Interest Income/Expense Net

We recorded $25,000 of interest expense, net for the year ended December 31, 2020, as opposed to interest income, net of $3,000 for the year ended December 31, 2019. The increase in interest expense, net of $28,000 was a result of decreased interest income as a result of significantly lower interest rates during the year ended December 31, 2020, offset by reduced interest expense as a result of finance leases and promissory notes that expired during the year ended December 31, 2020.

Other Income (Expense), Net

We recorded $21,000 of other income, net for the year ended December 31, 2020, compared to $266,000 of other income for the year ended December 31, 2019. The $245,000 net decrease in other income was primarily due to the reversal of a previously recorded litigation reserve of $269,000 in the year ended December 31, 2019, offset by higher income recognized for gains on sale of certain fixed assets during the year ended December 31, 2020.

Liquidity and Capital Resources

Since our inception, we have sustained significant operating losses in the course of our research and development activities and commercialization efforts and expect such losses to continue for the near future. We have generated limited revenue to date from product sales, research grants and licensing fees received under a former license. We have primarily funded our operations to date through the sale of equity securities, including convertible preferred stock, common stock and warrants to purchase common stock; and debt financing, consisting primarily of convertible notes.

Through December 31, 2020, we had received net proceeds of $75.7 million from our sales of common stock, preferred stock and warrant exercises and issuance of convertible and other promissory notes, and an aggregate of $1.7 million from licensing fees and an aggregate of $0.9 million from product sales. At December 31, 2020, we had an accumulated deficit of $104.2 million and cash and cash equivalents of $3.6 million.

As discussed in Note 8 - Borrowings, of our Notes to Condensed Financial Statements, on April 15, 2020, the Company also received cash proceeds of $645,700 from the Paycheck Protection Program (or "PPP") of the Coronavirus Aid, Relief, and Economic Security Act. We are using the proceeds from the PPP Loan to retain employees, maintain payroll and make lease, interest and utility payments.

In addition, as described in Note 14 - Subsequent Events, we entered into a security private placement agreement on February 2, 2021, which resulted in gross proceeds to the Company of approximately $10.00 million, before deducting fees payable to the placement agent and other estimated offering expenses payable by us.

Our ultimate success depends upon the outcome of a combination of factors, including: (i) successful commercialization of ContraPest and maintaining and obtaining regulatory approval of our products and product candidates; (ii) market acceptance, commercial viability and profitability of ContraPest and other products; (iii) the ability to market our products and establish an effective sales force and marketing infrastructure to generate significant revenue; (iv) the success of our research and development; (v) the ability to retain and attract key personnel to develop, operate and grow our business; and (vi) our ability to meet our working capital needs.

Based upon our current operating plan, we expect that cash and cash equivalents at December 31, 2020, in combination with the security private placement on February 2, 2021, anticipated revenue and any additional sales of our equity securities, will be sufficient to fund our current operations for at least the next 12 months. We have taken and will continue to take actions to reduce our operating expenses and to concentrate our resources toward the successful commercialization of ContraPest in the United States. However, if anticipated revenue targets and margin targets are not achieved or expenses are more than we have budgeted, we may need to raise additional financing before that time. If we need more financing and we are unable to raise necessary capital through the sale of our securities, we may be required to take other measures that could impair our ability to be successful and operate as a going concern. In any event, we may require additional capital in order to fund our operating losses and research and development activities before we become profitable and may opportunistically raise capital. We may never achieve profitability or generate positive cash flows, and unless and until we do, we will continue to need to raise capital through equity or debt financing. If such equity or debt financing is not available at adequate levels or on acceptable terms, we may need to delay, limit or terminate commercialization and development efforts or discontinue operations.

Additional Funding Requirements

We expect our expenses to continue or increase in connection with our ongoing activities, particularly as we focus on marketing and sales of ContraPest. Further, the COVID-19 pandemic will likely delay completion of field studies and achievement of sales, which will further increase our need for financing. In addition, we will continue to incur costs associated with operating as a public company.

In particular, we expect to incur substantial and increased expenses as we:

- Work to maximize market acceptance for, and generate sales of, our products;
- Manage the infrastructure for the sales, marketing and distribution of ContraPest and any other product candidates for which we may receive regulatory approval;
- Continue the development of ContraPest and our other product candidates, including engaging in any necessary field studies;
- Seek additional regulatory approvals for ContraPest and our other product candidates;
- Scale up manufacturing processes and quantities to meet future demand of ContraPest and any other product candidates for which we receive regulatory approval;
- Continue product development of ContraPest and advance our research and development activities and advance the research and development programs for other product candidates;
- Maintain, expand and protect our intellectual property portfolio;
- Add operational, financial and management information systems and personnel, including personnel to support our product development and commercialization efforts and operations as a public company; and
- Increase our expenses to expand regulatory approvals for ContraPest, with an effort to make the product more user friendly and available for use in an increased number of applications.

We believe we may need additional financing to fund these continuing and additional expenses.

Cash Flows

The following table summarizes our sources and uses of cash for each of the years presented:

	Year Ended December 31, 2020	Year Ended December 31, 2019
Cash used in operating activities	$ (7,108)	$ (8,058)
Cash used in investing activities	(67)	(71)
Cash provided by financing activities	8,882	5,145
Net increase (decrease) in cash and cash equivalents	$ 1,707	$ (2,984)

Operating Activities.

During the year ended December 31, 2020, operating activities used $7.1 million of cash, primarily resulting from our net loss of $7.9 million, changes in our operating assets and liabilities of $0.1 million offset by non-cash charges of $0.9 million. Our net loss was primarily attributed to research and development activities and our selling, general and administrative expenses, as we generated limited product sales and no research grant and licensing revenue during the year. Net cash used by changes in our operating assets and liabilities for the year ended December 31, 2020 consisted primarily of a $524,000 decrease in accrued expenses and accounts payable offset by a decrease in prepaid expenses of

$79,000, a decrease in inventories of $235,000 and a net increase in accounts receivable and other assets of $127,000.

During the year ended December 31, 2019, operating activities used $8.1 million of cash, primarily resulting from our net loss of $10.0 million, changes in our operating assets and liabilities of $0.5 million and non-cash charges of $1.4 million. Our net loss was primarily attributed to research and development activities and our selling, general and administrative expenses, as we generated limited product sales and no research grant and licensing revenue during the year. Net cash used by changes in our operating assets and liabilities for the year ended December 31, 2019 consisted primarily of a $547,000 increase in accrued expenses and accounts payable, a decrease in prepaid expenses and deposits of $85,000 and a decrease in inventories of $81,000 offset by a decrease in deferred rent of $16,000 and a net increase in accounts receivable and deposits of $139,000.

Investing Activities

During the year ended December 31, 2020, we used $67,000 of cash in investing activities, which consisted of $114,000 for the purchases of property and equipment, offset by $47,000 of cash received on the sales of property and equipment.

During the year ended December 31, 2019, we used $71,000 of cash in investing activities, which consisted entirely of the purchases of property and equipment.

Financing Activities

During the year ended December 31, 2020, net cash provided by financing activities was $8.9 million as a result of $5.7 million in net proceeds from the issuance of common stock, $2.6 million in proceeds from warrant exercises and $646,000 from the issuance of notes payable, partially offset by $135,000 of repayments related to notes payable and finance lease obligations.

During the year ended December 31, 2019, net cash provided by financing activities was $5.1 million as a result of $3.6 million in net proceeds from the issuance of common stock, $1.8 million in proceeds from warrant exercises, partially offset by $220,000 of repayments related to notes payable and $55,000 of payments for employee withholding taxes related to share-based awards.

Critical Accounting Policies and Significant Judgments and Estimates

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

While our significant accounting policies are described in more detail in Note 1 — Summary of Significant Accounting Policies to our financial statements included elsewhere in this Annual Report on Form 10-K, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

Revenue Recognition

Effective January 1, 2018, the Company adopted Accounting Standards Codification (“ASC”) 606 — *Revenue from Contracts with Customers* (“ASC 606”). Under ASC 606, the Company recognizes revenue from the commercial sales of products, licensing agreements and contracts to perform pilot studies by applying the following steps: (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to each performance obligation in the contract; and (5) recognize revenue when each performance obligation is satisfied. For the comparative periods, revenue has not been adjusted and continues to be reported under ASC 605 — *Revenue Recognition* (“ASC 605”). Under ASC 605, revenue is recognized when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) the performance of service has been rendered to a customer or delivery has occurred; (3) the amount of the fee to be paid by a customer is fixed and determinable; and (4) the collectability of the fee is reasonably assured. The performance obligations identified by the Company under ASC 606 are straightforward and similar to the unit of account and performance obligation determination under ASC Topic 605, *Revenue Recognition*.

The Company recognizes revenue when product is shipped at a fixed selling price on payment terms of 30 to 120 days from invoicing. The Company recognizes other revenue earned from pilot studies, consulting and implementation services upon the performance of specific services under the respective service contract.

The Company derives revenue primarily from commercial sales of products, net of discounts and promotions, as well as consulting and implementation services provided in conjunction with our product deployments.

Stock-Based Compensation

We recognize compensation costs related to stock options granted to employees based on the estimated fair value of the awards on the date of grant, net of estimated forfeitures, in accordance with ASC Topic 718 — *Stock Compensation*. We estimate the grant date fair value of the awards, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of stock-based awards is expensed on a straight-line basis over the vesting period of the respective award.

We recorded stock-based compensation expense of approximately $645,000 and $873,000 for the years ended December 31, 2020 and 2019, respectively. We expect to continue to grant stock options and other equity-based awards, such as restricted stock units, in the future and to continue to recognize stock-based compensation expense in future periods.

The Black-Scholes option-pricing model requires the use of highly subjective and complex assumptions, which determine the fair value of stock-based awards. If we had made different assumptions, our stock-based compensation expense, net loss and loss per share of common stock could have been significantly different. Our assumptions are as follows:

- *Expected term*. The expected term represents the period that the stock-based awards are expected to be outstanding. Our historical share option exercise experience does not provide a reasonable basis upon which to estimate an expected term because of a lack of sufficient data. Therefore, we estimate the expected term by using the simplified method, which calculates the expected term as the average of the time-to-vesting and the contractual life of the options.

- *Expected volatility*. Expected volatility is derived from the average historical volatilities of publicly traded companies within our industry that we consider to be comparable to our business over a period approximately equal to the expected term. We intend to continue to consistently apply this process using the same or similar public companies unless circumstances change such that the identified companies are no longer similar to us, in which case, more suitable companies whose share prices are publicly available would be utilized in the calculation.

- *Risk-free interest rate*. The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of grant for zero coupon U.S. Treasury notes with maturities approximately equal to the expected term.

- *Expected dividend*. The expected dividend is assumed to be zero as we have never paid dividends and have no current plans to pay any dividends on our common stock.

- *Expected forfeitures*. We use historical data to estimate pre-vesting option forfeitures and record stock-based compensation expense only for those awards that are expected to vest. To the extent actual forfeitures differ from the estimates, the difference will be recorded as a cumulative adjustment in the period that the estimates are revised.

Significant Factors, Assumptions and Methodologies Used in Determining Fair Value of Our Common Stock

As noted above, we are required to estimate the fair value of the common stock underlying our stock-based awards when performing the fair value calculations using the Black-Scholes option-pricing model. In the absence of an active market for our common stock, we utilized methodologies in accordance with the framework of the American Institute of Certified Public Accountants' Technical Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation*, to estimate the fair value of our common stock. In addition, we have conducted periodic assessments of the valuation of our common stock.

The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management's judgment. The fair value per share of our common stock for purposes of determining stock-based compensation expense is the closing price of our common stock as reported on the applicable grant date. The compensation cost that has been included in the statements of operations and comprehensive loss for all stock-based compensation arrangements is as follows:

	Years Ended December 31, 2020	Years Ended December 31, 2019
	(in thousands)	
Selling, general and administrative expenses	$ 636	$ 859
Research and development expense	9	14
Total stock-based compensation expense	$ 645	$ 873

The intrinsic value of stock options outstanding as of December 31, 2020 is $0.

Emerging Growth Company Status

The Jumpstart Our Business Startups Act of 2012, or the JOBS Act, permits an "emerging growth company" such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have irrevocably elected to "opt out" of this provision and, as a result, we intend to comply with new or revised accounting standards when they are required to be adopted by public companies that are not emerging growth companies.

Off-Balance Sheet Arrangements

None.

Item 7A. *Quantitative and Qualitative Disclosures about Market Risk.*

Not applicable.

Item 8. *Financial Statements and Supplementary Data.*

SENESTECH, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of SenesTech, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of SenesTech, Inc. (the Company) as of December 31, 2020 and 2019, and the related statements of operations and comprehensive loss, stockholders' equity (deficit), and cash flows for each of the years in the two-year period ended December 31, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

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 regarding 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.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

As discussed in Note 9 and 10 to the financial statements, the Company had complex equity transactions due to a warrant inducement and ratchet provisions related to the execution of a warrant transaction.

Auditing management's evaluation of these transactions can be complex due to the unusual nature of these transactions.

To evaluate the appropriateness of the equity transactions, we examined and evaluated the financial information that was the initial cause along with management's evaluations and management's disclosure on the equity transactions.

As discussed in Note 2 to the financial statements, the Company evaluated inventory for potential allowance.

Auditing management's evaluation of the inventory can be a significant judgment given the fact that the Company uses management estimates in evaluating the ability to recuperate the costs involved in acquiring these assets.

To evaluate the appropriateness of the inventory allowance, we examined and evaluate the financial information that was the initial cost along with management's plans, management's evaluation for reserve and management's disclosure on inventory.

Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company suffered a net loss from operations and has a net capital deficiency, which raises substantial doubt about its ability to continue as a going concern. Management's plans regarding those matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ M&K CPAS, PLLC

We have served as the Company's auditor since 2017.

Houston, TX
March 29, 2021

SENESTECH, INC.
CONDENSED BALANCE SHEETS
(In thousands, except shares and per share data)

	December 31, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash	$ 3,643	$ 1,936
Accounts receivable trade, net	25	26
Accounts receivable-other	-	123
Prepaid expenses	178	257
Inventory	945	1,180
Deposits	28	20
Total current assets	4,819	3,542
Right to use asset-operating leases	665	699
Property and equipment, net	538	738
Total assets	$ 6,022	$ 4,979
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term debt	$ 98	$ 123
Accounts payable	404	265
Accrued expenses	292	1,193
Total current liabilities	794	1,581
Long-term debt, net	673	137
Operating lease liability	671	694
Total liabilities	2,138	2,412
Commitments and contingencies (See note 12)	-	-
Stockholders' equity:		
Common stock, $0.001 par value, 100,000,000 shares authorized, 5,099,512 and 1,414,671 shares issued and outstanding at December 31, 2020 and December 31, 2019, respectively	5	1
Additional paid-in capital	108,119	98,433
Accumulated deficit	(104,240)	(95,867)
Total stockholders' equity	3,884	2,567
Total liabilities and stockholders' equity	$ 6,022	$ 4,979

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

SENESTECH, INC.
CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except shares and per share data)

	For the Years Ended December 31, 2020	For the Years Ended December 31, 2019
Grant revenue	$ 24	$ -

Sales	258	143
Cost of sales	281	101
Gross profit	1	42
Operating expenses:		
Research and development	1,494	1,908
Selling, general and administrative	6,440	8,421
Total operating expenses	7,934	10,329
Net operating loss	(7,933)	(10,287)
Other income (expense):		
Interest income	3	45
Interest expense	(28)	(42)
Other income (expense)	21	266
Total other income (expense)	(4)	269
Net loss and comprehensive loss	(7,937)	(10,018)
Warrant revaluation	-	11
Deemed dividend-warrant price protection-revaluation adjustment	436	-
Net loss attributable to common shareholders	$ (8,373)	$ (10,029)
Weighted average common shares outstanding - basic and fully diluted	3,006,475	1,304,045
Net loss per common share - basic and fully diluted	$ (2.78)	$ (7.69)

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

SENESTECH, INC.
STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)
(In thousands, except shares and per share data)

For The Years Ended December 31, 2019 and 2020	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance, December 31, 2018	1,173,854	$ 1	$ 92,151	$ (85,838)	$ 6,314
Issuance of common stock, sold for cash, net	151,838	-	3,631	-	3,631
Issuance of common stock for services	7,203	-	34	-	34
Stock-based compensation	-	-	873	-	873
Issuance of common stock upon exercise of warrants	80,511	-	1,788	-	1,788
Issuance of common stock upon exercise of stock options	1,265	-	-	-	-
Payments for employee withholding taxes related to share-based awards	-	-	(55)	-	(55)
Warrant revaluation	-	-	11	-	11
Net loss for the year ended December 31, 2019	-	-	-	(10,029)	(10,029)
Balance, December 31, 2019	1,414,671	$ 1	$ 98,433	$ (95,867)	$ 2,567
Issuance of common stock for services	4,543	-	-	-	-
Stock-based compensation	-	-	645	-	645
Issuance of common stock upon cashless exercise of warrants	51,414	-	238	-	238
Issuance of common stock upon exercise of warrants, net	1,700,680	2	2,628	-	2,630
Issuance of common stock, sold for cash, net	1,928,180	2	5,739	-	5,741
Warrant antidilution price protection adjustment	-	-	436	-	436
Issuance of common stock for fractional shares-20-1 reverse split	24	-	-	-	-
Net loss for the year ended December 31, 2020	-	-	-	(8,373)	(8,373)
Balance, December 31, 2020	5,099,512	$ 5	$ 108,119	$ (104,240)	$ 3,884

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

SENESTECH, INC.
CONDENSED STATEMENTS OF CASH FLOWS
(In thousands)

	For the Years Ended December 31, 2020	2019
CASH FLOWS FROM OPERATING ACTIVITIES		
Net loss	$ (7,937)	$ (10,018)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	288	413
Stock-based compensation	645	873
Bad debt expense	-	123
(Gain) loss on sale of equipment	(21)	3
(Increase) decrease in current assets:		
Accounts receivable - trade	1	(10)
Accounts receivable - other	123	(123)
Other assets	11	(5)
Prepaid expenses	79	85
Inventory	235	81
Deposits	(8)	(11)

Increase (decrease) in current liabilities:		
Accounts payable	139	92
Accrued expenses	(663)	455
Deferred rent	-	(16)
Net cash used in operating activities	(7,108)	(8,058)
CASH FLOWS FROM INVESTING ACTIVITIES		
Cash received on sale of property and equipment	47	-
Purchase of property and equipment	(114)	(71)
Net cash used in investing activities	(67)	(71)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from the issuance of common stock, net	5,741	3,631
Proceeds from the issuance of notes payable-Payroll Protection Program	646	-
Repayments of notes payable	(73)	(220)
Repayments of finance lease obligations	(62)	-
Proceeds from the exercise of warrants	2,630	1,789
Payment of employee withholding taxes relating to share-based awards	-	(55)
Net cash provided by financing activities	8,882	5,145
NET CHANGE IN CASH	1,707	(2,984)
CASH AT BEGINNING OF PERIOD	1,936	4,920
CASH AT END OF PERIOD	$ 3,643	$ 1,936
SUPPLEMENTAL INFORMATION:		
Interest paid	$ 28	$ 42
Income taxes paid	$ -	$ -
NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Common stock warrant revaluation	$ -	$ 11
Forgiveness of accrual in warrant exercise	$ 238	$ -
Deemed dividend	$ 436	$ -
Common stock issued on accrued bonus	$ -	$ 33

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

SENESTECH, INC.
NOTES TO THE FINANCIAL STATEMENTS
(In thousands, except share and per share data)

1. Organization and Description of Business

SenesTech, Inc. (referred to in this report as “SenesTech,” the “Company,” “we” or “us”) was formed in July 2004 and incorporated in the state of Nevada. The Company subsequently reincorporated in the state of Delaware in November 2015. Our corporate headquarters is in Phoenix, Arizona. We have developed and are commercializing a global, proprietary technology for managing animal pest populations, initially rat populations, through fertility control.

Although there are myriad tools available to control rat populations, most rely on some form of lethal method to achieve effectiveness. Each of these solutions is inherently limited by rat species’ resilience and survival mechanisms as well as their extraordinary rate of reproduction. ContraPest®, our initial product, is unique in the pest control industry in attacking the reproductive systems of both male and female rats, which our field data shows will result in a sustained reduction of the rat population.

Rats have plagued humanity throughout history. They pose significant threats to the health and food security of many communities. In addition, rodents cause significant product loss and damage through consumption and contamination. Rats also cause significant damage to critical infrastructure by burrowing beneath foundations and gnawing on electrical wiring, insulation, fire proofing systems, electronics and computer equipment.

The most prevalent solution to rat infestations is the use of increasingly powerful rodenticides. Although these solutions provide short term results, there are growing concerns about secondary exposure and bioaccumulation of rodenticides in the environment, as well as concerns about rodenticides that have no antidotes. The pest management industry and Pest Management Professionals (“PMPs”) are being asked for new solutions that are both effective and less toxic. Our goal is to provide customers with not only a solution to combat their most difficult rat problems, but also offer a non-lethal option to serve customers that are looking to decrease or remove the amount of rodenticide used in their pest control programs.

ContraPest is a liquid bait containing the active ingredients 4-vinylcyclohexene diepoxide (“VCD”) and triptolide. ContraPest limits reproduction of male and female rats beginning with the first breeding cycle following consumption. ContraPest is being marketed for use in controlling Norway and roof rat populations.

SenesTech began the registration process with the United States Environmental Protection Agency (the “EPA”) for ContraPest on August 23, 2015. On August 2, 2016, the EPA granted an unconditional registration for ContraPest as a Restricted Use Product (“RUP”), due to the need for applicator expertise for deployment. On October 18, 2018, the EPA approved the removal of the RUP designation. We believe ContraPest is the first and only non-lethal, fertility control product approved by the EPA for the management of rodent populations.

In addition to the EPA registration of ContraPest in the United States, ContraPest must obtain registration from the various state regulatory agencies prior to selling in each state. We have received registration for ContraPest in all 50 states and the District of Columbia, 47 of which have approved the removal of the RUP designation.

We expect to continue to pursue regulatory approvals and amendments to the existing U.S. registration for ContraPest, and if ContraPest begins to generate sufficient revenue, regulatory approvals for additional jurisdictions beyond the United States. In certain cases, our EPA and state registrations require completion of testing and certifications even though we have received approval for the product or its labelling. We continue to seek to comply with these requirements.

The Company also continues to research and develop enhancements to ContraPest that align with our target verticals and other potential fertility control options for additional species.

Reverse Stock Split

On February 4, 2020, we amended our amended and restated certificate of incorporation to effect a 1-for-20 reverse split of our issued and outstanding shares of our common stock. The accompanying condensed financial statements and notes thereto give retrospective effect to the reverse stock split for all periods presented. All issued and outstanding common stock, options and warrants exercisable for common stock, restricted stock units, preferred stock conversions to common stock and per share amounts contained in our condensed financial statements have been retrospectively adjusted.

1. Organization and Description of Business – (continued)

Going Concern

Although our audited financial statements for the year ended December 31, 2020 were prepared under the assumption that we would continue our operations as a going concern, the report of our independent registered public accounting firm that accompanies our financial statements for the year ended December 31, 2020 contains a going concern qualification in which such firm expressed substantial doubt about our ability to continue as a going concern, based on the financial statements at that time. Specifically, as noted above, we have incurred operating losses since our inception, and we expect to continue to incur significant expenses and operating losses for the foreseeable future. These prior losses and expected future losses have had, and will continue to have, an adverse effect on our financial condition. If we cannot continue as a going concern, our stockholders would likely lose most or all of their investment in us.

Need for Additional Capital

Since our inception, we have sustained significant operating losses in the course of our research and development and commercialization activities and expect such losses to continue for the near future. We have generated limited revenue to date from product sales, research grants and licensing fees received under our former license agreement with Neogen. In 2017, we began to prepare and launch commercialization of our first product, ContraPest. We have primarily funded our operations to date through the sale of equity securities, including convertible preferred stock, common stock and warrants to purchase common stock. See Note 9 for a description of our public equity sales.

We have also raised capital through debt financing, consisting primarily of convertible notes and government loan programs, and, to a lesser extent, payments received in connection with product sales, research grants and licensing fees.

Through December 31, 2020, we had received net proceeds of $75.7 million from our sales of common stock, preferred stock and warrant exercises and issuance of convertible and other promissory notes, an aggregate of $1.7 million from licensing fees and an aggregate of $0.9 million in net product sales. At December 31, 2020, we had an accumulated deficit of $104.2 million and cash and cash equivalents of $3.6 million.

As discussed in Note 8 - Borrowings, of our Notes to Condensed Financial Statements, on April 15, 2020, the Company also received cash proceeds of $645,700 from the Paycheck Protection Program (or "PPP") of the Coronavirus Aid, Relief, and Economic Security Act. We are using the proceeds from the PPP Loan to retain employees, maintain payroll and make lease, interest and utility payments.

In addition, as described in Note 14 - Subsequent Events, we entered into a security private placement agreement on February 2, 2021, which resulted in gross proceeds to the Company of approximately $10.00 million, before deducting fees payable to the placement agent and other estimated offering expenses payable by us.

Our ultimate success depends upon the outcome of a combination of factors, including: (i) successful commercialization of ContraPest and maintaining and obtaining regulatory approval of our products and product candidates; (ii) market acceptance, commercial viability and profitability of ContraPest and other products; (iii) the ability to market our products and establish an effective sales force and marketing infrastructure to generate significant revenue; (iv) the success of our research and development; (v) the ability to retain and attract key personnel to develop, operate and grow our business; and (vi) our ability to meet our working capital needs.

Based upon our current operating plan, we expect that cash and cash equivalents at December 31, 2020, in combination with the security private placement on February 2, 2021, anticipated revenue and any additional sales of our equity securities, will be sufficient to fund our current operations for at least the next 12 months. We have taken and will continue to take actions to reduce our operating expenses and to concentrate our resources toward the successful commercialization of ContraPest in the United States. However, if anticipated revenue targets and margin targets are not achieved or expenses are more than we have budgeted, we may need to raise additional financing before that time. If we need more financing and we are unable to raise necessary capital through the sale of our securities, we may be required to take other measures that could impair our ability to be successful and operate as a going concern. In any event, we may require additional capital in order to fund our operating losses and research and development activities before we become profitable and may opportunistically raise capital. We may never achieve profitability or generate positive cash flows, and unless and until we do, we will continue to need to raise capital through equity or debt financing. If such equity or debt financing is not available at adequate levels or on acceptable terms, we may need to delay, limit or terminate commercialization and development efforts or discontinue operations.

Major Customer

The Company one major customer that accounted for approximately 15% and $44 of sales for the year ended December 31, 2020 and two customers that accounted for approximately 12% and 20% and $17 and $28 of sales for the year ended December 31, 2019. The Company expects to maintain these relationships with these customers.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts and classification of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. The significant estimates in the Company's financial statements include the valuation of preferred stock, if issued, common stock and related warrants, and other stock-based awards. Actual results could differ from such estimates.

Reclassifications

Certain prior year amounts have been reclassified to conform to the current year presentation. These reclassifications had no impact on net earnings, financial position or cash flows.

Cash and Cash Equivalents

The Company considers money market fund investments to be cash equivalents. The Company had cash equivalents in the form of money market fund investment of $1,500 and $1,766 at December 31, 2020 and December 31, 2019, respectively, included in cash as reported.

Accounts Receivable-Trade

Accounts receivable-trade consist primarily of receivables from customers. The Company provides an allowance for doubtful trade receivables equal to the estimated uncollectible amounts. That estimate is based on historical collection experience, current economic and market conditions and a review of the current status of each customer's trade accounts receivable. The allowance for doubtful trade receivables was $0 and less than $123 at December 31, 2020 and at December 31, 2019, respectively.

Accounts Receivable-Other

Accounts receivable-other at December 31, 2019 consist primarily of receivables related to insurance reimbursements due the Company.

Inventories

(In thousands, except share and per share data)

Inventories are stated at the lower of cost or market value, using the first-in, first-out convention. Inventories consist of raw materials, work in progress and finished goods. Raw materials are stocked to reduce the risk of impact on manufacturing for potential supply interruptions due to the COVID-19 pandemic or long lead times on certain ingredients.

Reserves for obsolete inventory consist of reserves primarily related to obsolete product containers and delivery systems.

Components of inventory are:

	December 31,	
	2020	2019
Raw materials	$ 950	$ 1,035
Work in progress	24	-
Finished goods	94	149
Total inventory	1,068	1,184
Less:		
Reserve for obsolete	(123)	(4)
Total net inventory	$ 945	$ 1,180

2. Summary of Significant Accounting Policies – (continued)

Prepaid Expenses

Prepaid expenses consist primarily of payments made for director and officer insurance, director compensation, rent, legal and inventory purchase deposits and seminar fees to be expensed in the current year.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. Equipment held under finance leases are stated at the present value of minimum lease payments less accumulated amortization.

Depreciation on property and equipment is computed using the straight-line method over the estimated useful lives of the respective assets. The cost of leasehold improvements is amortized over the life of the improvement or the term of the lease, whichever is shorter. Equipment held under finance leases are amortized over the shorter of the lease term or estimated useful life of the asset. The Company incurs maintenance costs on its major equipment. Repair and maintenance costs are expensed as incurred.

Impairment of Long-Lived Assets

Long-lived assets, such as property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require long-lived assets or asset groups to be tested for possible impairment, the Company compares the undiscounted cash flows expected to be generated from the use of the asset or asset group to its carrying amount. If the carrying amount of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment charge is recognized to the extent that the carrying amount exceeds its fair value. Fair value is determined through various valuation techniques, such as discounted cash flow models and the use of third- party independent appraisals. The Company has not recorded an impairment of long-lived assets since its inception.

Revenue Recognition

Effective January 1, 2018, the Company adopted Accounting Standards Codification ("ASC") 606 — *Revenue from Contracts with Customers* ("ASC 606"). Under ASC 606, the Company recognizes revenue from the commercial sales of products, licensing agreements and contracts to perform pilot studies by applying the following steps: (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to each performance obligation in the contract; and (5) recognize revenue when each performance obligation is satisfied.

The Company recognizes revenue when product is shipped at a fixed selling price on payment terms of 30 to 120 days from invoicing. The Company recognizes other revenue earned from pilot studies, consulting and implementation services upon the performance of specific services under the respective service contract.

The Company derives revenue primarily from commercial sales of products, net of discounts and promotions, as well as consulting and implementation services provided in conjunction with our product deployments.

Research and Development

Research and development costs are expensed as incurred. Research and development expenses primarily consist of salaries and benefits for research and development employees, stock-based compensation, consulting fees, lab supplies, costs incurred related to conducting scientific trials and field studies, regulatory compliance costs, and manufacturing costs associated with process improvement. Research and development expenses include an allocation of facilities related costs, including depreciation of research and development equipment.

Stock-based Compensation

Stock-based awards, consisting of restricted stock units and stock options expected to be settled in shares of the Company's common stock, are recorded as equity awards. The grant date fair value of these awards is measured using the Black-Scholes option pricing model for stock options and the grant date market value for restricted stock units. The Company expenses the grant date fair value of its stock options on a straight-line basis over their respective vesting periods.

2. Summary of Significant Accounting Policies – (continued)

The stock-based compensation expense recorded for the twelve months ended December 31, 2020 and 2019, is as follows:

	Twelve Months Ended December 31,	
	2020	2019
Research and development	$ 9	$ 14

(In thousands, except share and per share data)

General and administrative	636	859
Total stock-based compensation expense	$ 645	$ 873

See Note 11 for additional discussion on stock-based compensation.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statements and tax bases of assets and liabilities and net operating loss carryforwards using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in the period that includes the enactment date.

The Company records net deferred tax assets to the extent it believes these assets will more likely than not be realized. These deferred tax assets are subject to periodic assessments as to recoverability and if it is determined that it is more likely than not that the benefits will not be realized, valuation allowances are recorded which would increase the provision for income taxes. In making such determination, the Company considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax planning strategies and recent financial operations.

The Company applies a more-likely-than-not recognition threshold for all tax uncertainties. Only those benefits that have a greater than fifty percent likelihood of being sustained upon examination by the taxing authorities are recognized. Based on its evaluation, the Company has concluded there are no significant uncertain tax positions requiring recognition in its financial statements.

The Company recognizes interest and/or penalties related to uncertain tax positions in income tax expense. There are no uncertain tax positions as of December 31, 2020 or December 31, 2019 and as such, no interest or penalties were recorded in income tax expense.

Comprehensive Loss

Net loss and comprehensive loss were the same for all periods presented; therefore, a separate statement of comprehensive loss is not included in the accompanying financial statements.

Loss Per Share Attributable to Common Stockholders

Basic loss per share attributable to common stockholders is calculated by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding during the period. Diluted loss per share attributable to common stockholders is computed by dividing the loss attributable to common stockholders by the weighted average number of common shares and potentially dilutive securities outstanding for the period determined using the treasury stock and if-converted methods. For purposes of the computation of diluted loss per share attributable to common stockholders, common stock purchase warrants, restricted stock units and common stock options are considered to be potentially dilutive securities but have been excluded from the calculation of diluted loss per share attributable to common stockholders because their effect would be anti-dilutive given the net loss reported for the years ended December 31, 2020 and 2019. Therefore, basic and diluted loss per share attributable to common stockholders was the same for all periods presented.

2. Summary of Significant Accounting Policies – (continued)

The following table sets forth the outstanding potentially dilutive securities that have been excluded in the calculation of diluted loss per share attributable to common stockholders (in common stock equivalent shares):

	December 31,	
	2020	**2019**
Common stock purchase warrants	2,582,697	489,176
Restricted stock unit	32,072	5,877
Common stock options	496,471	136,489
Total	3,111,240	631,542

In February 2016, the FASB issued ASU 2016-02, *Leases* ("ASU 2016-02"). This standard amends various aspects of existing accounting guidance for leases, including the recognition of a right-of-use asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. This standard also introduces new disclosure requirements for leasing arrangements. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years for public business entities. Early adoption was permitted, and the new standard had been adopted using a modified retrospective approach and provides for certain practical expedients.

Effective January 1, 2019, the Company adopted Accounting Standards Updated ("ASU") No. 2016-02, *Leases (Topic 842)* ("ASU No. 2016-02"). Under ASU No. 2016-02, an entity is required to recognize right-of-use lease assets and lease liabilities on its balance sheet and disclose key information about leasing arrangements. The Company elected the optional transition method provided by the FASB in ASU 2018-11, *Leases (Topic 842): Targeted Improvements*, and as a result, has not restated its condensed consolidated financial statements for prior periods presented. The Company has elected the practical expedients upon transition to retain the lease classification and initial direct costs for any leases that existed prior to adoption. The Company has also not reassessed whether any contracts entered into prior to adoption are leases. The Company applied the new guidance to all operating leases within the scope of the standard that were in effect on January 1, 2019, or entered into after, the adoption date. Comparative information for prior periods has not been restated and continues to be reported under the accounting standards in effect for those periods. The adoption did not have a material impact on the Company's consolidated statement of comprehensive income (loss). However, the new standard established $87 of liabilities and corresponding right-of-use assets of $87 on the Company's consolidated balance sheet for leases, primarily related to operating leases on rented office properties, that existed as of the January 1, 2019, adoption date.

At December 31, 2020, the balance in Right to Use Asset-Long Term and Lease Liability-Long Term was $665 and ($671) respectively.

The Company's leases primarily relate to operating leases of rented office properties. For contracts entered into on or after January 1, 2019, at the inception of a contract the Company assesses whether the contract is, or contains, a lease. The Company's assessment is based on: (1) whether the contract involves the use of a distinct identified asset, (2) whether the Company obtains the right to substantially all the economic benefit from the use of the asset throughout the period, and (3) whether the Company has the right to direct the use of the asset. At inception of a lease, the Company allocates the consideration in the contract to each lease component based on its relative stand-alone price to determine the lease payments.

For leases with terms greater than 12 months, the Company records the related asset and obligation at the present value of lease payments over the term. The right-of-use lease asset represents the right to use the leased asset for the lease term. The lease liability represents the present value of the lease payments under the lease.

2. Summary of Significant Accounting Policies – (continued)

The right-of-use lease asset is initially measured at cost, which primarily comprises the initial amount of the lease liability, plus any initial direct costs incurred. All right-of-use lease assets are reviewed for impairment. The lease liability is initially measured at the present value of the lease payments, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company's secured incremental borrowing rate for the same term as the underlying lease.

The Company identified and assessed the following significant assumptions in recognizing the right-of-use lease assets and corresponding liabilities.

Expected lease term – The expected lease term includes both contractual lease periods and, when applicable, cancelable option periods. When determining the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option.

Incremental borrowing rate – As the Company's leases do not provide an implicit rate, the Company obtained the incremental borrowing rate ("IBR") based on the remaining term of each lease. The IBR is the rate of interest that a lessee would have to pay to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment.

The Company has elected not to recognize right-of-use lease assets and lease liabilities for short-term leases that have a term of 12 months or less.

The Company reports right-of-use lease assets within non-current assets in its consolidated balance sheet. The Company reports the lease liabilities within long-term liabilities in its consolidated balance sheet.

See Note 13, Commitments and Contingencies, for future minimum lease payments and maturities.

In August 2018, the FASB issued *ASU 2018-15 Accounting for Implementation Costs Related to Cloud Computing or Hosting Arrangements*. This standard provides authoritative guidance intended to address a customer's accounting for implementation costs incurred in a cloud computing arrangement that is a service contract. This guidance aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The guidance also requires presentation of the capitalized implementation costs in the statement of financial position and in the statement of cash flows in the same line item that a prepayment for the fees of the associated hosting arrangement would be presented, and the expense related to the capitalized implementation costs to be presented in the same line item in the statement of operations as the fees associated with the hosting element (service) of the arrangement. The Company adopted the provisions of *ASU 2018-15 Accounting for Implementation Costs Related to Cloud Computing or Hosting Arrangements* effective for annual periods beginning after December 15, 2019, including interim periods within those annual periods. There was no impact on our financial position, results of operations and statement of cash flows upon adoption of this guidance.

Accounting Standards Issued but Not Yet Adopted

There have been no new accounting pronouncements not yet effective or adopted in the current year that we believe have a significant impact, or potential significant impact, to our unaudited condensed consolidated interim financial statements.

3. Fair Value Measurements

The Company issued common stock warrants to purchase shares of common stock in June of 2015 (see Note 9 - Common Stock Warrants and Common Stock Warrant Liability) that expired in June of 2020. These warrants contained a cash settlement provision that resulted in a common stock warrant liability that was revalued at the end of each reporting period.

We valued these warrant derivatives at fair value. The accounting guidance for fair value, among other things, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. 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 framework for measuring fair value consists of a three-level valuation hierarchy that prioritizes the inputs to valuation techniques used to measure fair value based upon whether such inputs are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions made by the reporting entity. The three-level hierarchy for the inputs to valuation techniques is briefly summarized as follows:

3 - Fair Value Measurements – (continued)

Level 1—Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;

Level 2—Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities 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 related assets or liabilities; and

Level 3—Unobservable inputs that are significant to the measurement of the fair value of the assets or liabilities that are supported by little or no market data.

An asset's or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

Assets and liabilities measured at fair value are based on one or more of the following three valuation techniques:

A. Market approach: Prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.

B. Cost approach: Amount that would be required to replace the service capacity of an asset (replacement cost).

C. Income approach: Techniques to convert future amounts to a single present amount based upon market expectations, including present value techniques, option-pricing and excess earnings models.

The Company's common stock warrant liabilities were classified as Level 3 because there was limited activity or less transparency around the inputs to valuation.

Financial Instruments Not Carried at Fair Value

The carrying amounts of the Company's financial instruments, including accounts payable and accrued liabilities, approximate fair value due to their short maturities. The estimated fair value of the convertible notes and other notes, not recorded at fair value, are recorded at cost or amortized cost which was deemed to estimate fair value.

4. Credit Risk

The Company is potentially subject to concentrations of credit risk in its accounts receivable. Credit risk with respect to receivables is limited due to the number of companies comprising the Company's customer base, however the Company did identify a potentially uncollectable account and at December 31, 2019 and maintained a reserve for this receivable balance of $123. At December 31, 2020, the account was deemed uncollectable and offset against the reserve. The Company did not have any potentially uncollectable account at December 31, 2020 and therefore, did not record a reserve for uncollectable accounts at December 31, 2020. The Company does not require collateral or other securities to support its accounts receivable.

SENESTECH, INC.
NOTES TO THE FINANCIAL STATEMENTS
(In thousands, except share and per share data)

5. Prepaid expenses

Prepaid expenses consist of the following:

	December 31, 2020	December 31, 2019
Director compensation	$ -	$ 9
Director, officer and other insurance	18	115
Marketing programs and conferences	106	80
Legal retainer	25	25
Professional service retainer	8	8
Rent	18	11
Equipment service deposits	-	1
Engineering, software licenses and other	3	8
Total prepaid expenses	$ 178	$ 257

6. Property and Equipment

Property and equipment, net consist of the following:

	Useful Life	December 31, 2020	December 31, 2019
Research and development equipment	5 years	$ 1,397	$ 1,585
Office and computer equipment	3 years	733	753
Autos	5 years	54	54
Furniture and fixtures	7 years	41	41
Leasehold improvements	*	283	283
Construction in progress		115	-
		2,623	2,716
Less accumulated depreciation and amortization		2,085	1,978
Total		$ 538	$ 738

* Shorter of lease term or estimated useful life

(1) For the years ended December 31, 2020 and December 31, 2019, the Company received net proceeds of $47 and $0 in the sale of research and development equipment and office and computer equipment, respectively, resulting in gains on the sale of these assets of $21 and $0 for the years ended December 31, 2020 and December 31, 2019, respectively.

Depreciation and amortization expense was approximately $288 and $413 for the year ended December 31, 2020 and 2019, respectively.

7. Accrued Expenses

Accrued expenses consist of the following:

	December 31, 2020	December 31, 2019
Compensation, severance and related benefits	$ 218	$ 935
Accrued Litigation	-	238
Personal property and franchise tax	57	2
Board Compensation	3	17
Other	14	1
Total accrued expenses	$ 292	$ 1,193

SENESTECH, INC.
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8. Borrowings

A summary of the Company’s borrowings, including finance lease obligations, is as follows:

	At December 31, 2020	At December 31, 2019
Short-term debt:		
Current portion of long-term debt	98	123
Total short-term debt	$ 98	$ 123
Long-term debt:		
Finance lease obligations	$ 79	$ 155
Other unsecured promissory notes	692	105
Total	771	260
Less: current portion of long-term debt	98	123
Total long-term debt	$ 673	$ 137

Finance Lease Obligations

(In thousands, except share and per share data)

Finance lease obligations at December 31, 2020 are for computer and lab equipment leased through GreatAmerica Financial Services and ENGS Commercial Finance Co. These finance leases expire at various dates through April 2022 and carry interest rates ranging from 11.4% to 18.3%.

Other Promissory Notes

Also included in the table above are notes payable to Direct Capital, M2 Financing and Fidelity Capital, all for the financing of fixed assets. These notes expire at various dates through June 2022 and carry interest rates ranging from 13.1% to 13.3%.

Also included in the table above is a loan agreement payable to BMO Harris Bank National Association as the lender in an aggregate principal amount of $645,700 pursuant to the Paycheck Protection Program (the “PPP”) under the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”). The loan is evidenced by a promissory note dated April 15, 2020 and matures April 15, 2022. The loan bears interest at a rate of 1.00% per annum and contains customary events of default including, among other things, payment defaults. The loan closed and was funded April 20, 2020. Under the terms of the CARES Act, PPP loan recipients can apply for and be granted forgiveness for all or a portion of loans granted under the PPP. The loan is subject to forgiveness to the extent proceeds are used for qualifying expenses, including certain payroll, utility, rent and mortgage interest expenses. No assurance is provided that the Company will obtain forgiveness of the loan in whole or in part.

Pursuant to amendments to the CARES Act, as long as the Company submits its application for loan forgiveness within ten months after the expiration of the applicable covered period, the Company will not be required to make any payments until the forgiveness amount is remitted to the lender by the SBA. In the event the PPP loan is not forgiven in whole or in part, the lender is responsible for notifying the Company of the date on which the Company’s first repayment is due.

9. Common Stock Warrants and Common Stock Warrant Liability

The table summarizes the common stock warrant activity as of December 31, 2020 as follows:

Issue Date	Warrant Type	Term Date		Exercise Price	Balance December 31, 2018	Issued	Exercised	Expired	Balance December 31, 2019	Issued	Exercised	Expired	Balance December 31, 2020
2016 and prior	Various	Various-2020/2021		Various	17,059	-	-	-	17,059	-	(9,375)	(7,684)	-
November 21,2017	Common Stock Offering Warrants	November 21, 2022	$	1.3659(1)	159,092	-	(15,591)	-	143,501	-		-	143,501
November 21,2017	Dealer Manager Warrants	November 21, 2022	$	30.00	47,250	-	-	-	47,250	-	(47,250)	-	-
June 20,2018	Warrant Reissue	December 20, 2023	$	36.40	56,696	-	-	-	56,696	-	-	-	56,696
August 13,2018	Rights Offering Warrants	July 25, 2023	$	23.00	267,853	-	(64,910)	-	202,943	-	-	-	202,943
August 13,2018	Dealer Manager Warrants	August 13, 2023	$	34.50	13,393	-	-	-	13,393	-	-	-	13,393
July 16,2019	Dealer Manager Warrants	July 11, 2024	$	33.75	-	8,334	-	-	8,334	-	-	-	8,334
January 28,2020	Registered Direct Offering	July 28, 2025	$	9.00	-	-	-	-	-	177,500	-	-	177,500
January 28,2020	Dealer Manager Warrants	July 28, 2025	$	10.00	-	-	-	-	-	13,315	-	-	13,315
March 6,2020	Registered Direct Offering	September 8, 2025	$	2.88	-	-	-	-	-	176,372	(176,372)	-	-
March 6,2020	Dealer Manager Warrants	March 4, 2025	$	3.76	-	-	-	-	-	13,228	-	-	13,228
April 21,2020	Dealer Manager Warrants	April 21, 2025	$	3.97	-	-	-	-	-	118,073	-	-	118,073
April 24,2020	Registered Direct Offering	April 24, 2025	$	3.05	-	-	-	-	-	1,574,308	(1,524,308)	-	50,000
October 26, 2020	Private Warrant Inducement	April 27, 2026	$	1.73	-	-	-	-	-	1,700,680			1,700,680
October 26, 2020	Dealer Manager Warrants	April 27, 2026	$	2.16	-	-	-	-	-	85,034			85,034
					561,343				489,176				2,582,697

(1) The initial exercise price of these warrants was $30.00 per share. Pursuant to antidilution price adjustment protection contained within these warrants, the initial exercise price of these warrants was adjusted downward to $29.40 on July 24, 2018, the record date of the Right’s Offering and downward to $19.00 per share on August 13, 2018. These warrants were further adjusted downward from $19.00 to $7.13 and to $2.1122 on January 28, 2020 and March 4, 2020, respectively, in connection with separate Registered Direct Offerings. These warrants were further adjusted downward from $2.1122 to $1.3659 on October 26, 2020 in connection with a Registered Direct Offering. These warrants are subject to further adjustment pursuant to antidilution price adjustment protection.

9. Common Stock Warrants and Common Stock Warrant Liability – (continued)

As of December 31, 2020, we had 2,582,697 shares of common stock issuable upon exercise of outstanding common stock warrants, at a weighted-average exercise price of $5.11 per share.

On November 21, 2017, the Company issued a total of 232,875 detachable common stock warrants issued with the second public offering of 293,000 shares of its common stock at $20.00 per share. The common stock warrant is exercisable until five years from the date of grant. The common shares of the Company’s stock and detachable warrants exist independently as separate securities. As such, the Company estimated the fair value of the common stock warrants, exercisable at $30.00 per share, to be $661 using a lattice model based on the following significant inputs: common stock price of $20.00; comparable company volatility of 73.8%; remaining term 5 years; dividend yield of 0% and risk-free interest rate of 1.87. The initial exercise price of these warrants was $30.00 per share, which adjusted downward to $29.40 on July 24, 2018, the record date of the Right’s Offering and downward to $19.00 per share on August 13, 2018, the date of the Rights Offering, pursuant to antidilution price adjustment protection contained within these warrants. The exercise price of the warrants was adjusted downward to $7.13 on January 28, 2020 in connection with a private placement of common stock. Per guidance of ASC 260, the Company recorded a deemed dividend of $285 on the 143,501 unexercised warrants that contained this antidilution price adjustment protection provision and was calculated as the difference between the fair value of the warrants immediately prior to downward exercise price adjustment and immediately after the adjustment using a Black Scholes model based on the following significant inputs: On January 28, 2020, common stock price of $7.90; comparable company volatility of 73.8%; remaining term 2.82 years; dividend yield of 0% and risk-free interest rate of 1.45%.

The exercise price of the warrants was adjusted downward to $2.1122 on March 4, 2020 in connection with a private placement of common stock. Per guidance of ASC 260, the Company recorded a deemed dividend of $129 on the 143,501 unexercised warrants that contained this antidilution price adjustment protection provision and was calculated as the difference between the fair value of the warrants immediately prior to downward exercise price adjustment and immediately after the adjustment using a Black Scholes model based on the following significant inputs: On March 4, 2020, common stock price of $2.88; comparable company volatility of 74.5%; remaining term 2.71 years; dividend yield of 0% and risk-free interest rate of 0.68%.

The exercise price of the warrants was adjusted downward to $1.3659 on October 26, 2020 in connection with an inducement offering of common stock. Per guidance of ASC 260, the Company recorded a deemed dividend of $22 on the 143,501 unexercised warrants that contained this antidilution price adjustment protection provision and was calculated as the difference between the fair value of the warrants immediately prior to downward exercise price adjustment and immediately after the adjustment using a Black Scholes model based on the following significant inputs: On October 26, 2020, common stock price of $1.47; comparable company volatility of 96.5%; remaining term 2.08 years; dividend yield of 0% and risk-free interest rate of 0.18%.

On June 20, 2018, the Company entered into an agreement with a holder of 56,696 of the November 2017 warrants to exercise its original warrant representing 56,696 shares of common stock for cash at the $30.00 exercise price for gross proceeds of $1.7 million and the Company issued to holder a new warrant to purchase 56,696 shares of common stock at an exercise price of $36.40 per share. The new warrant did not contain the antidilution price adjustment protection that was contained within the exercised warrants. In June 2018, the Company recorded stock compensation expense of $1,700 representing the fair value of the of 56,696 inducement warrants issued. The Company estimated the fair value of the common stock warrants, exercisable at $36.40 per share, to be $1,700 using a Black Scholes model based on the following significant inputs: common stock price of $42.20; comparable company volatility of 72.6%; remaining term 5 years; dividend yield of 0% and risk-free interest rate of 2.8%. Also, in June 2018, an additional 17,088 of the November 8, 2017 warrants that were in the money at the time of exercise, were exercised for gross proceeds of $513.

On August 13, 2018, in connection with a Rights Offering of 267,853 shares of its common stock, the Company issued 267,853 warrants to purchase shares of its common stock at an exercise price of $23.00 per share. The Company estimated the fair value of the common stock warrants, exercisable at $23.00 per share, to be $3,600 using a Monte Carlo model based on the following significant inputs: common stock price of $18.80; comparable company volatility of 159.0%; remaining term 5 years; dividend yield of 0% and risk-free interest rate of 2.77%.

In connection with the closing of the Rights Offering, the Company issued a warrant to purchase 13,393 shares of common stock to Maxim Partners LLC, an affiliate of the dealer-manager of the Rights Offering. The Company estimated the fair value of the common stock warrants, exercisable at $34.50 per share, to be $169 using a using a Monte Carlo model based on the following significant inputs: common stock price of $18.80; comparable company volatility of 159.0%; remaining term 5 years; dividend yield of 0%

and risk-free interest rate of 2.77%.

9. Common Stock Warrants and Common Stock Warrant Liability – (continued)

Common Stock Warrant Issued to Underwriter of Common Stock Offering

In July 2019, the Company issued to H.C. Wainwright & Co., as placement agent, a warrant to purchase 8,334 shares of common stock at an exercise price of $33.75 per share as consideration for providing services in connection with a common stock offering in July 2019. The warrant was fully vested and exercisable on the date of issuance. The common stock warrant is exercisable until five years from the date of grant. The Company estimated the fair value of the common stock warrants, exercisable at $33.75 per share, to be $127 using a lattice model based on the following significant inputs: common stock price of $26.80; comparable company volatility of 133.3%; remaining term 5 years; dividend yield of 0% and risk-free interest rate of 2.07%.

University of Arizona Common Stock Warrant

In connection with the June 2015 amended and restated exclusive license agreement with the University of Arizona ("University"), the Company issued to the University a common stock warrant to purchase 750 shares of common stock at an exercise price of $150.00 per share. The warrant was fully vested and exercisable on the date of grant, and expires, if not exercised, five years from the date of grant. In the event of a "terminating change" of the Company, as defined in the warrant agreement, the warrant holder would be paid in cash the aggregate fair market value of the underlying shares immediately prior to the consummation of the terminating change event. Due to the cash settlement provision, the derivative warrant liability was recorded at fair value and is revalued at the end of each reporting period. The changes in fair value are reported in other income (expense) in the statements of operations and comprehensive loss. The estimated fair value of the derivative warrant liability was $53 at the date of grant. These warrants expired, unexercised, on June 26, 2020.

Common Stock Warrants Issued in January and March 2020 Private Placements

In January and March 2020, in separate private placements concurrent with registered direct offerings (collectively, the "2020 Registered Direct Offerings") of shares of the Company's common stock, the Company also issued warrants to purchase an aggregate of up to 353,872 shares of common stock to certain institutional and accredited investors that participated in the 2020 Registered Direct Offerings (the "2020 Warrants"). The warrants were issued in reliance on the exemption from registration provided by Section 4(a)(2) of the Securities Act and Rule 506(b) of Regulation D promulgated thereunder. Terms used but not otherwise defined herein will have the meanings given them in the warrants, attached as Exhibit 4.1 to our Form 8-K filed on January 28, 2020, and our Form 8-K filed on March 6, 2020.

The warrants issued in January 2020 to purchase 177,500 shares of common stock have an exercise price of $9.00 per share, are exercisable after July 28, 2020 and will expire July 28, 2025. The Company estimated the fair value of the common stock warrants, exercisable at $9.00 per share, to be $813 using a Black Scholes model based on the following significant inputs: common stock price of $7.90; comparable company volatility of 73.8%; remaining term 5 years; dividend yield of 0% and risk-free interest rate of 1.53%.

The warrants issued in March 2020 to purchase 176,372 shares of common stock have an exercise price of $2.88 per share, are immediately exercisable and will expire September 8, 2025. The Company estimated the fair value of the common stock warrants, exercisable at $2.88 per share, to be $242 using a Black Scholes model based on the following significant inputs: common stock price of $2.35; comparable company volatility of 74.8%; remaining term 5.5 years; dividend yield of 0% and risk-free interest rate of 0.39%.

For so long as the 2020 Warrants remain outstanding, the exercise price and number of shares of common stock issuable upon exercise of the warrants are subject to adjustment as follows: (a) upon payment of a stock dividend or other distribution on a class or series of shares common stock, not including shares issued under this warrant; (b) upon subdivision (by stock spilt, stock dividend, recapitalization, or otherwise) or combination (by reverse stock split or otherwise) of shares of common stock; or (c) upon the issuance of any shares of capital stock by reclassification of shares of the common stock.

9. Common Stock Warrants and Common Stock Warrant Liability – (continued)

In the event that the Company declares or makes any dividend or other distribution of its assets to holders of its common stock, each 2020 Warrant holder will be entitled to participate in such distribution to the same extent that such holder would have participated therein if the holder had held the number of shares of common stock acquirable upon exercise of the 2020 Warrant.

In the event of a Fundamental Transaction, as described in the 2020 Warrants and generally including the sale, transfer or other disposition of all or substantially all of our properties or assets; our consolidation or merger with or into another person or reorganization; a recapitalization, reorganization or reclassification in which our common stock is converted into other securities, cash or property; or any acquisition of our outstanding common stock that results in any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, then the holders of the 2020 Warrants will be entitled to receive upon exercise of such warrants the kind and amount of securities, cash, assets or other property that the holders would have received had they exercised the 2020 Warrants immediately prior to such Fundamental Transaction. Subject to certain limitations, in the event of a Fundamental Transaction the 2020 Warrant holder may at its option require the Company or any Successor Entity to purchase such warrant from the holder by paying to the holder an amount of cash equal to the Black Scholes Value of the remaining unexercised portion of the 2020 Warrant on the date of the consummation of the Fundamental Transaction.

Any time that the Company grants, issues, or sells any securities pro rata to all of the record holders of the common stock (the "2020 Purchase Right"), each holder of 2020 Warrants will be entitled to acquire the aggregate amount of securities that the holder could have acquired if the holder had held the number of shares of common stock acquirable upon exercise of the applicable 2020 Warrant. However, to the extent that an exercise of a 2020 Purchase Right would exceed the Beneficial Ownership Limitation (defined below), then to such extent the 2020 Purchase Right will be held in abeyance until such time, if ever, that complete exercise of the 2020 Purchase Right would not exceed the Beneficial Ownership Limitation.

After the Initial Exercisability Date, the 2020 Warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise. If, at the time a holder exercises the 2020 Warrant (but not sooner than six months following the date of such warrant), a registration statement registering the issuance of the shares of common stock underlying the 2020 Warrants under the Securities Act is not then effective or available, nor is any current prospectus thereto available, and an exemption from registration under the Securities Act is not available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the number of shares of common stock determined according to a formula set forth in the 2020 Warrant.

Limitations on Exercise. A holder (together with its affiliates) may not exercise any portion of the 2020 Warrants to the extent that the holder would own more than 4.99% of the outstanding common stock after exercise (the "Beneficial Ownership Limitation"), except that upon at least 61 days' prior notice from the holder to us, the holder may increase the Beneficial Ownership Limitation up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the 2020 Warrants. No fractional shares of common stock will be issued in connection with the exercise of a 2020

Warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share.

Except as otherwise provided in the 2020 Warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the 2020 Warrants do not have the rights or privileges of holders of our common stock, including any voting rights, unless and until they exercise such warrants.

Common Stock Warrants Issued in April 2020 Public Offering

On April 24, 2020, in connection with a previously announced public offering of 145,586 Class A Units and 1,428,722 Class B Units, the Company issued warrants to purchase 1,574,308 shares of common stock to the participants in the public offering and have an exercise price of $3.05 per share (the "April 2020 Warrants"). These warrants are immediately exercisable and will expire April 24, 2025.

9. Common Stock Warrants and Common Stock Warrant Liability – (continued)

The Common Stock, Pre-Funded Warrants and Warrants sold in this Public Offering were offered and sold pursuant to a registration statement on Form S-1 (File No. 333-236302) initially filed with the Securities and Exchange Commission (the "SEC") on February 7, 2020, as amended ("Registration Statement"), which was declared effective by the SEC on February 14, 2020. The Post-Effective Amendment No. 2 to the Registration Statement was declared effective by the SEC on April 21, 2020.

The Company estimated the fair value of the common stock warrants, exercisable at $3.05 per share, to be $2,402 using a Black Scholes model based on the following significant inputs: common stock price of $2.40; comparable company volatility of 87.9%; remaining term 5 years; dividend yield of 0% and risk-free interest rate of 0.18%.

Common Stock Warrants Issued to Placement Agent in 2020 Registered Direct Offerings and Private Placement

In connection with the separate private placements concurrent with registered direct offerings of shares of the Company's common stock in January and March 2020, the Company issued to H.C. Wainwright & Co., LLC, as placement agent, a warrant to purchase 13,228 shares of common stock and a warrant to purchase 13,313 shares of common stock. The warrants were issued in reliance on the exemption from registration provided by Section 4(a)(2) of the Securities Act and Rule 506(b) of Regulation D promulgated thereunder. These warrants have substantially similar terms as the 2020 Warrants described above, except that the placement agent warrant issued in January 2020 has an exercise price of $10.00 per share, and the placement agent warrant issued in March 2020 has an exercise price of $3.7563 per share.

The Company estimated the fair value of the common stock warrants issued in January, with an exercise price of $10.00 per share, to be $58 using a Black Scholes model based on the following significant inputs: common stock price of $7.90; comparable company volatility of 73.8%; remaining term 5 years; dividend yield of 0% and risk-free interest rate of 1.53%.

The Company estimated the fair value of the common stock warrants issued in March, with an exercise price of $3.7563 per share, to be $17 using a Black Scholes model based on the following significant inputs: common stock price of $2.35; comparable company volatility of 74.8%; remaining term 5.5 years; dividend yield of 0% and risk-free interest rate of 0.39%.

In connection with the public offering of 145,586 Class A Units and 1,428,722 Class B Units on April 24, 2020, the Company issued to H.C. Wainwright & Co., LLC, as placement agent, warrants to purchase 118,073 shares of common stock. The warrants were issued in reliance on the exemption from registration provided by Section 4(a)(2) of the Securities Act and Rule 506(b) of Regulation D promulgated thereunder. These warrants have substantially similar terms as the April 2020 Warrants described above, except that the placement agent warrant issued has an exercise price of $3.97 per share.

The Company estimated the fair value of the common stock warrants issued in April, with an exercise price of $3.97 per share, to be $167 using a Black Scholes model based on the following significant inputs: common stock price of $2.40; comparable company volatility of 87.9%; remaining term 5.5 years; dividend yield of 0% and risk-free interest rate of 0.18%.

Common Stock Warrants Issued in October 2020 Private Warrant Inducement

In October 2020, in connection with an inducement agreement with an existing accredited investor to exercise 1,700,680 outstanding warrants to purchase an equal number of shares of the Company's common stock, the Company issued new unregistered warrants to purchase up to an aggregate of 1,700,680 shares of common stock at an exercise price of $1.725 per share. The warrants issued were immediately exercisable with an exercise period of five and one-half years from the date of issuance. The Original Warrants were issued on March 6, 2020 and on April 24, 2020. Pursuant to the Letter Agreement, the per share exercise price of the Original Warrants were reduced from $2.88 and $3.05, respectively, to $1.725. The Company estimated the fair value of the common stock warrants, exercisable at $1.725 per share, to be $1,806 using a Black Scholes model based on the following significant inputs: common stock price of $1.47; comparable company volatility of 96.5%; remaining term 5.5 years; dividend yield of 0% and risk-free interest rate of 0.18%.

9. Common Stock Warrants and Common Stock Warrant Liability – (continued)

Common Stock Warrants Issued to Placement Agent in October 2020 Inducement Offering

In connection with the private warrant inducement in October 2020 of 1,700,680 shares of the Company's common warrants, the Company issued to H.C. Wainwright & Co., LLC, as placement agent, warrants to purchase 85,034 shares of common stock. These warrants have substantially similar terms as the 2020 Warrants described above, except that the placement agent warrant issued in October 2020 has an exercise price of $2.156 per share.

The Company estimated the fair value of these common stock warrants, with an exercise price of $2.156 per share, to be $86 using a Black Scholes model based on the following significant inputs: common stock price of $1.47; comparable company volatility of 96.5%; remaining term 5.5 years; dividend yield of 0% and risk-free interest rate of 0.18%.

Deemed Dividend Adjustment-Warrant Modified Terms Revaluation

On December 2, 2019, in connection with the settlement of a filed lawsuit against the Company on February 20, 2018 by New Enterprises, Ltd. ("New Enterprises"), the Company agreed to modify the terms of 6,934 common stock warrants that were originally issued to New Enterprises between September 2015 and February 2016. Specifically, the original strike price was reduced to $20.00 per warrant from $150.00 per warrant and the expiration date of these warrants was extended one year to December 13, 2020.

Per guidance of ASC 260, the Company recorded a deemed dividend of $11 on the 6,934 unexercised warrants that were affected by the modification of terms. The dividend was calculated as the difference between the fair value of the warrants immediately prior to modification of terms and immediately after the adjustment using a Black Scholes model based on the following significant inputs: On December 2, 2019: common stock price of $12.00; comparable company volatility of 73.2%; remaining term 0.01 years; dividend yield of 0% and risk-free interest rate of 1.63. As adjusted, common stock price of $12.00; comparable company volatility of 73.2%; remaining term 1.01 years; dividend yield of 0% and risk-free interest rate of 1.63.

On March 3, 2020, the Company issued an aggregate of 51,414 common shares in a cashless exercise of 56,625 warrants issued in December 2016 and November 2017. Consideration for the exercise of these warrants was the full settlement of an outstanding litigation reserve of $238.

On October 26, 2020, in connection with the private warrant inducement with an existing accredited investor to exercise 1,700,680 outstanding warrants ("Original Warrants"), the Company agreed to modify the terms of the Original Warrants that were originally issued on March 6, 2020 and on April 24, 2020. Pursuant to the agreement, the per share exercise price of the Original Warrants were reduced from $2.88 and $3.05, respectively, to $1.725.

Per recent proposed guidance of ASC 260, the Company determined that this was an exchange of the existing 1,700,680 warrants that were affected and the difference between the fair value of the warrants immediately prior to modification of terms and immediately after the adjustment was a cost of raising capital and was recorded as a reduction of equity. The difference between the fair value of the warrants immediately prior to modification of terms and immediately after the adjustment was calculated as $237, using a Black Scholes model based on the following significant inputs: On October 26, 2020: common stock price of $1.47; comparable company volatility of 96.5%; remaining term 4.5-4.8 years; dividend yield of 0% and risk-free interest rate of 0.18.

10. Stockholders' Deficit

Capital Stock

The Company was organized under the laws of the state of Nevada on July 27, 2004 and was subsequently reincorporated under the laws of the state of Delaware on November 10, 2015. In connection with the reincorporation, as approved by the stockholders, the Company changed its authorized capital stock to consist of (i) 100 million shares of common stock, $.001 par value, and (ii) 2 million shares of preferred stock, $0.001 par value, designated as Series A convertible preferred stock. In December 2015, the Company amended its Certificate of Incorporation to change its authorized capital stock to provide for 15 million authorized shares of preferred stock of which 7,515,000 was designated as Series B convertible preferred stock, par value $.001 per share.

Prior to November 10, 2015, the Company's authorized capital stock consisted of 100 million shares of common stock, $.001 par value, and 10 million shares of preferred stock, $.001 par value.

Common Stock

The Company had 5,099,512 and 1,414,671 shares of common stock issued and outstanding as of December 31, 2020 and December 31, 2019, respectively.

During the year ended December 31, 2020, the Company issued 3,684,841 shares of common stock as follows:

- an aggregate of 177,500 shares in connection with a registered direct offering generating net proceeds to the Company in January 2020 of approximately $973, as further described below;
- an aggregate of 176,372 shares in connection with a registered direct offering generating net proceeds to the Company in March 2020 of approximately $462, as further described below;
- an aggregate of 1,700,680 shares in connection with an inducement offering exercise of warrants, generating net proceeds to the Company in October 2020 of approximately $2,600, as further described below;
- an aggregate of 1,574,308 shares in connection with a public offering and exercise of pre-funded warrants issued in connection with said public offering, generating net proceeds to the Company in April 2020 of approximately $4,306, as further described below;
- an aggregate of 51,414 shares for the exercise of outstanding warrants in settlement of an outstanding litigation reserve of $238 (see Note 9 - Common Stock Warrants and Common Stock Warrant Liability for further details);
- an aggregate of 4,543 shares for service as a result of the vesting of restricted stock units; and
- an aggregate of 24 shares for true up of shares as a result of the 1-for-20 reverse stock split effected in February 2020.

Public Offerings and Registered Direct Offerings

On October 26, 2020, the Company closed a private warrant inducement agreement with an existing accredited investor to exercise certain outstanding warrants to purchase an aggregate of 1,700,680 shares of the Company's common stock at an exercise price per share of $1.725 (the "Original Warrants"). The Original Warrants were issued on March 6, 2020 and on April 24, 2020. Pursuant to the agreement, the per share exercise price of the Original Warrants were reduced from $2.88 and $3.05, respectively, to $1.725.

10. Stockholders' Deficit – (continued)

1,524,308 shares of common stock issuable upon exercise of the Original Warrants issued on March 6, 2020 are registered for resale pursuant to an effective registration statement on Form S-3 (File No. 333-237563) and all 176,372 shares of common stock issuable upon exercise of the Original Warrants issued on April 24, 2020 are registered for resale pursuant to an effective registration statement on Form S-3 (File No. 333-236302). The net proceeds to the Company from the Exercise were approximately $2.6 million, after deducting placement agent fees and offering expenses.

In consideration for the immediate exercise of the Original Warrants for cash, the exercising holder will receive a new unregistered warrant to purchase up to an aggregate of 1,700,680 shares of common stock (the "New Warrant") in a private placement pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended (the "Securities Act"). The New Warrant will have an exercise price of $1.725 per share, with an exercise period of five and one-half years from the date of issuance.

In connection with the agreement, the Company agreed to issue the placement agent warrants to purchase up to 85,034 shares of common stock (the "Placement Agent Warrants"). The Placement Agent Warrants have substantially the same terms as the Warrants, except that the exercise price is $2.156 per share. The Placement Agent Warrants, and the shares of issuable upon exercise thereof, will be issued in reliance on the exemption from registration provided in Section 4(a)(2) under of the Securities Act of 1933, as amended ("Securities Act") and Regulation D promulgated thereunder.

On April 24, 2020, the Company closed a public offering of 145,586 Class A Units and 1,428,722 Class B Units. Each unit is comprised of one share of common stock, par value $0.001 per share or common stock equivalent in the form of a pre-funded warrant and one warrant to purchase one share of common stock. The Class A Units were offered at a public offering price of $3.176 per unit, and the Class B Units were offered at a public offering price of $3.175 per unit priced at-the-market under Nasdaq rules, generating net proceeds of approximately $4,306, including the full exercise of the pre-funded warrants sold in this offering and after deducting certain fees due to the placement agent and other estimated transaction expenses.

(In thousands, except share and per share data)

Also, in connection with the public offering noted above, the Company issued warrants to purchase 1,574,308 shares of common stock to the participants in the public offering, with an exercise price of $3.05 per share. These warrants are immediately exercisable and will expire April 24, 2025.

On March 6, 2020, the Company closed a registered direct offering of an aggregate of 176,372 shares of our common Stock at a purchase price of $3.005 per share for aggregate net proceeds of approximately $462, after deducting certain fees due to the placement agent and other estimated transaction expenses. In addition, we also issued warrants exercisable for an aggregate of up to 176,372 shares of our common stock with an exercise price of $2.88 per share. In addition, in connection with the offering, we issued the placement agent five-year warrants to purchase up to 13,228 shares of our common Stock at an exercise price of $3.7563 per share.

On January 28, 2020, the Company closed a registered direct offering of an aggregate of 177,500 shares of our common stock at a purchase price of $8.00 per share for aggregate net proceeds of approximately $973, after deducting certain fees due to the placement agent and other estimated transaction expenses. In addition, in a concurrent private placement, we also issued and sold warrants exercisable for an aggregate of up to 177,500 shares of our common stock with an exercise price of $9.00 per share. In connection with the offering, we issued the placement agent five-year warrants to purchase up to 13,312 shares of our common stock at an exercise price of $10.00 per share.

11. Stock-based Compensation

On June 12, 2018, the Company's stockholders approved the 2018 Equity Incentive Plan (the "2018 Plan") to replace the Company's 2015 Equity Incentive Plan (the "2015 Plan"). On July 8, 2020, the Company's stockholders approved an amendment to the 2018 Plan to increase the number of shares of common stock available for issuance under the 2018 Plan by 800,000 shares from 50,000 to 850,000. In addition, up to 122,279 shares of our common stock previously reserved for issuance under the 2015 Plan are available for issuance under the 2018 Plan to the extent such shares were available for issuance under the 2015 Plan as of June 12, 2018 or thereafter cease to be subject to awards outstanding under the 2015 Plan, such as by expiration, cancellation, or forfeiture of such awards.

Stock options are generally issued with a per share exercise price equal to no less than fair market value of our common stock at the date of grant. Options granted under the 2018 Plan generally vest immediately, or ratably over a two- to 36-month period coinciding with their respective service periods. Options under the 2018 Plan generally have a term of five years. Certain stock option awards provide for accelerated vesting upon a change in control.

As of December 31, 2020, the Company had 430,622 shares of common stock available for issuance under the 2018 Plan.

Stock Options

The Company measures the fair value of stock options with service-based vesting criteria to employees, directors and consultants on the date of grant using the Black-Scholes option pricing model. The Black-Scholes valuation model requires the Company to make certain estimates and assumptions, including assumptions related to the expected price volatility of the Company's stock, the period under which the options will be outstanding, the rate of return on risk-free investments, and the expected dividend yield for the Company's stock.

The weighted-average assumptions used in the Black-Scholes option-pricing model used to calculate the fair value of options granted during the year ended December 31, 2020 were as follows:

	Employee
Expected volatility	88.1%-96.0%
Expected dividend yield	-
Expected term (in years)	5.0
Risk-free interest rate	0.11-0.26%

The weighted average grant date fair value of options granted during the year ended December 31, 2020 was $1.37 per share, as per the table below.

The weighted-average assumptions used in the Black-Scholes option-pricing model used to calculate the fair value of options granted during the year ended December 31, 2019, were as follows:

	Employee
Expected volatility	71.0%-79.8%
Expected dividend yield	-
Expected term (in years)	3.0-5.0
Risk-free interest rate	1.63%-2.48%

Due to the Company's limited operating history and lack of company-specific historical or implied volatility, the expected volatility assumption was determined based on historical volatilities from traded options of biotech companies of comparable size and stability, whose share prices are publicly available. The expected term of options granted to employees is calculated based on the mid-point between the vesting date and the end of the contractual term according to the simplified method as described in SEC Staff Accounting Bulletin 110 because the Company does not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term due to the limited period of time its awards have been outstanding. For non-employee options, the expected term of options granted is the contractual term of the options. The risk-free interest rate is determined by reference to the implied yields of U.S. Treasury securities with a remaining term equal to the expected term assumed at the time of grant. The expected dividend assumption is based on the Company's history and expectation of dividend payouts. The Company has not paid and does not intend to pay dividends.

11. Stock-based Compensation – (continued)

The table summarizes the stock option activity, for both the 2018 and 2015 Plans, for the periods indicated as follows:

	Number of Options	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (1)
Outstanding at December 31, 2018	86,059	$ 31.40	4.0	$ -
Granted	58,396	$ 25.80	4.9	$ -
Exercised	(3,450)	$ 13.00	-	$ -
Forfeited	(3,445)	$ -	-	$ -

Expired	(1,071)	$ -	-	$ -
Outstanding at December 31, 2019	136,489	$ 27.85	3.9	$ -
Granted	370,397	$ 1.37	4.9	$ -
Exercised	-	$ -	-	$ -
Forfeited	(10,415)	$ -	-	$ -
Expired	-	$ -	-	$ -
Outstanding at December 31, 2020	496,471	$ 8.63	3.9	$ -
Exercisable at December 31, 2020	199,862	$ 15.75	1.8	$ -

(1) The aggregate intrinsic value on the table was calculated based on the difference between the estimated fair value of the Company's stock and the exercise price of the underlying option. The estimated stock values used in the calculation was $1.73 and $11.00 per share for each of the years ended December 31, 2020 and 2019, respectively.

The weighted average grant date fair value of options granted to employees for the year ended December 31, 2020 was $1.37 per share.

At December 31, 2020, the total compensation cost related to non-vested options not yet recognized was $850, which will be recognized over a weighted average period of 27 months, assuming the grantees complete their service period required for vesting.

Restricted Stock Units

The following table summarizes restricted stock unit activity for the years ended December 31, 2020 and 2019:

	Number of Units	Weighted Average Grant Date Fair Value Per Unit
Outstanding as of December 31, 2018	6,813	$ 19.60
Granted	6,191(1)	$ 30.20
Vested	(7,127)	$ 22.00
Forfeited	-	$ -
Outstanding as of December 31, 2019	5,877	$ 30.28
Granted	30,738(2)	$ 1.97
Vested	(4,543)	$ 1.42
Forfeited	-	$ -
Outstanding as of December 31, 2020	32,072	$ 4.05

(1) 314 restricted stock units were granted on February 14, 2019 with a weighted average grant date fair value of $17.09. 3,877 restricted stock units were granted on June 18, 2019 with a weighted average grant date fair value of $28.40. 2,000 restricted stock units were granted on June 30, 2019 with a weighted average grant date fair value of $36.00.

(2) 30,738 restricted stock units were granted on July 23, 2020 with a weighted average grant date fair value of $1.97.

11. Stock-based Compensation – (continued)

The stock-based compensation expense was recorded as follows:

	Years Ended December 31, 2020	2019
Research and development	$ 9	$ 14
General and administrative	636	859
Total stock-based compensation expense	$ 645	$ 873

The allocation between research and development and general and administrative expense was based on the department and services performed by the employee or non-employee.

12. Income Taxes

The components of the pretax loss from operations for the years ended December 31, 2020 and 2019 are as follows (in thousands)

	Years Ended December 31, 2020	2019
U.S. Domestic	(8,373)	(10,029)
Foreign	-	-
Pretax loss from operations	(8,373)	(10,029)

The provision for income taxes from continuing operations for the years ended December 31, 2020 and 2019 are as follows:

	Years Ended December 31, 2020	2019
Current		
Federal	-	-
State	-	-
Foreign	-	-
Total current	-	-
Deferred		
Federal	-	-
State	-	-
Foreign	-	-
Total deferred	-	-
Total income tax expense (benefit)	-	-

Tax Rate Reconciliation

A reconciliation of income taxes to the amount computed by applying the statutory federal income tax rate to the net loss is summarized as follows (in thousands):

	Years Ended December 31,	
	2020	2019
Income tax benefit at statutory rates	(1,758)	(2,106)
State income tax, net of federal benefit	(309)	(337)
Permanent items	1	5
Stock-based compensation	84	27
Tax Rate Adjustment – TCJA	-	-
Change in rate	-	-
Stock Compensation DTA Adjustment	-	-
Change in Valuation Allowance	1982	2,408)
RTP and Other	-	3
Income tax expense (benefit)	-	-

12. Income Taxes – (continued)

Significant components of the Company's deferred tax assets as of December 31, 2020 and 2019 are shown below.

A valuation allowance has been recognized to offset the net deferred tax assets as realization of such deferred tax assets have not met the more likely than not threshold.

	December 31,	
	2020	2019
Deferred tax assets:		
ASC 842 Leases	167	173
Federal and State Net Operating Loss Carryovers	17,548	15,492
Stock Based Compensation	289	230
Compensation Accruals and Other	84	245
Depreciation	17	-
Total deferred tax assets	18,105	16,140
Valuation Allowance for deferred tax assets	(17,940)	(15,958)
Deferred tax assets, net of valuation allowance	165	182
Deferred tax liabilities:		
Depreciation	-	(8)
ASC 842 Assets	(165)	(174
Total deferred tax liabilities	(165)	(182)
	-	-

At December 31, 2020, the Company has federal and state net operating loss carryforwards of approximately $69.5 million and $56.1 million, respectively, not considering the IRC Section 382 annual limitation discussed below. The federal loss carryforwards begin to expire in 2029, unless previously utilized. In addition, the Company has approximately $25.1 million of the total $69.5 million of net operating losses that do not expire, as these losses were generated after the law change introduced as part of the Tax Cuts and Jobs Act.

Additionally, the utilization of the net operating loss carryforwards could be subject to an annual limitation under Section 382 and 383 of the Internal Revenue Code of 1986, and similar state tax provisions due to ownership change limitations that have occurred previously or that could occur in the future. These ownership changes limit the amount of net operating loss carryforwards and other deferred tax assets that can be utilized to offset future taxable income and tax, respectively. In general, an ownership change, as defined by Section 382 and 383, results from transactions increasing ownership of certain stockholders or public groups in the stock of the corporation by more than 50 percentage points over a three-year period. The Company has not conducted an analysis of an ownership change under section 382. To the extent that a study is completed and an ownership change is deemed to occur, the Company's net operating losses could be limited.

The following table summarizes the activity related to the Company's gross unrecognized tax benefits at the beginning and end of the years ended December 31, 2020 and 2019 (in thousands):

	Years Ended December 31,	
	2020	2019
Gross unrecognized tax benefits at the beginning of the year	-	-
Increases related to current year positions	-	-
Increases related to prior year positions	-	-
Decreases related to prior year positions	-	-
Expiration of unrecognized tax benefits	-	-
Gross unrecognized tax benefits at the end of the year	-	-

None of the unrecognized tax benefits would affect the Company's annual effective tax rate.

The Company does not expect a significant change in unrecognized tax benefits over the next 12 months.

The Company files income tax returns in the United States and Arizona with general statutes of limitations of 3 and 4 years, respectively. Due to net operating losses incurred, the Company's tax returns from inception to date are subject to examination by taxing authorities. The Company's policy is to recognize interest expense and penalties related to income tax matters as a component of income tax expense. As of December 31, 2020, the Company had no interest or penalties accrued for uncertain tax positions.

12. Income Taxes – (continued)

(In thousands, except share and per share data)

On March 27, 2020, the United States enacted the Coronavirus Aid, Relief and Economic Security Act (CARES Act). The Cares Act is an emergency economic stimulus package that includes spending and tax breaks to strengthen the United States economy and fund a nationwide effort to curtail the effect of COVID-19. While the CARES Act provides sweeping tax changes in response to the COVID-19 pandemic, some of the more significant provisions which are expected to impact the Company's financial statements include removal of certain limitations on utilization of net operating losses, increasing the loss carryback period for certain losses to five years, and increasing the ability to deduct interest expense, as well as amending certain provisions of the previously enacted Tax Cuts and Jobs Act. The Company has concluded that the CARES Act did not have a material impact on its financial position, results of operations, or cash flows.

On December 27, 2020, the United States enacted the Consolidated Appropriations Act which extended many of the benefits of the CARES Act that were scheduled to expire. The Company is evaluating the impact of the Consolidated Appropriations Act on its consolidated financial statements and related disclosures, but does not anticipate the impact to be material.

13. Commitments and Contingencies

Legal Proceedings

The Company may be subject to legal proceedings and claims arising from contracts or other matters from time to time in the ordinary course of business. Management is not aware of any pending or threatened litigation where the ultimate disposition or resolution could have a material adverse effect on its financial position, results of operations or liquidity.

Lease Commitments

The Company is obligated under finance leases for certain research and computer equipment that expire on various dates through July 2023. At December 31, 2020, the gross amount of office and computer equipment, and research equipment and the related accumulated amortization recorded under the finance leases was $478 and $356, respectively.

In February 2012, the Company entered into an operating lease for its then corporate headquarters in Flagstaff, Arizona. The lease was originally due to expire in January 2015. In December 2013, the Company amended its lease to expand into the remaining area in the building and extended the term to December 31, 2019. In February 2014, the Company further amended the lease to expand into an adjacent building. The lease requires escalating rental payments over the lease term. Minimum rental payments under the operating lease are recognized on a straight-line basis over the term of the lease and accordingly, the Company records the difference between the cash rent payments and the recognition of rent expense as a deferred rent liability. The lease was guaranteed by the former President of the Company. In December 2019, we extended the current lease for only our manufacturing facilities are located in Flagstaff, Arizona, occupying a total of 7,632 square feet of space. The lease for our manufacturing facilities expired in December 2020.

On November 16, 2016, we leased an additional 1,954 square feet of research and development space, also in Flagstaff. This lease expired on November 15, 2018 but was extended for an additional 24 months, through November 2020. A subsequent amendment to the lease allows for the Company to cancel the lease at any time through the lease term with 30 days notice. The Company provided a 30-day cancellation notice effective February 2020.

On December 1, 2019, we entered into a lease for our corporate headquarters in Phoenix, Arizona where we lease and occupy approximately 5,529 square feet of office space. This lease expires in November 2024.

On August 1, 2020, we entered into a lease for our manufacturing and research facility in Phoenix, Arizona where we occupy approximately 5,105 square feet of manufacturing and warehouse space. This lease expires on November 30, 2024.

We believe that our existing facilities are adequate and meet our current needs for business, manufacturing and research.

Rent expense was $286 and $253 for the years ended December 31, 2020 and 2019, respectively. The future minimum lease payments under non-cancellable operating lease and future minimum finance lease payments as of December 31, 2020 are follows:

	Finance Leases	Operating Lease
Years Ending December 31,		
2021	58	190
2022	28	194
2023	-	198
2024	-	186
Total minimum lease payments	$ 86	$ 768

13. Commitments and Contingencies – (continued)

	Finance Leases
Less: amounts representing interest (6.39%, ranging from 10.48% to 11.56%)	$ (7)
Present value of minimum lease payments	79
Less: current installments under finance lease obligations	(52)
Total long-term portion	$ 27

14. Subsequent Events

On February 2, 2021, the Company consummated a private placement agreement with certain institutional and accredited investors and issued an aggregate of 3,968,854 shares of its common stock, par value $0.001 per share at a purchase price of $2.2785 per share, pre-funded warrants to purchase up to an aggregate of 420,000 shares of common stock at a purchase price of $2.2775 per pre-funded warrant and associated warrants to purchase up to an aggregate of 2,194,427 shares of common stock, for gross proceeds of approximately $10.0 million, prior to deducting placement agent fees and offering expenses.

The pre-funded warrants have an exercise price of $0.001 per share, are exercisable immediately, and may be exercised at any time until such pre-funded warrants are exercised in full. The warrants have an exercise price of $2.216 per share, are exercisable immediately, and have an exercise period of five and one-half years from the date of issuance. A holder of a pre-funded warrant or the warrant may not exercise any portion of such holder's pre-funded warrants or warrants to the extent that the holder, together with its affiliates, would beneficially own more than 4.99% (or, at the election of the holder, 9.99%) of the Company's outstanding shares of common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to the Company, the holder may increase the beneficial ownership limitation to up to 9.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise. At March 29, 2021, all 420,000 pre-funded shares had been distributed.

The net proceeds to the company from the private placement were approximately $9.2 million, after deducting placement agent fees and expenses and estimated offering expenses payable by the Company. The Company intends to use the net proceeds from the private placement for general corporate purposes.

In connection with the private placement agreement, the Company entered into a registration rights agreement with the purchasers, pursuant to which, among other things, the Company will prepare and file with the Securities and Exchange Commission a registration statement on Form S-3 to register for resale the shares and the shares of common stock issuable upon the exercise of the pre-funded warrants and the warrants.

H.C. Wainwright & Co., LLC acted as exclusive placement agent for the private placement. In connection with the private placement, the Company agreed to pay the placement agent a cash fee equal to 7.5% of the gross proceeds of the private placement and a management fee of 1.0% of the gross proceeds of the private placement and reimburse the placement agent for a non-accountable expense allowance of $25 and accountable expenses of $50. The Company also agreed to issue the placement agent warrants to purchase up to 7.5% of the aggregate number of shares issuable to the investors in the private placement, or 329,164 shares of Common Stock with an exercise price of $2.8481 per share. The warrants are exercisable immediately and have an exercise period of five and one-half years from the date of issuance.

On March 23, 2021, the Company consummated a registered direct offering with certain institutional investors and issued an aggregate of 1,975,000 shares of the Company's common stock, par value $0.001 per share at a purchase price of $2.00 per share for gross proceeds to the Company of approximately $3.95 million, before deducting fees payable to the placement agent and other estimated offering expenses payable by the Company. The 1,975,000 shares of Common Stock sold in the Offering were offered and sold pursuant to a prospectus, dated August 24, 2018, and a prospectus supplement, dated March 22, 2021, in connection with a takedown from the Company's shelf registration statement ("Registration Statement") on Form S-3 (File No. 333-225712).

In connection with the Offering, the Company agreed to pay the placement agent a cash fee equal to 7.5% of the gross proceeds of the Offering, a management fee of 1% of the gross proceeds of the Offering, a non-accountable expense allowance of $25 and up to $50 for reasonable and documented out-of-pocket expenses. The Company also agreed to issue the placement agent warrants to purchase up to 7.5% of the aggregate number of shares of Common Stock sold in the Offering, or 148,125 shares of Common Stock. The Placement Agent Warrants will be exercisable commencing six months following the date of issuance, expire five years following the date of sale and have an exercise price per share of $2.50 per share. The Placement Agent Warrants, and the shares of Common Stock issuable upon exercise thereof, will be issued in reliance on the exemption from registration provided in Section 4(a)(2) under the Securities Act of 1933, as amended, and Regulation D promulgated thereunder.

On March 19, 2021, the Company issued an aggregate of 700,680 shares of commons stock for the exercise of certain warrants. The net proceeds to the Company for these exercises was $1,209.

COVID-19

The travel and other restrictions that began in March 2020 in response to the COVID-19 global pandemic have resulted in a significant slowdown in our field studies and sales efforts. We were able to resume some projects by late-April 2020, however, we still have delays on certain projects that might remain on hold until certain government restrictions are lifted. These delays have impacted our results of operations and could impact our results in future quarters. In addition, stay at home orders and other social distancing initiatives continue to severely limit our ability to communicate with current and potential commercial customers. The COVID-19 pandemic is also placing a significant budgetary burden on federal, state and local governments, which may impede or delay their ability to purchase our products.

The Company has evaluated subsequent events from the balance sheet date through March 29, 2021, the date at which the financial statements were issued, and determined that there were no other items that require adjustment to or disclosure in the financial statements.

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

We maintain disclosure controls and procedures that are designed to ensure that the information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934 ("Exchange Act") is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

In connection with the preparation of this Annual Report on Form 10-K, our management carried out an evaluation, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, as of December 31, 2020, of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) and 15d-15(e) under the Exchange Act. Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2020.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) or 15d-15(f) under the Exchange Act of 1934. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. All internal control systems, no matter how well designed, have inherent limitations. Even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Management is committed to continue monitoring our internal controls over financial reporting and will modify or implement additional controls and procedures that may be required to ensure the ongoing integrity of our consolidated financial statements.

With the participation of our Chief Executive Officer and Chief Financial Officer, management conducted an evaluation of the effectiveness of internal control over financial reporting as of December 31, 2020. In making this assessment, the Company used the framework established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, (COSO). Based on this assessment, management has concluded that internal control over financial reporting was effective as of December 31, 2020 based on those criteria.

This annual report does not include an attestation report of the company's registered public accounting firm due to a transition period established by rules of the Securities and Exchange Commission for smaller reporting companies and emerging growth companies.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2020, that has materially affected, or is 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.***

Executive Officers and Directors

Set forth below is a list of the names, ages, positions and a brief account of the business experience of the individuals who serve as our current executive officers and directors.

Name of Director	Age	Position	Director Since	Term Expires
Kenneth Siegel	65	Chief Executive Officer and Director	2019	2022 (Class III)
Thomas C. Chesterman	61	Executive Vice President, Chief Financial Officer, Treasurer and	N/A	N/A

		Assistant Secretary		
Jamie Bechtel, JD, Ph.D	48	Chair of the Board and Director	2018	2021 (Class II)
Delphine François Chiavarini	45	Director	2018	2021 (Class II)
Marc Dumont	77	Director	2016	2023 (Class I)
Steven Krause, Ph.D.	61	Executive Vice President, Sales and Marketing	N/A	N/A
Matthew Szot	46	Director	2015	2022 (Class III)
Phil Grandinetti	49	Director	2020	2021 (Class II)(1)
K.C. Kavanagh	51	Director	2020	2022 (Class III)(1)
Jake Leach	43	Director	2020	2023 (Class I)(1)
Kim Wolin	65	Executive Vice President, Operations and Secretary	N/A	N/A

(1) On November 5, 2020, the Board appointed Phil Grandinetti, K.C. Kavanagh and Jake Leach to serve on the Board as independent directors.

Kenneth Siegel was appointed to our board of directors in February 2019 and appointed Chief Executive Officer in May 2019. Mr. Siegel has over 25 years of experience as an executive and senior leader of major corporations. From December 2016 to November 2018, Mr. Siegel served in key leadership roles at Diamond Resorts International Inc., a global vacation ownership company, most recently as President since March 2017. Prior to Diamond Resorts, he served as Chief Administrative Officer and General Counsel of Starwood Hotels & Resorts, a branded lifestyle hospitality company. An instrumental member of the Starwood leadership team, Mr. Siegel was intimately involved in Starwood's emergence as an industry leader before its acquisition by Marriott International in 2016. Part of Mr. Siegel's role included leading Starwood's Corporate Social Responsibility Programs. He introduced industry-leading initiatives in sustainability, energy and water conservation and education. He implemented numerous programs to reduce the Company's impact on the planet and became a passionate advocate for methods that could be both effective and environmentally sustainable. Prior to joining Starwood in 2000, Mr. Siegel spent four years as the Senior Vice President and General Counsel of Cognizant Corporation and its successor companies. Mr. Siegel has a bachelor's degree from Cornell University and a juris doctorate degree from New York University. We believe that Mr. Siegel is qualified to serve as a member of our board of directors because of his experience and knowledge in all facets of corporate operations and governance, including business, operational, corporate finance, mergers and acquisitions, marketing and branding gained as a senior executive of major public corporations.

Thomas Chesterman joined our company in September 2015 and has served as our Executive Vice President, Chief Financial Officer, Treasurer and Assistant Secretary since December 2015. He has over 25 years of experience as the chief financial officer of a public company in the life science, technology and telecommunications industries. Most recently, he was the vice president and treasurer of General Communication Inc., a telecommunications company in Alaska, from 2013 to 2015. Previously, he was the chief financial officer of life science companies Bionovo Inc. from 2007 to 2012, Aradigm Corp. from 2002 to 2007 and Bio-Rad Laboratories, Inc. from 1996 to 2002. Mr. Chesterman is adept at a variety of capital market access techniques and has significant experience in developing the operational and financial infrastructures in companies to help support successful and rapid growth. Mr. Chesterman earned a bachelor's degree from Harvard University and an M.B.A. from the University of California at Davis.

Steven Krause, Ph.D. joined our company in February 2020 as Executive Vice President, Sales and Marketing. Mr. Krause has over 25 years of experience in the agriculture and public health pest management markets worldwide. He has held a variety of positions in sales, marketing, and business management at Paramount Pest, Abbott Labs and Valent BioSciences Corporation, most recently serving from January 2014 until February 2020 as Director, Global Public Health and Forest Business Unit at Valent BioSciences Corporation, a provider of technologies and products for the agricultural, public health, forestry and household markets. Mr. Krause has significant experience integrating new biorational-based product solutions into operational programs. As a specialist in integrated pest management, he spearheaded a program with the World Health Organization to launch a new class of pesticide to the global B2B and B2G vector control markets. He is a recipient of Abbott's Summit Award for sales excellence, and his team was recognized for halting transmission of the Zika virus in Miami with a Chicago Innovation Award 2017. Mr. Krause earned a BS from James Madison University, an MS from the University of Delaware, a Ph.D. from the University of Wisconsin and an MBA from Loyola University Chicago.

Kim Wolin joined our company as a marketing technologist in May 2013, and in May 2014 was appointed executive vice president of operations. From January 2009 to May 2013, she was a vice president, branch sales and service manager of Sunwest Bank, a community bank located in Flagstaff, Arizona. From November 1996 to December 2009, Ms. Wolin held the positions of assistant vice president, branch manager and Licensed Financial Advisor at Wells Fargo Bank. She has owned and operated Creative Net Solutions, a website design and hosting business, since 1994. From 1984 to 1992, Ms. Wolin owned and operated Kodas Produce Market, a health food and organic produce store in Oakland, California. Ms. Wolin earned a bachelor's degree in Psychology from the State University of New York at Buffalo in 1977.

Jamie Bechtel, JD, Ph.D. was elected to the board of directors in January 2018. Dr. Bechtel is the co-founder and a board member of New Course, an organization focused on women-led conservation initiatives, and founder and chief executive officer of Kito Impact Foundation, a non-profit focused on integrating corporate social responsibility into small and medium sized businesses. Before founding Kito Impact Foundation and New Course, Dr. Bechtel worked for seven years at Conservation International, where she worked in over 20 countries including Costa Rica, Fiji, Mexico, and South Africa. Dr. Bechtel was also an advisor to the Clinton Global Initiative. Dr. Bechtel holds a Ph.D. from Boston University, a law degree from Boston College and a bachelor's degree from Boston University. We believe that Dr. Bechtel is qualified to serve as a member of our board of directors because she is a highly regarded leader in international conservation, and her work has led to strategic advances in the fields of conservation, sustainable finance and biology.

Delphine François Chiavarini was elected to the board of directors in June 2018. Ms. Chiavarini is vice president and general manager of U.S. at Moen, a faucet manufacturing company. She joined Moen in June 2017 and is responsible for developing strategies for profitable growth, increasing Moen's market share and ensuring winning execution in the U.S. market. Before joining Moen, from August 2014 to June 2017, Ms. Chiavarini was senior vice president and general manager Food and Beverage North America at Ecolab, a global leader in water, hygiene and energy technologies and services that protect people and vital resources. She also held several executive positions with Newell Brands, where she was responsible for leadership in brand and business transformation through impactful P&L management, strategic planning and change management. Prior to Newell, Ms. Chiavarini spent time in sales and marketing in the luxury goods and retail sectors, spanning B2C and B2B in multiple geographies and categories. Ms. Chiavarini earned both a bachelor's and a master's degree from Audencia Business School in Nantes, France, and attended executive programs at The University of Chicago Booth School of Business and the Wharton School of the University of Pennsylvania. We believe that Ms. Chiavarini is qualified to serve as a member of our board of directors because of her experience developing strategies for profitable growth and her experience as an executive at multiple companies.

Marc Dumont was elected to our board of directors in January 2016. Mr. Dumont is owner, chairman and chief executive officer of Chateau de Messey Wineries in Burgundy, France, a wine producer, a position he has held since March 1995. Mr. Dumont served as the president of PSA International SA (a PSA Peugeot Citroen Group company) from January 1981 to March 1995. Prior to that, he held various positions for Chrysler Corporation in Detroit, Mexico City and London. He is an international financial consultant and advisor for clients in Europe and Asia, as well as the United States. He has served as the chairman of Sanderling Ventures (a European affiliate of a U.S. venture capital firm) since 1996. In the past, Mr. Dumont has served as director of Finter Bank Zurich, Irvine Sensors Corporation and Novalog Corporation in Costa Mesa, CA, NUKO Information Systems Inc. in San Jose, CA, and Banque Internationale in Luxembourg, all of which were public companies. Mr. Dumont holds a degree in Electrical Engineering and Applied Economics from the University of Louvain, Belgium and an MBA from the University of Chicago. We believe Mr. Dumont is qualified to serve as a member of our board of directors because of his experience and knowledge of corporate finance, international business development and operations, and his experience as a past director of other public and private companies.

Matthew Szot was elected to our board of directors in December 2015 and has served as Chairman of our Audit Committee Chairman since then. Since March 2010, he has served as the chief financial officer of S&W Seed Company, a Nasdaq-listed agricultural seed technology company. Since September 2020, Mr. Szot has served on the board of directors and as Chairman of the Audit and Compensation committees of INVO Bioscience, Inc, a Nasdaq-listed medical device company. From June 2018 to August 2019, Mr. Szot served on the board of directors and as Chairman of the Audit Committee of Eastside Distilling, Inc. a Nasdaq-listed craft spirits company. From February 2007 until October 2011, Mr. Szot served as the chief financial officer for Cardiff Partners, LLC, a strategic consulting company that provided executive financial services to various publicly traded and privately held companies. From 2003 to December 2006, Mr. Szot served as chief financial officer and secretary of Rip Curl, Inc., a market leader in wetsuit and action sports apparel products. From 1996 to 2003, Mr. Szot was a Certified Public Accountant with KPMG and served as an Audit Manager for various publicly traded companies. Mr. Szot has a Bachelor of Science degree in Agricultural Economics/Accountancy from the University of Illinois, Champaign-Urbana and is a Certified Public Accountant in the State of California. We believe that Mr. Szot is qualified to serve as a member of our board of directors because of his experience and knowledge of corporate finance, mergers and acquisitions, corporate governance, as well as other operational, financial and accounting matters gained as a past and present chief financial officer and director of other public and private companies.

Julia Williams, M.D. was elected to our board of directors in August 2011. Since February 2019, she has been practicing in a critical access area in rural Arizona at Little Colorado Medical Center. Dr. Williams is also the founder and President of Humanitarian Efforts Reaching Out, or HERO, a non-profit 501(c)(3) organization that provides humanitarian services including medical and dental care, alternative power sources, solar cookers, vitamins, eyeglasses, nutritional support and animal care. HERO's mission is to help build healthy sustainable communities in underdeveloped nations around the world. After retiring in March 2017 from 17 years of practice as an Emergency Department physician at Flagstaff Medical Center, she worked for TeamHealth, an American hospital staffing firm, doing interim work in subacute medicine from January 2018 through October 2018. Dr. Williams received her Doctor of Medicine from the University of Maryland School of Medicine and her Bachelor of Science from the University of Maryland. On November 5, 2020, Dr. Julia Williams notified the Company of her intention to resign from the Board and its Compensation Committee effective November 5, 2020. Dr. Williams will continue her involvement with the Company as a Director Emeritus with Board observer rights. We believe that Dr. Williams is qualified to serve as a member of our board of directors because of her medical and scientific background, commitment to and experience with animal care, and long commitment to our vision.

K.C. Kavanagh was appointed to the board of directors by affirmative vote on November 5, 2020**.** Ms. Kavanagh is a C-level communications leader. A current member of Bacardi Limited's Global Leadership Team and formerly a member of the 12-person Senior Leadership Team of Starwood Hotels & Resorts, K.C. has significant experience leading global communications efforts across 150+ countries, including a deep understanding of emerging markets like China, India, and the Middle East. Ms. Kavanagh has led communications teams that have played an outsized role in influencing corporate culture, innovation, brand positioning, unit growth, and financial results. During her time at Starwood, Ms. Kavanagh was a key member of the M&A team and a leader of the Company's integration team during a high-profile merger with Marriott International, delivering sensitive and transparent communications internally and externally.

An experienced speechwriter and seasoned 24/7 crisis manager, she has managed global-scale crises, beginning with the events of 9/11, when she was tasked by Starwood's Board to spearhead a new 60-person Crisis Management Team that strengthened protocols, operations, and communications globally. Adept at taking complex strategies and making them understandable and exciting across a diverse and global employee population, Ms. Kavanagh has helped create cultures that embrace change centered on technology, globalization, and lifestyle brands. We believe that Ms. Kavanagh is qualified to serve as a member of our board of directors because of her experience in communications, marketing, branding and public relations as well as her superior leadership skills.

Phil Grandinetti was also appointed to the board of directors by affirmative vote on November 5, 2020. Mr. Grandinetti co-founded WITHit after eight years as VP of Sales at LightWedge—a global e-book, e reader and tablet accessories brand. All told, Grandinetti has spent the last 18 years in a leadership role for consumer products companies, including serving as Sr. VP of Sales for GSM Products in Oceanside, CA. As co-founder of WITHit, he was instrumental in launching the company's line of Wearable Tech Accessories in 2014. WITHit products are sold through the largest and most influential retailers in the US with retail partners including Walmart, Target, Best Buy, Sam's Club, QVC, HSN, Kohl's, and Barnes & Noble. Mr. Grandinetti joined GSM Products as the U.S. Director of Sales and was quickly promoted to VP of Worldwide Sales, leading the company into Canada, Mexico, U.K., and the Pacific Rim. Within a year, he was promoted again to Sr. VP Worldwide Sales. During his tenure at GSM, the company realized unprecedented growth under Grandinetti's guidance. Mr. Grandinetti has a J.D. from the University of San Diego School of Law and is licensed in the State of California, as well as a B.A. from the University of Iowa in Economics and Political Science. We believe that Mr. Grandinetti is qualified to serve as a member of our board of directors because of his experience with retail sales and and marketing and the development and commercialization of new products.

Jake Leach was also appointed to the board of directors by affirmative vote on November 5, 2020. As the Chief Technology Officer at Dexcom, Mr. Leach is responsible for the leadership of scientific research, engineering, product development, and project management. He oversees the development of next generation products and leads a large organization of people and his teams are responsible for delivering best in class glucose monitoring technology paired with an exceptional user experience. Mr. Leach joined Dexcom in March 2004 to lead the development of sensor electronics which were part of the first generation Dexcom system. He has served in various roles within Dexcom including Senior Vice President of R&D, Senior Director of R&D, and Manager of Engineering. From 1996 to 2004, Mr. Leach held positions in research and development at MiniMed and subsequently Medtronic Diabetes, focusing on the development of glucose sensing systems. Mr. Leach holds a Bachelor of Science degree in Electrical Engineering with a minor in Biomedical Engineering from the University of California, Los Angeles. We believe that Mr. Leach is qualified to serve as a member of our board of directors because of his R&D and innovative technology experience coupled with his commitment to quality and extensive knowledge of domestic and international regulatory requirements.

Other Involvement in Certain Legal Proceedings

We are not aware of any of our directors or officers being involved in any legal proceedings in the past ten years relating to any matters in bankruptcy, insolvency, criminal proceedings (other than traffic and other minor offenses), or being subject to any of the items set forth under Item 401(f) of Regulation S-K that we consider material to the evaluation of the ability and integrity of any director or executive officer.

Delinquent Section 16(a) Reports

Section 16(a) of the Exchange Act requires our officers and directors and persons who own more than 10% of a registered class of our equity securities to file with the SEC reports of ownership on Form 3 and changes in ownership on Form 4 and Form 5. Officers, directors and greater-than-10% stockholders are required by Commission regulations to furnish to us copies of all Section 16(a) forms they file. Based solely on our review of the copies of such forms received by us, forms filed electronically by the reporting person or written representations from certain reporting persons, we believe that all Section 16(a) filing requirements during the fiscal year ended December 31, 2020 were met in a timely manner by our officers, directors and greater-than-10% beneficial owners, except for the following: one late Form 3 report was filed in 2020 by Mr. Krause, two late Forms 4 reports were filed disclosing two transactions in 2020 by Mr. Dumont, one late Form 4 report disclosing one transaction in 2020 was filed by each of Ms. Bechtel, Ms. Chiavarini, Mr. Szot, and Ms. Williams.

Audit Committee

Our audit committee currently consists of Matthew Szot, who is the chair of the audit committee, Delphine François Chiavarini and Marc Dumont. The board of directors has designated Mr. Szot as an "audit committee financial expert" as defined under applicable SEC rules and has determined that Mr. Szot possesses the requisite "financial sophistication" under applicable Nasdaq rules. The board of directors has determined that, after consideration of all relevant factors, Mr. Szot qualifies as an "independent" director under applicable SEC and Nasdaq rules.

Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics in compliance with applicable rules of the SEC that applies to all of our directors, officers and other employees and consultants. A copy of this policy is available on our website at http://senestech.investorroom.com/ on the "Documents and Policies" page under the heading "Corporate Governance," or free of charge upon written request to the attention of our Secretary, by regular mail at our principal executive offices, email to inquiries@senestech.com or fax at 928-526-0243. We will disclose, on our website, any amendment to, or a waiver from, a provision of our Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and that relates to any element of the Code of Business Conduct and Ethics enumerated in applicable rules of the SEC. In addition, we have adopted a policy for research misconduct, which also applies to all officers, directors and employees.

Item 11. ***Executive Compensation.***

2020 DIRECTOR COMPENSATION

The following table sets forth information regarding compensation earned by or paid to our non-employee directors during the year ended December 31, 2020.

Name	Fees Earned or Paid in Cash ($) (1)	Stock Awards ($) (2)	Option Awards ($) (3)	Total ($)
Jamie Bechtel, JD, Ph.D (6)	$ 112,588	$ -	$ 59,001	$ 171,589
Delphine François Chiavarini	$ 43,438	$ -	$ 59,001	$ 102,439
Marc Dumont	$ 27,500	$ -	$ 33,000	$ 60,500
Matthew K. Szot	$ 43,750	$ -	$ 43,001	$ 86,751
Julia Williams, M.D. (5)	$ 20,625	$ -	$ 29,000	$ 49,625
Phil Grandinetti (4)	$ -	$ -	$ 27,387	$ 27,387
K.C. Kavanagh (4)	$ -	$ -	$ 16,302	$ 16,302
Jake Leach (4)	$ -	$ -	$ 27,387	$ 27,387

(1) These cash awards represent one half of 2020-2021 cash compensation for board service to be provided through the Annual Meeting in June 2021 (as detailed below) that was paid in calendar year 2020. The annual award is paid in four equal payments on July 1, 2020, October 1, 2020, January 2, 2021 and April 1, 2021. Only two of these quarterly payments were made in calendar year 2020. The fees earned or paid in cash reflects a 25% voluntary reduction in the quarterly cash compensation paid on April 1, 2020 due to the COVID-19 pandemic.

(2) The amounts in this column reflect the aggregate grant date fair value of stock awards, none of which were granted in 2020. As of December 31, 2020, there were no unvested restricted stock units ("RSUs") held by non-employee directors.

(3) The amounts in this column reflect the aggregate grant date fair value of option awards granted in 2020, determined in accordance with ASC 718. As of December 31, 2020, the total number of shares subject to outstanding stock options held by each non-employee director was as follows: Dr. Bechtel, 52,230; Ms. Chiavarini, 31,076; Mr. Dumont, 29,212; Mr. Szot, 36,320; Dr. Williams, 24,981; Mr. Leach, 27,046; Mr. Grandinetti, 27,046; and Ms. Kavanagh, 16,099.

(4) Mr. Grandinetti, Ms. Kavanagh and Mr. Leach were appointed to the board of directors in November 2020 and did not receive any cash (prorated) compensation in 2020. Mr. Grandinetti and Mr. Leach both elected to receive their prorated compensation in option awards.

(5) On November 5, 2020, Dr. Williams notified the Company of her intention to resign from the Board and its Compensation Committee effective November 5, 2020. Dr. Williams will continue her involvement with the Company as an uncompensated Director Emeritus with Board observer rights. Compensation reflected on the table above represents compensation prior to November 5, 2020.

(6) Included in the $112,588 cash compensation paid to Ms. Bechtel is $50,400 paid to Kito Impact Foundation, of which Ms. Bechtel serves as chief executive officer, in fiscal year 2020 for consulting services.

Non-Employee Director Compensation Program

On July 10, 2020, the board adopted a revised non-employee director compensation program (the "Director Compensation Program") for providing cash and equity compensation to its non-employee directors for their service on the board and committees of the board. The components of the Director Compensation Program are as follows:

Cash Compensation:	**Amount**
Annual general retainer for service on the Board	$ 17,000
Annual general retainer for service on the Board-Chair	$ 20,000
Incremental annual retainers for chair of committees:	
Audit	$ 15,000
Compensation	$ 15,000
Nominating and Corporate Governance	$ 15,000
Commercialization Committee (1)	$ -
Incremental annual retainers for members of committees:	
Audit	$ 5,000
Compensation	$ 5,000
Nominating and Corporate Governance	$ 5,000
Commercialization Committee (1)	$ 5,000

Equity Compensation:	**Grant details (value of grant in $)**
Annual stock option grant for serving on the board	$25,000
Annual stock option grant for serving on the board-Lead Director	$20,000
Annual equity grants for serving as chair of committees:	
Audit	$10,000 (Stock option)
Compensation	$10,000 (Stock option)
Nominating and Corporate Governance	$10,000 (Stock option)
Commercialization Committee (1)	$25,000(Stock option)
Annual equity grants for serving as member of committees:	
Audit	$4,000 (Stock option)
Compensation	$4,000 (Stock option)
Nominating and Corporate Governance	$4,000 (Stock option)
Commercialization Committee (1)	$4,000 (Stock option)

(1) The Commercialization / Sales Committee was eliminated at the June 18, 2020 meeting but was reinstated as the Commercialization Committee on March 3, 2021.

The options granted to non-employee directors pursuant to the Director Compensation Program will have an exercise price equal to the closing market price of the Company's Common Stock on the date of grant. The options will vest in equal quarterly installments over a one-year period, and the options will expire on the fifth anniversary of the date of the grant.

In addition, we reimburse non-employee directors for reasonable travel expenses for participation in board meetings and for travel conducted on behalf of our business.

EXECUTIVE OFFICER COMPENSATION

As a smaller reporting company, we are not required to provide a separately-captioned "Compensation Discussion and Analysis" section. However, in order to provide a greater understanding to our stockholders regarding our compensation policies and decisions with respect to our "named executive officers" identified in the 2020 Summary Compensation Table below, we are including the following narrative disclosure to highlight salient portions of our executive compensation program. This narrative disclosure should be read in conjunction with the 2020 Summary Compensation Table below and the related tables that follow it.

As a result of the challenges presented the impact of the coronavirus (or COVID-19) on the global economy and our business and financial results, salaries to certain of our executive officers were voluntarily reduced by 25% for part of calendar year 2020 as described below. A similar voluntary reduction was made to the cash retainers for non-employee directors as described under "2020 Director Compensation."

Compensation Philosophy and Processes

Compensation for our executives and key employees is designed to attract and retain people who share our vision and values and who can consistently perform in such a manner that enables us to achieve our strategic goals. The compensation committee believes that the total compensation package for each of our executive officers is competitive with the market, thereby allowing us to retain executive talent capable of leveraging the skills of our employees and our unique assets in order to increase stockholder value.

Our executive compensation programs are designed to (1) motivate and reward our executive officers, (2) retain our executive officers and encourage quality service, (3) incentivize our executive officers to appropriately manage risks while improving our financial results, and (4) align executive officers' interests with those of our stockholders. Under these programs, our executive officers are rewarded for the achievement of Company objectives and the realization of increased stockholder value.

The program seeks to remain competitive with the market while also aligning the executive compensation program with stockholder interests through the following types of compensation: (i) base salary; (ii) annual cash-based incentive bonuses; and (iii) equity-based incentive awards.

Key Executive Compensation Objectives

The compensation policies developed by the compensation committee are based on the philosophy that compensation should reflect both Company-wide performance, financial and operational performance, and the individual performance of the executive, including management of personnel under his or her supervision. The compensation committee's objectives when setting compensation for our executive officers include:

- Setting compensation levels that are sufficiently competitive such that they will motivate and reward the highest quality individuals to contribute to our goals, objectives and overall financial success. This is done in part through reviewing and comparing the compensation of other companies in our peer group.

- Retaining executives and encouraging their continued quality service, thereby encouraging and maintaining continuity of the management team. Our competitive base salaries combined with cash and equity incentive bonuses, retirement plan benefits and the vesting requirements of our equity-based incentive awards, encourage high-performing executives to remain with the Company.

- Incentivizing executives to appropriately manage risks while attempting to improve our financial results, performance and condition.

- Aligning executive and stockholder interests. The compensation committee believes the use of equity compensation as a key component of executive compensation is a valuable tool for aligning the interests of our executive officers with those of our stockholders.

Our compensation program is designed to reward superior performance of both the Company and of each individual executive and seeks to encourage actions that drive our business strategy. Our compensation strategy is to provide a competitive opportunity for senior executives, taking into account their total compensation packages.

Oversight of Executive Compensation

The Role of the Compensation Committee in Setting Compensation. Our compensation committee determines the compensation of our executive officers other than that of our chief executive officer. The compensation committee also approves or makes recommendations to our board of directors regarding equity compensation under our 2018 Plan. The compensation committee reviews base salary levels for executive officers of our Company and approves raises and bonuses based upon the Company's achievements, individual performance and competitive and market conditions. The compensation of the Chief Executive Officer is evaluated and recommended to the Board of Directors by the Nominating and Governance Committee. The Board of Directors has final authority to determine the compensation of the Chief Executive Officer.

The Role of Executives in Setting Compensation. While the compensation committee does not delegate any of its functions to others in setting the compensation of senior management, it includes members of senior management in the compensation committee's executive compensation process. We have asked each of our senior executives to annually provide us with input with regard to their goals for the coming year. These proposals include suggested Company-wide and individual performance goals. The individual goals include not only the goals of such executive but also goals of the employees for whom the executive is responsible. The compensation committee reviews these proposals with the executives and provides the committee's perspective on them.

The Role of Consultants in Setting Compensation. As the compensation committee deems necessary or helpful, it may retain the services of compensation consultants in connection with the establishment and development of our compensation philosophy and programs in the future. In fiscal year 2020 the compensation committee retained FW Cook, an independent compensation consultant, to assist it in its review of executive compensation.

Compensation Risk Assessment

As part of its risk assessment process, the compensation committee reviewed material elements of executive and non-executive employee compensation. The compensation committee concluded that these policies and practices do not create risk that is reasonably likely to have a material adverse effect on us.

The structure of our compensation program for our executive officers does not incentivize unnecessary or excessive risk taking. The base salary component of compensation does not encourage risk taking because it is a fixed amount. The incentive plan awards have risk-limiting characteristics:

- Annual incentive awards to each of our executive officers are limited to the fixed maximum specified in the incentive plan;

- Annual incentive awards are based on a review of a variety of performance factors, thus diversifying the risk associated with any single aspect of performance;

- The compensation committee, which is composed of independent members of our board of directors, approves final incentive plan cash and stock awards in its discretion after reviewing executive and corporate performance; and

- The significant portion of long-term value is delivered in shares of our Company with a multi-year vesting schedule, which aligns the interests of our executive officers to the long-term interests of our stockholders.

Elements of Compensation

The material elements of the compensation program for our named executive officers include: (i) base salary; (ii) cash-based incentive bonuses; and (iii) equity-based incentive awards.

Base Salaries. We provide each of our named executive officers with a base salary to compensate them for services rendered during the fiscal year and sustained performance. The purpose of the base salary is to reflect job responsibilities, value to the Company and competitiveness of the market. Salaries for our named executive officers are determined by the compensation committee, and for the CEO, recommended by the Nominating and Governance Committee to the board of directors, based on the following factors: nature and responsibility of the position and, to the extent available, salary norms for comparable positions; the expertise of the individual executive; and the competitiveness of the market for the executive's services.

Performance Cash-Based Incentive Bonuses. Our practice is to award cash-based incentive bonuses, based in part on the achievement of performance objectives or significant accomplishments as established by the compensation committee from time-to-time in its discretion. These performance objectives and significant accomplishments are, in part, developed in partnership with the executive and are discussed on an ongoing basis throughout the year.

Equity-Based Incentive Awards. Our equity-based incentive awards are designed to align the interests of our employees and consultants, including our named executive officers, with those of our stockholders. Our compensation committee is responsible for approving equity grants. Vesting of the stock option and restricted stock unit awards is tied to continuous service with the Company and serves as an additional retention measure and long-term incentive. During 2020, Steven Krause, Ph.D. received an option grant for 25,000 shares per the terms of his employment agreement, which vests monthly over three years of continuous service. Mr. Siegel received an option grant for 101,965 shares and Mr. Chesterman received an option grant for 25,000 shares, each of which vests quarterly over three years of continuous service.

Key Compensation Decisions and Developments for Fiscal Year 2020

Following the completion of the 2020 fiscal year, each of our executive officers self-evaluated him or herself against his or her specific goals. The compensation committee also performed its own assessment. Based on the year-end assessments, the compensation committee elected not to grant our executive officers incentive bonuses for calendar year 2019.

- Base Pay. Pursuant to their respective employment agreements, the 2020 base salaries for our named executive officers were as follows: The amounts below were voluntarily reduced by 25%, except for Ms. Wolin between April 1, 2020 and June 30, 2020 to control costs in response to the COVID-19 pandemic:

Kenneth Siegel Chief Executive Officer	$	275,000
Thomas C. Chesterman, Executive Vice President, Chief Financial Officer, Treasurer and Assistant Secretary	$	250,000
Kim Wolin Executive Vice President, Operations and Secretary	$	145,000
Steven Krause, Ph.D. Executive Vice President, Sales and Marketing	$	200,000

2020 Summary Compensation Table

The following table sets forth the compensation earned during the past two fiscal years by (i) the person who served as our principal executive officer at the end of 2020; and (ii) the three most highly compensated executive officers other than the principal executive officer who were serving as executive officers at the end of 2020 and whose total compensation for 2020 exceeded $100,000.

Name and Position	Fiscal Year	Salary ($) (5)	Cash Bonus ($)	Stock Awards ($) (1)	Option Awards ($) (2)	Non-Equity Incentive Plan Compensation ($)	All Other Compensation ($)(3)	Total ($)
Kenneth Siegel	2020	$ 241,356	$ -	$ -	$ 127,477	$ -	$ 4,896	$ 373,729
Chief Executive Officer (4)	2019	$ 182,573	$ -	$ 5,350	$ 808,198	$ -	$ 355	$ 996,476
Thomas Chesterman	2020	$ 217,083	$ -	$ -	$ 31,255	$ -	$ 4,236	$ 252,574
Executive Vice President, Chief Financial Officer, Treasurer and Assistant Secretary	2019	$ 250,000	$ -	$ -	$ 31,080	$ -	$ 10,981	$ 292,061
Kim Wolin	2020	$ 76,910	$ -	$ 60,554	$ -	$ -	$ 3,931	$ 141,395
Executive Vice President, Operations and Secretary	2019	$ 145,000	$ -	$ -	$ 24,864	$ -	$ 3,575	$ 173,439
Steven Krause, Ph.D.	2020	$ 142,831	$ 85,000	$ -	$ 41,325	$ -	$ -	$ 269,156
Executive Vice President, Sales and Marketing	2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -

(1) The amounts in this column reflect the aggregate grant date fair value of stock awards granted in 2020 and 2019, determined in accordance with ASC 718 for stock-based compensation. Assumptions used in the calculation of these award amounts are set forth in Note 11 (Stock-based Compensation) to the financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

(2) The amounts in this column reflect the aggregate grant date fair value of stock options granted in 2020, determined in accordance with ASC 718 for stock-based compensation. Assumptions used in the calculation of these award amounts are set forth in Note 11 (Stock-based Compensation) to the financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

(3) The amounts in this column reflect the payment by the Company of life insurance and disability insurance premiums pursuant to respective employment agreements.

(4) Mr. Siegel was appointed to the board in February 2019 by our board to fill a vacancy. On May 15, 2019, Mr. Siegel was named Chief Executive Officer of the Company. $10,698 of the $182,573 salary above represented non-employee director compensation for his service as a board member. Stock awards with a grant date fair value of $5,350 as well as option grants with a $4,598 grant date fair value (of option grants totaling $808,198 in grant date fair value) were issued in Mr. Siegel's role as a board member, prior to his commencement as Chief Executive Officer of the Company. All outstanding options granted in 2019 have exercise prices significantly in excess of the stock's current fair market value.

(5) The amounts in this column for 2020 salary, except for that of Ms. Wolin, reflects a 25% voluntary reduction in the quarterly cash compensation paid between April 1, 2020 and June 30, 2020, due to the COVID-19 pandemic

Outstanding Equity Awards at December 31, 2020

The following table sets forth all outstanding equity awards held by each of our named executive officers as of December 31, 2020.

	Equity Awards			
Name	Number of securities underlying unexercised equity grants (#) exercisable	Number of securities underlying unexercised equity grants (#) unexercisable	Equity grant exercise price ($)(1)	Equity grant expiration date
Kenneth Siegel	415	-	17.08	2/14/2024

	17,500	17,500(2)	28.40	6/18/2024
	16,994	84,971(6)	1.80	7/31/2025
Thomas C. Chesterman	6,000	-	10.00	12/01/2025
	1,042	1,458(3)	19.96	9/20/2024
	4,167	20,833(6)	1.80	7/31/2025
Kim Wolin	1,000	-	10.00	7/3/2025
	5,250	-	10.00	11/16/2025
	833	1,167(3)	19.96	9/20/2024
	(4) 30,738	-	N/A	N/A
Steven Krause, Ph.D.	5,556	19,444(5)	1.97	4/28/2025

(1) The option exercise price is the closing price of our Common Stock on the grant date.

(2) 1/12th of the option vested on August 16, 2019, and the remainder vests in equal 1/12th quarterly installments thereafter.

(3) 1/12th of the option vested on December 20, 2019, and the remainder vests in equal 1/12th quarterly installments thereafter.

(4) Represents a restricted stock unit award granted Ms. Wolin on July 23, 2020 that fully vests on April 29, 2021.

(5) 1/36th of the option vested on May 28, 2020, and the remainder vests in equal 1/36th monthly installments thereafter.

(6) 1/12th of the option vested on September 30, 2020, and the remainder vests in equal 1/12th quarterly installments thereafter.

Employment Agreements

We have entered into agreements with our named executive officers, which include provisions regarding post-termination compensation. We do not have a formal severance policy or plan applicable to our executive officers as a group.

Agreement with Kenneth Siegel. We entered into an employment letter agreement with Mr. Siegel on May 15, 2019, to serve as the Company's Chief Executive Officer, effective May 16, 2019. Under the terms of the employment letter agreement, Mr. Seigel received an annual base salary of $275,000 and a one-time signing bonus of a stock option representing 35,000 shares of Common Stock, which vests quarterly over a three-year period and is subject to the terms and conditions of the Company's 2018 Plan and standard form of option agreement. Mr. Siegel is also eligible to receive an annual incentive bonus with a target value equal to 50% of his annual base salary, payable in cash, subject to his achievement of performance objectives to be determined by the compensation committee or board of directors. In addition, after each full year of employment with the Company, subject to board approval, Mr. Siegel will receive an annual option grant (each, an "Additional Option") valued at 35% of his then base salary, subject to such vesting terms as determined by the board in its discretion. The initial option and Additional Options that are granted to Mr. Siegel will remain exercisable for five years following the end of his continuous service with the Company. Mr. Seigel will also be eligible to participate in the standard benefits, vacation and expense reimbursement plans offered to similarly situated employees. Mr. Siegel entered into the Company's standard form of indemnification agreement applicable to its directors and officers.

In the event of Mr. Siegel's termination by the Company without Cause (as defined in the employment letter agreement) or if Mr. Siegel resigns for Good Reason (as defined in the employment letter agreement), Mr. Siegel will be entitled to severance benefits equal to 12 months' continuation of his then base salary. In addition, the Company will reimburse Mr. Siegel for COBRA premiums in effect on the date of termination for coverage in effect for him and, if applicable, his spouse and dependent children on such date under the Company's group health plan(s). Finally, the vesting of Mr. Siegel's initial option and Additional Options will be accelerated such that he will be deemed vested in those shares subject to the options that would have vested in the 12-month period following his separation date had his employment not ended.

Agreement with Mr. Chesterman. We entered into an employment offer letter with Mr. Chesterman dated November 20, 2015 to serve as our Chief Financial Officer. Pursuant to this agreement, we pay Mr. Chesterman a salary of $250,000 per year, and in accordance with the employment offer letter, Mr. Chesterman's salary may be paid up 50% in stock options until we are in the financial position to pay the salary entirely in cash, to be determined by the Chief Executive Officer. In addition, Mr. Chesterman is eligible for a performance bonus, which amounts will be determined at least annually by mutual agreement based on achievement of personal and Company goals, and which will be targeted to be no less than $200,000 per year.

Mr. Chesterman is entitled to accrue four weeks paid vacation and ten days of sick leave per calendar year and may participate in our standard benefits plans.

Per the employment offer letter, on November 20, 2015, we granted Mr. Chesterman a stock option to purchase 6,000 shares of our Common Stock at an exercise price equal to $10.00 per share, which option vests over a four-year vesting schedule, with 1⁄48th of the option vesting monthly beginning on January 1, 2016, until such option is vested in full or Mr. Chesterman's employment is terminated.

Agreement with Ms. Wolin. We entered into an employment letter agreement with Ms. Wolin on January 28, 2020 to serve as our Executive Vice President of Operations, effective January 31, 2020. Pursuant to this agreement, Ms. Wolin is eligible to receive an annual salary of $75,000 per year. Ms. Wolin is also eligible to receive a restricted stock unit award having a value of $75,000, subject to approval by the compensation committee. The award will vest over one year, subject to accelerated vesting upon a termination of employment. Mr. Wolin remains subject to the terms of the Company's confidential information and inventions assignment agreement.

Agreement with Mr. Krause. We entered into an employment offer letter with Mr. Krause dated January 9, 2020 to serve as our Executive Vice President of Sales and Marketing. Pursuant to this agreement, we pay Mr. Krause a salary of $200,000 per year. In addition, Mr. Krause is eligible for a performance bonus, which amounts will be determined at least annually by mutual agreement based on achievement of personal and Company goals, and which is targeted at 25% of his base salary and stock option incentives as determined by performance against targets.

Mr. Krause was also granted a one-time signing bonus in the amount of $25,000 that was paid in April of 2020 and a "foregone compensation bonus" of $60,000 that was paid in May 2020.

Mr. Krause is entitled to accrue four weeks paid vacation and five days of sick leave per calendar year and may participate in our standard benefits plans.

Per the employment offer letter, on April 28, 2020, we granted Mr. Krause a stock option to purchase 25,000 shares of our Common Stock at an exercise price equal to $2.44 per share, which option vests over a three-year vesting schedule, with 1⁄36th of the option vesting monthly beginning on May 28, 2020, until such option is vested in full or Mr. Krause's employment is terminated.

Insurance Premiums

We pay 75% of premiums for medical insurance and dental insurance for all full-time employees, including our named executive officers. We also offer high deductible plan options that include a healthcare flexible spending account component for all full-time employees, including our named executive officers. These benefits are available to all full-time employees, subject to applicable laws.

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

Employee Benefit Plans

Equity Compensation Plan Information

The following table presents certain information regarding our Common Stock that may be issued under our equity plans, including upon the exercise of options and vesting of RSUs granted to employees, consultants or directors as of December 31, 2020:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	528,543(1)	$ 8.11	430,622
Equity compensation plans not approved by security holders	-	$ -	-
Total	528,543(1)	8.11	430,622

(1) Amount includes 32,072 RSUs granted and unvested as of December 31, 2020.

Options to purchase Common Stock and RSUs are outstanding under our 2018 Plan and options are outstanding under our 2015 Equity Incentive Plan (the "2015 Plan"). The 2018 Plan was approved by our stockholders at our 2018 Annual Meeting of Stockholders and replaces our 2015 Equity Incentive Plan for purposes of new equity grants. The 2018 Plan enables us to grant options, restricted stock, RSUs and certain other equity-based compensation to our officers, directors, employees and consultants. On July 8, 2020, the Company's stockholders approved an amendment to the 2018 Plan to increase the number of shares of common stock available for issuance under the 2018 Plan by 800,000 shares.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth, as of March 10, 2021, information regarding beneficial ownership of our Common Stock by:

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

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power.

The number of shares listed below under the heading "Total Shares Beneficially Owned" is the aggregate beneficial ownership for each stockholder and includes:

- Common Stock beneficially owned;
- Common Stock warrants exercisable;
- currently vested options and RSUs; and
- stock options and RSUs that are not currently vested but will become vested within 60 days of March 10, 2021.

Of this total amount, the number of shares of Common Stock underlying options and RSUs that are currently vested and stock options and RSUs that are not currently vested but will become vested within 60 days after March 10, 2021 are deemed outstanding for the purpose of computing the percentage ownership of Common Stock outstanding beneficially owned by a stockholder, director or executive officer (the "Deemed Outstanding Shares") and are also separately listed below under the heading "Number of Shares Issuable Upon Exercise of Warrants, Options and Vesting of RSUs Exercisable or Vested" but the Deemed Outstanding Shares are not treated as outstanding for the purpose of computing the percentage ownership of Common Stock outstanding beneficially owned by any other person. This table is based on information supplied by officers, directors, principal stockholders and filings made with the SEC. Percentage ownership is based on 9,488,366 shares of Common Stock outstanding as of March 10, 2021.

Unless otherwise indicated below, to our knowledge, all persons named in the table have sole voting and dispositive power with respect to their shares of common stock, except to the extent authority is shared by spouses under community property laws.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o SenesTech, Inc., 23460 N 19th Ave., Suite 110, Phoenix, AZ 85027.

Name of Beneficial Owner	Number of Shares Beneficially Held	Number of Shares Issuable Upon Exercise of Warrants, Options and Vesting of RSUs Exercisable or Vested as of March 10, 2021	Total Shares Beneficially Owned: Shares	Total Shares Beneficially Owned: Percent
5% Owners:				
None				
Directors, Named Executive Officers and Executive Officers:				
Thomas C. Chesterman	494	13,500	13,994	*
Jamie Bechtel	2,812	36,459	39,271	*
Delphine François Chiavarini	1,314	23,956	25,270	*

Marc Dumont (1)	7,420	23,188	30,608	*
Kenneth Siegel	35,129	46,319	81,448	*
Matthew K. Szot	4,657	28,470	33,127	*
Julia Williams, M.D. (2)	10,003	19,687	29,690	*
Steven Krause, Ph.D.	-	8,333	8,333	*
Kim Patrice Wolin	5,863	37,988	43,851	*
Phil Grandinetti	-	19,703	19,703	*
K.C, Kavanagh	-	11,000	11,000	*
Phil Leach	-	18,031	18,031	*
All current executive officers and directors as a group (12 persons) (6)	67,692	286,634	354,326	3.7%

* Represents beneficial ownership of less than one percent (1%).

(1) Includes shares of Common Stock held by Marc Dumont and Patrick Dumont, JTWROS, an affiliate of Mr. Dumont.

(2) Includes shares of Common Stock held by Julia A. Williams MD Trust, an affiliate of Dr. Williams.

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

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

For the fiscal years ended December 31, 2020 and December 31, 2019, we were not a party to any transactions that require disclosure under Item 404 of Regulation S-K.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and executive officers. These agreements provide for the indemnification of such persons for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact they are or were serving in such capacity. We believe that these charter provisions and indemnification agreements are necessary to attract and retain qualified persons as directors, officers and employees. Furthermore, we have obtained director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us.

Policies and Procedures for Transactions with Related Persons

We have adopted a policy that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of any class of our common stock and any members of the immediate family of any of the foregoing persons are not permitted to enter into a related person transaction with us without the prior consent of our audit committee. Any request for us to enter into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5% of any class of our voting securities or any member of the immediate family of any of the foregoing persons, in which the amount involved requires disclosure under Item 404 of Regulation S-K and such person would have a direct or indirect interest, must first be presented to our audit committee for review, consideration and approval. In approving or rejecting any such proposal, our audit committee is to consider the material facts of the transaction, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person's interest in the transaction.

In addition, if a related person transaction will compromise the independence of one of our directors, our audit committee may recommend that our board of directors reject the transaction if it could affect our ability to comply with securities laws and regulations or Nasdaq listing requirements.

DIRECTOR INDEPENDENCE

Generally, under the continued listing requirements and rules of Nasdaq, independent directors must comprise a majority of a listed company's board of directors. Our board of directors has undertaken a review of its composition, the composition of its committees and the independence of each director. Our board of directors has determined that Drs. Bechtel and Williams, Ms. Chiavarini and Ms. Kavanagh and Messrs. Dumont, Leach, Grandinetti and Szot are independent within the meaning of Nasdaq listing standards and that none of such directors has any relationship with the Company that would interfere with the exercise of their independent business judgment. The board also determined that Kenneth Siegel, our current Chief Executive Officer, is not independent. Accordingly, a majority of our directors are independent, as required under applicable Nasdaq rules. In making this determination, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. Additionally, in determining the independence of Ms. Bechtel, the board of directors considered her position as the chief executive officer of Kito Impact Foundation, which received $50,400 from the Company in fiscal year 2020 for consulting services. There are no arrangements or understandings between any director or nominee and any other person or entity other than the Company pursuant to which the director or nominee receives compensation in connection with that person's candidacy or service as a director.

Our board of directors includes an audit committee, a compensation committee, a nominating and corporate governance committee and a commercialization committee. All of our committees are comprised solely of independent board members.

Item 14. ***Principal Accounting Fees and Services.***

Principal Accountant Fees and Services

The aggregate fees billed by M&K for the years ended December 31, 2020 and 2019 for professional services described below are as follows:

	Year Ended December 31,	
	2020	**2019**
Audit fees (1)	$ 50,330	$ 57,983
Audit-related fees (2)	$ 26,500	$ 7,900
Tax fees	$ -	$ -
All other fees	$ -	$ -
Total fees	$ 76,830	$ 65,883

(1) Includes audit fees related to professional services rendered in connection with the audit of our annual consolidated financial statements, the reviews of the consolidated financial statements included in each of our quarterly reports on Form 10-Q, and accounting services that relate to the audited consolidated financial statements and are necessary to comply with generally accepted auditing standards.

(2) Includes audit-related fees related to attestation services rendered in connection with our 1) private placement offerings in January and March 2020, 2) a public offering in April 2020 and 3) a private warrant inducement in October 2020. Such services were reasonably related to the performance of M&K's audit of our financial statements and not reported under the caption "Audit fees."

Pre-Approval Policies and Procedures

We have implemented pre-approval policies and procedures related to the provision of audit and non-audit services. Under these procedures, our audit committee pre-approves all services to be provided by M&K and the estimated fees related to these services.

All audit, audit-related, and tax services were pre-approved by the audit committee, which concluded that the provision of such services by M&K was compatible with the maintenance of that firm's independence in the conduct of its auditing functions. Our pre-approval policies and procedures provide for the audit committee's pre-approval of specifically described audit, audit-related, and tax services on an annual basis, but individual engagements anticipated to exceed pre-established thresholds must be separately approved. The policies and procedures also require specific approval by the audit committee if total fees for audit-related and tax services would exceed total fees for audit services in any fiscal year. The policies and procedures authorize the audit committee to delegate to one or more of its members pre-approval authority with respect to permitted services.

PART IV

Item 15. *Exhibits, Financial Statement Schedules.*

(a) Financial Statements and Schedules

1. *Financial Statements*.

The following consolidated financial statements are filed as part of this report under Item 8 of Part II, "Financial Statements and Supplementary Data."

A. Balance Sheets as of December 31, 2020 and 2019.

B. Statements of Operations and Comprehensive Income (Loss) for the years ended December 31, 2020 and 2019.

C. Statements of Stockholders' Equity for the years ended December 31, 2020 and 2019.

D. Statements of Cash Flows for the years ended December 31, 2020 and 2019.

2. *Financial Statement Schedules*.

Financial statement schedules not included herein have been omitted because they are either not required, not applicable, or the information is otherwise included herein.

3. Exhibits

Exhibits are incorporated herein by reference or are filed with this report as indicated below (numbered in accordance with Item 601 of Regulation S-K).

(b) Exhibits

The exhibits listed in the accompanying Index to Exhibits are filed with this report or incorporated herein by reference.

SENESTECH, INC.
INDEX TO EXHIBITS

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation, as amended by the Certificate of Amendment to the Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 17, 2020 (File no. 001-37941))
3.2	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.5 to the Registrant's Registration Statement on Form S- 1, filed with the SEC on September 21, 2016 (File no. 333-213736))
4.1	Description of Securities (incorporated by reference to Exhibit 4.1 to the Registrant's Annual Report on Form 10-K/A, filed with the SEC on April 21, 2020 (File no. 001-37941))
4.2	Form of the Registrant's Common Stock certificate (incorporated by reference to Exhibit 4.1 to the Registrant's Amendment No. 1 to Registration Statement on Form S-1, filed with the SEC on October 7, 2016 (File no. 333-213736))
4.3+	Form of Restricted Stock Unit Agreement (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on December 21, 2016 (File no. 001-37941))
4.4	Form of Warrant (incorporated by reference to Exhibit 4.2 to the Registrant's Amendment No. 1 to Registration Statement on Form S-1, filed with the SEC on November 16, 2017 (File no. 333-221433))
4.5	Form of Underwriter's Warrant, as amended (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on November 21, 2017 (File no. 001-37941))
4.6	Form of Restricted Stock Unit Notice and Agreement (incorporated by reference to Exhibit 4.6 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 17, 2020 (File no. 001-37941))
4.7	Form of New Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on June 20, 2018 (File no. 001-37941))
4.8	Form of Warrant issued to investors in Rights Offering (incorporated by reference to Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on August 14, 2018 (File no. 001-37941))
4.9	Form of Warrant issued to dealer-manager in Rights Offering (incorporated by reference to Exhibit 4.2 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on August 14, 2018 (File no. 001-37941))
4.10	Warrant Agency Agreement, dated August 13, 2018, between the Registrant and Transfer Online, Inc. (incorporated by reference to Exhibit 4.3 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on August 14, 2018 (File no. 001-37941))
4.11	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 17, 2019 (File no. 001-37941))
4.12	Form of Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 28, 2020 (File no. 001-37941))
4.13	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 28, 2020 (File no. 001-37941))
4.14	Form of Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 6, 2020 (File no. 001-37941))
4.15	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 6, 2020 (File no. 001-37941))
4.16	Form of New Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on October 27, 2020 (File no. 001-37941))
4.17	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on October 27, 2020 (File no. 001-37941))
4.18	Form of Pre-Funded Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 2, 2021 (File no. 001-37941))
4.19	Form of Warrant (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 2, 2021 (File no.

	001-37941))
4.20	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 2, 2021 (File no. 001-37941))
10.1+	SenesTech, Inc. 2008 – 2009 Non-Qualified Stock Option Plan and form of agreement thereunder (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-1, filed with the SEC on September 21, 2016 (File no. 333-213736))
10.2+	SenesTech, Inc. 2015 Equity Incentive Plan and forms of agreement thereunder (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1, filed with the SEC on September 21, 2016 (File no. 333-213736))
10.3+	SenesTech, Inc. 2018 Equity Incentive Plan, as amended, and forms of agreement thereunder (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on August 13, 2020 (File no. 001-37941))
10.4+	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form S-1, filed with the SEC on September 21, 2016 (File no. 333-213736))

10.5+	Separation Agreement between the Registrant and Loretta P. Mayer, Ph.D., dated December 18, 2019 (incorporated by reference to Exhibit 10.5 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 17, 2020 (File no. 001-37941))
10.6+	Separation Agreement between the Registrant and Cheryl A. Dyer, Ph.D., dated December 18, 2019 (incorporated by reference to Exhibit 10.7 to the Registrant's Annual Report on Form 10-K, filed with the SEC on March 17, 2020 (File no. 001-37941))
10.7+	Employment Letter Agreement by and between the Registrant and Kenneth Siegel dated May 16, 2019 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on May 20, 2019 (File no. 001-37941))
10.8+	Employment Offer Letter by and between the Registrant and Thomas Chesterman dated November 20, 2015 (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form S-1, filed with the SEC on September 21, 2016 (File no. 333-213736))
10.9+	Employment Letter Agreement by and between the Registrant and Kim Wolin dated January 28, 2020 (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form S-1, filed with the SEC on February 13, 2020 (File no. 333-236302))
10.10+	Employment Letter Agreement by and between the Registrant and Steven Krause, dated January 12, 2020 (incorporated by reference to Exhibit 10.1 to the Registrant's Annual Report on Form 10-K/A, filed with the SEC on April 21, 2020 (File no. 001-37941))
10.11	Promissory Note, dated April 15, 2020, by and between the Company and BMO Harris Bank National Association (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 21, 2020 (File no. 001-37941))
10.12	Lease by and between the Registrant and Caden Court, LLC, dated as of December 20, 2011 and amendments thereto dated December 6, 2013 and February 27, 2014 (collectively, the "Caden Court Lease") (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1, filed with the SEC on September 21, 2016 (File no. 333-213736))
10.13	Lease Addendum #3 to the Caden Court Lease by and between the Registrant and Caden Court, LLC, dated as of December 20, 2019 (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form S-1, filed with the SEC on February 13, 2020 (File no. 333-236302))
10.14	Lease by and between the Registrant and Pinnacle Campus Office-Retail, LLC, dated as of November 18, 2019 (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form S-1, filed with the SEC on February 13, 2020 (File no. 333-236302))
10.15	Standard Industrial/Commercial Multi-Tenant Lease, between the Company and Duke Go PP, LLC, dated as of June 22, 2020 (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q, filed with the SEC on August 13, 2020 (File no. 001-37941))
10.16	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on July 17, 2019 (File no. 001-37941))
10.17	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on January 28, 2020 (File no. 001-37941))
10.18	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 6, 2020 (File no. 001-37941))
10.19	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on April 24, 2020 (File no. 001-37941))
10.20	Form of Letter Agreement, dated as of October 23, 2020, between the Company and the purchaser thereto (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on October 27, 2020 (File no. 001-37941))
10.21	Form of Securities Purchase Agreement, dated as of January 27, 2021 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 2, 2021 (File no. 001-37941))
10.22	Form of Registration Rights Agreement, dated as of January 27, 2021 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on February 2, 2021 (File no. 001-37941))
21.1*	List of Subsidiaries of the Registrant
23.1*	Consent of M&K CPAS, PLLC, independent registered public accounting firm
31.1*	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934
31.2*	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934
32.1*	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith.

\+ Indicates a management contract or compensatory plan.

(c) Financial Statement Schedules

None

Item 16. ***Form 10-K Summary.***

Not applicable.

SIGNATURES

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

SENESTECH, INC.

Date: March 29, 2021

By: /s/ Kenneth Siegel
Kenneth Siegel
Chief Executive Officer

Date: March 29, 2021

By: /s/ Thomas C. Chesterman
Thomas C. Chesterman
Chief Financial Officer and Treasurer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on March 29, 2021, on behalf of the registrant and in the capacities indicated.

Signature	Title
/s/ Kenneth Siegel **Kenneth Siegel**	Chief Executive Officer (Principal Executive Officer)
/s/ Thomas C. Chesterman **Thomas C. Chesterman**	Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)
/s/ Jamie Bechtel **Jamie Bechtel**	Chair of the Board
/s/ Marc Dumont **Marc Dumont**	Director
/s/ Delphine Francois Chiavarini **Delphine Francois Chiavarini**	Director
/s/ Phil Grandinetti **Phil Grandinetti**	Director
/s/ K.C. Kavanagh **K.C. Kavanagh**	Director
/s/ Jake Leach **Jake Leach**	Director
/s/ Matthew K. Szot **Matthew K. Szot**	Director

Exhibit 21.1

SUBSIDIARIES OF THE REGISTRANT

The following is a list of subsidiaries of the registrant as of December 31, 2020.

Name	Jurisdiction of incorporation or organization

NONE

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements (Form S-3 No. 333-252665, Form S-3 No. 333-226842, Form S-3 No. 333-225712, Form S-1 No. 333-251173, Form S-1 No. 333-237563, Form S-1 No. 333-236359, Form S-1 No. 333-236302, Form S-1 No. 333-225713, Form S-1 No. 333-221433, Form S-8 No. 333-246258, Form S-8 No. 333-225710 and Form S-8 No. 333-215026) of our report dated March 29, 2021, relating to the consolidated financial statements of SenesTech, Inc., for the years ended December 31, 2020 and 2019, which appear in this Annual Report on Form 10-K of SenesTech, Inc. for the year ended December 31, 2020.

/s/ M&K CPAS, PLLC

www.mkacpas.com
Houston, Texas
March 29, 2021

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO RULE 13(a)-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934

I, Kenneth Siegel, certify that:

1. I have reviewed this Annual Report on Form 10-K of SenesTech, 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(s) 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

(d) 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(s) 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.

Dated: March 29, 2021

/s/ Kenneth Siegel
Kenneth Siegel
Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO RULE 13(a)-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934

I, Thomas C. Chesterman, certify that:

1. I have reviewed this Annual Report on Form 10-K of SenesTech, 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(s) 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

(d) 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(s) 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.

Dated: March 29, 2021

/s/ Thomas C. Chesterman
Thomas C. Chesterman
Chief Financial Officer and Treasurer

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, Kenneth Siegel, Chief Executive Officer of SenesTech, Inc., certify that:

1. To my knowledge, this report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. To my knowledge, the information contained in this report fairly presents, in all material respects, the financial condition and results of operations of SenesTech, Inc.

Dated: March 29, 2021

/s/ Kenneth Siegel
Kenneth Siegel
Chief Executive Officer

Exhibit 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, Thomas C. Chesterman, Chief Financial Officer and Treasurer of SenesTech, Inc., certify that:

1. To my knowledge, this report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. To my knowledge, the information contained in this report fairly presents, in all material respects, the financial condition and results of operations of SenesTech, Inc.

Dated: March 29, 2021

/s/ Thomas C. Chesterman
Thomas C. Chesterman
Chief Financial Officer and Treasurer